Berlin Open Space and Recreation Plan

Berlin, Massachusetts
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Town of Berlin

Open Space and Recreation Plan

2019

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Photos courtesy of Keith Soucy

CONTENTS

TABLES

FIGURES

PHOTOS

SECTION 1: PLAN SUMMARY

This Open Space and Recreation Plan, completed in 2019, was developed with public input to continue coordination efforts of town departments, private organizations, landowners, and citizens on the management and acquisition of passive and active recreation lands and facilities as well as the protection of sensitive habitats and natural resources. This document is an updated version of Berlin's previous Open Space and Recreation Plan (OSRP) from 2011. The Town has engaged in various conservation planning efforts to date and taken many steps to expand, improve, and enhance its open space and recreation resources. Some of the major accomplishments over the last 10-15 years include the creation of the largest area of protected habitat east of Worcester, which was accomplished by the purchase of 80 acres on the east face of Mt. Pisgah and by participation in a tri-town initiative to protect over 200 acres in the Mt. Pisgah area. The town has also adopted a bylaw that allows for Ground Mounted Solar on parcels of land 50 acres or greater in the Limited Business Zone. There are currently 9 parcels in Berlin greater than 50 acres, and one of them has already utilized this opportunity. This strategy is used to prevent farms from turning into housing/development

The theme of the 2019 Berlin Open Space and Recreation Plan is **preservation, recreation, and connectivity.** The Town will continue to work with its community members and State organizations to acquire and **preserve** important natural and cultural resources. Additional **recreational** facilities are needed to support the needs of the growing local population, and new facilities as well as the rehabilitation of existing facilities is proposed. A desire for better **connectivity** between existing and proposed open space resources will start to establish a greenway system in Town with linkages to neighboring communities.

Photo 1 - Divine and Mount Pisgah Properties

Berlin continues to be a desirable place to live and is facing the demand and pressures associated with residential and commercial development. Between 2000 and 2010, Berlin's population grew by 486 residents, more that had been added in the entire previous 30 years from 1970 to 2000. Today, there are an estimated 3,098 residents. The Central Massachusetts Regional Planning Commission (CMRPC) projects a total of 3,736 residents by 2040, or a 20% increase from its current population. In addition to residential development, Berlin has experienced commercial and industrial growth and efforts are underway to attract additional businesses into the community to create jobs and expand the tax base. As a result, Berlin's

landscape continues to evolve from a community once known as a small bedroom town, to a more suburban community. Despite facing growth pressures, Berlin has fought hard to preserve its rural nature and historic past, while maintaining the overall character of the community.

The Town wishes to continue efforts to preserve and maintain critical areas of the town for open space, recreation and habitat protection. CMRPC worked in conjunction with the Conservation Commission, Agricultural Commission, and the Planning Board to provide technical assistance on the update to the Town's previous OSRP from 2011. Once this plan is completed and submitted to the State, town may look to add an OSRP Committee that will work to maintain the momentum created through the actions of this plan. The committee will actively work to set policies to identify, develop and maintain critical open space in Berlin. This OSRP first reviews demographic and development trends confronting the Town of Berlin and then assesses existing environmental features and characteristics. This assessment, coupled with public input received at public meetings and through the community survey, has informed the identification of open space, conservation and recreational needs in the Town of Berlin. Berlin residents identified the maintaining the rural working landscape of the town, as well as assembling and protecting large blocks of unprotected open space as critical issues throughout this planning process. Residents also desired increased awareness of existing resources and additional linkages between trails and conservation areas to create a wider, more connected open space network and to protect and promote wildlife habitats. Limited funding and availability of staff and volunteers are two needs relative to open space and recreation management in Berlin. These needs informed the creation of six open space and recreation goals that provided the framework for the Town's Seven-Year Action Plan, which is presented in Section 9. The open space and recreation goals included in this plan set out to:

1. Preserve and manage open space to maintain the Town's rural character, protect natural historic resources, and enhance quality of life.
2. Create open space networks throughout the town.
3. Provide opportunities for formal and informal recreation activities that serve the needs of Berlin's population.
4. Increase public knowledge about and access, as appropriate, to conservation areas and recreation properties and programs.
5. Regulate and guide development to be consistent with town character and land uses, and to protect open space systems, natural resources, and scenic vistas.
6. Support working farms and sustainable farming practices.

DEFINITIONS

The term *"open space"* in this document refers to either public or privately-owned land that is undeveloped. It is land in a predominantly natural state or altered for natural resource-based uses (i.e., farming, orchards, forestry, hunting and fishing, walking-type parks and trails). This land may include, but is not limited to, agricultural lands, fields, wooded areas, forests, wetlands and water bodies. Examples of publicly-owned open space in Town include the Gates Pond, and the Assabet River. Examples of privately-owned open space include farms, forest lands, and passive recreation areas.

The term *"recreational open space"* or *"recreation"* refers to land used for active recreational purposes. An example in Berlin includes the athletic fields located at Berlin Memorial School. Land used for active recreation does not qualify technically as open space because these parcels often have portions covered with paved surfaces such as that for tennis courts, basketball courts and parking lots. In addition, athletic fields require regular fertilizer applications and are usually installed with fencing and outbuildings. Since this plan deals with both open space and recreation, we have presented an approach to obtain the benefits of developing new and maintaining existing recreational facilities, without losing scarce valued environmental assets. In addition, grants and partnerships between federal state and local agencies are often based on recommendations the applicant community makes in its OSRP. Hence, we recognize and embrace opportunities for healthy outdoor activities, be it hiking along forest trails or a competitive soccer or football field.

SECTION 2: INTRODUCTION

2A. STATEMENT OF PURPOSE

The Town of Berlin developed this plan to coordinate efforts between town departments, private organizations, landowners, and citizens as these efforts relate to acquisition, protection and management of open space and recreation resources particularly in light of continued residential and commercial development pressures. In order to secure and protect valuable parcels of open space and natural habitats, it is essential to bring forth today's issues and concerns regarding development, land exchanges, and open space and recreation needs. The Berlin 2019 Open Space and Recreation Plan builds on past and recent planning initiatives to provide a framework for priority needs and actions. This document serves as an update to the town's previous OSRP document from 2011 and an approved plan is necessary to qualify for State program funding for acquisition and protection of open space and recreational facilities.

2B. PLANNING PROCESS AND PUBLIC PARTICIPATION

PLANNING PROCESS

The Town of Berlin funded the development of the 2019 Open Space and Recreation Plan through a Small Communities Grant. The Conservation Assistance for Small Communities Grant Program provides funding for towns with 6,000 people or less for the preparation of real property appraisals, *Open Space and Recreation Plans (OSRPs*), and other planning in support of land conservation. In February of 2019, the Town of Berlin contracted CMRPC to assist with a comprehensive update of the Town's Open Space and Recreation Plan (OSRP). The Chair of the Conservation Commission provided staff support and overall project management. The Town of Berlin organized an Open Space and Recreation Plan Committee (OSRP Committee), co-organized the community forum, promoted the forum and survey, and conducted the ADA survey. The Committee was specifically charged with planning the forum, reviewing and commenting on drafts of the OSRP and survey, and promoting the forum and survey. CMRPC was tasked with: data collection and research related to the development of the Plan, facilitating OSRP committee meetings, creating the community survey, organizing and facilitating the public forum, analyzing local input and survey results, and overall plan development.

This OSRP builds an understanding of Berlin's current place in the region, its history and sense of self, its demographics, and its growth and development patterns. A thorough review of the geology, landscape, water resources, vegetation, wildlife and fisheries, unique and scenic resources, as well as, environmental challenges was necessary to develop a clear picture of the area's strengths, weaknesses, opportunities and threats. Working with the State's Geographic Information Systems (MassGIS) database, the Berlin Town Assessors Office and others, an inventory of public and private lands of conservation and recreation interest was compiled. This Plan identifies special areas that town residents enjoy, and sets out a strategy for improving open space and recreation opportunities in a manner that is sustainable for future

generations. Central themes running through this document include protection of existing resources and providing open space and recreation opportunities together with land conservation programs that enhance the health and safety of its citizens while preserving the character and natural habitats of the Town. The Seven-Year Action Plan included in Section 9 outlines progressive steps to preserve and protect wildlife habitats, to improve recreational opportunities for Berlin's residents and visitors, and to foster economic growth by promoting its open space and recreation opportunities. It stipulates detailed action steps, time frames, and suggests responsible parties intended to help Berlin move forward with open space planning.

PUBLIC PARTICIPATION

The guiding committee was the Conservation Commission; however, assistance was provided through representation from the Recreation Committee, Planning Board, and the Agricultural Commission. This team met six times from February 2019 through June 2019 including the public forum. All meetings were held at the Town Hall building located at 23 Linden Street. The OSRP meeting agendas were posted at Town Hall and all meetings were open to the public.

The Conservation Commission distributed a community survey to better understand the needs and concerns of Berlin residents regarding the town's open space and recreation facilities, including opportunity areas for expansion or improvement. The Commission worked with CMRPC to design and create promotional materials including the event flyers shown in figure 1. The survey was publicized via social media, through postings on the Town's website, and word of mouth. The survey was made available online via Survey Monkey and through hard copies at Town Hall located at 23 Linden Street. The survey included 11 multiple choice questions and two optional questions. In total, 73 responses were collected for the initial survey, or approximately 2.4% of the total population. The resulting information was then integrated into an Action Plan (Section 9) for implementation. The survey results can be found in the appendices included in this plan and key findings are also included throughout this document.

The OSRP Committee held a community forum on March 20, 2019 at the Berlin Town Hall to obtain public feedback on open space and recreation issues, opportunities and needs as well as draft goals, objectives, and actions. Approximately 10 people attended the forum. Low attendance is likely attributed to other conflicting events occurring in town such as school vacation week. The Public Forum provided residents with an opportunity to meet with the OSRP Committee and to reflect on open space and recreation priorities in Berlin. During this forum, participants were asked to identify important natural resources, open spaces, recreation areas, and cultural landmarks in Berlin and then identify associated issues, conflicts, or opportunities. Based on this conversation, participants then identified their open space and

Photo 2 - Berlin OSRP Public Forum Flyer

recreational needs or desires for the community. The final exercise involved the reviewing draft goals and objectives including potential actions. The participants' comments were reviewed and incorporated into this plan.

Based on the comments received from the public visioning process, CMRPC completed a draft plan that was first reviewed by the OSRP Committee and then opened for public comment. The final OSRP will be posted on the town website and formal notices of opportunities for public comments will be sent directly to all subscribers on the Town of Berlin's website to receive hearing notices for a date to be determined. Once the 2019 Berlin OSRP is completed, it will remain active for seven years, allowing the Town access to grant funding opportunities and other State-aid programs.

SECTION:3 COMMUNITY SETTING

3A. REGIONAL CONTEXT

Berlin is a land-rich community located in the metropolitan Worcester area in Eastern Massachusetts, approximately 13 miles northeast of Worcester and 32 miles west of Boston. The Town is bounded by Hudson and Marlborough to the East, Northborough on the South, Boylston and Clinton to the West, and Bolton to the North. For regional context, a locator map for Berlin is included in Appendix A as Map 1: Regional Context Map. From an ecological standpoint, Berlin lies within a hierarchy of watersheds. Precipitation falling on Berlin drains into three main collection of streams. About two thirds of the town drains directly into North Brook or one of its several tributaries. The southeast portion of Berlin drains into Gates Pond which outflows into Gates Pond Brook; the eastern area drains into Hog Swamp which exits via Hog Brook. North, Gates Pond and Hog Brooks drain into the Assabet River, which flows northeasterly through Hudson and Maynard and into Concord where it joins with the Sudbury River to form the historically famous Concord River.

Photo 3 - Open Space in Berlin

The 2019 U.S. Census estimates placed Berlin's population at 3,240 residents. The OSRP Survey showed that people in Berlin care deeply about preserving open space and natural areas in town, with 78% of respondents indicating it is very important for them, 19% feeling it is somewhat important, and less than 2% remained neutral on the topic. Residents were most supportive for acquiring land for the following reasons; to preserve the Town's groundwater resources (78% of respondents indicated "very supportive"), to protect habitat for Berlin's wide diversity of flora and fauna {mammals, birds, reptiles, amphibians} (74% voted "very important"), and to help preserve the Town's rural character (69%). Residents were least supportive of acquiring land to facilitate the development of additional affordable housing.

Arterial roadways provide the highest level of service at the greatest speed, for longer uninterrupted distances. Principal arterials are often in the form of interstates, which connect cities, regions, and bordering states. In Berlin, the only principal arterial roadway that passes through town is State Route 495, which travels in a north-south direction on the eastern side of town for about 7 miles. Running just south of Berlin is another major roadway, State Route 290 which runs southwest serving as the main access way to Worcester from Berlin. Berlin's primary transportation link is State Route 62, which provides access to major destinations including shopping centers, residential developments, and town centers. In addition to being the main

street for Berlin Center, Route 62 serves regional east-west traffic and provides a link to I-495 from Clinton to Hudson. The road provides access to essential services including the Fire Department, Library, and other industries including the Shops at Highland Commons. Other roads which provide capacity and continuity for through traffic as well as local access include South Street, Pleasant Street, River Road, Highland Street, and Linden Street. Berlin is not served by public transportation.

The Town's public services and facilities have tried to keep pace with the demands of its rapidly growing population but financial constraints have often delayed needed projects. Despite these challenges, the town offers important facilities and services and has achieved many successes:

- Hired its first Town Administrator in 2019
- Joined the Community Compact Program in 2016
- Received funding from the Conservation Assistance for Small Communities Grant Program, which funded the development of the 2019 Open Space and Recreation Plan
- Contracted with MassDOT for Complete Streets projects in 2018
- Received Green Communities Designation in 2012

In spite of this growth, Berlin continues to retain its rural character. A drive through many of Berlin's back roads reveals an abundance of forestland, open fields and pastures. However, proactive planning through processes such as this OSRP are necessary for the town to continue its traditional pattern of denser development in concentrated areas such as Highland Commons and Riverbridge, separated by open landscapes of natural resource areas and rural scale development. Zoning regulations and flexible development zoning have encouraged this type of desired growth.

Politically, Berlin is located in the 3nd Middlesex House District and the 12th Worcester House District. Berlin is located within the region served by CMRPC, the designated Regional Planning Agency (RPA) for southern-Worcester County, which includes the City of Worcester and the surrounding 39 communities. Berlin operates under the Home Rule Charter, the town's primary executive is its Selectboard, a body composed of three elected members who serve as the main policymakers for the local government. Supported by a Town Administrator (first elected in 2019), the Selectboard are responsible for hiring most Town administrative staff, appointing members to unelected boards and commissions, and executing contracts, among many other tasks. Other boards such as the Planning Board and Board of Health are charged with setting and/or regulating specific policies per state statute or local bylaw independent of the Selectboard. Appointed boards often (but not always) serve in more advisory roles. Berlin operates under the Open Town Meeting form of government where any voter is permitted to attend and vote on by-laws, budgets and other matters. Berlin participates in the Commonwealth's Community Compact program with goals established for shared/consolidated services among communities and the implementation of complete streets.

3B. HISTORY OF THE COMMUNITY

The Town of Berlin is a community proud of its past. Incorporated as the District of Berlin in 1784, the community had a population of 512 in 1790. The first burying ground had been given in 1768. The first Meeting house had been erected for the South Parish of Bolton in 1779. Four school houses were built in 1792 to serve the farm families spread out over the District's thirteen square miles. The District became a Town in 1812, being then empowered to send its own representative to the General Court. By the following year, Solomon Howe had erected a new tavern and store building, that continues to house a local store. The Powder House was built for the use of the local militia company in 1814.

In its early years Berlin remained a single parish, with its business transacted in Town Meeting. Town taxes supported Rev. Reuben Puffer throughout his 48-year ministry. He lived to dedicate the second Meeting House in 1826, now used by the First Parish Church. After his death, the church was marked by division, resulting in three separate churches by 1890. In addition, many local Quakers attended meetings in neighboring Bolton.

Photo 4 - Berlin Foliage View

The population reached 763 in 1840, with most still farming. Shoe manufacturing started up in small local shops, being the main reason for growth to 1,100 in 1860. This brought many young men to the Town, resulting in 130 men serving in the Civil War from Berlin, 27 of whom lost their lives. In 1870 the Town erected a new town hall, including therein a memorial hall. This building remains a center for community activities today.

In 1866 the first railroad was built through the Town, extending from Framingham to Fitchburg. 20 years later the Mass. Central RR was built from Boston to Northampton, with a station at Berlin Center. A large wooden shoe shop was erected in 1868 and operated until it burned in 1882. Dr. Hartshorn manufactured patent medicines locally from the 1850s until 1870. An electric car line was built through Berlin in 1900, with the power plant and car barn at West Berlin. Despite all this, Berlin's population declined to 868 in 1920. The industrial build up in neighboring towns again left farming as the Town's main occupation.

The mid-twentieth century brought slow population growth, with Berlin serving mainly as a bedroom town. This was accelerated by construction of I-495 and I-290 in the 1960s. The first zoning by-law was adopted in 1958. This was unusual in that it provided for agricultural uses alongside residential uses throughout the Town. There has been a continued desire on the part

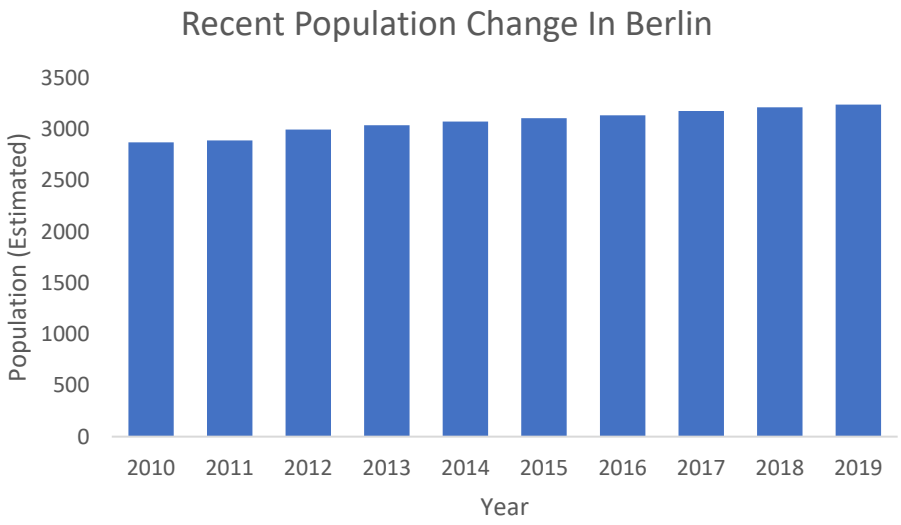
of the citizens to retain a rural atmosphere in the Town. In accepting the major commercial development of Solomon Pond Mall, the Town received significant funding to acquire open space for conservation. The 2017 population of 3,089 is Berlin's largest ever, which has contributed to the concern to prioritize and preserve the Town's rural character.

3C. POPULATION CHARACTERISTICS

POPULATION, HOUSEHOLD TRENDS AND DENSITY

The Town of Berlin has experienced a fluctuating growth in population over the last century, with a surge in population during the mid-1900s to the 70s, followed by a more moderate increase leading into the 2000s. In 1940, Berlin had a population of 1,057 people. By 1970, the Town's population had grown to 2,099, which is an increase of double the population over a 30 year period. The next 30 years however saw growth slow to roughly only 13% in the same time frame (30 years) culminating in a population of 2,380 in 2000. However, from 2000 to 2010 Berlin experienced explosive growth, adding 489 residents, more than had been added in the entire previous 30 years from 1970 to 2000. As shown in Figure 1, Berlin has continued to see a steady increase in population, adding 451 more residents from 2010 to 2019 bringing the total population to 3,240 people. Rapid growth of around 20% per decade occurred between 1940 and 1970 and was then followed by three decades with an average growth rate of less than 5%, Current trends however indicated that trends are starting to reflect the rapid growth rate from the mid 1900's. This increase seems to be tied to the commercial additions to the community as well as the increase in housing. Berlin can also attribute its growth in large part to its ideal location situated just north east of Worcester, an hour from Boston, and easy access to two major roadways.

Figure 1. Recent Population Change in Berlin



Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

The previous 20 years represent a period of significant growth for Berlin and many of the surrounding towns (see Table 1). While the State as a whole only grew 8.56% since 2000, Worcester County's population growth exceeded that of the State, growing 10.61%. Berlin grew at a rate three times that of the County and over four times that of the State. Many communities experienced explosive development pressure which led to large increases in population such as Bolton (30.81%), Stow (22.57%), Boylston (17.56%) and Sterling (12.64%). Since 2000, Berlin's population has grown by 36.13%.

CMRPC projections show continued growth for the town with an estimated 3,285 residents by 2020 and 3,497 residents by 2030. CMRPC regularly publishes population projections for its constituent communities based on U.S. Census estimates. The town level projections were vetted with the communities for transportation planning purposes as part of the 2016 Long Range Transportation Plan. The control totals for the CMRPC region are provided by the Massachusetts Department of Transportation (MassDOT). Town level projections were developed based upon past growth trends, land use and infrastructure capacity, planned future projects, and stakeholder input, including that of the Central Massachusetts Metropolitan Planning Organization (CMMPO), CMMPO Advisory Committee, and CMRPC Regional Collaboration and Community Planning staff.

Table 1: Regional Growth

Regional Growth, 2000 - 2019				
Place	**2000**	**2010**	**2019**	**% Change 2000-2019**
Berlin	**2,380**	**2,789**	**3,240**	**36.13**
Bolton	4,148	4,779	5,426	30.81
Boylston	4,008	4,308	4,712	17.56
Clinton	13,435	13,610	14,000	4.21
Harvard	5,981	6,433	6,620	10.68
Lancaster	7,380	7,776	8,082	9.51
Northborough	14,013	14,161	15,101	7.76
Sterling	7,257	7,719	8,174	12.64
Stow	5,902	6,395	7,234	22.57
Worcester County	750,963	798,552	830,622	10.61
Massachusetts	6,349,097	6,547,629	6,892,503	8.56

Source: U.S. Census Bureau, Town of Berlin

As shown on Table 2, Berlin is expected to experience steady population growth compared to the explosion it has seen over the past two decades. While it increased 36% from 2000 to 2019, the trend is supposed to level out to 13% increase from 2020 to 2040, adding 200 to 300 people

per decade. Compared to the North East Sub Region, Berlin is still on pace to slightly exceed the growth rate of its surrounding communities, albeit not as drastically as in years past. In terms of employment, Berlin falls steady in line or is slightly above its neighboring communities, with a projected increase of nearly 6% in employment growth between 2010 and 2030, compared to 11% in West Boylston, 14% in Northborough, and 0.5% in Boylston. With a total landmass of 13.1 square miles, Berlin's population density is 247.3 people per square mile. By contrast, Worcester had a population density of 4,844.5 people per square mile and Worcester County as a whole had a population density of 528.6 people per square mile.

Table 2: Population Projections

Municipal Population Projections				
	2020	**2030**	**2040**	**% Increase**
Berlin	**3,285**	**3,497**	**3,736**	**13.72%**
North East Sub- Region	80,278	86,576	90,229	12.39%
Worcester Region	588,141	619,815	641,260	9.03%

Source: U.S. Census Bureau and the Central Massachusetts Regional Planning Commission

HOUSING CHARACTERISTICS

Along with an increase in Berlin's population since 2000, there has also been a steady increase in the Town's housing supply. Table 4 shows the number of housing units, the average household size, and the change in housing units between 2000 and 2017. There was a 42.21% increase in housing units from 2000 to 2017, with 893 units in 2000, rising to 1,189 in 2010, and then increasing to 1,270 in 2017. Despite the recession that began in 2008, new housing construction continued in Berlin during that period, and has continued since. The number of persons per household has also increased from 2000 to 2017, rising from 2.72 in 2000 to 2.86 in 2010, and then decreasing slightly to 2.8 in 2017. This increase in household size is commensurate with the population growth the town has experienced between 2000 and 2017, as well as the increase in the 5-19 age group.

Photo 5 - Petaluma Ave Co Housing

The majority of the housing units in Berlin are owner-occupied, and the percentage of owner-occupied units has been increasing. In 2010, 85.8% of units were owner-occupied versus 15.2% for renter-occupied, and in 2017 87% were owner-occupied compared with 13% renter-occupied. It is interesting to compare Berlin's housing growth with that of some neighboring communities. Berlin's number of housing units increased 6.8% from 2010 to 2017, whereas both Boylston and Clinton, bordering Berlin on the west, saw decreases in housing units from 2010-2017 of 1%. Bolton, to the north, had a 6% increase in housing units, and Hudson, to the east, also had an increase in housing units of 2% from 2010 to 2017. The increase in both population and housing in Bolton and Hudson, as well as in Berlin, is possibly due in part to their proximity to the Interstate 495 corridor.

Table 3: Berlin Housing Units and Size

Housing Units and Household Size				
	2000	**2010**	**2017**	**% Change 2000-2017**
Housing Units	893	1,189	1,270	42.21%
Average Household Size	2.72	2.86	2.8	x

Source: U.S. Census Bureau, 2000-2017

Table 4: Berlin Housing Supply

Housing Supply				
	2010		**2017**	
Total Units	1,189	100%	1,270	100%
Owner-Occupied	954	84.8%	1,001	87%
Renter-Occupied	171	15.2%	150	13%
Total Occupied	1,125	94.6%	1,151	90.6%
Vacant	64	5.4%	119	9.4%
Average Household Size - Owner	-	-	2.8	-
Average Household Size - Renter	-	-	1.91	-

Source: U.S. Census Bureau 2010-2017

POPULATION BY AGE

Since 2000, Berlin has experienced increases in both ends of the age spectrum, with a significant increase in the older population as well as increases in both the school age and young adult populations. The general trend is that the population of Berlin is aging, as the largest population growth in Berlin from 2000-2017 has been individuals 50 and over. The 60-69 and 80+ cohorts have more than doubled since 2000, increasing by 162.5% and 166.44% respectively. The 50-59 and 70-79 cohorts have steadily increased, by 61.44 % and 66.43 % respectively. The median age in 2017 was 47.6, as compared with a median age of 39.5 in 2000. There was only a slight increase in the median age since 2010, when it was 46.0, which indicated that the most significant increase in older populations occurred between 2000-2010,

and that growth may be flattening out. There has also been growth in the 5-19 and the 20-29 age groups since 2000, with the 5-19 cohort increasing by 14.77% and the 20-29 cohort increasing by 81.87%.

However, between 2000 and 2017, the population of the 30-39 age group decreased by 29.26%, the 40-49 age group decreased slightly, by 3.44%, (after first increasing in 2010), and the <5 age group has decreased by 35.46%.

The decrease in the 0-5 age group is likely a reflection of the decrease in the population of the 30-39 age group. The increase in the 5-19 age group has resulted in more students in the Berlin school district, although that population will decrease as the 0-5 cohort moves into the school age cohort. In addition, the increase in Berlin residents aged 20-29 may result in an increase in the 0-5 age group in the next 5-10 years, and the growth in both the 5-19 and 20-29 age groups may create more demand for housing over the next five to ten years.

Table 5: Age Distribution of Residents

Age Distribution of Berlin Residents (2000-2017)									
	< 5	**5-19**	**20-29**	**30-39**	**40-49**	**50-59**	**60-69**	**70-79**	**80+**
2000	172	467	171	410	435	332	184	146	63
2010	130	524	208	284	510	498	370	219	123
2017	111	536	311	290	420	536	483	243	168
Change 2000 to 2017	**-61**	**69**	**140**	**-120**	**-15**	**204**	**299**	**97**	**105**
% Change 2000 to 2017	-55.0%	12.9%	45.0%	-41.4%	-3.6%	38.1%	61.9%	39.9%	62.5%

Source: U.S. Census Bureau 2000-2017

SCHOOLS

Berlin Memorial Elementary School is one of three schools in the Berlin-Boylston Regional School District, and the only school located in Berlin. Berlin Memorial School enrolls students in PreK-5th grade. Students from Berlin in grades 6-12 attend Tahanto Regional Middle and High School, located in Boylston.

EDUCATION

Berlin has similar rates of educational attainment as the state overall, with a few notable differences. There are more Berlin residents who have a Bachelor's degree, 28.4%, as compared with the state average of 23%, and 45.7% of Berlin residents have a Bachelor's degree or higher, compared to the state average of 41%. Berlin has a slightly higher percentage of residents who have graduated from high school, 93.8%, as compared to 90% for the state. The percentages of residents with some college experience but no degree, an Associate's degree, or

a graduate or professional degree, are very similar to the state averages. Since 2010, the percentage of high school graduates or higher in Berlin has remained at about the same level, however the percentage with a Bachelor's degree or higher has increased significantly, from 36% to 45.7%. Most of this increase is due to the increased percentage of Berlin residents with a graduate or professional degree, from 10.7% in 2010 to 17.3% in 2017. The percentage of Berlin residents with a Bachelor's degree also increased slightly, from 25.3% to 28.4%. Only 2.3% of Berlin residents had less than a 9th grade education, which is less than the state average of 5%.

Table 6: Berlin Residents Education

Education (Population 25+ years of age)	2017				
	%	State %	#	%	State %
% High school graduate or higher	93%	89%	x	93.8%	90%
% Bachelor's degree or higher	36%	38%	x	45.7%	41%
Less than 9th grade	1.6%	5%	52	2.3%	5%
9th to 12th grade	5.4%	6%	91	4%	5%
High school grad or equivalency	32%	27%	581	25.4%	25%
Some college, no degree	15.5%	16%	328	14.3%	16%
Associate's degree	9.4%	8%	192	8.4%	8%
Bachelor's degree	25.3%	22%	650	28.4%	23%
Graduate or professional degree	10.7%	16%	395	17.3%	18%

INCOME AND EMPLOYMENT

Despite having a rather small amount of businesses in town, Berlin has seen a rapid increase in their resident's income, specifically from 2000 to 2010. As shown on Table 8, incomes in Berlin increased significantly between 2000 and 2010, with a more modest increase from 2010 to 2017. In 2000, the Town's median family income was $76,419. In 2010, this figure rose to $100,833. In 2017, Berlin's families earned a median income of $105,714. Per capita income experienced strong growth as well between 2000 and 2010, followed by less drastic growth from 2010 to 2017. Adjusted for inflation, Berlin has seen real gains in income measures over the past two decades. Additionally, rates of poverty for individuals in Berlin have decreased slightly from 2.1% in 2000 to 1.5% in 2017.

Table 7: Berlin Residents Income

Income by Type, 2000 to 2017			
	2000	**2010**	**2017**
Median household income	$65,667	$92,917	$97,417
Median Family Income	$76,419	$100,833	$105,714
Per capita income	$28,915	$41,464	$48,547
Persons Below Poverty Level	2.1%	x	1.5%

Source: U.S. Census Bureau 2000, 2010, American Community Survey, 5-Year Estimates, 2012-2016

Table 9 below displays the median income of residents in the North Eastern Worcester region, Worcester County, and Massachusetts. Berlin's household income ($97,917,083) and family income ($105,714) rank in the middle of the pack when compared to the surrounding towns in the region. Per capita income ($48,547) also fell in the middle when compared to surrounding towns. The median household and family incomes of Berlin remain much higher than the estimates for Worcester County and Massachusetts for this same period.

Table 8: Surrounding Communities Income

Income By Geography			
	Household	**Family**	**Per Capita**
Berlin	**$97,917**	**$105,714**	**$48,547**
Bolton	$151,618	$161,467	$54,618
Boylston	$97,074	$115,987	$46,148
Clinton	$68,362	$86,333	$33,410
Harvard	$134,355	$160,417	$50,001
Hudson	$83,765	$101,788	$39,716
Lancaster	$104,331	$110,362	$35,225
Marlborough	$75,418	$91,036	$38,866
Northborough	$111,875	$125,777	$52,500
Sterling	$102,500	$125,286	$43,640
Stow	$144,766	$164,032	$58,780
Worcester County	$69,313	$88,971	$34,691
Massachusetts	$74,167	$94,110	$39,913

Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

Berlin's economy is comprised of a variety of industries and commercial enterprises. According to the U.S. Census Bureau's 2012 Survey of Business owners, the Town contains 260 companies. As shown in Table 10, this number of companies is far lower than that of the Town's bordering communities that each have more substantial land area and commercially zoned land. The Town's largest employers are the Solomon Pond Mall (Which hosts Cabella and Sears among other stores), Berlin Memorial School, and Berlin Public Safety (Fire/Police).

Table 9: Number of Companies

Comparison of Number of Companies by Town	
Municipality	**# of Companies**
Berlin	**260**
Hudson	1,818
Boylston	476
Northborough	1,395
Clinton	1,088

Source: US Census Bureau 2012 Survey of Business Owners

The unemployment rate in Berlin steadily declined from 2010 - 2018, and is estimated to be holding steady. As seen in Table 11 below, the unemployment rate trends for Berlin since 2010 are similar or better than the Massachusetts state average.

Figure 2. Unemployment Trends in Berlin

Source: Massachusetts Executive Office of Labor and Workforce Development

ENVIRONMENTAL JUSTICE

Since 2002, the Executive Office of Energy and Environmental Affairs (EOEEA) has been implementing an Environmental Justice Policy to help ensure that all Massachusetts residents experience equal protection and meaningful involvement with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies and the equitable distribution of environmental benefits. This policy was instituted recognizing that

communities across the Commonwealth, particularly those densely populated urban neighborhoods in and around the state's older industrial areas, are facing many environmental challenges associated with Massachusetts' industrial legacy. Residents in these predominantly low-income and minority communities – nearly 29% of the state population – lack open space and recreational resources and often live side-by-side numerous existing large and small sources of pollution and old abandoned, contaminated sites, which can pose risks to public health and the environment.

Critical to advancing Environmental Justice (EJ) in the Commonwealth is the equitable distribution of environmental assets such as parks, open space, and recreation areas. Toward this end municipalities shall identify and prioritize open space sites in their OSRPs that are socially, recreationally, and ecologically important to EJ populations within the community. Environmental Justice Populations in Massachusetts are determined by the following criteria:

- Households that earn 65% or less of the statewide household median income;
- 25% or more of the residents are minority;
- 25% or more of the residents are foreign-born; or
- 25% or more of the residents are lacking English proficiency.

Currently there are no Environmental Justice populations in Berlin (see Map 2: Environmental Justice Map in Appendix A). Berlin is primarily a middle-class community of mixed ethnic groups of European descent. Table 11 shows that residents in the Town of Berlin are predominantly non-Hispanic white (96.9% in 2017). While Worcester County and Massachusetts also have populations that are primarily non-Hispanic white, the average in Berlin is significantly higher than that of the county (78%) and the state (73%). In descending order of percentage in 2017, the other races/ethnicities that make up Berlin's population are non-Hispanic Asian (0.7%), non-Hispanic Black (0.7%). The Town has not experienced significant changes in its racial and ethnic make-up in past decades. Since 2010, the non-Hispanic White population has increased by 2.5%, while the non-Hispanic Black population has decreased marginally by 0.2%. 8.4% of the Berlin population speaks a language other than English at home, according to the 2013-2017 American Community Survey, including Spanish, Asian and Pacific Island languages, and Indo-European languages. Although there are technically no EJ populations in Berlin, there are still vulnerable populations that should be considered, including youth and elderly residents over 55 years old as mentioned earlier. These vulnerable populations have been carefully considered throughout the open space planning process and should be included in all implementation activities.

Table 10: Race and Ethnicity

Race and Ethnicity 2010 - 2017	2010				2017			
	#	%	% County	% State	#	%	% County	% State
Non-Hispanic White	2,740	94.4%	80.68%	76.13%	3,002	96.9%	78%	73%
Non-Hispanic Black	25	0.9%	3.64%	5.98%	22	0.7%	4.3%	6.7%
Non-Hispanic Native American	0	0%	0.16%	0.16%	0	0%	0.2%	0.1%
Non-Hispanic Asian	27	1%	3.96%	5.31%	22	0.7%	4.7%	6.2%
Non-Hispanic Pacific Islander	10	0.4%	0.02%	0.02%	0	0%	0.03%	0%
Non-Hispanic Asian/Pacific Islander	37	1.4%	3.98%	5.33%	0	0%	4.73%	6.2%
Non-Hispanic Other One Race	0	0%	0.46%	0.94%	0	0%	0.3%	0.7%
Non-Hispanic Multi-race	44	1.6%	1.63%	1.87%	26	0.8%	.1%	2.1%
Hispanic/ Latino	49	1.8%	9.44%	9.59%	26	0.8%	10.8%	11.2%
Total	**2,895**				**3,098**			

Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

3D. GROWTH AND DEVELOPMENT PATTERNS

INFRASTRUCTURE

Berlin has made improvements over the years to enhance the quality of its municipal buildings. The Town built a new elementary school in 2000, and in 2004 the Town Hall moved into what was previously the old elementary school. Today the former elementary school hosts the town hall, as well as the public safety building which contains Fire and Police. The Highway Department also recently moved into the New Town Barn in April of 2019, which has been a large upgrade from their previous location. Formerly, the Highway Department resided at the Old Carriage Shed that dates from the 1870s. Other facilities in the town

Photo 6 - Ball Hill Road

include the former Town Hall also dating from the 1870s, the Berlin Public Library, and Memorial Elementary School.

Roadways and Sidewalks

Berlin is the sole owner of the majority of roadways in town. Of the nearly 59-centerline miles of roadway in Berlin, 72%, or 42.33 miles are Town-accepted streets and are under the authority of the Berlin Highway Department (see Table 13). The Highway Department is responsible for maintenance and/or replacement of roadways, storm drains, sidewalks, bridges, guardrails, administration of snow plowing and sanding, and compliance with storm water management rules and regulations. The majority of local roadways in Berlin are narrow with light residential density, such Only 4.5 roadway centerline miles in Berlin are under the purview of MassDOT. These roadways include Central Street (from Hudson to Berlin center), Route 495 in the eastern portion of the Town, and Coolidge Road (from the Hudson border to Linden Street).Route 495 ramps are included in the mileage.

The MassDOT bridge database features information of MassDOT and municipality-owned bridges that span more than 20 feet. Inspections are completed bi-annually. Information on MassDOT and municipality-owned bridges with spans between 10 and 20 feet and culverts with spans of four to 10 feet are not available at this time. Data collection efforts are underway. There are 19 bridges included in the MassDOT Bridge Inspection Management System (BIMS) database in Berlin. Seven of the nineteen are owned by MassDOT, with four of those being overpasses for Route 495, and one of them on Central Street. The remaining twelve are municipally owned.

Table 11: Roadways

Roadway Centerline Miles by Jurisdiction		
Maintenance Authority	**Total Mileage**	**% of Total Roadways**
MassDOT	4.5	7.7%
Town of Berlin - Accepted	42.33	72.43%
Unaccepted Roadways	11.61	19.86%
Total	**58.44 miles**	100%

Source: MassDOT Road Inventory File (RIF)

In 2018 CMRPC staff surveyed the condition of Federal-aid eligible roadways in Berlin as part of its regional pavement management program. The windshield survey includes data related to pavement, sidewalks, and Americans with Disabilities Act (ADA) ramp conditions. Data collected from the regional pavement management program is used as part of the project selection process for the Transportation Improvement Program (TIP), Long Range Transportation Plan (LRTP), and other transportation planning related work. Data gathered through the regional pavement management program is processed using specialized software that calculates the Overall Condition Index (OCI) – as well as to estimate future roadway conditions and associated repair costs. Each roadway segment is scored on a 0 to 100 scale. Berlin's total OCI in 2018 was 83.04, indicating that Federal-aid eligible roadways are in fair condition.

The estimated backlog of Federal-aid eligible roadway repair is close to $1 million – to bring the roadways surveyed from fair to excellent condition. Sidewalks and ADA ramp condition data is also collected in tandem with pavement data. The sidewalk data serves as an inventory of the location, width, type of material, and general condition. Sidewalk condition data is qualitative and categorized into a similar structure as pavement condition data (excellent, good, fair, and poor). ADA ramp condition data serves as an inventory of ramp type (compliant, historic, non-compliant, and no ramp). Berlin residents essentially rely on their automobiles for transportation. Sidewalk availability is limited along the main roadways, and bicycle accommodations on roadways are non-existent. Sidewalks are located primarily within the Town Center and are in either fair or poor condition.

Water

Berlin does not have a public water system. Residents rely on individual wells for water supply. Small community wells that serve public and/or employee use (i.e. Berlin Elementary, Town Hall) are located throughout Town. Highland Commons, the shopping plaza east of Route 495 is large enough to use their own municipal surge as a water resource.

Sewer

Berlin has no public wastewater collection or disposal system. All businesses and residents use on-site wastewater disposal systems.

ZONING

Zoning and other land use laws constitute a community's "blueprint" for its future. Berlin's residents and leaders can expect that the Town's existing land use will continue to look more and more like its zoning map over time until the Town is finally "built out." Berlin has seven base zoning districts and four overlay districts. The majority of the town is located in the Residential and Agricultural District, which permits agricultural uses and single-family residences with a minimum lot area of 80,000 square feet. The Limited Business Zone recently allowing for Ground Mounted Solar on parcels of land 50 acres or greater. If a resident would like to put solar on their land, it must be minimum 50 acres and they must protect half the land and put the solar on the other half for the duration of the lease (usually 20 years). In the case of a 50 acre parcel, this would be 25 acres of protected land, and 25 acres of solar. There are currently 9 parcels in Berlin greater than 50 acres, and one of them has already utilized this opportunity. This strategy is used to prevent farms from turning into housing/development. The base districts define the allowed uses and dimensional requirements, and are summarized below in Table 12 and shown on Map 3: Berlin Zoning Map in the included appendices. Permitted uses within each of the zoning districts, as well as dimensional and density regulations for building sizes and yard areas are set forth within Berlin's Zoning Bylaw.

Table 12: Zoning Districts

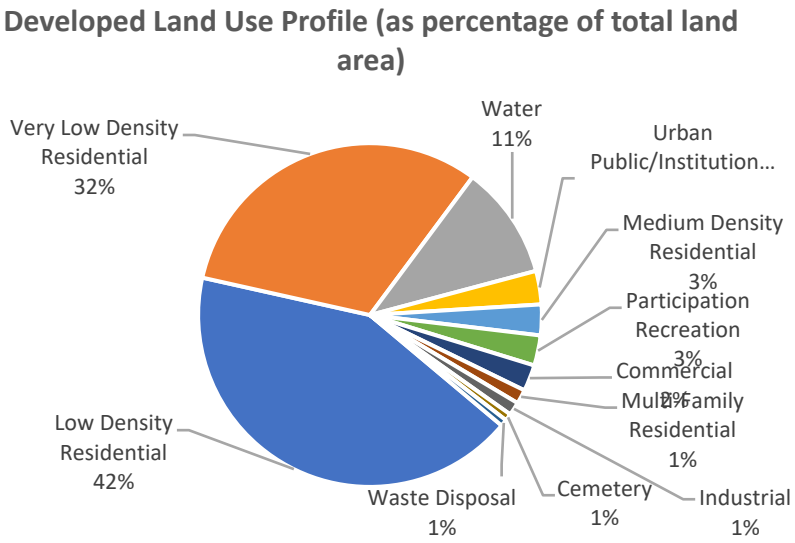
Town of Berlin Zoning Districts
District
Residential and Agricultural
Multiple Dwelling
Commercial - Village
Commercial
Limited Business
Limited Industrial
Agricultural – Recreation – Conservation

PATTERNS AND TRENDS

Berlin evolved as a rural, agricultural community with a center and several small villages. This pattern of settlement is still evident today even as residential development has increased along roadsides and more recently within subdivisions, ad as commercial development has expanded along Berlin's borders within regional shopping centers.

Developed land in Berlin is almost entirely residential. The residential categories, which include low density residential, very low density residential, medium density residential, and multi-family residential, account for 871.87 acres of all 1,113.54 acres of developed land in Berlin. In total residential development accounts for 78% of all developed land in Berlin. Currently, there are 200 apartments being built as part of the Town's larger Riverbridge Village project. The figure below depicts a breakout of all developed lands located in Town. Commercial development is limited in Berlin. However, there are several key businesses that serve as commercial anchors in Berlin. Many of these are located at Highland Commons, which has the potential to expand its already existent offerings.

Figure 3. Developed Land Use Profile in Berlin



The Town has also been actively engaged in the Riverbridge Village project; a mixed-use village located at the South Berlin rotary. Once complete, the development will encompass 26 acres of a 114-acre property, which will allow for 88 acres of undeveloped land to surround the development. The Solomon Pond Mall is located one and a half miles away and serves as a key center of commercial activity as well.

Other prominent land categories in Berlin include: forested wetlands, cropland, pasture, and orchards. While large impacts due to development may not be a major concern in Berlin, future planning efforts should seek to minimize landscape fragmentation as development does occur. Planning with this factor in mind will minimize adverse impact to Berlin's landscape. Farmlands continue to play a significant role in Berlin's landscape. In 2006, Berlin established an Agricultural Commission, an appointed committee whose charter is to advocate for the farming community of Berlin and to assist in mediating any dispute between farmers and other Town Boards. As a member of the Massachusetts Farm Bureau and having established contact for both technical and legal assistance from the Massachusetts Department of Agricultural Resources, the Agricultural Commission can make available to the farming community information to assure that good agricultural practices will be implemented. This information may be related to proper plowing techniques to minimize soil erosion, the use of cover crops, water conservation techniques, natural and chemical fertilizer application, composting, pest and weed control, and the use of solar and wind energy. The objective is therefore to maximize the return for those engaged in farming while utilizing modern techniques and technology to protect the environment.

In 2008 Berlin voters adopted a Farm Preservation Bylaw. The law acknowledges that all Town residents, be they backyard gardeners of commercial operations, have a right to farm. One of the goals of this bylaw is to encourage farming and to help maintain open space that farming requires. Subsequently, this bylaw also seeks to maintain Berlin's existent rural character. The bylaw protects farmers against complaints that may arise about the nuisances that often accompany farming practices, such as dust, noise, and odors. The bylaw also requires that a full disclosure of the bylaw be presented to potential land buyers or occupants in Berlin. A year later in 2009 Berlin voted to waive animal excise and farm equipment excise tax as permitted by the Commonwealth's Dairy Preservation Act 310. The act allows towns to cease assessing farm excise tax on farm animals, machinery, and equipment for all farmers. The decision was felt to have minimal fiscal impact on taxpayers and the town while helping to sustain farming activities that currently exist in Berlin and preserve the rural quality of life.

In addition to existing land use, there are a number of properties in Berlin that have additional significance to preservation and development. In March 2012, the 495/MetroWest Partnership completed its 495/MetroWest Development Compact Plan. The Plan identifies areas in the region at local, regional, and state levels that are considered Priority Development Areas (PDAs) and Priority Preservation Areas (PPAs) in each community. The plan defines priority development areas and priority preservation areas in the following ways. "Priority development areas (PDAs) are areas within a city or town that have been identified as capable of supporting additional development or as candidates for redevelopment. These areas are generally characterized by good roadway and/or transit access, available infrastructure (primarily water

and sewer), and an absence of environmental constraints. Priority Preservation Areas (PPAs) are areas within a city or town that deserve special protection due to the presence of significant environmental factors and natural features, such as endangered species habitats or areas critical to drinking water supply, scenic vistas, areas important to a cultural landscape, or areas of historical significance. In general, existing parks or new park facilities do not fall within this category. In total, there are 1,718.97 acres of PPAs in Berlin, 202.41 Acres of PDAs in Berlin, and 124.23 acres of areas targeted as a combination of the two categories. These locations are distributed throughout Berlin. There are 80 total sites in Town that meet these criteria

Designation	Total Size (GIS Acres)	Percent Total Size
Preservation	1718.97	84.03%
Development	202.41	9.89%
Preservation/ Development	124.23	6.07%
Grand Total	**2045.60**	**100.00%**

Designation	Count of type
Preservation	75
Development	4
Preservation/ Development	1
Grand Total	**80**

3E. PRIOR PLANNING EFFORTS AND ACTIVE COMMITTEES

Residents of Berlin have been actively engaged in the planning for the protection and preservation of vital land resources for many years now. Some of the past Town planning efforts and active groups include those listed below. These groups and efforts will be critical as the Town works to accomplish the goals outline in Section 9 of this report.

Ground Mounted Solar in the Limited Business Zone

The Limited Business Zone recently allowing for Ground Mounted Solar on parcels of land 50 acres or greater. If a resident would like to put solar on their land, it must be minimum 50 acres and they must protect half the land and put the solar on the other half for the duration of the lease (usually 20 years). In the case of a 50 acre parcel, this would be 25 acres of protected land, and 25 acres of solar. There are currently 9 parcels in Berlin greater than 50 acres, and one of them has already utilized this opportunity. This strategy is used to prevent farms from turning into housing/development.

Board of Health Regulations

The Board of Health consists of 3 board members, two staff contacts, and is assisted by an agent from the Nashoba Associated Boards of Health. The Board contains provisions for on-site sewage treatment and hazardous material reporting. Septic systems must be designed to the requirements of the Massachusetts Title 5 regulations. The Board of Health is an important component of the municipal development review team.

Conservation Commission

The Conservation Commission is an agent of the Commonwealth of Massachusetts responsible for administering the Wetlands Protection Act for Berlin to protect their water supply and environment. The Conservation Commission is also responsible for the acquisition and management of open space conservation land. The board consists of seven members including a chair, and meets on the first and third Wednesdays of every month at 7:30 PM in the Berlin Town Offices.

Historical Commission

The Historical Commission is made up of a 5-member board serving as the agency responsible for identifying and recording the historical assets of its community and for developing and implementing a program of preservation.

Cultural Council

The Cultural Council is comprised of a five-member board that promotes excellence, access, education, and diversity of all the arts through the disbursement of state funds to individuals and non-profit organizations for projects and events that offer public benefits in the arts, humanities, and interpretive sciences.

Recreation Commission

The Recreation Committee is a four-member board that oversees recreational facilities and related programs. Their mission is to plan and execute programs of recreation and leisure activities for people of all ages in the town.

Board of Assessors

The Board of Assessors is comprised of a three-member department required by Massachusetts Law to annually assess taxes to cover the cost of running the Town, along with state appropriations assessed to the town. The Assessor's primary responsibility is to determine the "full and fair cash value" of a property so the owner pays only their fair share of the taxes.

4: ENVIRONMENTAL INVENTORY AND ANALYSIS

4A. GEOLOGY, SOILS, AND TOPOGRAPHY

Berlin is located on the eastern edge of Worcester County. The Town abuts the Towns of Hudson and Marlborough to the east, Bolton to the north, Clinton and Boylston to the west, and Northborough to the south. Berlin is characterized by an interesting and varied landscape. A series of broad ridges and valleys reverse the area from the southwest to northeast following the prominent regional geological trends of the eastern United States. The uplands, including Barnes Hill to the west, Coburn Hill and Peach Hill to the north, rise to elevations of 400 to over 600 feet. North Brook and its tributary streams follow intervening valleys and cut across the ridges to drain southeastward to the Assabet River.

Photo 7 - Opportunities for Passive Recreation

The upland ridges are characterized by numerous bedrock outcrop, in some instances forming dramatic cliffs. The tops of Barnes Hill, Peach Hill, and Sawyer Hill are particularly scenic, offering views west to the skyline of Boston and west to Mount Wachusett. The uplands are covered by a thin soil called glacial till, a mixture of materials ranging from fine silt to large boulders that was ground up and let behind the continental ice sheet that covered the region 10,000 years ago. As the ice retreated northward, the densely packed, unsorted material was exposed along with the large erratic boulders that are found in clusters and widely scattered throughout the area. Numerous stone walls still travers the wooded slopes, a reminder of the rocky soil that made life difficult for early farmers who cleared the forests for fields and pastures.

The lowlands are typically mantled by thicker soil deposits including glacial till and water transported sediments deposited in streams and lakes that formed near the retreating ice margin. The best agricultural soils are formed on these deposits located along the uplands of the North Brook and Assabet River valleys. As is typical in New England, less favorable upland soils ere and continue to be used for agricultural purposes such as pasture and orchard.

The geologic conditions that control the scenic and agricultural aspects of Berlin have influenced development. The thin rocky soils and bedrock outcrops found widely throughout Berlin have historically posed challenges for siting septic systems. Municipal services such as sewer and water are unlikely to be provided to areas of Town because of the widespread

occurrence of shallow bedrock. Costs to do so are also prohibitive due to the Town's low density. Impervious soils and shallow bedrock on hillside slopes create localize wet conditions that limit development in some areas. Extensive wetlands are also present along the North Brook and Assabet River and their tributaries. These natural limitations of soil, bedrock, and high groundwater have resulted in slow residential growth for the Town historically.

In summary, the Town of Berlin has a unique natural character that results from a combination of geologic factors. In the past, the physical and cultural development of the Town has been controlled to a large degree by the natural limitations of topography, soil, bedrock, groundwater and surface water of the area. While the original agricultural and rural aspects of Berlin were constrained by the natural limitations of the physical environment, future residential development will likely be less restricted as technological innovations are implemented.

Map 4: Soils and Geologic Features shows the distribution of soils throughout Berlin. As seen in the map, the majority of soils are classified as well drained. Select areas are shown to fall into categories indicating that soils are either very poorly drained or are excessively drained. This map also shows the location of 21E sites in Berlin.

4B. LANDSCAPE CHARACTER

Lying within the Boston-Worcester area, Berlins has nonetheless retained a great degree of its rural character. Several important farm landscapes and vistas contribute to this character. Probably the most important of these are the orchards and fields along Central Street, including Berlin Farms, Orchard Hill Equestrian Center, and Berlin Orchards. These farms provide a gateway into the Town from Interstate 495; and the view back to Berlin Orchards and Sawyer Hill from the intersection of Central and Pleasant Streets is frequently cited as one of the most important vistas to Berlin residents. Equally beautiful, although seen by fewer people, are the views from the top of Sawyer Hill. Other farm landscapes include Balance Rock Farm on Highland Street just north of the center of Town, Rainville Farm on Barnes Hill Road, and Indian Head Farm on Pleasant Street in South Berlin.

Photo 8 - North Overlook

A number of other special landscapes in Berlin help to define the Town's character. The "flats" along River Road south of the South Berlin rotary- where the floodplains of North Brook and the Assabet River merge together- create a broad vista that demarcates this southern gateway to the Town. Meadows like the Devine property on Linden Street create vistas from local roadways. Berlin is home to many other significant areas not indicated above as well. A more complete visual depiction is provided in Map 5: Scenic and Unique Features and described in more detail later in this chapter. This map highlights locations in Berlin that are considered historic properties.

Photo 9 - Indian Head Farm

4C. WATER RESOURCES

WATERSHEDS

Except for a small section in the northwest corner of Town, Berlin lies within the Suasco (Sudbury-Assabet-Concord) Watershed. The Town is divided into a number of smaller sub-basins based on the stream systems that drain into the Assabet River. The upper Northern Brook sub-basin encompasses most of the western third of the Town, between Rattlesnake Hill on the west, Barnes Hill on the south, and Wheeler and Powederhouse Hills on the east. A second sub-basin included Brewer Brook and the middle stretch of North Brook, as well as Cooledge Brook in Northborough, and extends easterly to Sawyer Hill. The third large sub-basin includes the eastern third of Town, including Hog Swamp, Gates Pond, and the mouth of North Brook, and extends northerly and easterly. This sub basin encompasses much of Hudson. A visual depiction of the location of watershed can be found via the included Water Resources Map. This map also depicts DEP wetlands, high yield aquifers, and medium yield aquifers.

The Suasco Watershed Community Council brings together the expertise and vantage points of diverse interest groups to collaboratively tackle the critical challenges facing this important watershed region. The Community Council is comprised of representatives from business and industry; municipal government; environmental organizations; and state, federal and regional agencies and the State Legislature.

This community-based alliance is a unique non-profit organization, whose mission is to promote the sustainable economic and environmental wellbeing of the watershed region, or to put it more simply to promote blue waters and a green economy.


Photo 10 - Gates Pond Trail

To this end, the Watershed Community Council's mission reads: "To build a community-based alliance that promotes the sustainable economic and environmental well-being of the Sudbury-Assabet-Concord River (SuAsCo) Watershed in Massachusetts. The Council is working together to:

- Protect the natural resources of the SuAsCo Watershed,
- Restore water quality and flow,
- Coordinate land use and water resource planning across community boundaries,
- Encourage stewardship of the recreational and historic character of the watershed,
- Foster cooperation among divergent interest groups,
- Promote education on watershed challenges, assets, and opportunities, and
- Channel financial and technical assistance to creatively solve identified problems."

In addition, the Organization for the Assabet River (OAR) is a non-profit organization working to promote improved water quality in the Assabet. OAR pursues this goal through a variety of educational, recreational, clean up, and water quality monitoring programs.
These are divided between several different types. The EPA identifies three classifications of public water systems. These classifications include:

- *Community Water Systems*: A public water system that supplies water to the same population year-round
- *Non-Transient Non-Community Water Systems*: A public water system that regularly supplies water to at least 25 of the same people at least six months per year. Some examples are schools, factories, office buildings, and hospitals which have their own water systems
- *Transient Non-Community Water Systems*: A public water system that provides water in a place such as a gas station or campground where people do not remain for long periods of time

There are ten Transient-Non-Community Water Systems located in Berlin. These systems are clustered around the central street corridor. Non-Transient Non-Community Water Systems in Berlin are clustered in the southern portion of town near the borders of Northborough and Marlborough. Others are located further north in proximity to the Hudson and Bolton Town lines. Clusters of Community Water Systems are located in the center of Town near Village Court and Pleasant Street, in the southeast along Brook Lane, and further south off of Whitney Road. These water systems are depicted in the included Water Resources Map as well. This map also shows a number of interim wellhead protection areas that are located in Berlin.

The Town has four major ponds, all of them created or enlarged by dams. In the eastern part of Town, Gates Pond is a water supply source for the Town of Hudson and is classified as Class A under Massachusetts Surface Water Quality Standards. More than three-fourths of the shoreline is owned by Hudson.

Photo 11 - Waterways in Berlin

The Town has two main streams, the Assabet River, and North Brook. The Assabet River crosses the southeast corner of the Town from Marlborough to Hudson. Land in Berlin on the south side of the river is accessible only from Solomon Pond Mall Road in Marlborough. The Assabet is classified as Class B in Berlin, which is described as a "habitat for fish, other aquatic life, and wildlife, and for primary and secondary contact recreation. Where designated they shall be suitable as a source of public water supply with appropriate treatment. They shall be suitable for irrigation and other agricultural uses and for compatible industrial cooling and process uses. These waters shall have consistently good aesthetic value."

North Brook is Berlin's major river system, encompassing the south and west portions of the Town. North Brook enters the northwest corner of the Town from Bolton and flows south to West Berlin before turning east to its outflow into the Assabet River. There are two important water bodies along the brook the ten-acre pool in the Lester Ross Suasco flood control project (between West Street on the north and Linden Street on the south), and the eighteen-acre Wheeler Pond (Old Mill Pond) off Pleasant Street in South Berlin.

Several smaller streams feed into North Brook. Brewer Brook flows from Wheeler Hill south between Powderhouse Hill and Sawyer Hill, joining North Brook between South Street and Pleasant Street.

AQUIFERS AND AQUIFER RECHARGE AREAS

Berlin relies on groundwater for all private water supplies within the town. Berlin does not have a public water supply system, and residents and businesses use individual wells to provide their water, with few exceptions.

A geologic formation that can easily yield a significant amount of groundwater is called an "aquifer". As water is withdrawn from an aquifer or discharged to surface waters, it is replenished by water that moves down from the surface through permeable materials. The aquifer's "recharge area" is an area on the land surface below which groundwater moves down to replenish the aquifer. Such areas must be protected from actions that might reduce the downward flow of water, or that might contaminate groundwater supplies.

DEM has identified four aquifer areas with potential for medium (100 – 300 gallons per minute) to high (300 plus gallons per minute) yield. The largest of these follows the course of the Assabet River from Muddy Pond in Marlborough through the southeast corner of Berlin and into the southwest corner of Hudson. Most of this area is estimated to have potential for medium yield; however, a small area off River Road at the Hudson town line may have high-yield potential.

The second potential aquifer area extends from Gates Pond to the former Hudson landfill and Crystal Spring in northeast Berlin. The potential high yield portion of this aquifer is crossed by Interstate 495.

Photo 12 - North Brook

A third potential aquifer runs along North Brook from the Suasco flood control project area to Wheeler Pond in South Berlin. The former Berlin landfill sits at the edge of this aquifer, and the Fitchburg railroad line runs through the portion with the highest potential yield. The fourth and smallest aquifer identified by DEM is in the northwest corner of Berlin, in the area where Lancaster Road crosses into Bolton. The Fitchburg railroad line runs along the edge of this area. These aquifers are depicted in the Water Resources Map included in this plan.

FLOOD HAZARD AREAS

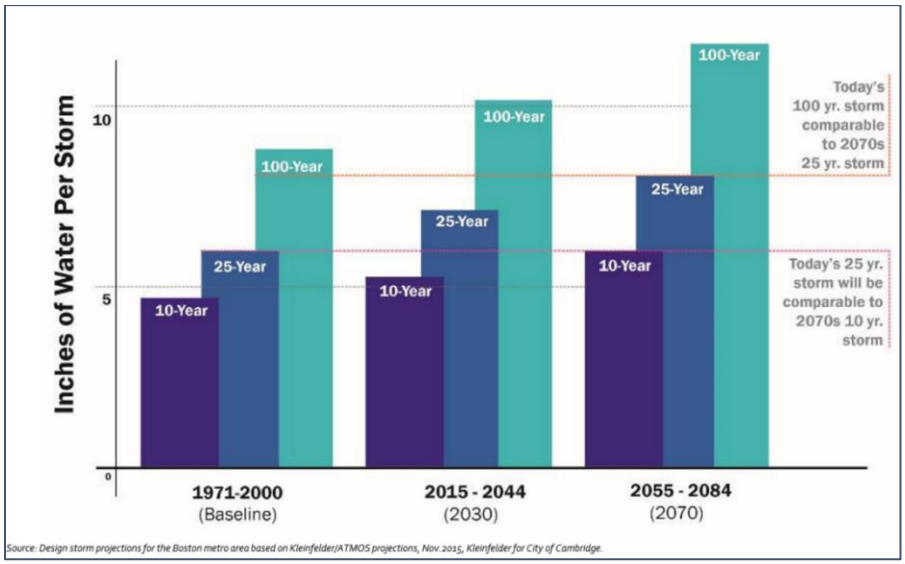
When a water body, such as a stream or lake, can no longer accommodate increased discharge from heavy rains or snow melts, the excess water flows onto the land adjacent to these surface

water areas. “Floodplains” are those lands that are likely to flood during a storm event, and are classified according to the average frequency of flooding. Thus, the “100-year floodplain” is that area of land that will be flooded, on average, once in every 100 years. Phrased differently, these areas have a projected one-percent chance of flooding in any given year.

Development in floodplains is regulated in order to reduce threats to the health and safety and damage to property. Unregulated development in floodplains can increase flooding, resulting in potential property damage. In addition, water contamination from flood-damaged sewage or septic systems and debris swept downstream from flooded properties can result in hazards to persons and property also located downstream. Berlin has very few flood-prone structures, major damage in the 1955 flood having been largely confined to roads and bridges.

Floodplains are delineated on the basis of topographical, hydrological, and development characteristics of the particular area. **Map 7, Water Resources** delineates the 100-year flood zones in Berlin. As shown in the second Water Resources Map included in this plan, there are stretches of Berlin that fall within FEMA’s designated 100 year flood zone. However, as our climate continues to change and weather becomes more erratic projections indicate that our current floodplains and estimated 100-year storm events no longer accurately portray flooding risk. Projections indicate that large storm events with more than 2-inches of rainfall are anticipated to increase between now and the middle of the century, with further increases projected for the end of the century. These large storm events will have impacts on existing stormwater infrastructure and have a range of implications to human health and safety as well as the ecological integrity of the areas.

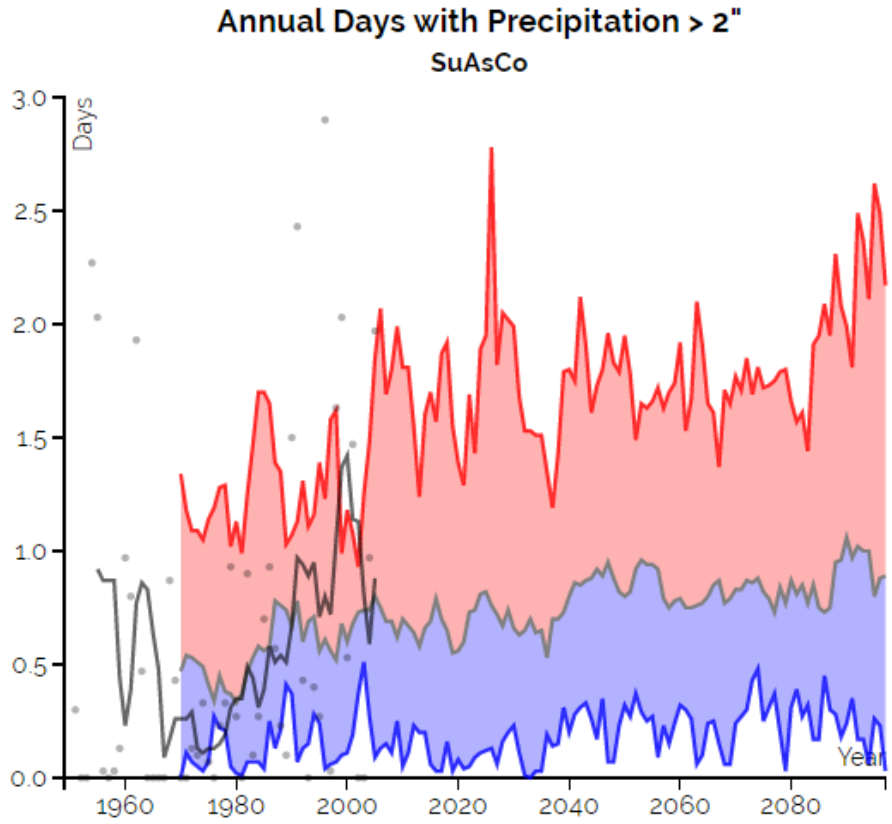
Figure 4. Projected Changes in Large Storm Events



A small watershed and flood protection plan was developed for the Suasco watershed by the U.S. Soil Conservation Service, the Massachusetts Water Resources Commission, and the Soil Conservation District. As part of this plan, two flood control projects were constructed in Berlin in the 1970s. These include the Lester Ross Project on North Brook, and the Brewer Brook Project. These dams were designed to store 20 acres of flood flows to protect downstream areas in Hudson from flooding.

Based on data collected and analyzed by Researchers from the Northeast Climate Science Center at the University of Massachusetts Amherst, the SuAsCo watershed is projected to experience moderate increases in the number of large storm events though the end of the century. Increases in large storm events will put Berlin and surrounding communities at further potential risk from flooding events.

Figure 5. Projected Changes in Large Rain Events



WETLANDS

Wetlands are located throughout Berlin, providing critical ecosystem services and potential development constraints. Wetlands, including marshes, swamps, and bogs, serve a number of vital roles in both the natural and built environments. Wetlands are highly productive systems and provide important habitat for many species of wildlife. They also act as sponges, absorbing and retaining surface waters that might otherwise cause flooding. Thus, wetlands are critical to maintaining the quantity of water supplies by maintaining relatively stable groundwater levels and preventing downstream damage. Wetlands also work to protect water quality by filtering out pollutants and thereby reducing the contamination of streams, lakes, and groundwater. Because of the important role wetlands play in the environment, it is essential that they be protected. Activities which replace wetlands with impervious surfaces result in increased runoff rates, reduced flood storage, and elevated peak flows, leading to greater damage from storms.

Filling wetlands also reduces wildlife habitat and plant diversity, and can increase contamination of streams, rivers, and ponds due to reduced filtration of pollutants.

Under the Wetlands Protection Act (M.G.L., Ch. 131, sec 40) wetlands are defined in terms of vegetative cover (rather than on the basis of soil characteristics), and the Act regulates dredging, filling, or altering areas within 100 feet of wetlands. The Berlin Conservation Commission proposed a warrant article at the 2003 Town Meeting for a local Wetlands Bylaw. This bylaw serves to enhance the Conservation Commission's review authority. Through this recent OSRP planning process, the Conservation Commission has begun to explore the possibility of strengthening the bylaw's language to provide enhance protection to Berlin's natural ecosystems. The Committee chose to include a question in its public outreach survey asking whether or not residents would support increasing the buffer provided by the local wetlands' ordinance. A more detailed discussion of this can be found in Section 7.

As shown in Map 9: Habitat Features, DEP recognized wetlands are well-distributed throughout Town. Wetland are shown in dark green on this map. This map also shows the location of certified and potential vernal pools in Berlin, both of which tend to be clustered around wetland resource areas. According to the Massachusetts Division of Fisheries and Wildlife (MassWildlife), a targeted approach towards vernal pool clusters is more effective than targeting individual pools because it maximizes the resistance and resilience of vernal pool habitats and their resident species in the context of climate change.

HABITAT

Berlin's easily identifiable abundance and variety of indigenous flora and fauna is due to a diverse range of habitats and some of the largest relatively undisturbed tracts of woodland in the region. Berlin has marshes, streams, rivers, and ponds, forests that include coniferous, hardwood, and mixed woodlands ranging from red maple swamps to chestnut-oak on high ridges with shallow soils over bedrock. Open lands include wet meadows, active farmland, and parks and playfields. Its diverse vegetation provides food and cover. There seems always to be good mast crop in the fall and plenty of browse throughout the year. The 'lay of the land', i.e., its topography, of low-lying river and stream riparian corridors, wooded swamps, open meadows, to steep, ledge slopes and high ridgelines provide diverse habitat and for wildlife diversity and all modes of quiet recreation. Developed lots can also provide habitat for some species which thrive near developed areas.

Photo 13 - Male Eastern Box Turtle

In 2012 the Massachusetts Department of Fish and Game, through the Division of Fisheries and Wildlife's Natural Heritage & Endangered Species Program (NHESP), and The Nature Conservancy's Massachusetts Program developed *BioMap2* to protect the state's biodiversity in the context of climate change. *BioMap2* identifies two (2) complementary spatial layers, Core Habitat and Critical Natural Landscape as defined below.

- *Core Habitat* identifies key areas that are critical for the long-term persistence of rare species and other Species of Conservation Concern, as well as a wide diversity of natural communities and intact ecosystems across the Commonwealth. Protection of Core Habitats will contribute to the conservation of specific elements of biodiversity.
- *Critical Natural Landscape* identifies large natural Landscape Blocks that are minimally impacted by development. If protected, these areas will provide habitat for wide-ranging native species, support intact ecological processes, maintain connectivity among habitats, and enhance ecological resilience to natural and anthropogenic disturbances in a rapidly changing world. Areas delineated as Critical Natural Landscape also include buffering upland around wetland, coastal, and aquatic Core Habitats to help ensure their long-term integrity.[1]

Within the Core Habitat category BioMap 2 identifies several subgroups of important landscape areas. In Berlin these groupings include:

- *Forest Core 1859 (712 acres):* Forest Cores include the best examples of large, intact forests that are least impacted by roads and development, providing critical habitat for numerous woodland species. Forest Cores are the best examples of large, intact forests that are least impacted by roads and development. Forest Cores support many bird species sensitive to the impacts of roads and development and help maintain ecological processes found only in unfragmented forest patches.
- *Aquatic Core 1966 (428 acres)*: aquatic Cores are integrated and functional ecosystems for fish species and other aquatic Species of Conservation Concern. To delineate these, BioMap2 identified intact river corridors within which important physical and ecological processes of the river or stream occur. To identify those areas integrally connected to each river and stream, each river segment was buffered 30 meters. All wetlands wholly or partially contained within this buffer were then included, and the combination of the river channel, the adjacent buffer, and the connected wetlands make up the riverine Core Habitat.
- *Species of Conservation cores 1916 and 1966.*

[1] Mass GIS BioMap. http://maps.massgis.state.ma.us/dfg/biomap/pdf/town_core/Berlin.pdf

There is one forest core, one aquatic core, and two species of conservation concern cores located in Berlin. The species of conservation cores in Berlin support Four-toed Salamander and Marbled Salamander. Four-toed Salamanders live in forested habitats surrounding swamps, bogs, marshes, vernal pools, and other fish-free waters that are used as breeding sites. Most breeding sites in MA are characterized by pit- and-mound topography with significant sphagnum-moss cover. Eggs are typically laid in mounds or patches of sphagnum moss that overhang water. Upon hatching, the larvae wriggle through the moss and drop into the water, where they will develop for several weeks prior to metamorphosis.

Photo 14 - North Brook

Adult and juvenile Marbled Salamanders inhabit upland forests during most of the year, where they reside in small-mammal burrows and other subsurface retreats. Adults migrate during late summer or early fall to breed in dried portions of vernal pools, swamps, marshes, and other predominantly fish-free wetlands. Eggs are deposited under logs, leaf-litter, or grass tussocks and hatch after being inundated by fall rains. Larvae metamorphose during late spring, whereupon they disperse into upland forest.

Based on BioMap2, there are 603 acres of Core Habitat and 755 acres of Critical Natural Landscape in Berlin. Core Habitat is located in the southern and northern portions of Town. Critical Natural Landscape is also located in the southwestern corner of Berlin. These areas server as critical linkages and corridors for wildlife migration throughout Berlin and the larger region. Most non-bird wildlife move to eat, breed, and find new habitat under the cover of darkness. However, daytime cover is also critical for bird species.

Photo 15 - Marbled Salamander

When prioritizing current and future land acquisitions for conservation purposes, the Berlin Conservation Commission should continue to seek to protect areas that increased patch size of existing protected areas. By protecting areas contagious and diverse areas, the Conservation

Commission will continue to provide important linkages to increase wildlife connectivity and migration. Working with these goals in mind will provide protection to the diverse species found in Berlin and the region.

The Natural Heritage and Endangered Species Program (NHESP) has identified eight rare species in Berlin. These include a range of reptiles, amphibians, and vascular plants.

Table 13: Endangered Species

Taxonomic Group	Scientific Name	Common Name	MESA Status	Most Recent Observation
Mussel	Alasmidonta varicosa	Brook Floater (Swollen Wedgemussel)	E	1859
Amphibian	Ambystoma laterale	Blue-spotted Salamander	SC	Historic
Amphibian	Ambystoma opacum	Marbled Salamander	T	2014
Vascular Plant	Asclepias purpurascens	Purple Milkweed	E	1915
Reptile	Emydoidea blandingii	Blanding's Turtle	T	2011
Reptile	Glyptemys insculpta	Wood Turtle	SC	2016
Vascular Plant	Panicum philadelphicum ssp. philadelphicum	Philadelphia Panic-grass	SC	1944
Reptile	Terrapene carolina	Eastern Box Turtle	SC	2017[2]
E = Endangered; T = Threatened; SC = Special Concern				

CORRIDORS FOR WILDLIFE MIGRATION

Most non-bird wildlife move to eat, breed and find new territories under the cover of darkness. However, daytime cover is also important. Berlin's riparian corridors under the protection of the Rivers Protect Act37 plus conservation lands serve as excellent greenway corridors linking conservation lands. The Berlin Conservation Commission, adhering to the concepts of 'landscape ecology' also strives to enlarge, round out to reduce the edge-effect, and link protected areas with protected upland corridors. In doing so, the Conservation Commission should seek to preserve contagious areas of existing open space. Maintaining large habitat patches can be expected to support maintained or enhanced biodiversity levels. large intact habitat areas are able to provide more abundant resources, thereby allowing the chance for increased survival rates over time. In contrast, increased landscape fragmentation can negatively impact species movement and lower biodiversity as a result.

Photo 16 - Purple Lustrife

[2] https://www.mass.gov/service-details/rare-species-by-town-viewer

VEGETATION

Vegetation in Berlin consists of a wide variety of plant communities ranging from maintained agricultural lands (hayfields, pastures, orchards, etc.) to advanced succession forests. Vegetation type is largely determined by land use, climate, elevation, topography, aspect, and soils/geology. Vegetation serves as an anchor to topsoil, helping to control erosion. It also provides shade, animal habitat and aesthetic beauty. Traditionally timber harvesting has played an important role in New England's economy. Trees and other forms of vegetation provide important resources for a community via a variety of ecosystem services.

Ongoing and future open space planning should seek to protect the volume and diversity of vegetation for a multitude of reasons.

FORESTRY

Like many of its neighboring Towns, Berlin is largely classified as Central Appalachian Oak and Pine Forest. As described by the United States Geological Survey, "these forests cover large areas in the central Appalachians and northern Piedmont, north to central New England. The setting ranges from rolling hills to steep slopes, with occasional occurrences on more level topography. The soils are coarse and infertile; they may be deep (on glacial deposits in the northern part of the range), or shallow, on rocky slopes of acidic rock. The well-drained soils and exposure create dry conditions. The forest is mostly closed-canopy but can include patches of more open woodlands. It is dominated by a variable mixture of dry-site oak and pine species such as chestnut oak, white oak, red oak, black oak, scarlet oak, pitch pine, and white pine; these may occur as oak forest, mixed oak-pine forest, or patches of pine forest. Heath shrubs (hillside blueberry, huckleberry, and mountain laurel, etc.), often dense, are characteristic. Disturbance agents include fire, windthrow, and ice damage. Increased site disturbance generally leads to secondary forest vegetation with a greater proportion of pine and weedy hardwoods such as red maple. In the absence of fire, this system is believed to develop into northern hardwood and hemlock forests.[3]"

Based on Massachusetts urban and community forestry data, Berlin's canopy density is 67%. This percentage ranks slightly higher than the State's total canopy cover of 62%[4]. Berlin's public shade trees include those at municipal facilities including South Commons, the town offices, library, and historic sites, and within the town's cemeteries. Trees within the rights-of way along town roads are also considered public resources. Public shade trees are recognized as valuable to the town's visual character, ecological value, and economic value, and to residents' physical comfort. Berlin looks to preserve street trees whenever feasible. The town has an active Tree Warden who works to oversee protection and, when necessary, the removal of public trees. In 1974 the Town adopted a Scenic Roads ordinance, which provides some protections to trees as well as stone walls within the rights-of-way of designated roads. For maximum protection Berlin voters chose to designate all roads in Berlin as scenic.

[3] USGS National Gap Analysis Program https://gis1.usgs.gov/csas/gap/viewer/land_cover/Map.aspx
[4] Massachusetts Urban and Community Forestry http://maps.massgis.state.ma.us/dcr/forestry/forestry23.html

FISHERIES AND WILDLIFE

Berlin residents are accustomed to seeing wildlife. Deer are abundant and commonly seen. Other commonly seen animals include mink, muskrat, fisher, coyote, bobcat, beaver, weasel, opossum, and raccoon, Moose are sited several times a year as well. Black bear sightings have been noted to have been increasing as well. As neighboring communities become more developed, deer hunters have reportedly been increasing in Berlin as well, which may lead to increased issues related to hunting in Town.

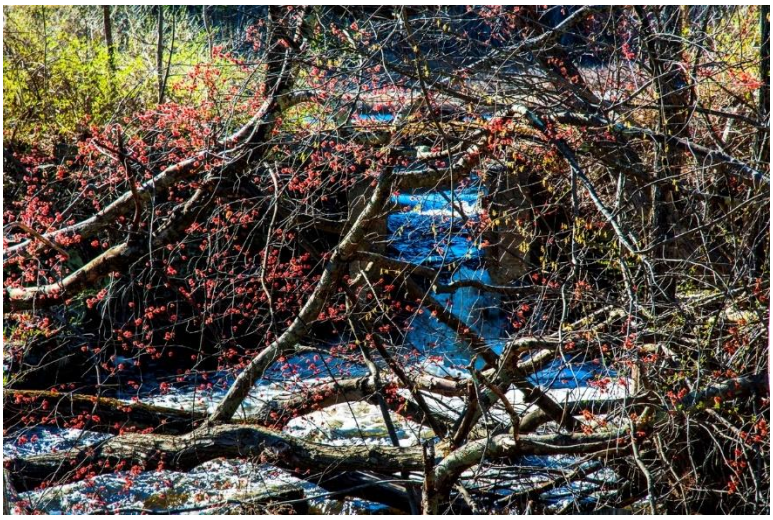


Photo 17 - Outflow from Wheeler Pond

North Brook in Berlin is stocked with trout, and an active brook trout population has been reported in the Forty Caves areas. Panfish, bass, and pickerel are abundant in all ponds. In addition, many birds have been sited and catalogued in Berlin. Wood ducks and mergansers nest in cavity trees; Canadian geese are abundant on agricultural fields and other areas; a large herony has been sited along North Brook; grey ibises and egrets have been spotted; large flocks of turkeys are seen throughout Town; indigo buntings and scarlet tanager are seen throughout the Gates Watershed; red tailed, red shouldered, sharp-shinned, coopers, and other hawks are commonly seen throughout Berlin. In order to protect these and other bird species, the Conservation Commission has actively worked to preserve land throughout Town for the sake of increased wildlife habitat and landscape integrity.

Overall, wildlife commonly found in Berlin are consistent with species that are typically found in nearby Massachusetts communities. These species include: deer, pileated woodpeckers, fishers, woodcock, kestrels, bobolinks, eastern meadow larks, raccoons, pheasants, partridges, skunks, wild turkeys, fox, rabbit, woodchuck and a variety of fish species. Many of these species are at risk from and are negatively impacted by new development. If not planned correctly, new development has the potential to fragment wildlife corridors, making it difficult for animals to survive due to decreased connectivity and habitat area. Road construction has the potential to have a similar effect on wildlife populations.

VERNAL POOLS

Vernal pools are small, seasonal wetlands that provide unique wildlife habitat. Primarily amphibians and invertebrate animals that use them to breed. Based on data collected from MassGIS, there are three certified vernal pools located in Berlin. In comparison, there are a

total of 84 potential vernal pools located in Berlin. These are depicted in the Habitat Features Map included in this plan.

4D. SCENIC RESOURCES AND UNIQUE ENVIRONMENTS

A number of landscapes in Berlin have been evaluated as being scenic under the Massachusetts Landscape Inventory[5]. The inventory divided the state into six physiographic regions, developed a list of scenic landscape features for each region, identified landscape "units" of one square mile or larger, and rated each of these units as "distinctive," "noteworthy," or "common." Within Berlin, 1,075 (13% of the town's area) acres were rated as distinctive. In comparison, only 4% of land statewide was rated as distinctive. In additions, 2,118 acres (25% of the town's area) was rated as noteworthy, while only 5% of land statewide received this rating. These scenic areas are clustered in tow broad areas of Berlin:

- The first area consists of a corridor extending from Bolton to Marlborough that includes Highland Street, Wheeler Hill, Sawyer Hill, Gates Pond, and the Assabet River east of River Road. Within this area, two subareas were designated as distinctive. These included an area extending from the Brewer Brook Dam north across Sawyer Hill and Central Street to the rail line, as well as outer Highland Street between Randall Road and the Bolton Town line. Much of this area is protected by conservation restriction of Gates Pond Reservoir watershed protection.
- The second area is in the south and west of town, extending from the Barnes Hill/Mt. Pisgah area to Rattlesnake Hill/Reubens Hill area. The distinctive portion of this area encompasses the Devine property on Linden Street. Virtually all of this land is protected 'in fee' as conservation land or by conservation restriction.

The most important threats to scenic roads and landscapes are from haphazard and inappropriate residential and commercial development along roadsides or in open areas such as farm fields. here are several areas where farmland has been recently converted to residential use with a significant impact being felt on the scenic quality of the landscape. To this end, items included in Sections 8 and 9 of this plan outline methods to site future development in ways such that the views and the ecological integrity of the landscape are not minimized by continued development.

Photo 18 - South Berlin Flats

[5] Massachusetts Department of Environmental Management, *Massachusetts Landscape Inventory: A Survey of the Commonwealth's Scenic Areas*

There is a prevalent idea among laypeople that long driveways to private homes, deep in the woods, hidden away from view, is smart growth. This is a serious mistake; though somewhat aesthetically pleasing to drivers, it is ecologically devastating. Ecology scientists have determined that, on the average, the typical residential home will emit adverse impacts (from pets, off-road-vehicles, noise, and other intrusions) 500' in all directions. This amounts to 17+ acres of land that is no longer 'natural'. A key challenge for the town is to devise regulatory and non-regulatory strategies for preserving important scenic landscapes so that the town's rural character can be preserved. Berlin has designated every road in the town (except the numbered routes) as "scenic roads" under the Scenic Road Law (Mass. G.L. ch. 40, s. 15C).41 This designation gives the Planning Board the authority to review any "repair, maintenance, reconstruction, or paving work" that includes the cutting of trees or the alteration of stone walls.

UNUSUAL GEOLOGIC FEATURES

The area between Allen Road and Lancaster Road, included the Forty Caves site, is interested due to its varied geological features. The Forty Caves area is a talus slope formed of large bedrock fragments broken from a steep bedrock cliff. A small tributary stream to the nearby North Brook flows at the base of the Talus slope. The large boulders piled at the base of the cliff form a number of tunnels and caves. The southern end of the bedrock cliff is cut by a large fault that is part of the Clinton-Newbury fault system that traverses eastern New England. A large quartz vein is also found near the top of the cliff, with numerous fragments spread on the slop below. A similar talus slope and cliff is found in another small intermittent stream valley to the northeast of Forty Caves.

The area is also characterized by numerous glacial erratics, large boulders that were deposited by the retreating ice sheet. The largest erratics are up to 20-30 feet in diameter. While these are found locally throughout town, this area has the greatest number. There were likely moved from bedrock outcrops scattered throughout the area to the north into Clinton. One particularly large boulder, located just west of Lancaster Road, is used by rock climbers to train. Another boulder spans North Brook, creating a scenic natural bridge.

CULTURAL, ARCHEOLOGICAL, AND HISTORICAL AREAS

Forty Caves and the area to the north of Boylston Road include significant archeological sites. Signs of pre-colonial activity have also been found around Gates Pond and near the Assabet River. A former farm house site, unoccupied for over a century, remains on the west side of Ball Hill Road about 600 feet north of the Northborough town line, and has potential as an archeological site. Both of these areas are protected as conservation land.

The most important historical resources in town are its major villages. The Center Village around the Meeting House Common has four open spaces nearby which contribute to its setting. These are Powder House Hill west of the Common, the Hartshorn's Pond area north of Central Street, the Town-owned area at the corner of Pleasant and Central Streets, and the Town-owned South Commons to the south of the village. Carterville is located along Carter and

Highland Streets north of the Center Village. It is bordered by Powder House Hill on the west and an area of rocky and swampy woodland to the east. South Berlin, along Pleasant and South Streets, is bordered by fields of the Indian Head Farm to the east and a field at South Street and Crosby Road to the west. West Berlin has an undeveloped area of woodland to the east of the Conrail line between Randall Road and West Street. All of these buffer areas are important to the preservation of the village landscapes.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN

There are no Areas of Critical Environmental Concern designated or proposed within Berlin.

ENVIRONMENTAL CHALLENGES

A number of environmental challenges exist within Berlin as a result of past and current activities. These challenges are described in the following sections.

Hazardous Waste Sites

The Department of Environmental Protection (DEP), Division of Hazardous Waste, classifies oil or hazardous material disposal sites, Chapter 21E sites, using a tier system. Tier 1 sites are considered to be high priority, but vary in ranking from 1A to 1C. Tier 1A is assigned to those sites which pose the most serious environmental risk by impacting receptors such as air and water. These sites are closely monitored by DEP as they are the most environmentally critical. Tier 1B sites are also a concern to DEP, but do not require direct oversight by the DEP and are examined on a yearly basis. Tier 1C sites require an initial permit, but ongoing response actions can be undertaken without DEP oversight. A site is classified as Tied 1D is the responsible party fails to provide a required submittal to DEP by a specified deadline. There are three Tier 1D sites in Berlin – a roadway release (by Ultrasigns Co) site at 275 Central Street, 185 Lyman Street, 65 Lyman Street, and 62 Walnut Street. The Lyman and Walnut Street addresses are both affiliated with Tolman Greenhouses[6].

Tier 2 sits are considered to be non-priority sites by the DEP and generally include gasoline filling stations and other types of services or disposal uses which may pose environmental problems. There are no Tier 2 sites in Berlin.

Waste Services

The Town's landfill on Jones Road is closed but has not yet been capped. The site is under the jurisdiction of the Board of Health, and serves as the town's transfer station. The landfill must be capped. Another closed landfill is the Town of Hudson's former landfill off Gates Pond Road in the northeastern part of Berlin. This landfill is capped.

Berlin residents are responsible for legally disposing of private waste. Residents pay an annual fee for general waste disposal at the transfer station and additional fees for larger or harder to dispose of targeted items. Recycling is mandatory and is available for scrap metal, paper, cardboard, plastics, glass and metals, styrofoam, batteries, and electronics. A trading shed exists to allow residents and opportunity to leave reusable, nonperishable and on-fee items for

[6] https://eeaonline.eea.state.ma.us/portal#!/search/wastesite/results?TownName=BERLIN

others to take. Items not accepted at the Transfer Station include paint in liquid form, brake fluid, anti-freeze, building or demolition materials, hazardous waste, oil, solvents and gasoline. In Spring 2019, the Town passed a single-use plastic bag ban. This ban will go into effect beginning in 2020.

Erosion and Sedimentation

Erosion is the wearing away of the land surface by running water, wind, ice, or other causes. Sedimentation is the deposition of soil particles that have been transported by water and wind. Unchecked, soil erosion and sedimentation can contribute to on and offsite damages including increased stormwater runoff and decreased water recharge, unstable stream banks, air and water pollution, and other forms of environmental degradation. Massachusetts DEP and the federal EPA have adopted Stormwater Standards to prevent erosion, control sediment movement, and stabilize exposed soils to prevent pollutants from moving offsite or entering wetlands or waters and to require plans that document how pollution is managed at construction and land disturbance sites. All construction and land disturbance sites in Berlin must meet state and federal stormwater standards.

Chronic Flooding

There are no developed areas in Berlin that are subject to chronic flooding. The town's stream systems have narrow floodplains, except in the lower portion of North Brook in the "flats" along River Road. Two flood control areas were constructed in the 1970s as part of the Suasco project, but these were designed to protect the developed areas further downstream along the Assabet rather than to address any specific flooding problems within Berlin.

New Development

Most new development has some impact on the environment although many of these impacts can be minimized by strict enforcement of federal, State, and local environmental regulations. However, while most individual development projects have limited environmental impact, the accumulated impact can be significant and should not be overlooked. Impacts occur during construction as vegetation is altered and topsoil is disrupted allowing wind, rainfall, and snowmelt to increase erosion and sedimentation. Other impacts include an increase in impervious areas which can contribute to flooding, reduced groundwater recharge, and increased stormwater runoff. These changes can then impact

Photo 19 - Highland Commons Entrance

existing open space, tree canopy, and wetlands, all of which contribute to changes in wildlife habitat and behaviors.

Berlin's largest development project since 1996 has been Highland Commons, a retail shopping center that occupies 88 acres along Route 495 and the Hudson town line. Similar to the development of the Solomon Pond Mall in the 1990s, the Town of Berlin analyzed potential impacts and crafted zoning regulations and a comprehensive development agreement that minimized and mitigated impacts of construction and use. None the less, a large wooded and geologically interesting site has been lost to the development. Continued new development will undoubtedly continue to impact Berlin's natural resources through consumption and changes in use. Every effort should be made to protect and preserve the most valuable resources and minimize and mitigate impacts whenever possible through zoning regulations, tax incentive programs, environmental self-help programs, conservation restrictions, and land acquisitions.

Groundwater and Surface Water Pollution

Water pollution can generally be described in terms of nonpoint source pollution and point source pollution. Point source pollution refers to pollution that is attributable to a single, identifiable, localized source such as a discharge pipe. Nonpoint source (NPS) pollution comes from many diffuse sources and is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it accumulates natural and manmade pollutants that are ultimately deposited into water bodies such as wetlands, lakes, rivers, and coastal waters. Nonpoint source pollution can also find its way into underwater water sources. Pollutants can include sediment from construction or other unprotected sites, fertilizers, oils, and other toxic chemicals, and bacteria and nutrients from pet and livestock waste as well as failed septic systems.

Nonpoint source pollution is a major cause of water quality problems both in Massachusetts and nationwide. The most effective means of controlling nonpoint source pollution is through thoughtful land management and includes tools such as Low Impact Development (LID) and Smart Growth strategies and bylaws, protective zoning, and best management practices for stormwater management, construction, septic operations, and road maintenance. LID strategies seek to treat stormwater as close to the source as possible by slowing flow rates and increasing infiltration, thereby naturally reducing pollutant loading.

The Assabet River, one of two main stream systems in Berlin, is highly impacted by the point source pollution discharged from the four major wastewater treatment plants along its banks. Wastewater treatment plants in Westborough (also serves Shrewsbury), and Marlborough (also serves Northborough), are upstream of Berlin and therefore contribute to the pollution in the Assabet in Berlin. Downstream plant discharges come from Hudson and Maynard. Stormwater runoff and the recycling of nutrients trapped in river sediments also contribute to the river's pollution level. The excess of nutrients and the effects of eutrophication have impaired the river to the point that it does not meet the state's water quality standards for a "fishable and swimmable" river.

Farming is an industry that is routinely associated with ground and surface water pollution, though no threats from this source have been identified in Berlin. Natural Resources Conservation Service (NRCS) is a federal agency that works with private landowners throughout the country to improve and protect their water, soil, and other natural resources. A number of farmers in Berlin participate in NRCS programs, which require farmers to develop conservation plans that document their resources and operations and identify strategies for minimizing the environmental impacts of farming. While there is potential for ground and surface water pollution with any development, and many activities, including transportation, farming, and excavation, no serious ground or surface water pollution threats have been identified within town.

Invasive Species

Berlin is plagued with invasive plants. Abandoned fields are taken over by multiflora rose and buckthorn before native shrubs and trees can take hold. There are ten acre fields that are impenetrable due to dense growths of multiflora rose. In the late spring, hedgerows look like snow banks from the rose blossoms. Buckthorn is thick along fence lines and throughout fields and bittersweet chokes acres of woods on Ball Hill and other areas. Loosetrife and phragmities are found along most streams and wet meadows.

Invasive plants, those that grow rapidly and are difficult to remove or control once established, are often threats to forests and wetlands areas. When invasive species take over large areas of habitat, ecological processes are changed. Often, they force out the native species that provide food and habitat for local species. Plants that have been identified as being a threat to Massachusetts forests include Japanese Barbery (*Berbis Thunbergii*), Multifora Rose (*Rosa multiflora*), Garlic Mustard (*Alliaria petiolata*), and Common Buckthorn (*Rhamnus cathartica*). Multiflora Rose and Common Buckthorn have both been identified as current threats in Berlin.

Photo 23 - Garlic Mustard

Photo 24 - Common Buckthorn

Photo 25 - Non-Native Honeysuckle

Photo 22 - Multifora Rose

Photo 20 - Glossy Buckthorn

Photo 21 - Bishop's Goutweed

Additional species threaten natural wetland, floodplain, and stream bank communities in Massachusetts. Within wetlands invasive species include Purple Loosestrife (*Lythrum salicaria*), Phragmites or Common Reed (*Phragmites asutralis*), Shining Buckthorn (*Rhamnus frangula*), and Yellow Iris (*Iris pseudacorus*). Other invasive species threating floodplains and stream banks include Morrow's Honeysuckle (*Lonicera morrowii*), Japanese Knotweed or Bamboo (*Polygonum cuspidatum*), Goutweed or Bishop's Weed (*Aegopodi um podagraria*), and Garlic Mustard (*Alliaria petiolate*). Purple Loosestrife and Phragmites have been documented as threats to Berlin's wetland and water resources areas. Identifying and monitoring invasive species is an important first step in controlling or eradicating them.

Photo 26 - Emerald Ash Borer

The Asian Longhorned Beetle (ALB) is an invasive pest of hardwood trees, including maple, birch, and elm. It was discovered in Worcester, MA in August 2008. While ALB and resulting eradication caused the loss of over 30,000 trees in the region, the spread of ALB has been successfully slowed. Although surveying crews continue to search for signs of ALB, no beetles have been discovered in recent years. Emerald Ash Borer (EAB) represents a new, heightened threat to hardwood forests in Massachusetts. Emerald Ash Borer was confirmed in Massachusetts in August of 2012. The EAB is a small, flying beetle, native to Asia. It was first discovered in North America in 2002, in the Detroit, Michigan area. Unlike other invasive beetles, the EAB can kill a tree fast, within just a few years, because it bores directly under the bark, where the tree's conductive system is. Since its discovery in North America, it has killed millions of ash trees and has caused billions of dollars in economic loss across the nation[7].

Environmental Equity

Environmental Equity refers to issues such as equal access to open space, lack of tree cover or other difference a person endures in one's environment based on that person's inclusions in a population identified as an environmental justice population. Environmental justice populations are those with high percentages of minority, non-English speaking, low-income, and foreign-born populations. There are no environmental justice populations as identified by the State in Berlin. However, future planning efforts should work to include equitable access to passive and active recreation lands, and to address the needs of vulnerable populations including youth and elderly residents. The Open Space Inventory Map included in this plan shows that there is generally widespread distribution of open space throughout Berlin. Active recreation opportunities are more limited, and are mostly available near the Berlin Memorial School. In recent years, Berlin has been proactive in identifying and subsequently acquiring new open space lands, and these efforts are well represented in the accompanying map.

[7] http://www.emeraldashborer.info/

AARP's Public Policy Institute created an interactive web-based tool that assesses the livability of communities across the United States. This tool, named the "Livability Index," utilized 50 national data sources and 60 indicators to provide a scoring relative to Housing, Neighborhood, Transportation, Environment, Health, Engagement, and Opportunity. According to the Livability Index, the Town of Berlin currently scores 49 points. While the Town scores in the middle third for all seven Livability categories, they do score in the bottom third for several sub-categories.

In the Housing category, Berlin scores in the bottom third for Housing Costs and Housing Cost Burdens. For Neighborhood, the Town scores poorly with Access to Grocery Stores and Farmer's Markets, Access to Parks, Access to Libraries, Access to Jobs by Transit, and Activity Density (Compact Neighborhoods). In the Transportation category, the Town scores in the bottom third for Frequency of Local Transit Service, ADA-Accessible Stations and Vehicles, Walk Trips, Household Transportation Costs, and Speed Limits (Safe Streets). Environmentally, the Town scores poorly with regards to Drinking Water Quality and Near-Roadway Pollution. In the Health category, the Town only scored in the bottom third for the Patient Satisfaction sub-category. And in the Opportunity category, the Town only scored in the bottom third for Jobs Per Worker. The Town of Berlin should seek opportunities to improve these sub-category areas, with special attention on access to parks, walkability, drinking water quality, and air quality to move these categories out of the bottom third.

SECTION 5: INVENTORY OF LANDS OF CONSERVATION AND RECREATION INTEREST

The Open space and recreation areas in the Town of Berlin include a variety of landscapes and land types with various owners, managers and degrees of protection. The purpose of this inventory is to identify areas of conservation and recreation interest in the town in order to evaluate current and future open space planning needs. Areas of interest include open spaces that are valued for recreation opportunities, protection of natural resources, historic resources and scenic character.

This inventory looks at protected and unprotected open space. Protected open spaces are private or public parcels that are permanently committed to conservation or recreation purposes by deed restriction or easement. Unprotected open spaces are areas that are of conservation or recreation interest to the town, but are not permanently protected as open space. Partially protected open spaces are areas that have a partial or temporary restriction on development, such as Chapter 61 lands and some municipal lands such as parks or ball fields that could but are unlikely to be developed.

Berlin's natural resources and history have helped to create a distinctive landscape and a richness of culture that makes the town an attractive and interesting place to live and visit. Protection of these natural resources ensures a healthy environment that can provide safe drinking water, clean air, and outdoor recreation opportunities, and sustain healthy wildlife habitats and populations. Land use decisions that consider the community's natural constraints and opportunities will work to protect and preserve surface and groundwater resources, reduce air and noise pollution, limit erosion, moderate temperatures, and protect places of natural beauty and critical environmental concern.

In many cases, open space protection can be a reactive measure, mobilizing community funding to preserve the "last wetland" or "last farm." This method can not only be costly, but can also result in disconnected fragments of conservation land. Establishing criteria to prioritize open space parcels for protection allows the Town and regional conservation partners to be strategic about which lands to acquire. Such a strategy can focus on developing a network of large connected parcels of open space (green infrastructure) which have higher ecological value. Because natural systems do not necessarily adhere to political boundaries, natural resource protection is best achieved through regional collaboration. This approach emphasizes connections between natural habitat areas and corridors, study and collecting inventory information for unique sites of special importance such as vernal pools or endangered or rare habitats and species. This work will often reach beyond municipal limits.

More than just an open field or an area of cleared land, "open space" in the context of the open space and recreation planning includes conservation land, recreation and park land, agricultural land, cemeteries, and any undeveloped land with conservation or recreation interests. Open space can serve a variety of purposes, including passive recreation, active recreation, wildlife habitat, protection of wetlands or water resources. Lands or areas with scenic or historic value are also essential components of a community's public spaces. Open space helps protect the Town's water supply, manage flood waters, provide wildlife habitat, and offer opportunities for

various recreational activities. Open space lands also help identify the Town as a rural community and provide a window into Berlin's past. As vacant land continues to be developed, the remaining open lands become even more important to preserving Berlin's scenic and natural landscapes. In total, there are nearly 2,560 acres of open space in Berlin.

Open space and recreation planning is critical to help preserve open space while allowing development to occur that is consistent with the unique character of the Town. Central to the development of this plan is protecting the Town's open space lands and resources while enhancing recreational opportunities and experiences for the community. This Section describes ownership, management agency, current use, condition, recreation potential, public access, and degree of protection for lands of conservation and recreation interest. This information is summarized and also depicted graphically on the included Open Space Inventory Map in Appendix A. This map and the information referenced in this section was compiled using data from the Commonwealth of Massachusetts' Office of Geographic Information (MassGIS), as well as from data reported to CMRPC by the Town of Berlin.

Table 14: Open Space Ownership

Open Space by Owner Type		
Total Open Space Acres* by Owner Type		
Owner Type	**Acres (GIS Calc)**	**%**
Land Trust	79.90	3.12%
Municipal	1,386.40	54.17%
Private for profit	763.58	29.84%
State	307.89	12.03%
X	21.40	0.84%
Grand Total	**2,559.17**	**100.00%**

DEFINITIONS

Permanent Protection or Protection in Perpetuity

These lands are legally protected in perpetuity and recorded as such in a deed or other official document. Land is considered protected in perpetuity if it is owned by the Town's conservation commission or, sometimes, by the water department; if a town has a conservation restriction on the property in perpetuity; if it is owned by one of the state's conservation agencies (thereby covered by article 97); if it is owned by a non-profit land trust; or if the Town received federal or state assistance for the purchase or improvement of the property. Private land is considered protected if it has a deed restriction in perpetuity, if an Agriculture Preservation Restriction has been placed on it, or a Conservation Restriction has been placed on it. Many permanently protected lands are protected by Article 97 of the State Constitution, which provides permanent protection for certain lands acquired for natural resources purposes. Parkland is protected under Article 97 as well. Removing the permanent protection status of such lands is extremely difficult, as is evidenced by the following steps:

- The municipal Conservation Commission or Parks and Recreation Committee must vote that the land in question is surplus to its needs.
- The removal of permanent protection status must be approved at a Town Meeting/City Council vote and pass by a two-thirds (2/3) vote.
- The municipality must file an Environmental Notification Form with the EOEEA's Massachusetts Environmental Policy Act (MEPA).
- The removal of permanent protection status must be approved by both the State House of Representatives and the State Senate and pass by a two-thirds (2/3) vote.
- In the case of land either acquired or developed with grant assistance from the EOEEA's Division of Conservation Services, the converted land must be replaced with land of equal monetary value and recreational or conservation utility.

Limited and Temporary Protection

These lands include those legally protected for less than perpetuity (e.g. short term conservation restriction or Chapter 61 lands), or temporarily protected through an existing functional use. For example, some water district lands are only temporarily protected while water resource protection is their primary use. These lands could be developed for other uses at the end of their temporary protection or when their functional use is no longer necessary. These lands might be protected by a requirement of a majority municipal vote for any change in status. This designation also includes lands that are likely to remain open space for other reasons (e.g. cemeteries and municipal golf courses).

None or Unknown Protection

Lands that are privately-owned and lands that could be sold without legal restriction at any time for another use (e.g. scout camps, private golf course, and private woodland) are considered to be totally unprotected. Parcels with unknown protections include those with unclear conservation values according to MassGIS records and require further investigation into property deeds.

The majority of lands in Berlin are protected in perpetuity, with approximately seven percent of lands having either limited, none, or unknown protection levels.

Table 15: Open Space Level of Protection

Total Open Space Acres* by Level of Protection		
Level of Protection	**Acres (GIS Calc)**	**%**
Limited	81.79	3.20%
None	46.03	1.80%
Protected	2,399.65	93.77%
Unknown	31.70	1.24%
Grand Total	**2,559.17**	**100.00%**

5A. PRIVATE PARCELS

Privately-owned parcels described in this subsection include land with agricultural preservation restrictions or conservation restrictions, Chapter 61, 61A, and 61B land, and lands with no protections but of open space or conservation interest. The condition of the privately-owned properties is unknown except where the assessor has provided a grade or condition. The management agency is assumed to be the owner or their agent. The future recreational potential on the limited protection parcels is passive such as fishing, hunting, hiking, or natural resource appreciation. Private land is considered protected if it has a deed restriction in perpetuity, or if an agricultural preservation restriction (APR) or conservation restriction (CR) has been placed on the property. Approximately 764 acres of open space in Berlin are privately owned.

Total Acres* of Private Open Space		
Owner	**Acres (GIS Calc)**	**%**
Herrington Candy	**18.83**	**2.47%**
CLINTON FISH AND GAME PROTECTIVE ASSOCIATION	**7.01**	**0.92%**
Berlin Country Club RT	**39.02**	**5.11%**
Cotting Charles E and Chedco Inc	**386.82**	**50.66%**
Wheeler Elsie S Trustee	**11.73**	**1.54%**
Duggan Jr Clayton J and Cheryl M	**7.63**	**1.00%**
Therrien David and Susan	**22.18**	**2.91%**
Nicewicz Vera David and Ken	**0.01**	**0.00%**
Wachusett Woodlands LLC	**52.51**	**6.88%**
Feuerstein Eva L	**10.29**	**1.35%**
Town of Berlin CR's	**23.68**	**3.10%**
Wolf Emily V	**10.85**	**1.42%**
<Null>	**12.71**	**1.66%**
Riverbridge North LLC	**68.94**	**9.03%**
Bentzen Torsten Trustee of the Steen Bentzen and Carla E Bentzen Irrevocable Trusts	**32.70**	**4.28%**
Coldwell Douglas J	**7.43**	**0.97%**
Sawyer Hill LLC	**28.75**	**3.76%**
Grala Lois L and Schartner Robert F	**7.69**	**1.01%**
Chestnut Farms Development Company Inc	**0.36**	**0.05%**
First Colony Development Inc	**14.45**	**1.89%**
Grand Total	**763.58**	**100.00%**

Table 16: Private Open Space

PERMANENT PROTECTION

Private entities own a significant amount of the open space lands in Berlin. There are 687 acres of permanently protected, privately owned open space in berlin. A geographic depiction of privately-owned open space can be seen via the Open Space Inventory Map included in the appendices of this plan.

Conservation Restriction

A conservation restriction (CR) is a permanent deed restriction recorded with the Registry of Deeds that binds all current and future owners of the property placed under a CR. The conservation restriction (or easement) is a restriction to particular specified uses or from development. The restriction runs with the land and is recorded in a deed instrument. Conservation Restrictions can be placed on a parcel of land for a specified number of years or in perpetuity. This restriction identifies the property's important ecological features and the public benefit derived from preserving the natural condition of the land. This tool aims to retain the property in its natural state or in agricultural, farming, or forest use; to permit public recreation; or to restrict development activities.

The property owner retains ownership of the land and may sell or pass on the preserved land with all restrictions in place. Any title search of a property will reveal the existence of a CR and all future owners will be bound by it. Conservation restrictions, sometimes called development restrictions, must be granted voluntarily, however, the Conservation Commission and/or Planning Board can encourage this mechanism as a way of maintaining privately owned land in a natural state. When a landowner places a property under a CR, he or she has permanently protected that property and ensured that the CR last forever, legally known as "in perpetuity." The restrictions placed on the property through the CR allow the landowner to determine how the property will be used into the future. The CR allows the property owner to retain title, pass the property on to heirs or even sell the property. A landowner can determine which part(s) of their property would be restricted in the future by the easement. It is quite possible or even common, to withhold some land (i.e. 1-2 building lots for children) from the easement, and yet protect the remainder of the property from development (this is an example of conservation-based development). The details of what rights are restricted and what are permitted, and where these restrictions will apply, are worked out between the landowner and the holder of the easement when drafting the CR.

In addition to knowing the property will remain protected against development, the owner can derive tax benefits from the CR. These can include reduction of federal income taxes (if the CR is donated), reduction of estate or inheritance taxes, and possible deduction in real estate taxes. In addition to receiving tax benefits, the owner is strongly encouraged to allow public access to the conservation restriction. As a result, conservation restrictions provide additional opportunities for passive recreation. However, knowledge of existing conservation restrictions and certain allowable uses may be limited. Therefore, it is suggested that Berlin work to promote and educate landowners on the benefits and potential allowable uses that may result from entering land into a conservation restriction.

Table 17: Conservation Restrictions in Berlin

Total Open Space Acres* by CR		
APR and/or CR Status	**Acres (GIS Calc)**	**%**
Herrington CR	18.83	2.17%
Chedco Farms CR	386.82	44.61%
Berlin Meadows CR	15.15	1.75%
Wheeler CR	11.73	1.35%
Duggan CR	7.63	0.88%
Linden Street CR	22.18	2.56%
<Null>	34.11	3.93%
Forty Caves Forest	41.08	4.74%
Wachusett Woodlands CR	52.51	6.06%
Eager Woods	56.42	6.51%
Feuerstein CR	10.29	1.19%
Ball Hill Road CR	23.68	2.73%
Wolf CR	10.85	1.25%
Morse Woods	23.11	2.67%
Riverbridge North CR	68.94	7.95%
Great Oak Farm CR	32.70	3.77%
Coldwell CR	7.43	0.86%
Sawyer Hill CR	28.75	3.32%
Chestnut Farms CR	0.36	0.04%
First Colony CR	14.45	1.67%
Grand Total	**867.01**	**100.00%**

Agricultural Preservation Restriction

The Agricultural Preservation Restriction (APR) program allows for farmland to be protected from future development. An APR is a specific type of Conservation Restriction that is administered by the Massachusetts Department of Agricultural Resource. The APR program pays farmers the difference between the "fair market value" and the "agricultural value" of their farmland in exchange for a permanent deed restriction, which precludes any use of the property that will have a negative impact on its agricultural viability.

Established by the Legislature in 1977, this program is the cornerstone of the Commonwealth's farmland protection efforts. This voluntary program is intended to offer a non-development alternative to farmland owners of "prime" and "state important" agricultural land who are faced with a decision regarding future use and disposition of their farms. To this end, the program offers to pay farmland owners the difference between the "fair market value" and the "agricultural value" of their farms in exchange for a permanent deed restriction which precludes any use of the property that will have a negative impact on its agricultural viability. The main objective of the APR program is to protect productive farmland through the purchase of deed restrictions and revitalize the agricultural industry by making land more affordable to farmers and their operations more financially secure.

Natural and cultural resource management is critical to the protection, restoration, and promotion of the scenic landscapes and historical treasures of a community.

Table 18: Agricultural Preservation Restrictions in Berlin

Total Open Space Acres* by APR		
APR and/or CR Status	**Acres (GIS Calc)**	**%**
Nicewicz Family Farm APR	0.01	0.08%
Schartner Farm APR	7.69	99.92%
Grand Total	**7.69**	**100.00%**

LIMITED PROTECTION

Chapter Lands

Land in active and passive use is eligible for a reduced tax rate under Chapters 61, 61A, and 61B of the Massachusetts General Laws (M.G.L.), which are designations for lands that are used for forestry, agriculture, conservation or recreation, respectively. These lands include those legally protected for less than perpetuity (e.g. short term conservation restriction or Chapter 61 lands), or temporarily protected through an existing functional use. For example, some chapter lands may only be temporarily protected through their forestry use, while residential is their primary use. These lands could be developed for other uses at the end of their temporary protection or when their functional use is no longer necessary. These lands might be protected by a requirement of a majority municipal vote for any change in status. This designation also includes lands that are likely to remain open space for other reasons (e.g. cemeteries and municipal golf courses).

Table 19: Chapter Lands in Berlin

Total GIS Acres by Chapter Land Type		
Chapter Land Type	**Acres (GIS Calc)**	**%**
Chapter 61	56.65	5.35%
Chapter 61A	879.03	83.01%
Chapter 61B	123.32	11.65%
Grand Total	**1,059.00**	**100.00%**

The following describes the different Chapter Lands programs:

M.G.L. Chapter 61 is designed to keep forested land under productive forest management. Owners with more than 10 acres of forest are eligible for enrollment. They must submit a DCR-approved forest management plan and a management certificate to the Town assessor before a new tax classification can begin. The assessed value of land classified under Chapter 61 is reduced by 95%. Chapter 61 classifications run for ten-year periods.

Table 20: Chapter 61 Lands in Berlin

Chapter 61 Table		
Owner Type	**Acres (GIS Calc)**	**%**
LANCASTER RD	21.08	37.22%
SAWYER HILL RD	11.89	20.98%
BALL HILL RD	23.68	41.80%
Grand Total	**56.65**	**100.00%**

M.G.L. Chapter 61A is most commonly applied to agricultural or horticultural land but can be used for the forested portions of a farm, provided a forest management plan is approved by DCR. To qualify for Chapter 61A, a farm owner must have five or more contiguous acres being used for agricultural or horticultural purposes. Property under Chapter 61A is assessed at rates that vary for different agricultural uses. Generally, classification will result in an 80% reduction in assessed value.

Table 21: Chapter 61A Lands in Berlin

Chapter 61A Table		
Owner Type	Acres (GIS Calc)	%
SAWYER HILL RD	34.55	3.93%
PEACH HILL RD	7.69	0.87%
CENTRAL ST	80.98	9.21%
SUMMER RD	38.02	4.33%
ALLEN RD	11.33	1.29%
HIGHLAND ST	173.27	19.71%
COBURN RD	49.22	5.60%
CARR RD	31.84	3.62%
RANDALL RD	3.54	0.40%
BELLEVIEW RD	9.03	1.03%
231 SAWYER HILL RD	57.48	6.54%
DERBY RD	18.06	2.05%
LINDEN ST	30.35	3.45%
RIVER RD WEST	1.37	0.16%
FOSGATE RD	71.25	8.11%
GATES POND RD	7.45	0.85%
248 RIVER RD WEST	48.52	5.52%
SOUTH ST	45.82	5.21%
BOYLSTON RD	4.30	0.49%
120 HIGHLAND ST	58.57	6.66%
89 GATES POND RD	3.89	0.44%
200 SAWYER HILL RD	25.31	2.88%
11 BREWER RD	51.86	5.90%
BARNES HILL RD	15.33	1.74%
Grand Total	**879.03**	**100.00%**

M.G.L. Chapter 61B is similar to 61A, but applies to lands designated for recreational use and containing at least five contiguous acres. The land must be retained in a natural state to preserve wildlife and natural resources, must be devoted primarily to recreational use, and must provide a public benefit. Recreational uses may include golfing, hiking, camping, nature study, shooting/target practice, hunting, and skiing. The assessed valuation of Chapter 61B land is reduced by approximately 75%.

Table 22: Chapter 61 Lands in Berlin

Chapter 61 Table		
Owner Type	**Acres (GIS Calc)**	**%**
LINDEN ST	47.23	38.30%
WEST ST	12.36	10.02%
LYMAN RD	7.26	5.89%
19 LYMAN RD	56.47	45.79%
Grand Total	**123.32**	**100.00%**

Landowners who enroll their land in the program receive property tax reductions in exchange for a lien on their property. The terms of the lien require that enrolled land remain in an undeveloped state and be managed for forest production, agricultural production, or recreation. Furthermore, the lien provides the municipal government of the city/town in which the enrolled property is located a right of first refusal should the landowner put the land up for sale while it is enrolled in the program. The Town has the "right of first refusal" for purchase of the land within 120 days of notification by the property owners of the pending sale. Towns may assign their right of first refusal to a state agency or a nonprofit conservation organization. Towns often have trouble taking advantage of the right of first refusal because of the rapid timeframe within which the Town must find the money and approve the purchase. Landowners who develop their land while enrolled in the program, or for a period of time after withdrawing from the program, may be required to pay penalties. These lands are considered to have limited or temporary protection because the owner can sell the property or choose to unenroll the property in the special taxation program and thus the open space public benefit goes away.

The Town's Right-of-First Refusal on Chapter 61 properties is an important conservation and recreation opportunity. Often, Chapter 61 lands have been owned by families for generations and are important places in Berlin's history and character. The Town has a policy and a well-defined process for working with a Chapter 61 landowner who decides to divest the property. The Right-of-First Refusal process in Berlin is handled by the Board of Selectmen who consult with other town boards per the policy.

Berlin currently has 31 parcels of land enrolled in the chapter 61 program, totaling 1,059 acres. These properties are depicted in green, pink, and blue on the included Open Space Inventory Map. Of the 31 sites, three are designated for forestry (chapter 61), four are designated for recreation (chapter 61B), and 24 are designated as open space and recreation (chapter 61A).

As shown in the previously referenced map, these parcels are located throughout town. Many chapter land parcels abut other municipally or privately-owned open space areas. The largest piece of land enrolled in a chapter program is a parcel on Highland Street. This 173-acre parcel is enrolled in the Chapter 61A program. As possible, these parcels may be targeted by the town for future acquisition in order to increase the amount of permanently protected land in Berlin.

5B. PUBLIC AND NON-PROFIT PARCELS

This section provides information on public and non-profit owned lands of open space or recreation significance and identifies the location, ownership, managing agency, land use description, level of protection, public access, and acreage. And in the case of town-owned conservation and recreation properties, information is provided regarding managing agency, condition, and recreation potential. For many parcels, the condition is unknown. A more thorough assessment of condition is suggested as an action step for inclusion in future plans.

PERMANENTLY PROTECTED

Federal and State Lands

Often the state or federal government will own land within a municipality as a State Park or State Forest or as a means to protect valuable or unique water supplies or habitat. Public lands owned by the Commonwealth of Massachusetts include areas for water supply protection as well as recreation. A detailed breakout of the amount of State-owned land in Berlin in shown in the table below. As shown in the Open Space Inventory Map, these state lands are located south of West Street near Derby Road and East of Pleasant Street in close proximity to Central Street.

Table 23: State Owned Open Space

Total Acres* of State Open Space		
Owner	**Acres (GIS Calc)**	**%**
DCR - Division of State Parks and Recreation	**260.52**	**84.61%**
DCR - Division of Water Supply Protection	**46.62**	**15.14%**
Comm. of Mass.	**0.75**	**0.24%**
Grand Total	**307.89**	**100.00%**

Town-Owned Lands

Land is considered protected in perpetuity if it is owned by the Town's Conservation Commission or, sometimes, by the water department; if a town has a conservation restriction on the property in perpetuity; if it is owned by one of the state's conservation agencies (thereby covered by Article 97); if it is owned by a non-profit land trust; or if the Town received federal or state assistance for the purchase or improvement of the property. Many permanently protected lands are protected by Article 97 of the State Constitution, which provides permanent protection for certain lands acquired for natural resources purposes. There are 2,559.17 acres of municipally owned open space in Berlin, some of which is owned by the Town of Hudson. Lands owned by Berlin include water resource areas, the town cemetery,

South Commons, the Berlin Memorial School, and many others.

Table 24: Permanently Protected Municipal Open Space

Permanently Protected Municipal Open Space							
Site Name	**Acres**	**% of Open Space**	**Managing Agency**	**Use Type**	**Condition**	**Recreation Potential**	**Grant Funding**
<Null>	58.41	2.43%	Town of Berlin, Commonwealth of Mass., Unknown	Unknown	Unknown	Passive Recreation (walking/hiking), Unknown	Unknown
Ball Hill Road Conservation Area	82.28	3.43%	Town of Berlin	Hiking Conservation	Fair	Passive Recreation (walking/hiking)	LAND Grant
Ball Hill Road CR	23.68	0.99%	Town of Berlin	Protected - No Access	Good	Limited Due to Access	Town of Berlin
Berlin Meadows	15.15	0.63%	Town of Berlin	Hiking Conservation	Good	Passive Recreation (walking/hiking)	Town of Berlin
Brewer Brook Flood Control Site	56.78	2.37%	DCR – Division of State Parks and Recreation	Flood Control. Bird Watching. Hiking	Very Good	Passive Recreation (walking/hiking)	None
Cadagan	7.07	0.29%	Town of Berlin	Conservation Fishing	Good	Passive Recreation (walking/hiking)	Gift
Carriage Hill	4.2	0.17%	Town of Berlin	Hiking Conservation	Good	Passive Recreation (walking/hiking)	Private

Permanently Protected Municipal Open Space							
Site Name	Acres	% of Open Space	Managing Agency	Use Type	Condition	Recreation Potential	Grant Funding
Chedco Farms CR	386.82	16.12%	Cotting Charles E and Chedco Inc	Agriculture	Good	Limited Due to Access	Private
Chestnut Farms CR	0.36	0.02%	Chestnut Farms Development Company Inc	Agriculture	Good	Limited Due to Access	Private
Clark	75.08	3.13%	Town of Berlin	Hiking Conservation	Fair	Passive Recreation (walking/hiking)	LAND Grant
Coldwell CR	7.43	0.31%	Coldwell Douglas J	Protected - No Access	Good	Limited Due to Access	Private
Crystal Springs	48.24	2.01%	Town of Hudson	Water Supply Protection	Fair	Limited Due to Access	Town of Hudson
Curtis	7.88	0.33%	Town of Berlin	Conservation Bird Watching Hiking	Good	Passive Recreation (walking/hiking)	Unknown
Devine	43.8	1.83%	Town of Berlin	Conservation Bird Watching Hiking	Good	Limited Due to Access	LAND Grant
Dingley	3.14	0.13%	Town of Berlin	Conservation Fishing	Good	Passive Recreation (walking/hiking)	None
Duggan CR	7.63	0.32%	Duggan Jr Clayton and Cheryl M	Protected - No Access	Good	Limited Due to Access	Private

Permanently Protected Municipal Open Space							
Site Name	Acres	% of Open Space	Managing Agency	Use Type	Condition	Recreation Potential	Grant Funding
Eager Woods	56.42	2.35%	Town of Berlin	Conservation Bird Watching Hiking	Good	Passive Recreation (walking/hiking)	LAND Grant
Feuerstein CR	10.29	0.43%	Feuerstein Eva L	Protected - No Access	Good	Limited Due to Access	Private
Field	23.39	0.97%	Town of Berlin	Conservation Hiking	Fair	Passive Recreation (walking/hiking)	SVT
First Colony CR	14.45	0.60%	Riverbridge North LLC	Protected - No Access	Fair	Limited Due to Access	None
Forty Caves Forest	80.09	3.34%	Town of Berlin	Conservation. Bird Watching. Hiking	Good	Passive Recreation (walking/hiking)	SVT
Garfield Woods	79.9	3.33%	Sudbury Valley Trustees	Hiking Conservation	Very Good	Passive Recreation (walking/hiking)	SVT
Gates Pond	176.7	7.36%	Town of Hudson	Water Supply Protection	Very Good	Passive Recreation (walking/hiking)	Town of Hudson

Permanently Protected Municipal Open Space							
Site Name	**Acres**	**% of Open Space**	**Managing Agency**	**Use Type**	**Condition**	**Recreation Potential**	**Grant Funding**
Great Oak Farm CR	32.7	1.36%	Bentzen Torsten Trustee of the Steen Bentzen and Carla E Bentzen Irrevocable Trusts	Conservation Farming	Good	Limited Due to Access	Private
Guerard	24.89	1.04%	Town of Berlin	Conservation Hiking	Good	Passive Recreation (walking/hiking)	None
Harriman-Schipp	3.27	0.14%	Town of Berlin	Hiking Conservation	Good	Passive Recreation (walking/hiking)	None
Herrington CR	18.83	0.78%	Herrington Candy	Protected - No Access	Very Good	Limited Due to Access	Private
Lancaster Road Conservation Area	8.72	0.36%	Town of Berlin	Conservation Fishing	Good	Passive Recreation (walking/hiking)	None
Linden Street Conservation Area	0.23	0.01%	Town of Berlin	Conservation Fishing	Good	Limited Due to Access	None
MacAllister Conservation Area	4.69	0.20%	Town of Berlin	Conservation Fishing	Good	Passive Recreation (walking/hiking)	None

Permanently Protected Municipal Open Space							
Site Name	Acres	% of Open Space	Managing Agency	Use Type	Condition	Recreation Potential	Grant Funding
Meadow Brook	5.29	0.22%	Meadow Brook	Hiking Conservation	Fair	Passive Recreation (walking/hiking)	None
Morse Woods	23.11	0.96%	Town of Berlin	Conservation Bird Watching Hiking	Good	Passive Recreation (walking/hiking)	LAND Grant
Mount Pisgah	138.85	5.79%	Town of Berlin	Conservation Bird Watching Hiking	Good	Passive Recreation (walking/hiking)	LAND Grant
Mount Pisgah Conservation Area	108.92	4.54%	Town of Berlin	Conservation Bird Watching Hiking	Good	Passive Recreation (walking/hiking)	LAND Grant
Musche Woods	47.39	1.97%	Town of Berlin	Conservation. Bird Watching. Hiking	Good	Passive Recreation (walking/hiking)	Town of Berlin
Nicewicz Family Farm APR	0.01	0.00%	Nicewicz Vera David and Ken	Agriculture	Good	Limited Due to Access	MDAR
Obrien	8.92	0.37%	Town of Berlin	Conservation Bird Watching Hiking	Good	Passive Recreation (walking/hiking)	None

Permanently Protected Municipal Open Space							
Site Name	Acres	% of Open Space	Managing Agency	Use Type	Condition	Recreation Potential	Grant Funding
Parker	39.15	1.63%	Town of Berlin	Conservation Bird Watching Hiking	Good	Passive Recreation (walking/hiking)	None
Pendergast	17.21	0.72%	Town of Berlin	Hiking Conservation	Good	Passive Recreation (walking/hiking)	LAND Grant
Pisgah Brook	1.86	0.08%	Town of Berlin	Conservation Fishing	Good	Passive Recreation (walking/hiking)	None
Rail Trail	1.39	0.06%	Town of Berlin	Conservation Hiking	Fair	Passive Recreation (walking/hiking)	Town of Berlin
Rattlesnake Hill Conservation Area	49.13	2.05%	Town of Berlin	Conservation Bird Watching Hiking	Fair	Passive Recreation (walking/hiking)	LAND Grant
Rhodes	18.99	0.79%	Town of Berlin	Conservation Hiking	Good	Passive Recreation (walking/hiking)	None
River Road West Conservation Area	12.5	0.52%	Town of Berlin	Conservation Bird Watching Hiking	Good	Passive Recreation (walking/hiking)	None
Riverbridge North CR	68.94	2.87%	Riverbridge North LLC	Protected - No Access	Fair	Limited Due to Access	Private

Permanently Protected Municipal Open Space							
Site Name	**Acres**	**% of Open Space**	**Managing Agency**	**Use Type**	**Condition**	**Recreation Potential**	**Grant Funding**
Rosmarin	3.14	0.13%	Town of Berlin	Conservation Fishing	Fair	Passive Recreation (walking/hiking)	Town of Berlin
Ross Flood Control Site	203.74	8.49%	DCR– Division of State Parks and Recreation	Flood Control	Very Good	Passive Recreation (walking/hiking)	MWRA
Sawyer Hill CR	28.75	1.20%	Sawyer Hill CR	Protected - No Access	Good	Limited Due to Access	None
Sawyer/Niedzial	54.95	2.29%	Town of Berlin	Conservation Bird Watching Hiking	Fair	Passive Recreation (walking/hiking)	LAND Grant
Schartner Farm APR	7.69	0.32%	Grala Lois L and Schartner Robert F	Agriculture	Good	Limited Due to Access	MDAR
South Commons	39.19	1.63%	Town of Berlin	Recreation	Good	Additional Recreation Facilities	Town of Berlin
Town Forest	10.19	0.42%	Town of Hudson	Protected - No Access	Fair	Limited Due to Access	Town of Hudson
Tyler	21.79	0.91%	Town of Berlin	Conservation Fishing	Good	Passive Recreation (walking/hiking)	SUASCO

Permanently Protected Municipal Open Space							
Site Name	**Acres**	**% of Open Space**	**Managing Agency**	**Use Type**	**Condition**	**Recreation Potential**	**Grant Funding**
Wachusett Aqueduct	46.62	1.94%	DCR – Division of Water Supply Protection	Water Supply Protection	Good	Passive Recreation (walking/hiking)	MWRA
Wachusett Woodlands CR	52.51	2.19%	Wachusett Woodlands LLC	Protected - No Access	Good	Limited Due to Access	None
Water Hole	4.31	0.18%	Town of Berlin	Fire Protection	Fair	Passive Recreation (walking/hiking)	None
Wheeler CR	11.73	0.49%	Wheeler Elsie S Trustee	Recreation and Conservation	Fair	Limited Due to Access	None
Wolf CR	10.85	0.45%	Wolf Emily V	Protected - No Access	Good	Limited Due to Access	None
Total	**2,399.65**	**100.00%**					

The Conservation Commission, acting either alone or working with Sudbury Valley Trustees will continue the goal of protecting open space in Berlin. The Commission has worked recently in effort to purchase the Wendler property on Peach Hill Road. This property is approximately 29 acres and backs up to other town owned conservation land, helping to protect an important wildlife corridor. While some of these conservation opportunities take years to develop and finalize, the Commission remains committed to acquiring additional municipal open space and protecting open space, wetlands, and important ecological parcels of land to help maintain the unique and rural character of our town and the integrity of our habitats. In 2018 the Commission finalized 2 major land protection efforts, the purchase of 96 acres along Lyman Road protecting a majority of the east face of Mt. Pisgah and the Conservation Restriction on Great Oak farm on Highland street protecting 40.39 acres of land for farm/agricultural use and provide passive recreation for the community. The Commission also celebrated the opening of the new trails and the dedication of the "Warren S. Oberg Overlook" with a ribbon cutting ceremony on October 16. New parking areas will be created for these properties in the spring of 2019, securing easy public access to both of the new areas. One on Lyman Rd for access to the new trails on Mt. Pisgah and the other on Sawyer Hill Rd. for access to the trails on Great Oak Farm.

The Town of Berlin has approved the purchase and protection of the 30-acre Wendler Forest, high priority woodland off of Peach Hill Road in Berlin on the Bolton town line. The Wendler Forest provides a key link between two complexes of conserved land, connecting 307 acres of conserved land in Berlin with 328 conserved acres in Bolton for a total conservation complex of over 635 acres. The property will be a tremendous addition to a growing complex of protected lands including Sudbury Valley Trustees' Garfield Woods Reservation, the Town of Berlin's Ciesluk Forest (funded by the LAND grant in 2017), Forty Caves, and Musche Woods Conservation Areas, the Town of Clinton's Ciesluk Forest and Bufton Fams conservation areas, and two APR protected farms in Bolton (Shartner and Nicewicz. Additionally, the acquisition is part of a multi-year effort to preserve land in a corridor spanning Boylston, Northboro, Clinton, Berlin, Bolton, and Stow. The property is located in the heart of an 1189-acre area that is recognized by the Natural Heritage and Endangered Species Program as Priority Habitat of Rare Species. The land provides vital habitat for Blandings Turtle, a threatened species under MESA. Finally, in its most recent analysis of the SuAsCo watershed, SVT took into consideration data sets such as The Nature Conservancy's Climate Resilience Focal areas, UMASS CAPS, and BioMap2, among others, and found that this property is on the western edge of a swath of the highest priority land

Photo 27 - Lester Ross SuAsCo Area

in the SuAsCo watershed. Over 3000 acres of this high priority area, spanning the Towns of Clinton, Berlin, Bolton, and Stow, remains unprotected and undeveloped. Conservation of this property builds on work to protect this large and hugely important natural resource area.

The property's healthy forest, designated entirely as Prime Forest Land will continue to sequester carbon and the active forest management that the Town of Berlin engages in on its conservation land will ensure that the ability of the Wendler Forest to sequester carbon remains at its highest levels in the crucial years to come. The property will additionally maintain water quality locally, and farther afield - the Wendler Forest is a high priority in the Merrimack Conservation Plan, which prioritizes land protection for preservation of the Merrimack Watershed. The Merrimack Watershed was identified in the 2010 U.S. Forest Service report, Forests on the Edge, as the most threatened in the nation in terms of projected loss of private forest land over the next twenty years. The property's designation as Priority Habitat for Rare Species means that it will continue to provide crucial habitat to maintain biodiversity. Finally, it's placement as a critical link in a long distance wildlife corridor means that it will give wildlife the ability to migrate in a future changing climate. In an area in which natural lands are fragmented by development, wildlife need corridors connecting larger blocks of conservation land to keep their populations healthy and genetically diverse. Such a corridor is critical to ecosystem health, allowing wildlife to move safely through the landscape, and allowing plants and animals to adapt and relocate as the climate changes. The creation of wildlife corridors and landscape blocks like this are crucial to the continued health and survival of all species. Such areas will remain resilient in the face of climate change because of their ability to buffer hazards, provide connectivity for wide-ranging species, allow for natural disturbances that are needed to sustain certain species, and ensure the protection of existing water resources

Non-Profit Lands

The Sudbury Valley Trustees own a large parcel of land known as Garfield Woods. Garfield Woods offers hiking and other passive recreation opportunities to residents. The area abuts two parcels of municipal open space, Forty Caves and Musche Woods, allowing for longer walking and hiking opportunities near Lancaster Road.

Table 25: Total Acres of Non-Profit Open Space

Land Trust-Owned Open Space	
Owner	**Acres (GIS Calc)**
Sudbury Valley Trustees	**79.90**
Total	**79.90**

Photo 28 - Garfield Woods

UNKNOWN PROTECTIONS

According to the inventory data, there is one open space parcel with unknown and several with limited protection levels. These sites are listed in detail in the tables included below. It is

recommended that the Based on a review of *The Massachusetts Conservation Restriction Handbook*, there are nine (9) main planning steps that the Town must complete and submit to the Division of Conservation Services (DCS)[8]. These steps are outlined below:

1. Town of Berlin submits draft conservation restriction to DCS Director that includes: the application form; plan of land; a field report filled out by the Conservation Commission; a USGS topographical map showing restricted area thereon and any proximal public or quasi-public land holdings; and municipal certification
2. The draft conservation restriction will undergo staff review. This review will include state review and inter-municipal review as appropriate
3. As needed, the draft conservation restriction will be modified based on review in step (2)
4. The updated draft is reviewed by counsel at the Executive Office of Energy and Environmental Affairs
5. If appropriate, the Secretary will give approval and sign the conservation restriction
6. At this point, the conservation restriction would be returned to the Town of Berlin
7. The Town of Berlin would formally record the Conservation Restriction
8. The Town of Berlin would send notice of the registry, GIS data, and a copy of recorded instrument to the Director of Conservation Restriction Review Program
9. Finally, a copy of the recorded Conservation Restriction would be sent to Berlin's local Board of Assessors

Table 26: Areas with Limited Protection

Limited Protected Open Space		
Site Name	**Acres (GIS Calc)**	**%**
South Cemetery	7.35	8.99%
Bobbie Acres	25.86	31.62%
Booth	11.30	13.81%
Berlin Memorial School	9.17	11.21%
Old Burying Ground	0.93	1.13%
Linden Street CR	22.18	27.12%
North Cemetery	5.00	6.11%
Total	**81.79**	**100.00%**

[8] Massachusetts Conservation Restriction Handbook, http://atfiles.org/files/pdf/MAconsrestrict08.pdf

Table 27: Areas with No Protection

Open Space with No Protection		
Site Name	**Acres (GIS Calc)**	**%**
Clinton Fish and Game	7.01	15.24%
Berlin Country Club	39.02	84.76%
Total	**46.03**	**100.00%**

Table 28: Unknown Protection

Open Space with Unknown Protection		
Site Name	**Acres (GIS Calc)**	**%**
Powderhouse Hill	0.97	3.07%
Unknown Name	30.73	96.93%
Total	**31.70**	**100.00%**

5C. PARKS AND RECREATIONAL FACILITIES AND USAGE

Berlin contains a rich diversity of cultural landscapes and destinations. These landscapes are evidenced through and can be enjoyed via extensive hiking trails throughout Town and historical sites such as the. These landscapes reflect the strong history and character of Berlin and create a sense of community that resonates with many residents. In order to continue preserving these qualities, the Town should promote increased use of these sites for recreational purposes. The terms recreational open space or recreation refers to land used for active recreational purposes such as athletic fields. Land used for active recreation does not qualify technically as open space due to the fact that these parcels are often covered with paved surfaces such as that for tennis courts, basketball courts and parking lots. Active recreation includes those sports and activities that require the construction of specific recreation facilities such as soccer, baseball, basketball, tennis, hockey, and swimming (in a pool).

In addition to providing important recreation opportunities, recent literature shows that presence of open space and recreation facilities have the potential to have positive economic impacts in communities. A 2016 study by the US Forest Service pointed to factors such as “the size of the travel party, time spent in the local area, personal preferences and income, and shopping opportunities influence how much money people spend in local communities and their types of purchases.” Specific recreation activities and their duration are then are shown to have a secondary impact on local spending[9].

Recreation and field space in Berlin are limited. However, outreach efforts resulted in a finding that existing conditions are adequate in meeting current demand. The current amount of recreation facilities was discussed at the community’s public forum, and those in attendance

[9] https://www.fs.fed.us/pnw/pubs/pnw_gtr945.pdf

agreed with this sentiment. Over 60% of survey respondents reported being satisfied or neutral in regards to the variety and number of existing recreation opportunities. Nearly 80% of respondents indicated being satisfied with the number of outdoor recreation facilities, while 65% reported being satisfied with indoor recreation opportunities. The Town continues to offer a number of sports activities for youth and adults. These offerings include:

- Soccer: Berlin Youth Soccer Association offers Fall and Spring soccer opportunities for all children of Berlin at an affordable cost regardless of prior soccer experience or level of play. over 120 players may participate in Berlin Youth Soccer in any given year. Youth teams are developed for a variety of age groups.
- Basketball: The Berlin Youth Basketball program attracts over 100 boys and girls annually to field teams in the Nashoba Youth Basketball League for competitive games against Stow, Lancaster, Clinton, Bolton, and Harvard. An instructional kindergarten and combined first and second grade program is offered, which has many youth volunteers in town co-coaching. The Berlin Memorial School gym is used for these activities. The Recreation Committee sponsors weekly adult basketball as well.
- Baseball/softball: Typically approximately 75 players sign up for Berlin Baseball annually.

Berlin has been very active in creating new and enhancing existing hiking opportunities. The Berlin Conservation Commission has actively engaged with the Sudbury Valley Trustees to create new trails in the Mt. Pisgah area, and new signage has been added within the past year to help those using the trails. In order to continue to preserve and enhance trail features in Berlin, the Conservation Commission is actively seeking and supporting the development of a local citizen trails committee.

Berlin has been actively engaged in potential development of the Wayside Rail Trail, a proposal by Massachusetts Department of Conservation and Recreation (DCR) to develop the Mass Central Rail Trail - Wayside Branch (MCRT-WB) as a 10-foot wide and 23-mile long shared-use path through eight towns. The rail trail would be constructed within a 19-foot wide path development corridor within the existing 50- to 100-foot wide former Massachusetts Central Railroad right-of-way (ROW) now owned by the Massachusetts Bay Transit Authority (MBTA). DCR has secured a lease with the MBTA along the ROW that allows DCR to construct, manage and maintain a rail trail within the corridor and develop additional amenities outside of this corridor provided they do not conflict with other MBTA uses. During 2012, DCR delineated the path development corridor within the existing ROW and received approval from the MBTA for its use for the MCRTWB project. This corridor largely follows and is centered on the existing single wide track, ties and ballast. The rail trail would extend from Coburn Road in Berlin to Beaver Street in Waltham. Once completed, the MCRT-WB would be managed by the DCR and maintained by either the DCR, municipalities through which it crosses, or through a cooperative agreement between DCR and the municipalities. The DCR has estimate development costs of the rail trail to be approximately $1 million/linear mile. [1] The eight towns on the Wayside Trail, along with the length of the rail corridor for each community, are: 1) Berlin - 2.3 miles

from Coburn Road to the Hudson line 2) Bolton – 100 feet 3) Hudson - 6.9 miles 4) Stow - 327 feet 5) Sudbury – 4.6 miles 6) Wayland – 3.0 miles 7) Weston – 3.0 miles 8. Waltham – 3.0 mile.

Upon completing a recent study, the Berlin Rail Trail Advisory Committee made the following recommendations:

1) Berlin take no action to develop the Berlin section of the proposed Mass Central Rail Trail Wayside Branch. Berlin may wish to revisit development options if and when towns to the east, in particular, Hudson, Bolton and Sudbury, commit funds to the 25% design process with the DCR to develop their segments of the Trail.
2) Responsive to expressed public interest in enhanced opportunities for passive recreation in the Town of Berlin, implement the following:
    a. Install a paved 7/8-mile multi-use trail around South Commons along the lines of the proposed design developed and recommended by Berlin Planning Committee in the town master plan and presented and approved at the 2018 Annual Town Meeting;
    b. Via better signage and maps (e.g., posted at trails or on-line, or printed) identifying trailheads and parking areas, improve public access to existing passive recreation areas on conservation lands held or managed in Berlin as a public or private conservation trust;
    c. Install sidewalks and bike lanes as opportunities arise in conjunction with Berlin's Complete Streets compact; and
    d. Engage with the communities and regional collaborators in the development of the Boston Worcester Air Line Trail (BWALT) a multi-use trail proposed to go from Framingham to Worcester, with side trails to Marlborough and Berlin utilizing the Aqueduct. This allows for access to points south in Marlborough and Northborough and west in Boylston and West Boylston along the southern end of Wachusett Reservoir[10].

Prioritizing Land for Acquisition and or Preservation

The Conservation Commission has developed a list of priority parcels for acquisition, and uses this list as part of a comprehensive resource protection strategy that monitors available land, maintains contact with owners, and continually assesses the relative importance of various parcels for acquisition and preservation.

The primary goals used to establish this parcels list includes: (1) preservation of the town's rural and scenic character, (2) protection of natural resources and wildlife, and (3) provision of recreational opportunities. Under these goals, five potential criteria for prioritizing open space protection may be identified: scenic landscapes, village definition, water resource corridors, wildlife habitat, and outdoor recreation potential.

[10] http://www.townofberlin.com/sites/berlinma/files/uploads/2018_town_reports_web.pdf

1. Scenic landscapes. A starting point for this prioritization is provided by the 1982 Massachusetts Landscape Inventory, as refined in the 1984 Shrewsbury Ridge study. Based on scenic quality, these studies defined two north-south corridors that include significant areas of "distinctive" and "noteworthy" landscapes. The Town and private individuals have already taken action to protect some significant parcels within these corridors, including the summit of Mt. Pisgah, Gates Pond and the Berlin Orchards properties on Sawyer Hill. Other parcels within this corridor should be reviewed in detail for their development potential and their potential for visual access from public ways.

2. Village character. Open space preservation efforts should also focus on parcels which contribute to the sense of differentiation between compact village centers and open areas. Important parcels in this respect include the meadow at the southeast corner of Central and Pleasant Streets which the Town recently acquired, the open areas adjacent to South Commons, and the fields surrounding South Berlin village and the rotary. It is important to note that in all these cases, open space "preservation" does not necessarily imply acquisition: a strategy for these areas can include some combination of continued current-use taxation (Chapters 61, 61A and 61B), creative zoning, limited development and acquisition.

3. Water resource corridors. Stream and river corridors provide an easily-defined framework on which to base an open space protection strategy. Conservation in such corridors is important for a variety of reasons, including prevention of flooding, erosion and pollution; provision of recreational access to waterways for boating and fishing; and protection of wildlife habitats. Much of the land along these corridors may also have some sort of regulatory protection, whether through the state Wetlands Protection Act, Rivers Act, the Section 404 process administered by the U.S. Army Corps of Engineers, or local floodplain regulations.

   In Berlin, several key conservation areas are located along the North Brook and Brewer Brook corridors. The Town, in cooperation with state and federal agencies and the Sudbury Valley Trustees, has gone a long way toward developing a network of open spaces along the North Brook corridor. In addition, several key privately-owned parcels along North Brook currently have reduced valuations under the Chapter 61 and 61A programs, encouraging their continued use for forestry and agriculture. These parcels represent logical priorities for acquisition, exercising the Town's right of first refusal if their current owners decide to remove them from the Chapter 61/61A programs.

4. Wildlife habitat. Defining important habitat areas for wildlife is another reason to protect open space. The Massachusetts Natural Heritage and Endangered Species Program identifies one Estimated Habitat area in Berlin—a corridor along North Brook and Brewer Brook from Jones Road to Wheeler's Pond. A portion of this area is already protected as town conservation land, with the remainder in residential use (including some lots that may have potential for further subdivision). Planning for habitat preservation can and should extend beyond the consideration of rare and endangered

species. It is also important to preserve native diversity of wildlife species. At the community scale, an open space plan designed around this concept will complement a circulation plan based on human activity centers and travel patterns. This concept is also applicable at the site design scale, and can therefore be incorporated in local zoning regulations. Cluster development provides increased flexibility for preserving open space and wildlife habitat, but even changing the configuration of conventional lots from rectangular to triangular has the potential of creating larger masses of habitat area.

5. Outdoor recreation potential. A fifth criterion for evaluating open space protection priorities is the potential of a parcel to provide public outdoor recreation opportunities. In part, this is related to the concept of corridors, because of the value of providing trails for hiking, walking, running, skiing and biking. Other recreation values include swimming areas, playfields, and boating and fishing access points. The use of this criterion for open space planning presupposes that priorities for new and expanded recreational facilities have been identified.

Complete Streets

In many communities, the Complete Streets planning approach has succeeded in improving bicycling and pedestrian accommodations as well as encouraging mobility options for those who may not drive, or those who may drive, but choose to bike or walk instead. Complete Streets aims to design and improve streets that provide safer, comfortable, and more accessible means of transportation for everyone. MassDOT created the Complete Streets Funding Program in February 2016 as a mechanism to provide technical assistance and project funding to communities to incorporate the Complete Streets approach into local roadways. Through the program, communities are eligible for technical assistance once a Complete Streets policy is adopted by the municipality (Tier 1), then the community must complete a Complete Streets Prioritization Plan (Tier 2) in order to be eligible for project construction funding (Tier 3). Results from the 2019 OSRP survey indicate that residents would like to see further development of sidewalks and bike trails in town.

The Berlin Board of Selectmen endorsed the Town's Complete Streets Policy in January 2017. The policy was approved by MassDOT in February 2018. The full list of needs and projects prioritized in the plan is available through the MassDOT Complete Streets web portal. The first five projects (listed by ranking) from the project prioritization plan include:

Table 29: Berlin Complete Streets

Complete Streets Project Details		
Rank	**Project Name**	**Project Description**
1	**South Street Sidewalk**	Sidewalk rehabilitation improvements on one side of road to provide safety and ADA benefits, plus repair of ADA ramps at South/Linden intersection. Project will provide SRTS for students and improved accessibility for pedestrians to conservation and recreational sites and town offices.
2	**Linden Street Sidewalk**	Construction of new 5' wide asphalt sidewalk on one side from Town Offices towards the Wachusett Aqueduct including ADA accommodations. Project intersects railroad and will include sidewalk grade crossing, detectable warning surfaces, appropriate signage and/or pavement markings to ensure safety. Project will close gap in existing sidewalk network while improving pedestrian accessibility within Town Center network including Town Hall, Police, and nearby conservation and recreational sites.
3	**West Street Sidewalk**	Sidewalk repairs and new construction of 5' wide sidewalk on one side of road. Includes ADA ramps, and pedestrian accommodations. Will fill gaps in existing network and provide improved access within Town Center network including Town Hall, Police, and nearby conservation and recreational sites.
4	**Central Street Sidewalk**	Construction of new 5' wide asphalt sidewalk on one side towards Berlin Meadows. Installations of two Rectangular Rapid Flashing Beacons (RRFB) at cemetery crosswalk by Woodward Ave and at the general store crosswalk by Carter St. Project will connect existing facilities, improving pedestrian accessibility within Town Center (i.e. town offices, old town hall, police, cemetery, local church, conservation/ recreational sites.) Includes ADA ramps.
5	**Woodward Avenue Sidewalk**	Sidewalk repairs and new construction of 5' wide sidewalk on one side of road to fill in gaps in existing network. Includes ADA ramps. Will improve pedestrian accessibility between old Town Hall building, cemetery, town offices, and church.

SECTION 6: COMMUNITY VISION

6A. DESCRIPTION OF PROCESS

Public input was sought throughout the course of this planning process. Generally, the planning process involved consistent meetings with the Berlin Conservation Commission and members of the Recreation Committee, a town-wide survey, and a public forum, sought to obtain input and feedback from the community members. Members of the Conservation Commission, Planning Board, Recreation Committee, and Agricultural Commission were invited to review the plan's goals and objectives and set priorities for implementation. The Town of Berlin worked closely with planners from the Central Massachusetts Regional Planning Commission throughout the duration of the planning process.

6B. SUMMARY OF COMMUNITY INPUT

Survey

The community survey was made available online and in print from March 25, 2019 to April 15, 2019. Hard copies were available for residents to pick up at Berlin's Town Offices. Survey questions focused on defining and preserving community character and quality of life as well as determining community opinions about desired uses for open space and conservation lands, the need for additional lands, and identifying the appropriate strategies for preservation, acquisition, and management. A copy of the survey and its results are included in the attached appendices.

Public Meetings

A series of meetings were held beginning in January through the completion of this plan. The majority of these meetings were held with the Town's Conservation Commission. Members of other relevant committees, such as Recreation, were invited as well. At these meetings attendees discussed plan contents, general issues regarding open space and recreation areas in Berlin, and developed and refined goals, action items, and objectives. A community forum was held at Town Hall on April 18, 2019. The community forum provided an opportunity for those who were unable to attend previous meetings to voice their opinions and concerns related to relevant issues. Participants shared what they value about quality of life in Berlin and discussed factors that might add or detract from the current status. Participants were also

Photo 29 - Public Forum

invited to rank how strongly they supported the goals and objectives that had been developed to date.

Vision Statement and Goals

The residents of Berlin wish to protect the small town and rural atmosphere that defines the character of the town and sure that the town's natural, scenic, and historic resources are preserved for future generates.

In order to support this vision, the goals of this Open Space and Recreation Plan include:

- Preserving and managing open spaces;
- Creating open space networks;
- Providing opportunities for formal and informal recreation;
- Improving outreach and access;
- Controlling and guiding development to be consistent with the existing town land uses and character; and
- Supporting active farming.

7. ANALYSIS OF NEEDS

This section presents resource protection needs, community needs, and management needs that were collected through an examination of the data and trends presented in previous sections, surveys, the community forum, and input from Town staff. The majority of the analysis presented below has been drawn from the public outreach surveys that the Open Space and Recreation Committee distributed over the course of the planning and research process. Analysis has also been included from insight gained during the Public Forum, which was held on April 18, 2019 at Berlin Town Hall.

7A. SUMMARY OF RESOURCE PROTECTION NEEDS

The principle resource protection needs in Berlin have remained constant for several decades. Residents overwhelmingly wish to preserve the town's natural open spaces as well as its working landscapes in order to protect natural resources, community character, and quality of life. Protecting open spaces and natural areas is seen as the most important strategy for maintaining Berlin's rural character, preserving the health and diversity of its flora and fauna, and maintaining water quality. Key parcels to protect include intact patches of woodlands and wetlands that provide habitat and movement corridors for wildlife, improve water quality, and provide scenic views. Parcels that also provide connectivity to other preserved open spaces, conservation lands, or water resources should also be considered high priorities. Working agricultural or farm lands are recognized as an important component of Berlin's open space system, and a cornerstone of its community identity. While these lands are privately held, the Town is committed to working with farmers to preserve these landscapes and the activities they support.

The Town should continue to support temporary protection of lands through the State's Chapter 61 program, as well as permanent protection through conservation and agricultural restrictions, the purchase of development rights, or acquisition. The Town should also focus on developing partnerships with local land trusts, and other preservation organizations to help build local capacity for planning, responding to unexpected opportunities, and developing creative funding strategies.

The Town of Berlin offers a number of outdoor recreation opportunities to its residents and those who may choose to travel to Berlin to experience its unique features. Examples of these outdoor areas include but are not limited to Forty Caves, Gates Pond Reservoir, and Berlin Meadows. This group of outdoor recreation facilities and open space parcels provide the Town with a variety of locations to engage in active recreation, passive recreation, and provide enhanced ecological integrity and biodiversity.

The public process attempted to piece together key aspects areas of resource protection that residents view as being important to Berlin. Resource protection is based upon the need to preserve existing natural and cultural resources that are finite in quantity and otherwise irreplaceable. Examples of these resources include wetlands, rivers, streams, aquifers,

farmland, historical resources, and scenic views. Three primary resource protection needs identified include the preservation of open spaces for water supply protection, open space for habitat protection, and preservation of farmlands and agricultural land. Survey results indicate that residents would also like to see a general increase in the up keep and presentation of existing open space properties as well as increased walking, hiking, and biking opportunities. To this end, the town should continue to support temporary protection of lands through the State's Chapter 61 program, as well as permanent protection through conservation and agricultural restrictions, the purchase of development rights, or acquisition. The Town should also focus on continue to develop and strengthening partnerships with local land trusts and other preservation organizations to help build local capacity for planning, responding to unexpected opportunities, and developing creative funding strategies.

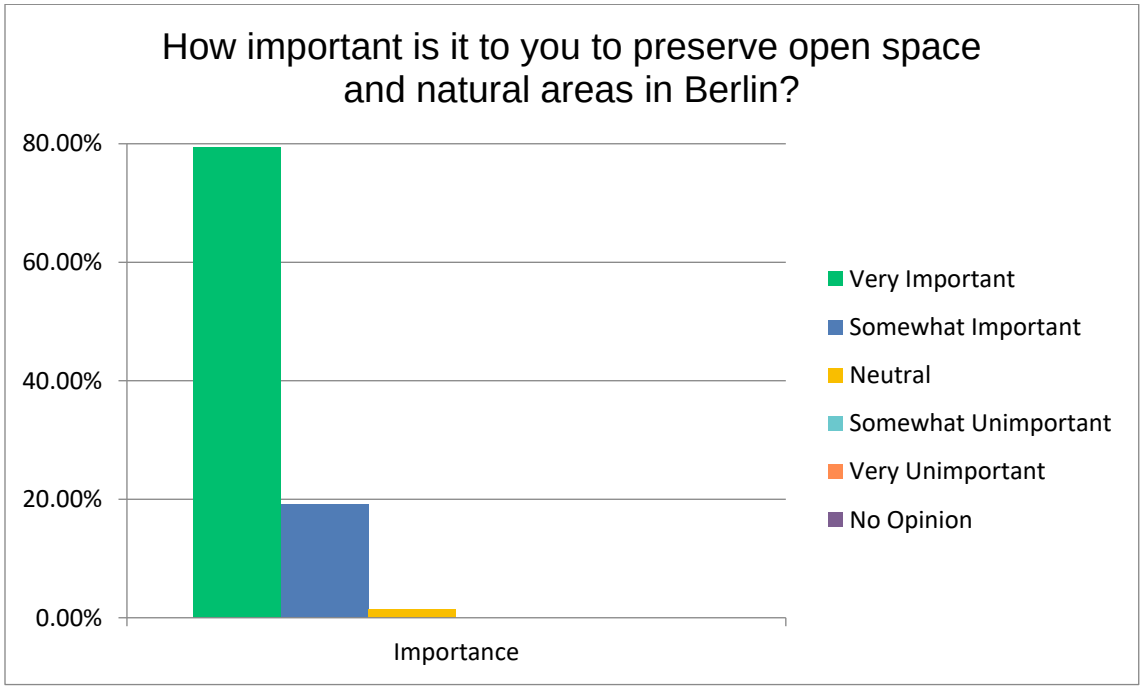
Preservation and Protection of Open Space

As indicated in the Habitat Features Map, there are a number of tracts of land in Berlin that rank highly based on databases such as BioMap2. Future efforts to increase open space preservation in Berlin would benefit from focusing on these areas, which are located throughout the town. Protecting these habitats and landscapes has benefits that extend past the Town of Berlin as well. Several areas that are classified as core habitat or critical natural landscape abut neighboring towns, serving as important corridors for both humans and wildlife. In effort to preserve the ecological integrity of the bioregion by preserving existing and enhancing overall diversity, these corridors should be protected as best possible. Should future development be sited in these areas it could risk decreasing the size and overall connectivity of these important landscapes.

Seventy-three survey responses were collected. The majority of respondents were 36 years or older, reported living in a two-family household, and noted having lived in town for at least ten years. One third of survey respondents indicated having children under the age of 18 currently living with them. Results from the survey indicate that residents are very supportive of Berlin continuing to acquire land for the purposes of preserving groundwater resources (78%), protecting habitat and maintaining biodiversity (73%), and preserving the town's rural character (68%).

Overall, residents indicated that it is very important to them to preserve open space. The Town of Berlin has been very active in recent years in working to preserve large contiguous stretches of land, which is indicated in the Open Space Inventory map included in this plan. Based on survey results, it is clear that town residents would be supportive of continued efforts to preserve open space and natural areas in Berlin. Doing so would have major implications on development in Town, on maintaining and enhancing biodiversity and core habitat, and on providing adequate opportunities for recreation. Maintaining natural biodiversity becomes increasingly important as climatic stressors continue to make flora and fauna establishment and longevity difficult.

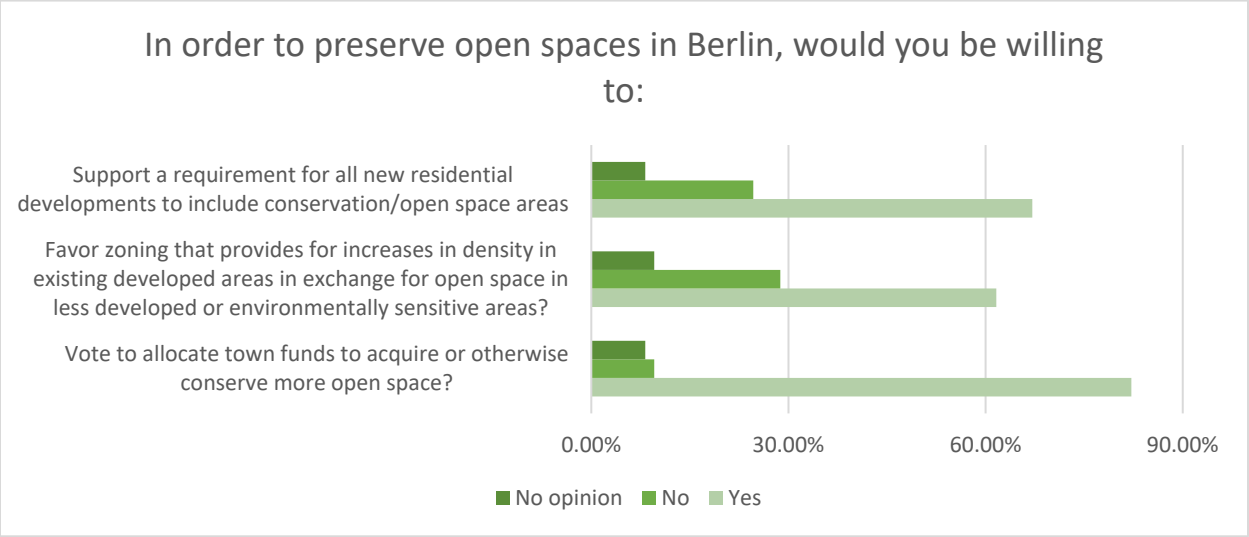
Figure 6. How Important is it to you to Preserve Open Space



Following up on the previously discussed question, residents were asked to discuss whether or not they would be supportive of particular actions in order to conserve additional lands in Berlin. More than 50% of respondents replied that they would be supportive of the three methods presented. These methods included: (1) supporting a requirement for all new residential development to include conservation/open space areas, (2) favor zoning that provides for increases in density in existing developed areas in exchange for open space in less developed or environmentally sensitive areas; and (3) vote to allocate town funds to acquire or otherwise conserve more open space.

Residents were then asked to discuss whether or not they would be supportive of particular actions in order to conserve additional lands in Berlin. More than 50% of respondents replied that they would be supportive of the three methods presented. These methods included: (1) supporting a requirement for all new residential development to include conservation/open space areas, (2) favor zoning that provides for increases in density in existing developed areas in exchange for open space in less developed or environmentally sensitive areas; and (3) vote to allocate town funds to acquire or otherwise conserve more open space.

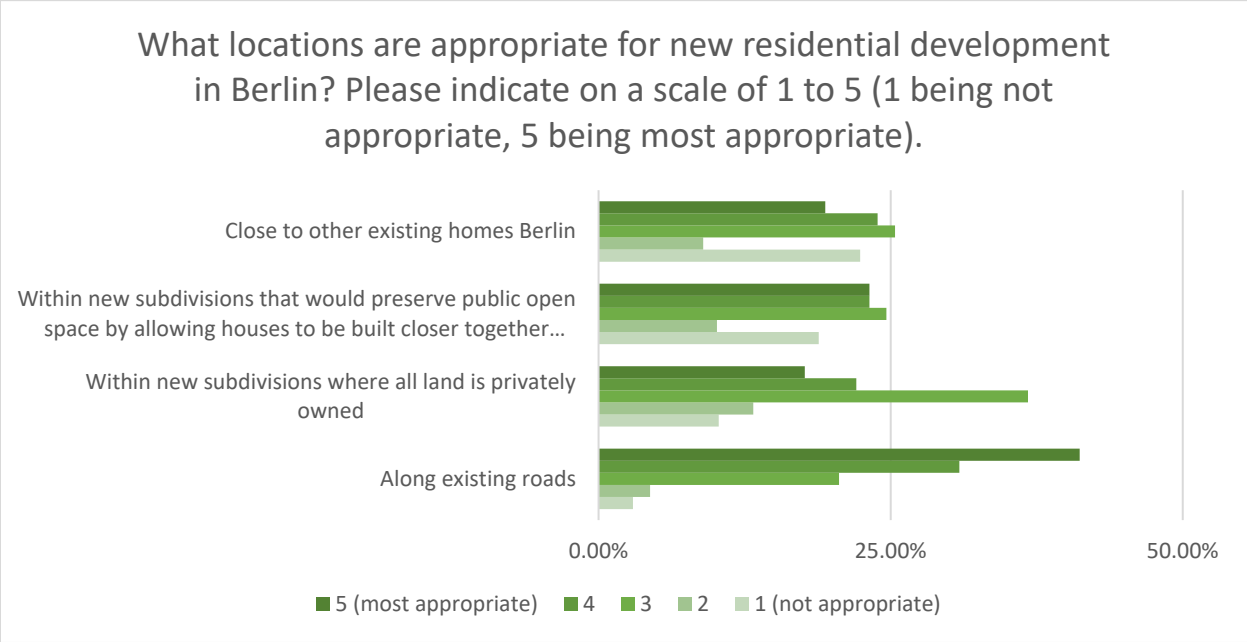
Figure 7. In Order to Preserve Open Space Would You be willing to



Survey respondents were also asked to rank their level of support for updating the Town of Berlin's Wetlands Bylaw. The Berlin Conservation Commission researched "best practices" from Conservation Commissions in other communities, and as a result in April, 2008 established a Berlin Wetlands Setback Policy protecting the immediate 25 feet adjacent to flagged/determined wetlands. This policy protects the most critical and beneficial areas adjacent to wetlands to help ensure clean drinking water and clean wells. The policy has subsequently been successfully applied to every Request for Determination of Applicability (RDA), Abbreviated Notice of Resource area Delineation (ANRAD) and Notice of Intent (NOI) brought before the commission since 2008. The 2019 OSRP Survey offered an opportunity to poll resident on whether or not they would be supportive of strengthening this language. Half of total responses indicated that they would be supportive of a wetlands bylaw with a no disturb zone of 50 ft or more, indicating support for a stronger bylaw.

When asked about future residential development, survey respondents that new development should occur along existing roads and in new subdivisions that would allow houses to be clustered together. These decisions are indicative of supporting efforts to further continue to support Berlin's ability to continue to develop without jeopardizing the Town's ability to support continued preservation of conservation lands.

Figure 8. What Locations are Appropriate for New Residential Development in Berlin



7B. SUMMARY OF COMMUNITY'S NEEDS

Regional and statewide open space and recreation needs were also considered through this planning process. The Massachusetts Statewide Comprehensive Outdoor Recreation Plan (SCORP) served as the basis of this analysis. The SCORP seeks to address available recreational services throughout the Commonwealth and identify potential gaps in access, services, and needs accommodated. Much like this town-specific OSRP, the SCORP relies heavily on public input in order to develop actionable goals and objectives. The goals identified in the 2017 SCORP include:

1. Providing access for underserved populations
2. Supporting the statewide trails initiative
3. Increasing the availability of water-based recreation
4. Supporting the creation and renovation of neighborhood parks

Following these goals, Berlin seeks to increase the diversity of recreation opportunities available in town in order to meet the needs of youth and adults. Evaluating interest in adult and youth sports leagues, meeting with the Council on Aging to discuss yearly programs, and meeting with the Town Administrator to discuss and plan summertime youth programming were viewed as initiatives to help meet the needs of special groups. These guiding goals are reflected in part in the action items identified for Berlin later in this document. For a complete list of this plan's goals and objectives see Section 9.

Berlin's plan attempts to use public input to assess how these four goals might be incorporated into its future work related to open space and recreation facilities. Multiple outreach efforts were conducted to collect input on the needs and demands for open space and recreation opportunities in the Town of Berlin. The Town met regularly to discuss needs as they related to open space and recreation facilities and to develop draft goals in effort to lay out a road map for future planning efforts in Berlin. The Town was able to effectively advertise its outreach efforts via the Town webpage and posting board, social media, and word of mouth. By actively seeking to engage the public in this important planning process, Berlin was able to collect a significant amount of data for analysis. This analysis is presented in the following section.

When asked how satisfied residents were with current facilities and opportunities in Berlin, a large number of respondents indicated that they are very unsatisfied with the amount and condition of sidewalks in town as well as the amount of bike paths. A large percentage indicated being somewhat unsatisfied with the condition of existing parking facilities at Berlin's open spaces. These three responses indicate that town residents enjoying using facilities and open space and therefore rank their ability to travel to and from them easily as a high priority. These facilities are particularly important to younger and elderly residents, who are less likely or able to drive.

Throughout the planning process, indication was given that the condition and amount of outdoor recreation facilities meets current existent demand. Close to one third of survey responses indicate that residents are very satisfied with the variety and number of existing outdoor recreation facilities in Berlin.

Slightly more than 20% of survey respondents indicated that they are over the age of 65. Based on their responses, input received from the public forum, and data collected throughout the planning process the elderly population is currently well served as it relates to open space and recreation opportunities. With the recent expansion of South Common, residents expressed that they feel as though there is currently an adequate amount of facilities for youth and teens and opportunities to engage in active and passive recreation opportunities.

South Commons is Berlin's only formal recreation area. The 37-acre site abuts the Berlin Elementary School on South Street near Town Center and supports a variety of recreational uses. South Commons is also the site of town-wide events and celebrations including Olde Home Day and the Annual Fishing Derby.

South Commons includes:

- Soccer fields: there are currently four soccer fields at South Commons, that seasonally get shifted and built depending on field conditions and number of teams in the programs. Those fields include two full sized fields and two smaller fields. The larger field at the back of South Commons is currently in the process of being rebuilt so the town will have the option of renting the field to private clubs when it is not used for

town recreation. In addition to the fields, smaller playing areas are created as needed within the open field area to support under 6 and under 8 teams.

- Baseball/softball fields: there are three playing fields at South Commons, including two 60-foot base path baseball fields and one softball field. Berlin's "Major" baseball field has a fenced in outfield, while the "Minor" field has a fenced backstop and benches. The softball field as a skinned in-field and fenced backstop. Bleachers are available for spectators.
- Playground: the playground at South Commons was designed to appeal to multiple age groups. It includes two swing sets, climbing structures, slides, see-saw, spring riders, and a playhouse.
- Access to the Berlin Memorial School Gymnasium: Public access to the Berlin Memorial School gym is available for public recreational activities when approved by the school or sponsored by the town recreation committee. Currently, both youth and adult basketball programs take place in this facility. Other programs, such as track and baseball, also take advantage of this access. The outdoor recreation sports programs use the gym when weather prevents outdoor play.
- Nature path and bluebird trial: This area is used for elementary school education and casual visits.
- Basketball court: There is currently one full size fenced in basketball court at South Commons.
- Tennis courts: There are currently two regulation size tennis courts at South Commons.
- Pond: The pond at South Commons is a large community attraction. A local Hands on Nature program uses the pond to hold life in a pond educational programs during the spring and summer seasons. Every April the fishing derby is held at the pond, attracting over 100 spectators and participants. This event has been held for the past 50 years.

South Commons is used by a number of organizations including the Elementary School physical education program, Berlin Baseball Association which provides youth baseball and softball, Berlin Youth Soccer, Tahanto lacrosse teams, and FC Puma. Together these programs serve approximately 250 Berlin youth ages 4-18. There are no outside formal programs for older youth or adults, though the fields are used occasionally for pick up softball games and the Berlin Recreation Commission receives inquiries for field use by sports organizations outside of Berlin. Use is granted on a fee basis.

Overall South Commons has excess capacity for formal recreation and sports activities and offers its facilities to organizations outside of Berlin. Several areas of need noted by the Recreation Committee include:

- There is a desire to see the town's system of trails maintained, enlarged, marketed, and utilized for both summer and winter recreational activities;
- The existing tennis court and basketball facilities should be improved or replaced;
- Parking and circulation should be improved further at South Commons to create a safer environment, particularly as people move from cars to the fields;

- A picnic/gathering pavilion on South Commons, with a separate water supply from the schools would provide for drinking water and future irrigation of athletic field space;
- Regionally there is a shortage of regulation size fields suitable for High School and Babe Ruth league baseball. Further study should be made to determine if a regulation field would be feasible and appropriate at South Commons;
- Consideration should be given to developing a walking trail to connect South Commons to Central Street. Sidewalks or other accommodations to make walking or biking from Berlin Retirement Homes and Sawyer Hill EcoVillage Cohousing to South Commons safer and more attractive.

Accessibility Improvements

The Town of Berlin Conservation Commission and Recreation Committee have control over a number of properties in the Town. The majority of these properties include hiking, fishing and hunting, horseback riding and in some instances biking and snowmobiling. Only South Commons has been developed with specific recreational facilities including sports fields and playground equipment. In future, development of ADA accessible trails could be studied to broaden access to the natural landscapes in the town.

7C. LAND MANAGEMENT AND CHANGE OF USE

While preservation of additional land is the primary need expressed by Berlin's residents, land management is also vitally important to the long-term sustainability of Berlin's network of open spaces and natural areas. Access, information, and resource management represent expanding areas of focus for the Conservation Commission. The Berlin Conservation Commission has identified areas within town that it may seek to obtain for the purposes of conservation in the future. As the town moves forward in this regard it may choose to use the following methods in order to acquire open space parcels.

Acquisition and Funding

Berlin has been fortunate to have acquired a conservation trust that was established as mitigation for the development of Solomon Pond Mall in 1996. Funds from that trust (an initial deposit of $1,500,000 and yearly deposits of $50,000) have enabled the Conservation Commission to protect numerous open spaces over the past decade and a half with little to no dependence on town funds. The Conservation Trust will continue to be funded at a rate of $50,000/year until 2026. While conservation trust funds have accomplished a great deal to date, the Conservation Commission will not be able to continue preserving substantial land tracts with only the $50,000 yearly deposits. Additional funding sources are needed.

Along with securing new funding sources, the Conservation Commission should broaden its web of partnerships to include multiple land protection and management organizations (land trusts), state, and federal agencies. Land trust organizations provide communities with legal entity they need to buy and hold land and conservation restrictions and may provide the greatest flexibility in acquiring, developing, and disposing of land. In 2018 Town residents voted

in support of establishing a Community Preservation Fund as well, which places a three percent surcharge on local property tax. The following are exempt from this surcharge: low-income individuals and families; Low- and moderate-income seniors (age 60 and older); the first $100,000 of assessed residential property value; the first $100,000 of the assessed value of each taxable parcel of class three, commercial property, and class four, industrial property

The Community Preservation Act requires at least 10% of the monies raised be distributed to each of three categories: open space excluding recreational purposes, historical preservation, and community housing. The remaining 70% of funds may be allocated to any one or a combination of the three main uses (including public recreational purposes) at the discretion of the local Community Preservation Committee and subject to the approval of Town Meeting. Up to 5% can also be spent on administrative needs of the local community preservation committee.
Upon completion of this OSRP and subsequent approval from EEA, the Town will look to apply for a number of grants. A compiled list of resources is included in the appendices of this plan.

If land is classified under Chapter 61 is sold for residential, commercial, or industrial purposes, the town has the right of first refusal due to the legal interest in the property that grant the town the right to match a bona fide offer for conversion of the property form its forest, agricultural, or recreational use. The Chapter 61 laws were amended in 1986 and 1987 to allow towns to assign their options to nonprofit conservation organizations, increasing opportunities for protection. Nonprofits may have resources to assemble a collection of groups to assist in funding purchase of the properties or it may be able to borrow money on shorter notice than a town can borrow from a greater variety of resources.

There are six basic steps in excursing a Chapter 61 conversion plan:

1. Notification from Landowner. A landowner who has property classified under one of the Chapter 61 laws must notify the town that all or a portion of the land is being withdrawn from this classification for development purposes. Subsequent to the notification, the town has 120 days to exercise the right of first refusal. Town council should review the offer to make sure that it is a bonafide offer. In addition, a community should not waive the right to an option without notifying town boards and initiating the evaluation process.
2. Information Gathering. As soon as the notice of intent is received from the landowner, a project coordinator should oversee the review of the proposal. The Conservation Commission should serve in this capacity. Background information about the landowner, abutters, and pre perspective buyer should be gathered. Each of these parties may be able to provide valuable insight to the property or possible assist in protecting the conversion value of the site.
3. Town Board Coordination. It is critical to coordinate the activities of each municipal board involved in the decision making. Once again, the conservation commission would facilitate this process. An important part of the coordination is a public meeting to identify town support concerning the property.

4. Conservation Planning & Project Funding. As the information gathering continues, realistic project plans for the property will emerge. The project plans may include purchase of the entire property for conservation by state of federal agency; purchase of the property by a conservation organization or land trust with the intent of allowing "limited development"; town purchase or a combination of any of the above.
5. Option Acceptance or Assignment. If the town decides to purchase the property, it must notify the seller of its intent and comply with the terms of the purchase and sale agreement within the 120-day option period. If a town is considering granting its option to a non-profit conservation organization, prompt cooperation is needed to develop a plan for the property. A public hearing is required within a 48-hour public notice period.
6. Purchase. Once the option has been assigned, the assignee must fulfill the terms of the original purchase as sale according to the schedule identified in that document.

Conservation Restrictions

In Massachusetts, a conservation restriction is the easiest way to legally limit the use of private land in order to protect specified conservation values. All conservation restrictions must be approved by the Secretary of Environmental Affairs. There are different types of conservation restrictions:

1. A charitable deduction for federal income tax, gift estate tax purposes;
2. A perpetual conservation restriction required by a government agency in the permitting process;
3. Development rights restrictions which are purchased by a governmental agency or private, non-profit organization;
4. Other restrictions (such as a term of years)

Limited Development

A limited Development project is a land protection strategy that provides for the development of a portion of a property in order to generate the funding that will enable the landowner to conserve the remainder for a lower cost. For example, limited development can allow development of that portion for a property with road frontage and retain the balance of the site for conservation. Or limited development can be used to preserve the most environmentally sensate area of a site and allow development elsewhere. Limited development allows towns to target the most critical areas for preservation while still allowing development in non-critical areas.

SECTION 8: SEVEN-YEAR ACTION PLAN

As outlined in Section 6 the following six (6) overarching goals were developed for open space and recreation activities in the Town of Berlin. These goals can be described as outcome statements that define what the Town is trying to accomplish both programmatically and organizationally.

The plan also clearly describes objectives that help to define actionable steps to meet each goal. The goals and objectives are presented below. Section 9 provides additional detail via the Seven Year Action Plan.

- **Preserve and manage open space to maintain the Town's rural character, protect natural and historic resources, and enhance quality of life.**
    - Use the most cost-effective level of protection necessary.
    - Prioritize and protect lands that have high value for preservation of biodiversity, water quality protection, and open space linkages.
    - Create a funding strategy for open space acquisition and management
    - Work together with regional land trusts and others to maximize responsiveness to particular opportunities.
    - Establish cooperative relationships with owners of agricultural land and keep abreast of land availability.
    - Develop a Conservation Restriction Monitoring Plan for all CR properties that the Town holds.
    - Identify land management needs for individual town conservation properties including, as appropriate, habitat restoration, sustainable forestry, education and recreation.
    - Integrate historic resource protection into open space protection and management
- **Create open space networks throughout the town.**
    - Establish greenways that follow natural corridors such as brooks and streams, ponds, hills and ridgelines, and unique or special features.
    - Link existing protected parcels through acquisition of adjoining parcels or easements.
    - Develop safe pedestrian and bicycle trails along roads where it is not practical to purchase properties or easements to link trails
    - Continue to maintain trail networks including identifying new opportunities for creation of trails
- **Provide opportunities for formal and informal recreation activities that serve the needs of Berlin's population.**
    - Maintain the South Commons complex as the town's primary multi-use recreation area because of its central location and convenience to the elementary school.
    - Increase income generated from field and facility use to support maintenance and management.

    - Identify locations for additional fields to meet any increased demands from population growth.
    - Increase the diversity of recreation opportunities to meet the needs of youth and adults.
- **Increase public knowledge about and access, as appropriate, to conservation areas and recreation properties and programs.**
    - As facilities are improved, remove barriers to access to enhance accessibility to all individuals
    - Develop an effective outreach and communications program to better inform residents and visitors about open space and recreation resources as well as volunteer and support opportunities.
    - Institute a conservation land stewardship program
    - Improve trails with trailhead signs, trail markers, cleared paths and expanded parking areas where needed.
    - Cooperate and coordinate with State recreation planning efforts.
- **Regulate and guide development to be consistent with town character and land uses, and to protect open space systems, natural resources, and scenic vistas.**
    - Discourage development in areas of high visual impact.
    - Ensure that development regulations create development that has the least impact on the environment
    - Work with private developers to maximize the preservation of open areas and protection of environmentally sensitive areas.
- **Support working farms and sustainable farming practices**
    - Continue to support the Community Garden
    - Create opportunities to highlight the benefit of working farms and sustainable farming practices.
    - Raise Awareness of the benefits of Agricultural Preservation Restriction agreements to farmers and the community.

SECTION 9: SEVEN-YEAR ACTION PLAN

The following is an Action Plan that will guide the Town's activities and priorities for the next seven (7) years. For each goal and objective there are several associated action items that have been developed. These action items are detailed and specific in nature in order to aid Town staff, boards, and volunteers as they work to preserve and enhance existing open space and recreation opportunities in Berlin. Each action has also been linked to a responsible party to aid with this process has been given a timeline to help prioritize actions.

Goal 1: Preserve and manage open space to maintain the Town's rural character, protect natural and historic resources, and enhance quality of life.				
Objective:	**Action**	**Responsible Party**	**Time Frame**	**Potential Partners and *Funding Sources***
Use the most cost-effective level of protection necessary.	Develop/Document list of protection strategies and analyze cost and benefits of each when considering each parcel.	Conservation Commission	Ongoing	Land Trusts

Prioritize and protect lands that have high value for preservation of biodiversity, water quality protection, and open space linkages.	• Develop appraisal standards to evaluate potential sites for purchase or protection
	• Prioritize parcels that possess the following critical natural resources values:
	  ○ Endangered species
	  ○ Diversity of native species
	  ○ Water quality
	  ○ Wilderness values
	  ○ Agriculture
	  ○ Passive recreation
	  ○ Scenic
	• Inventory CR properties and work with land owner to make protection status permanent.
		Conservation Commission	Ongoing	Mass Wildlife
				Mass Audubon
				Land Trusts
				EEA Grants:
				• *Conservation Partnership*
				• *Local Acquisitions for Natural Diversity*
				• *Land and Water Conservation Fund*
				DCR Grants:
				• Recreational Trails
				• Urban and Community Forests Grants Challenge

Create a funding strategy for open space acquisition and management	• Identify Town, state, and federal funds available for acquisition, improvements and management.
	• Identify funding sources and conditions of existing permanently protected municipal open spaces.
	• Identify partnership opportunities with nonprofit organizations and private entities.
	• Create a process for leveraging grants with partnerships, in-kind services, and town funding.
	• Develop guidelines for each funding strategy:
	  ○ Fee purchase
	  ○ Conservation Restriction/Easement
	  ○ Tax reduction/deferment programs
	  ○ Development rates
	  ○ Limited development
	• Educate landowners of tax benefits of various protection programs, gifting lands and restrictions
		Conservation Commission	Ongoing	Trustees of Trust Funds
				Finance Committee
				Planning Board
				Board of Selectmen
				Berlin Housing Partnership
				Land Trusts

Work together with regional land trusts and others to maximize responsiveness to particular opportunities.	• Establish working relationships with land trusts, developers and other potential partners. • Meet with potential partners • Share goals and understandings	Conservation Commission	Ongoing	Planning Board Land Trusts
Establish cooperative	• Continue to meet with owners of	Conservation	On-going	Agricultural Commission

relationships with owners of agricultural land and keep abreast of land availability.	agricultural land to assess interest in land protection • Develop a brochure/guide that outlines opportunities and benefits of the various land protection options • Monitor the status of land in current use assessment programs (Chapter 61/61A/61B)	Commission		
Develop a Conservation Restriction Monitoring Plan for all CR properties that the Town holds.	• Document conservation values at time of CR approval • Monitor site document annually with consistent methodology • Address any violations or changes	Conservation Commission	3-5 Years	Land Trusts
Identify land management needs for individual town conservation properties including, as appropriate, habitat restoration, sustainable forestry, education and recreation.	• *Identify and prioritize properties that would benefit the most from increased management. • **Create a phased work plan for developing management plans for those properties	Conservation Commission	*1-3 Years **3-5 Years	Mass Wildlife DCR Bureau of Forestry ADA Coordinator *DCR Grants* • *Urban and Community Forestry Challenger Grants* • *Forest Stewardship Program* • *Forest Viability Program* *EEA Grants* • Mass Environmental Trust
Integrate historic resource protection into open space protection and management	Identify historic resources that need protection.	Historical Commission	1-3 Years	Cultural Council

Goal 3: Provide opportunities for a balanced variety of recreation activities that serve the needs of Berlin's population.

Objective:	Action	Responsible Party	Time Frame	Potential Partners and *Funding Sources*
Establish greenways that follow natural corridors such as brooks and streams, ponds, hills and ridgelines, and unique or special features.	• Continue to identify and map potential greenway properties. • Share results of mapping with PB and others involved in land management, acquisition and disposition.	Conservation Commission	On-going	*DCR grants* • Recreational Trails Grant • Rivers Harbors Grant Program *EEA Conservation Partnership Program DEP Drinking Water Supply Protection Grant Program*
Link existing protected parcels through acquisition of adjoining parcels or easements.	Partner with neighboring towns to protect inter-town critical areas and greenways.	Conservation Commission	On-going	*DCR Recreational Trails Grant* *EEA Conservation Partnership Program*
Develop safe pedestrian and bicycle trails along roads where it is not practical to purchase properties or easements to link trails	• Identify on-road connections that can link trail systems. • Update trail maps to include on-road connections	Recreation Committee	5-7 Years	
Continue to maintain trail networks including identifying new opportunities for creation of trails	• Establish a Trails Committee	Conservation Commission	On-going	Recreation Committee *DCR Recreational Trails Grant* *EEA Grants* • Land and Water Conservation Fund • Parkland Acquisitions and Renovations for Communities

Objective:	**Action**	**Responsible Party**	**Time Frame**	**Potential Partners and *Funding Sources***
Maintain the South Commons complex as the town's primary multi-use recreation area because of its central location and convenience to the elementary school.	• *Improve tennis and basketball courts with repairs or resurfacing • *Improve field conditions so they are level and safe for all levels of play • ** Construct walking path around perimeter of commons • *** Construct new low impact exercise area to promote wellness for all ages • ***Explore water source / irrigation • *** Improve pond water movement • ***Evaluate the costs and benefits of constructing a regulation size baseball field for ages 14 and over	Recreation Committee	*1-3 Years **3-5 Years ***5-7 Years	*DCR Grants* • *Parkland Acquisitions and Renovations for Communities* • *Land and Water Conservation Fund*

Increase income generated from field and facility use to support maintenance and management.	• Advertise field and facility availability on town's website. • Send Information about field and facility availability to neighboring towns, and athletic organizations.	Recreation Committee	On-going	
Identify locations for additional fields to meet any increased demands from population growth.		Recreation Committee	3-5 Years	*EEA Grants:* • *Parkland Acquisition and Renovations for Communities* • *Land and Water Conservation Fund*
Increase the diversity of recreation opportunities to meet the needs of youth and adults.	• Evaluate interest in adult and youth sports leagues • Meet with Council on Aging to discuss yearly programs • Meet with Town Administrator to discuss and plan summertime youth programming	Recreation Committee	1-3 Years	

Goal 4: Increase public knowledge about and access, as appropriate, to conservation areas and recreation properties and programs.				
Objective:	**Action**	**Responsible Party**	**Time Frame**	**Potential Partners and *Funding Sources***
As facilities are improved, remove barriers to access to enhance accessibility to all individuals	• 40 Caves: improve parking as needed • Rattlesnake Hill: improve parking; develop accessible trails along rail bed • Berlin Meadow: study feasibility for wheelchair accessible trails • Clark: develop accessible trails in coordination with Mass Rail Trail development • South Commons: improve parking and circulation; determine feasibility for greater access to playground	Conservation Commission Recreation Committee Highway Department	On-going	ADA Committee *EEA Parkland Acquisition and Renovations for Communities*

Develop an effective outreach and communications program to better inform residents and visitors about open space and recreation resources as well as volunteer and support opportunities.	• Continue biodiversity days and consider other nature awareness activities including:
	  ○ Geo-cashing
	  ○ Letterboxing
	  ○ Champion Tree contest
	  ○ Audubon Society's annual Christmas Bird Count
	  ○ Naturalist program
	  ○ Photography contest
	  ○ Interpretive
	• Continue to develop downloadable field guides (bird, plants, wildlife)
	• Develop a quarterly "What's new in Conservation" program to air on Berlin cable channel.
	• Engage the Berlin Garden Club to assist with beautification and ecological enhancement efforts at school, town offices and road intersections.
	• Partner with Mass Wildlife to make Berlin a model community for wildlife habitat and protection.
	• Develop an information brochure for Berlin land owners on benefits of conservation efforts and what they can do.
		Conservation Commission	1-3 Years	Bi-Centennial Committee
				Elementary School
				Mass Audubon
				Garden Club
				Mass Wildlife
				
				DFG Landowner Incentive Program
				EEA Mass Environmental Trust

Institute a conservation land stewardship program	• Recruit volunteers to help identify and evaluate existing land	Conservation Commission	3-5 Years	Land Trusts

	stewardship programs to define a model for Berlin • Meet with administrators and volunteers from existing programs to give first hand feedback of the programs' strengths and weaknesses.			*DCR Recreational Trail Grants*
Improve trails with trailhead signs, trail markers, cleared paths and expanded parking areas where needed.	• *Work with scouts, school and other groups to help clear and maintain paths. • *Install trailhead signs at all open space and conservation lands where passive use is encouraged. • **Develop public education strategy to educate public on significant areas of biodiversity. Explore online options to share information. • Place small identification tags on or near trees and wildflowers along popular trails. • ***Establish parking at key trail heads as feasible.	Conservation Committee	*Ongoing **3-5 Years *** 5-7 years	Scouts Elementary School Garden Club DCR *Recreational Trails Grant* *EEA Land and Water Conservation Fund*
Cooperate and coordinate with State recreation planning efforts.	• Work with DCR to advance development of the Mass Central Rail Trail • Identify potential sites that would provide access to or connect with the proposed Mass Central Rail Trail	Conservation Commission	On-going	Massachusetts DCR DCR's *Recreational Trails Grants*

Goal 5: Regulate and guide development to be consistent with town character and land uses, and to protect open space systems, natural resources, and scenic vistas.				
Objective:	**Action**	**Responsible Party**	**Time Frame**	**Potential Partners and *Funding Sources***
Discourage development in areas of high visual impact.	• Review zoning and subdivision regulations to minimize visual impact	Planning Board Conservation Commission	On-going	
Ensure that development regulations create development that has the least impact on the environment	Evaluate land use regulations including: • Open Space Residential Development • Site Plan Review regulations • Major Residential Development • Storm water Bylaw • Erosion Control Standards	Planning Board Conservation Commission	On-going	
Work with private developers to maximize the preservation of open areas and protection of environmentally sensitive areas.	• Work with developers to construct housing and shape developments that provide permanent open space protection • Create a process for evaluating the option of limited development for suitable sites • Study the suitability of transfer of Development rights	Planning Board Conservation Commission	On-going	Berlin Housing Partnership Finance Committee Conservation Committee

Goal 6: Support working farms and sustainable farming practices				
Objective:	**Action**	**Responsible Party**	**Time Frame**	**Potential Partners and *Funding Sources***
Continue to support the Community Garden	• Support existing and explore additional efforts as needed	Agricultural Commission	1-3 Years	*EEA Parkland Acquisitions and Renovations for Communities*
Create opportunities to highlight the benefit of working farms and sustainable farming practices.	• Develop an Agricultural Commission website as a resource for farmers and an education and outreach tool for the Commission. • Work with local farmers to create trails or tours through farmlands. • Institute how vegetable garden tour and instruction program. • Engage local farmers to help create vegetable and flower gardens at BMS.	Agricultural Commission	1-3 Years	Garden Club Massachusetts Farmland Trust
Raise Awareness of the benefits of Agricultural Preservation Restriction agreements to farmers and the community.	• Include information on Agricultural Commission website • Develop information brochure/handout that can be distributed. • Host information sessions/tables at public events.	Agricultural Commission	1-3 Years	Conservation Commission Massachusetts Farmland trust

Berlin Open Space

POLY_ID	SITE_NAME	FEE_OWNER	OWNER_TYPE	PRIMARY_PURPOSE	PUBLIC_ACCESS	LEVEL_PROTECTION	GRANTPROG1	GIS_ACRES	LOCAL_ZONE	gis_acres3	Recreation Potential
5343	Garfield Woods	Sudbury Valley Tı	Land Trust	Conservation	Yes	Perpetuity		0.045085	RA	0.045085	
5343	Garfield Woods	Sudbury Valley Tı	Land Trust	Conservation	Yes	Perpetuity		37.968903	ARC	37.968903	
57	Garfield Woods	Sudbury Valley Tı	Land Trust	Conservation	Yes	Perpetuity		0.885846	ARC	0.885846	
5342	Garfield Woods	Sudbury Valley Tı	Land Trust	Conservation	Yes	Perpetuity		0.000558	RA	0.000558	
5342	Garfield Woods	Sudbury Valley Tı	Land Trust	Conservation	Yes	Perpetuity		41.002173	ARC	41.002173	
5356	Berlin Memorial	Town of Berlin	Municipal	Recreation	Unkown	Limited		9.167961	RA	9.167961	Limited due to access
868	Bobbie Acres	Town of Berlin	Municipal	Conservation	Yes	Limited		0.086044	RA	0.086044	Limited due to access
868	Bobbie Acres	Town of Berlin	Municipal	Conservation	Yes	Limited		25.773331	ARC	25.773331	Limited due to access
5358	Booth	Town of Berlin	Municipal	Conservation	Yes	Limited		11.29841	RA	11.29841	Limited due to access
5451	South Cemetery	Town of Berlin	Municipal	Historic / Cultural	Yes	Limited		7.354915	RA	7.354915	Limited due to access
5452	Old Burying Gro	Town of Berlin	Municipal	Historic / Cultural	Yes	Limited		0.60135	RA	0.60135	Limited due to access
5452	Old Burying Gro	Town of Berlin	Municipal	Historic / Cultural	Yes	Limited		0.324515	CV	0.324515	Limited due to access
5450	North Cemetery	Town of Berlin	Municipal	Historic / Cultural	Yes	Limited		4.99891	RA	4.99891	Limited due to access
-2	<Null>	Town of Berlin	Municipal		<Null>	Perpetuity		2.216795	ARC	2.216795	
-3	<Null>	Town of Berlin	Municipal		<Null>	Perpetuity		8.921538	RA	8.921538	
-4	<Null>	Town of Berlin	Municipal		<Null>	Perpetuity		6.091621	RA	6.091621	
-5	<Null>	Town of Berlin	Municipal		<Null>	Perpetuity		2.873921	ARC	2.873921	
-6	<Null>	Town of Berlin	Municipal		<Null>	Perpetuity		4.7872	RA	4.7872	
-7	<Null>	Town of Berlin	Municipal		<Null>	Perpetuity		9.026592	RA	9.026592	
-8	<Null>	Town of Berlin	Municipal		<Null>	Perpetuity		0.640942	RA	0.640942	
-9	<Null>	Town of Berlin	Municipal		<Null>	Perpetuity		0.938582	RA	0.938582	
-10	<Null>	Town of Berlin	Municipal		<Null>	Perpetuity		0.521585	RA	0.521585	
-12	<Null>	Town of Berlin	Municipal		<Null>	Perpetuity		0.13713	RA	0.13713	
-13	<Null>	Town of Berlin	Municipal		<Null>	Perpetuity		4.436217	RA	4.436217	
-13	<Null>	Town of Berlin	Municipal		<Null>	Perpetuity		0.001609	ARC	0.001609	
-14	<Null>	Town of Berlin	Municipal		<Null>	Perpetuity		1.605142	RA	1.605142	
-14	<Null>	Town of Berlin	Municipal		<Null>	Perpetuity		0	ARC	0	
-19	<Null>	Town of Berlin	Municipal		<Null>	Perpetuity		2.544789	RA	2.544789	
-20	<Null>	Town of Berlin	Municipal		<Null>	Perpetuity		6.954241	ARC	6.954241	
-21	<Null>	Town of Berlin	Municipal		<Null>	Perpetuity		0.364578	RA	0.364578	
-22	<Null>	Town of Berlin	Municipal		<Null>	Perpetuity		1.167182	RA	1.167182	
-22	<Null>	Town of Berlin	Municipal		<Null>	Perpetuity		0.050038	LB	0.050038	
29	Linden Street Cc	Town of Berlin	Municipal	Conservation	No	Perpetuity		0.227517	ARC	0.227517	Limited due to access
5430	Devine	Town of Berlin	Municipal	Conservation	No	Perpetuity		0.060167	RA	0.060167	Limited due to access
5430	Devine	Town of Berlin	Municipal	Conservation	No	Perpetuity		43.737521	ARC	43.737521	Limited due to access
1597	Crystal Springs	Town of Hudson	Municipal	Water Supply Protection	No	Perpetuity		0.232248	RA	0.232248	Limited due to access
1597	Crystal Springs	Town of Hudson	Municipal	Water Supply Protection	No	Perpetuity		47.983371	ARC	47.983371	Limited due to access
1597	Crystal Springs	Town of Hudson	Municipal	Water Supply Protection	No	Perpetuity		0.024756	RA	0.024756	Limited due to access
1597	Crystal Springs	Town of Hudson	Municipal	Water Supply Protection	No	Perpetuity		0.024756	ARC	0.024756	Limited due to access
5354	Town Forest	Town of Hudson	Municipal	Other	Unkown	Perpetuity		0.028779		0.028779	
5354	Town Forest	Town of Hudson	Municipal	Other	Unkown	Perpetuity		0.000465	LB	0.000465	
5354	Town Forest	Town of Hudson	Municipal	Other	Unkown	Perpetuity		10.122737	ARC	10.122737	
5354	Town Forest	Town of Hudson	Municipal	Other	Unkown	Perpetuity		0.038387	LB	0.038387	
5353	Gates Pond	Town of Hudson	Municipal	Water Supply Protection	Unkown	Perpetuity		0.089663	RA	0.089663	
5353	Gates Pond	Town of Hudson	Municipal	Water Supply Protection	Unkown	Perpetuity		32.520644	ARC	32.520644	
3	Gates Pond	Town of Hudson	Municipal	Water Supply Protection	Unkown	Perpetuity		0.287636	RA	0.287636	
3	Gates Pond	Town of Hudson	Municipal	Water Supply Protection	Unkown	Perpetuity		143.806697	ARC	143.806697	
5357	Dingley	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.000008		0.000008	Passive recreation (walking/hiking)
822	Forty Caves For	Town of Berlin	Municipal	Conservation	Yes	Perpetuity	LAND	0.000466		0.000466	Passive recreation (walking/hiking)
5471	Lancaster Road	Town of Berlin	Municipal	Conservation	Yes	Perpetuity	LP	0.000488		0.000488	Passive recreation (walking/hiking)
37	Musche Woods	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.089327	RA	0.089327	Passive recreation (walking/hiking)
37	Musche Woods	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		41.81112	ARC	41.81112	Passive recreation (walking/hiking)
17	Musche Woods	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		5.491147	ARC	5.491147	Passive recreation (walking/hiking)
48	Water Hole	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.039555	RA	0.039555	Passive recreation (walking/hiking)
48	Water Hole	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		4.274908	ARC	4.274908	Passive recreation (walking/hiking)
38	Pendergast	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.088237	RA	0.088237	Passive recreation (walking/hiking)
38	Pendergast	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		17.125679	ARC	17.125679	Passive recreation (walking/hiking)
68	Rhodes	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.130413	RA	0.130413	Passive recreation (walking/hiking)
68	Rhodes	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		18.858616	ARC	18.858616	Passive recreation (walking/hiking)
26	Obrien	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		8.91683	ARC	8.91683	Passive recreation (walking/hiking)
5460	Curtis	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		7.881426	ARC	7.881426	Passive recreation (walking/hiking)
59	Field	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		23.394871	ARC	23.394871	Passive recreation (walking/hiking)
5359	MacAllister Con	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		4.672182	ARC	4.672182	Passive recreation (walking/hiking)
5359	MacAllister Con	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.019941	RA	0.019941	Passive recreation (walking/hiking)
5357	Dingley	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.000042	LB	0.000042	Passive recreation (walking/hiking)
5357	Dingley	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		3.14374	ARC	3.14374	Passive recreation (walking/hiking)
5357	Dingley	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.000227	RA	0.000227	Passive recreation (walking/hiking)
5347	Cadagan	Town of Berlin	Municipal	Conservation	Yes	Perpetuity	SH	0.047317	RA	0.047317	Passive recreation (walking/hiking)
5347	Cadagan	Town of Berlin	Municipal	Conservation	Yes	Perpetuity	SH	7.018715	ARC	7.018715	Passive recreation (walking/hiking)
5454	Berlin Meadows	Town of Berlin	Municipal	Conservation	Yes	Perpetuity	SH	0.008043	RA	0.008043	Passive recreation (walking/hiking)
5454	Berlin Meadows	Town of Berlin	Municipal	Conservation	Yes	Perpetuity	SH	15.142641	ARC	15.142641	Passive recreation (walking/hiking)
5350	Tyler	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.072743	RA	0.072743	Passive recreation (walking/hiking)
5350	Tyler	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		11.615278	ARC	11.615278	Passive recreation (walking/hiking)
90	Meadow Brook	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.121061	RA	0.121061	Passive recreation (walking/hiking)
90	Meadow Brook	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		5.167164	ARC	5.167164	Passive recreation (walking/hiking)
88	Guerard	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.031151	RA	0.031151	Passive recreation (walking/hiking)
88	Guerard	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		2.10874	ARC	2.10874	Passive recreation (walking/hiking)
84	Guerard	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.000052	RA	0.000052	Passive recreation (walking/hiking)
84	Guerard	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		5.551295	ARC	5.551295	Passive recreation (walking/hiking)
91	Guerard	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.027818	RA	0.027818	Passive recreation (walking/hiking)
91	Guerard	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		8.515034	ARC	8.515034	Passive recreation (walking/hiking)
86	Guerard	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.052267	RA	0.052267	Passive recreation (walking/hiking)
86	Guerard	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		8.6046	ARC	8.6046	Passive recreation (walking/hiking)
85	Pisgah Brook	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		1.858582	ARC	1.858582	Passive recreation (walking/hiking)
5459	Rosmarin	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		3.136412	ARC	3.136412	Passive recreation (walking/hiking)
83	Sawyer/Niedzial	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.04385	RA	0.04385	Passive recreation (walking/hiking)
83	Sawyer/Niedzial	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		2.295073	ARC	2.295073	Passive recreation (walking/hiking)
97	Sawyer/Niedzial	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.005562	RA	0.005562	Passive recreation (walking/hiking)
97	Sawyer/Niedzial	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		33.193731	ARC	33.193731	Passive recreation (walking/hiking)
94	Rattlesnake Hill	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.0462	RA	0.0462	Passive recreation (walking/hiking)
94	Rattlesnake Hill	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		8.084037	ARC	8.084037	Passive recreation (walking/hiking)
87	Harriman-Schip	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.829394	ARC	0.829394	Passive recreation (walking/hiking)
95	Harriman-Schip	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		2.441266	ARC	2.441266	Passive recreation (walking/hiking)
5341	Forty Caves For	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.289005	RA	0.289005	Passive recreation (walking/hiking)
5341	Forty Caves For	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		15.442614	ARC	15.442614	Passive recreation (walking/hiking)
107	Forty Caves For	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		15.673723	RA	15.673723	Passive recreation (walking/hiking)
109	Forty Caves For	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		7.111908	RA	7.111908	Passive recreation (walking/hiking)
109	Forty Caves For	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.498986	ARC	0.498986	Passive recreation (walking/hiking)
822	Forty Caves For	Town of Berlin	Municipal	Conservation	Yes	Perpetuity	LAND	31.878937	RA	31.878937	Passive recreation (walking/hiking)
822	Forty Caves For	Town of Berlin	Municipal	Conservation	Yes	Perpetuity	LAND	0.536775	ARC	0.536775	Passive recreation (walking/hiking)
5471	Lancaster Road	Town of Berlin	Municipal	Conservation	Yes	Perpetuity	LP	8.716892	RA	8.716892	Passive recreation (walking/hiking)
82	Sawyer/Niedzial	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.073101	RA	0.073101	Passive recreation (walking/hiking)
82	Sawyer/Niedzial	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		17.181219	ARC	17.181219	Passive recreation (walking/hiking)
5465	Eager Woods	Town of Berlin	Municipal	Conservation	Yes	Perpetuity	LAND	56.423464	ARCCR	56.423464	Passive recreation (walking/hiking)

Berlin Open Space

92	Rattlesnake Hill	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.00708	RA	0.00708	Passive recreation (walking/hiking)
92	Rattlesnake Hill	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		40.989206	ARC	40.989206	Passive recreation (walking/hiking)
93	Sawyer/Niedzial	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.003273	RA	0.003273	Passive recreation (walking/hiking)
93	Sawyer/Niedzial	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		2.157829	ARC	2.157829	Passive recreation (walking/hiking)
49	Parker	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		39.146641	ARC	39.146641	Passive recreation (walking/hiking)
96	Carriage Hill	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		4.197361	ARC	4.197361	Passive recreation (walking/hiking)
89	Rail Trail	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		1.392566	RA	1.392566	Passive recreation (walking/hiking)
80	Ball Hill Road Co	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.031973	RA	0.031973	Passive recreation (walking/hiking)
80	Ball Hill Road Co	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		78.892027	ARC	78.892027	Passive recreation (walking/hiking)
5351	Tyler	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.005524	RA	0.005524	Passive recreation (walking/hiking)
5351	Tyler	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		10.10037	ARC	10.10037	Passive recreation (walking/hiking)
5469	Morse Woods	Town of Berlin	Municipal	Conservation	Yes	Perpetuity	LP	23.11158	RA	23.11158	Passive recreation (walking/hiking)
108	River Road West	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		12.497375	RA	12.497375	Passive recreation (walking/hiking)
101	Ball Hill Road Co	Town of Berlin	Municipal	Conservation	Yes	Perpetuity	LP	3.338973	RA	3.338973	Passive recreation (walking/hiking)
101	Ball Hill Road Co	Town of Berlin	Municipal	Conservation	Yes	Perpetuity	LP	0.016506	ARC	0.016506	Passive recreation (walking/hiking)
821	Forty Caves Fore	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		7.076298	RA	7.076298	Passive recreation (walking/hiking)
821	Forty Caves Fore	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.234084	ARC	0.234084	Passive recreation (walking/hiking)
820	Forty Caves Fore	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		1.351435	RA	1.351435	Passive recreation (walking/hiking)
53	Clark	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.278226	RA	0.278226	Passive recreation (walking/hiking)
53	Clark	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		74.794735	ARC	74.794735	Passive recreation (walking/hiking)
5455	Mount Pisgah C	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		8.560395	RA	8.560395	Passive recreation (walking/hiking)
5455	Mount Pisgah C	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		24.524717	ARC	24.524717	Passive recreation (walking/hiking)
854	Mount Pisgah	Town of Berlin	Municipal	Conservation	Yes	Perpetuity	SH	5.219091	RA	5.219091	Passive recreation (walking/hiking)
854	Mount Pisgah	Town of Berlin	Municipal	Conservation	Yes	Perpetuity	SH	133.631168	ARC	133.631168	Passive recreation (walking/hiking)
106	Mount Pisgah C	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		75.826646	RA	75.826646	Passive recreation (walking/hiking)
106	Mount Pisgah C	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.011038	ARC	0.011038	Passive recreation (walking/hiking)
88	Guerard	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.003313	RA	0.003313	Passive recreation (walking/hiking)
88	Guerard	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.003313	ARC	0.003313	Passive recreation (walking/hiking)
53	Clark	Town of Berlin	Municipal	Conservation	Yes	Perpetuity		0.004864	ARC	0.004864	Passive recreation (walking/hiking)
5349	South Common	Town of Berlin	Municipal	Recreation	Yes	Perpetuity		39.193283	RA	39.193283	Additional recreation facilities
-11	<Null>	Town of Berlin	Municipal	<Null>	Partial	Unknown		1.00246	RA	1.00246	Passive recreation (walking/hiking)
5355	Powderhouse H	Town of Berlin	Municipal	Historic / Cultural	Yes	Unknown		0.971794	RA	0.971794	Passive recreation (walking/hiking)
818	Linden Street CF	Therrien David a	Private for Profit	Conservation	Limited	Limited		22.184111	RA	22.184111	
5344	Clinton Fish And	CLINTON FISH AN	Private for Profit	Recreation	Limited	None		7.013292	RA	7.013292	
5345	Berlin Country C	Berlin Country Cl	Private for Profit	Recreation	Limited	None		39.016789	RA	39.016789	
-24	<Null>	<Null>	Private for Profit	<Null>	<Null>	Perpetuity		4.380171	RA	4.380171	
5467	Duggan CR	Duggan Jr Clayto	Private for Profit	Conservation	Limited	Perpetuity	LP	2.514729	RA	2.514729	
5468	Duggan CR	Duggan Jr Clayto	Private for Profit	Conservation	Limited	Perpetuity	LP	5.052364	RA	5.052364	
5468	Duggan CR	Duggan Jr Clayto	Private for Profit	Conservation	Limited	Perpetuity	LP	0.065236	ARC	0.065236	
5461	Wachusett Woo	Wachusett Wooc	Private for Profit	Conservation	Limited	Perpetuity		14.98688	ARC	14.98688	
100	Ball Hill Road CR	Town of Berlin CF	Private for Profit	Conservation	Limited	Perpetuity	LP	23.560525	RA	23.560525	
100	Ball Hill Road CR	Town of Berlin CF	Private for Profit	Conservation	Limited	Perpetuity	LP	0.118779	ARC	0.118779	
5466	Wolf CR	Wolf Emily V	Private for Profit	Conservation	Limited	Perpetuity	LP	10.850362	RA	10.850362	
5466	Wolf CR	Wolf Emily V	Private for Profit	Conservation	Limited	Perpetuity	LP	0.000353	ARC	0.000353	
16	Riverbridge Nor	Riverbridge Nortl	Private for Profit	Conservation	Limited	Perpetuity		7.512876	ARCCR	7.512876	
104	Great Oak Farm	Bentzen Torsten	Private for Profit	Conservation	Limited	Perpetuity	LAND	10.286486	RA	10.286486	
104	Great Oak Farm	Bentzen Torsten	Private for Profit	Conservation	Limited	Perpetuity	LAND	0.050527	LB	0.050527	
103	Great Oak Farm	Bentzen Torsten	Private for Profit	Conservation	Limited	Perpetuity	LAND	12.109237	RA	12.109237	
103	Great Oak Farm	Bentzen Torsten	Private for Profit	Conservation	Limited	Perpetuity	LAND	1.965055	RA	1.965055	
103	Great Oak Farm	Bentzen Torsten	Private for Profit	Conservation	Limited	Perpetuity		4.427101	RA	4.427101	
1	Sawyer Hill CR	Sawyer Hill LLC	Private for Profit	Conservation	Limited	Perpetuity		28.747133	RA	28.747133	
103	Great Oak Farm	Bentzen Torsten	Private for Profit	Conservation	Limited	Perpetuity		3.862086	RA	3.862086	
13	Chestnut Farms	Chestnut Farms I	Private for Profit	Conservation	Limited	Perpetuity		0.362959	RA	0.362959	
12	First Colony CR	First Colony Deve	Private for Profit	Conservation	Limited	Perpetuity		0.098928	RA	0.098928	
12	First Colony CR	First Colony Deve	Private for Profit	Conservation	Limited	Perpetuity		14.350475	LB	14.350475	
15	Riverbridge Nor	Riverbridge Nortl	Private for Profit	Conservation	Limited	Perpetuity		0.000113	LI	0.000113	
15	Riverbridge Nor	Riverbridge Nortl	Private for Profit	Conservation	Limited	Perpetuity		0.07167	LB	0.07167	
15	Riverbridge Nor	Riverbridge Nortl	Private for Profit	Conservation	Limited	Perpetuity		0.000301	ARC	0.000301	
15	Riverbridge Nor	Riverbridge Nortl	Private for Profit	Conservation	Limited	Perpetuity		0.000088	RA	0.000088	
15	Riverbridge Nor	Riverbridge Nortl	Private for Profit	Conservation	Limited	Perpetuity		34.150311	ARCCR	34.150311	
15	Riverbridge Nor	Riverbridge Nortl	Private for Profit	Conservation	Limited	Perpetuity		0.338471	RA	0.338471	
14	Riverbridge Nor	Riverbridge Nortl	Private for Profit	Conservation	Limited	Perpetuity		0.013845	RA	0.013845	
14	Riverbridge Nor	Riverbridge Nortl	Private for Profit	Conservation	Limited	Perpetuity		26.762116	ARCCR	26.762116	
14	Riverbridge Nor	Riverbridge Nortl	Private for Profit	Conservation	Limited	Perpetuity		0.074675	RA	0.074675	
5462	Wachusett Woo	Wachusett Wooc	Private for Profit	Conservation	Limited	Perpetuity		0.287868	RA	0.287868	
5462	Wachusett Woo	Wachusett Wooc	Private for Profit	Conservation	Limited	Perpetuity		37.231587	ARC	37.231587	
15	Riverbridge Nor	Riverbridge Nortl	Private for Profit	Conservation	Limited	Perpetuity		0.000982	RA	0.000982	
14	Riverbridge Nor	Riverbridge Nortl	Private for Profit	Conservation	Limited	Perpetuity		0.011626	ARC	0.011626	
14	Riverbridge Nor	Riverbridge Nortl	Private for Profit	Conservation	Limited	Perpetuity		0.002509	RA	0.002509	
14	Riverbridge Nor	Riverbridge Nortl	Private for Profit	Conservation	Limited	Perpetuity		0.002509	ARCCR	0.002509	
14	Riverbridge Nor	Riverbridge Nortl	Private for Profit	Conservation	Limited	Perpetuity		0	CV	0	
14	Riverbridge Nor	Riverbridge Nortl	Private for Profit	Conservation	Limited	Perpetuity		0	ARCCR	0	
14	Riverbridge Nor	Riverbridge Nortl	Private for Profit	Conservation	Limited	Perpetuity		0.000521	ARCCR	0.000521	
14	Riverbridge Nor	Riverbridge Nortl	Private for Profit	Conservation	Limited	Perpetuity		0.000521	ARC	0.000521	
2	Chedco Farms C	Cotting Charles E	Private for Profit	Agriculture	No	Perpetuity		0.00005		0.00005	
9	Chedco Farms C	Cotting Charles E	Private for Profit	Agriculture	No	Perpetuity		21.318098	RA	21.318098	
8	Chedco Farms C	Cotting Charles E	Private for Profit	Agriculture	No	Perpetuity		52.405555	RA	52.405555	
11	Chedco Farms C	Cotting Charles E	Private for Profit	Agriculture	No	Perpetuity		27.669363	RA	27.669363	
2	Chedco Farms C	Cotting Charles E	Private for Profit	Agriculture	No	Perpetuity		54.136555	RA	54.136555	
2	Chedco Farms C	Cotting Charles E	Private for Profit	Agriculture	No	Perpetuity		0.011683	LB	0.011683	
2	Chedco Farms C	Cotting Charles E	Private for Profit	Agriculture	No	Perpetuity		0.001483	ARC	0.001483	
2	Chedco Farms C	Cotting Charles E	Private for Profit	Agriculture	No	Perpetuity		0.000831	ARC	0.000831	
54	Chedco Farms C	Cotting Charles E	Private for Profit	Agriculture	No	Perpetuity		16.091944	RA	16.091944	
850	Nicewicz Family	Nicewicz Vera Da	Private for Profit	Agriculture	No	Perpetuity		0.006203	RA	0.006203	
10	Chedco Farms C	Cotting Charles E	Private for Profit	Agriculture	No	Perpetuity		9.884517	ARC	9.884517	
64	Chedco Farms C	Cotting Charles E	Private for Profit	Agriculture	No	Perpetuity		57.482043	RA	57.482043	
69	Chedco Farms C	Cotting Charles E	Private for Profit	Agriculture	No	Perpetuity		1.425545	RA	1.425545	
69	Chedco Farms C	Cotting Charles E	Private for Profit	Agriculture	No	Perpetuity		4.16775	ARC	4.16775	
6	Chedco Farms C	Cotting Charles E	Private for Profit	Agriculture	No	Perpetuity		25.309423	RA	25.309423	
7	Chedco Farms C	Cotting Charles E	Private for Profit	Agriculture	No	Perpetuity		51.863844	RA	51.863844	
70	Chedco Farms C	Cotting Charles E	Private for Profit	Agriculture	No	Perpetuity		11.138134	RA	11.138134	
5	Chedco Farms C	Cotting Charles E	Private for Profit	Agriculture	No	Perpetuity		26.444869	RA	26.444869	
44	Chedco Farms C	Cotting Charles E	Private for Profit	Agriculture	No	Perpetuity		27.458102	RA	27.458102	
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5458	Schartner Farm	Grala Lois L and S	Private for Profit	Agriculture	No	Perpetuity		0.000007	RA	0.000007	
5458	Schartner Farm	Grala Lois L and S	Private for Profit	Agriculture	No	Perpetuity		6.316175	ARCCR	6.316175	
5457	Schartner Farm	Grala Lois L and S	Private for Profit	Agriculture	No	Perpetuity		1.370517	ARCCR	1.370517	
5463	Wheeler CR	Wheeler Elsie S T	Private for Profit	Recreation and Conserva	No	Perpetuity		11.652444	RA	11.652444	
5463	Wheeler CR	Wheeler Elsie S T	Private for Profit	Recreation and Conserva	No	Perpetuity		0.051083	CV	0.051083	
5463	Wheeler CR	Wheeler Elsie S T	Private for Profit	Recreation and Conserva	No	Perpetuity		0.021914	CV	0.021914	
5453	Herrington CR	Herrington Cand	Private for Profit	Conservation	No	Perpetuity		2.15088	RA	2.15088	
5364	Herrington CR	Herrington Cand	Private for Profit	Conservation	No	Perpetuity		16.651726	RA	16.651726	
5364	Herrington CR	Herrington Cand	Private for Profit	Conservation	No	Perpetuity		0.025751	ARC	0.025751	
5470	Feuerstein CR	Feuerstein Eva L	Private for Profit	Conservation	No	Perpetuity	LP	9.596697	RA	9.596697	
5470	Feuerstein CR	Feuerstein Eva L	Private for Profit	Conservation	No	Perpetuity	LP	0.697372	ARC	0.697372	

Berlin Open Space

5464	Coldwell CR	Coldwell Douglas	Private for Profit	Conservation	No	Perpetuity	7.425956	RA	7.425956
-15	<Null>	<Null>	Private for Profit		<Null>	Unknown	5.29105	LB	5.29105
-15	<Null>	<Null>	Private for Profit		<Null>	Unknown	0.000004	ARC	0.000004
-15	<Null>	<Null>	Private for Profit		<Null>	Unknown	1.095573	RA	1.095573
-16	<Null>	<Null>	Private for Profit		<Null>	Unknown	1.132321	LB	1.132321
-16	<Null>	<Null>	Private for Profit		<Null>	Unknown	0.000013	ARC	0.000013
-16	<Null>	<Null>	Private for Profit		<Null>	Unknown	0.000002	RA	0.000002
-23	<Null>	<Null>	Private for Profit		<Null>	Unknown	0.291353	CV	0.291353
-23	<Null>	<Null>	Private for Profit		<Null>	Unknown	0.171652	ARCCR	0.171652
-23	<Null>	<Null>	Private for Profit		<Null>	Unknown	0.348325	RA	0.348325
-15	<Null>	<Null>	Private for Profit		<Null>	Unknown	0.000982	RA	0.000982
-17	<Null>	Comm. of Mass.	State		<Null>	Perpetuity	0.66457	ARC	0.66457
-18	<Null>	Comm. of Mass.	State		<Null>	Perpetuity	0.078055	ARC	0.078055
-18	<Null>	Comm. of Mass.	State		<Null>	Perpetuity	0.011626	ARC	0.011626
62	Wachusett Aqu	DCR - Division of	State	Water Supply Protection	No	Perpetuity	3.3785	RA	3.3785
27	Wachusett Aqu	DCR - Division of	State	Water Supply Protection	No	Perpetuity	3.775576	RA	3.775576
27	Wachusett Aqu	DCR - Division of	State	Water Supply Protection	No	Perpetuity	0.087421	ARC	0.087421
5346	Wachusett Aqu	DCR - Division of	State	Water Supply Protection	No	Perpetuity	1.439126	RA	1.439126
5346	Wachusett Aqu	DCR - Division of	State	Water Supply Protection	No	Perpetuity	0.037293	ARC	0.037293
55	Wachusett Aqu	DCR - Division of	State	Water Supply Protection	No	Perpetuity	12.479888	RA	12.479888
55	Wachusett Aqu	DCR - Division of	State	Water Supply Protection	No	Perpetuity	0.077501	ARC	0.077501
41	Wachusett Aqu	DCR - Division of	State	Water Supply Protection	No	Perpetuity	2.639499	RA	2.639499
56	Wachusett Aqu	DCR - Division of	State	Water Supply Protection	No	Perpetuity	14.379759	RA	14.379759
56	Wachusett Aqu	DCR - Division of	State	Water Supply Protection	No	Perpetuity	0.006833	ARC	0.006833
67	Wachusett Aqu	DCR - Division of	State	Water Supply Protection	No	Perpetuity	6.381795	RA	6.381795
39	Wachusett Aqu	DCR - Division of	State	Water Supply Protection	No	Perpetuity	1.030916	RA	1.030916
30	Wachusett Aqu	DCR - Division of	State	Water Supply Protection	No	Perpetuity	0.905319	RA	0.905319
40	Brewer Brook Fl	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.033715	RA	0.033715
40	Brewer Brook Fl	DCR - Division of	State	Flood Control	Yes	Perpetuity	7.40148	ARC	7.40148
36	Brewer Brook Fl	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.019098	RA	0.019098
36	Brewer Brook Fl	DCR - Division of	State	Flood Control	Yes	Perpetuity	2.338039	ARC	2.338039
45	Brewer Brook Fl	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.012467	RA	0.012467
45	Brewer Brook Fl	DCR - Division of	State	Flood Control	Yes	Perpetuity	1.534684	ARC	1.534684
51	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	9.800409	ARC	9.800409
65	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.000056	RA	0.000056
65	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	10.969145	ARC	10.969145
63	Brewer Brook Fl	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.004422	RA	0.004422
63	Brewer Brook Fl	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.710389	ARC	0.710389
18	Brewer Brook Fl	DCR - Division of	State	Flood Control	Yes	Perpetuity	8.711792	ARC	8.711792
19	Brewer Brook Fl	DCR - Division of	State	Flood Control	Yes	Perpetuity	2.908424	ARC	2.908424
50	Brewer Brook Fl	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.024449	RA	0.024449
50	Brewer Brook Fl	DCR - Division of	State	Flood Control	Yes	Perpetuity	1.883204	ARC	1.883204
841	Brewer Brook Fl	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.000054	RA	0.000054
841	Brewer Brook Fl	DCR - Division of	State	Flood Control	Yes	Perpetuity	16.064431	ARC	16.064431
20	Brewer Brook Fl	DCR - Division of	State	Flood Control	Yes	Perpetuity	2.729913	ARC	2.729913
819	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.004386	RA	0.004386
819	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	74.358868	ARC	74.358868
60	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.02419	RA	0.02419
60	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	25.39688	ARC	25.39688
72	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.054624	RA	0.054624
72	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	4.909138	ARC	4.909138
81	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	7.485353	ARC	7.485353
73	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.011807	RA	0.011807
73	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.816534	ARC	0.816534
31	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	2.784452	ARC	2.784452
74	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.278546	ARC	0.278546
75	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	2.505648	ARC	2.505648
21	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	0	RA	0
21	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.204297	ARC	0.204297
66	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.265691	ARC	0.265691
33	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.187713	ARC	0.187713
47	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.690155	ARC	0.690155
46	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	1.438685	ARC	1.438685
34	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.318493	ARC	0.318493
35	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.322958	RA	0.322958
35	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.007727	ARC	0.007727
77	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	1.156735	ARC	1.156735
78	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.085611	ARC	0.085611
22	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.07205	ARC	0.07205
24	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.288794	ARC	0.288794
52	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.004493	RA	0.004493
52	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	23.142239	ARC	23.142239
43	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.019096	RA	0.019096
43	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	1.67685	ARC	1.67685
79	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.00008	RA	0.00008
79	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	2.929442	ARC	2.929442
23	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.003712	RA	0.003712
23	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	2.205925	ARC	2.205925
32	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.000004	RA	0.000004
32	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	5.522486	ARC	5.522486
76	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.000013	RA	0.000013
76	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	15.1474	ARC	15.1474
25	Brewer Brook Fl	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.020582	RA	0.020582
25	Brewer Brook Fl	DCR - Division of	State	Flood Control	Yes	Perpetuity	3.522966	ARC	3.522966
71	Brewer Brook Fl	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.133989	RA	0.133989
71	Brewer Brook Fl	DCR - Division of	State	Flood Control	Yes	Perpetuity	8.726206	ARC	8.726206
61	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.028598	RA	0.028598
61	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	7.883339	ARC	7.883339
42	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.000865	RA	0.000865
42	Ross Flood Cont	DCR - Division of	State	Flood Control	Yes	Perpetuity	0.731672	ARC	0.731672
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-26	<Null>	<Null>	Unknown		<Null>	Unknown	1.185072	RA	1.185072
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-28	<Null>	<Null>	Unknown		<Null>	Unknown	0.239928	RA	0.239928
-29	<Null>	<Null>	Unknown		<Null>	Unknown	1.022117	RA	1.022117
-30	<Null>	<Null>	Unknown		<Null>	Unknown	0.465359	RA	0.465359
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-1	<Null>	<Null>	Unknown		<Null>	Unknown	0.044263	RA	0.044263

SECTION 10: PUBLIC COMMENT

Required letters of support

- The Select Board,
- The Planning Board, and
- Central Massachusetts Regional Planning Commission (CMRPC).

TOWN OF BERLIN

BOARD OF SELECTMEN

23 Linden Street
Berlin, MA 01503
(978) 838-2442
selectmen@townofberlin.com
www.townofberlin.com

June 26, 2019

Melissa Cryan
Division of Conservation Services
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Re: Town of Berlin 2019 Open Space and Recreation Plan

Dear Ms. Cryan,

On behalf of the Berlin Planning Board, we are pleased to offer this letter of support for the development of the Town of Berlin's 2019 Open Space and Recreation Plan, as prepared by the Town of Berlin with support from the Central Massachusetts Regional Planning Commission (CMRPC).

This plan demonstrates Berlin's strong commitment to preserving and enhancing open space areas within its borders, and the contents of the plan represents a collaborative effort between a number of boards and commissions in Town. Extensive community input into this planning process was sought in order to ensure that the goals and objectives included in this plan are truly in line with community needs. Outreach efforts included a community survey, public meetings, and a community forum.

The goals, objectives, and action items outlined in this OSRP update will aid Berlin as it continues to provide open space, recreation opportunities, maintain historical sites, and seek additional grant funding. We feel the end result will serve as a valuable resource for the town for many years.

We thank you for considering this Plan and supporting our open space and recreation efforts.

Sincerely,

BERLIN BOARD OF SELECTMEN

Christine Keefe

Christine Keefe, Chairman

Cc Planning Board, Conservation Commission

TOWN OF BERLIN

PLANNING BOARD

23 Linden Street
Berlin, MA 01503
(978) 838-2442
PlanningBoard@townofberlin.com
www.townofberlin.com

December 10, 2019

Melissa Cryan
Division of Conservation Services
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Re: Town of Berlin 2019 Open Space and Recreation Plan

Dear Ms. Cryan,

On behalf of the Berlin Planning Board, we are pleased to offer this letter of support for the development of the Town of Berlin's 2019 Open Space and Recreation Plan, as prepared by the Town of Berlin with support from the Central Massachusetts Regional Planning Commission (CMRPC).

This plan demonstrates Berlin's strong commitment to preserving and enhancing open space areas within its borders, and the contents of the plan represents a collaborative effort between a number of boards and commissions in Town. Extensive community input into this planning process was sought in order to ensure that the goals and objectives included in this plan are truly in line with community needs. Outreach efforts included a community survey, public meetings, and a community forum.

The goals, objectives, and action items outlined in this OSRP update will aid Berlin as it continues to provide open space, recreation opportunities, maintain historical sites, and seek

additional grant funding. We feel the end result will serve as a valuable resource for the town for many years.

We thank you for considering this Plan and supporting our open space and recreation efforts.

Sincerely,

Ronald L. Vavruska

R. Thomas Sanford, Jr.

Timothy H. Wheeler

Janet W. Campbell

Jay Teich

1 Mercantile Street – Suite 520
Worcester, MA 01608
508.756.7717 P
508.792.6818 F
www.cmrpc.org

Melissa Cryan
Division of Conservation Services
Executive Office of Energy and Environmental Affairs
100 Cambridge St., Ste. 900
Boston, MA 02114

June 26, 2019

RE: Town of Berlin 2019 Open Space and Recreation Plan

Dear Ms. Cryan;

The Central Massachusetts Regional Planning Commission (CMRPC) is writing this letter in support of the Town of Berlin and its recently completed 2019 Open Space & Recreation Plan. The Town and its volunteer boards and committees to be commended for their hard work putting this Plan together. Upon submitting this plan, the Town of Berlin intends to submit an application for funding through the Local Acquisitions for Natural Diversity (LAND) Grant Program. The proposed project will fund the purchase and protection of the 30-acre Wendler Forest, high priority woodland off of Peach Hill Road in Berlin on the Bolton town line. Protection of this property meets Goal 2 of the MA SCORP 2017 to "Support the Statewide Trails Initiative" and its objective to "Support the acquisition of land and development of new open spaces that can provide a trail network."

The Town and its consultant, the CMRPC, have done a very thorough job and the final document appears compliant with the standards for such plans as promulgated by your office. This plan highlights how Berlin continues to be a desirable place to live and examines the demand and pressures associated with residential development. Berlin has recognized the need to balance new development with the need to protect open space and enhance recreation opportunities.

Berlin's Open Space and Recreation Plan will provide the Town with the specific guidance and action steps needed to accomplish its goals and objectives. These goals and objectives, which have been informed by significant community input, are clearly laid out in this plan This Plan also recognizes the need for partnerships with public and private entities to make its goals and objectives a reality. To this end, several local groups, such as land trusts and private land owners, are included in the plan and referenced in several objectives. Many of these partnerships are currently being pursued by the Conservation Commission and Planning Board. The Town of Berlin will be well-served by having a State-approved Open Space and Recreation Plan in order to plan for its recreation facilities and programs, as well as to preserve and protect its valuable open spaces and natural resources.

1 Mercantile Street – Suite 520
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Please consider this letter to be a demonstration of CMRPC's support for the Plan and the process used to develop it. We find Berlin's Plan to be fully consistent with the goals and objectives outlined in the Town's progress towards the goals in its 2011 Open Space and Recreation Plan, CMRPC's 2020 Growth Strategy for Central Massachusetts (2000), its 2004 Update, and the Massachusetts Statewide Comprehensive Outdoor Recreation Plan. While these plans are helpful in providing Berlin with a comprehensive analysis of the larger region, this OSRP will significantly help the Town due to the amount of local knowledge that it includes.

Sincerely,

Trish Settles, AICP
Regional Collaboration and Community Planning Manager

Cc: Berlin Open Space and Recreation Committee
Berlin Planning Board
Berlin Board of Selectmen

SECTION 11 : REFERENCES

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Massachusetts Department of Transportation on line at www.mass.gov/dot

Massachusetts Executive Office of Energy and Environmental Affairs on line at www.mass.gov/envir.

- Department of Conservation and Recreation: www.mass.gov/dcr
- Department of Fish and Game: www.mass/gov/dfwele
- Department of Environmental Protection: www.mass.gov/dep
- Department of Agricultural Resources: www.mass.gov/agr
- Massachusetts Executive Office of Housing and Economic Development on line at www.mass.gov/eohed

Department of Housing and Community Development: www.mass.gov/dhcd

Massachusetts Natural Resources Collaborative on line at www.massnrc.org

Massachusetts Executive Office of Energy and Environmental Affairs, Massachusetts Statewide Comprehensive Outdoor Recreation Plan, 2012.

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Massachusetts Historical Commission, Massachusetts Cultural Resource Information System (MACRIS), accessed May 2019.

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New England Wildflower Society on line at www.newfs.org

The Open Space Planner's Workbook, March 2008 available on line at www.mass.gov/envir/dcs.

Organization for the Assabet River on line at www.assabetriver.org

Town of Berlin

- Office of the Assessor
- Planning Board
- Agricultural Commission
- Recreation Committee
- Housing Partnership
- Board of Selectmen
- Berlin Zoning By-law, 2010
- Berlin Open Space Plan, 2011
- 2011 Community Development Planning Survey

United States Census data available on line at www.census.gov

U.S. Department of Agriculture, Soil Conservation Service, Soils and Their Interpretation for Various Land Uses – Town of Berlin, Massachusetts (March 1973).

U.S. Department of Agriculture, Soil Conservation Service, Northeastern Massachusetts Interim Soil Survey Report (February 1982).

SECTION 12 : APPENDICES

Appendix A Maps (folded at the end of the document)
Map 1 – Regional Context Map
Map 2 – Environmental Justice Map
Map 3 – Zoning Map
Map 4 – Soils and Geologic Features Map
Map 5 – Scenic and Unique Features Map
Map 6A – Water Resources Map 1
Map 6B – Water Resources Map 2
Map 7 – Open Space Inventory Map
Map 9 – Habitat Map
Map 10 – Action Plan Map

Appendix B Community Engagement Materials
Survey Results

Appendix C Massachusetts Cultural Resource and Information System (MACRIS) Inventory

Appendix D ADA Access Self Evaluation, ADA Grievance Procedure, Employment Practices, ADA Coordinator Letter

Appendix A Maps (folded at the end of the document)

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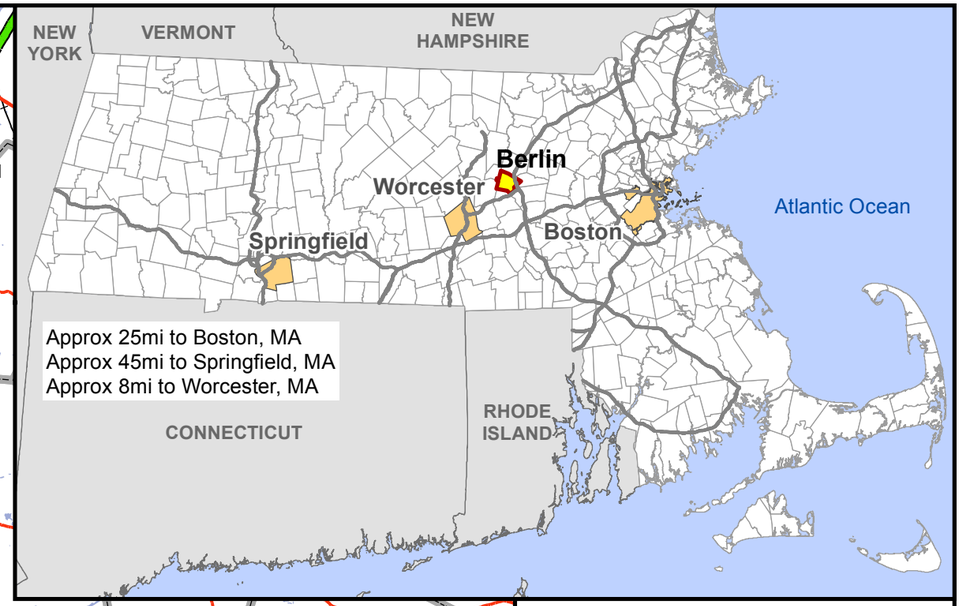

REGIONAL CONTEXT MAP

Town of Berlin, Massachusetts

Legend

- Town Boundary
- Active Railroad
- Interstate
- U.S. Route
- State Route

N W E S

1 in = 2 miles

Source: Data provided by the Central Massachusetts Regional Planning Commission (CMRPC), massDOT and the Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division.

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Central Massachusetts Regional Planning Commission
2 Washington Square, Union Station Worcester, MA 01604

Date: 4/21/2017 Path: H:\Projects\O_Berlin_GIS\m028_Locus_11x17.mxd

ENVIRONMENTAL JUSTICE MAP

Town of Berlin, Massachusetts

OPEN SPACE AND RECREATION PLAN

Legend

- Town Boundaries

Roads

- Major Road
- Local Road
- Active Railroad
- Water Bodies
- Streams

Environmental Justice 2010 Populations

- Minority
- Income
- Minority and Income

0 0.25 0.5 1

Miles

1 in = 0.5 miles

Source: Data provided by the Town of Berlin, Central Massachusetts Regional Planning Commission (CMRPC), massDOT and the Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division.

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ZONING & OVERLAY MAP

Town of Berlin, Massachusetts

OPEN SPACE AND RECREATION PLAN

Legend

- Town Boundaries
- Major Road
- Local Road
- Active Railroad
- Water Bodies
- Streams

Zoning Districts

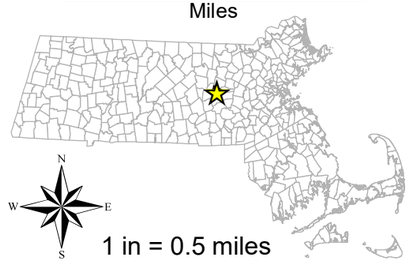
- Agricultural-Recreation-Conservation
- Arc-Conservation Restriction
- Commercial
- Commercial-Village
- Limited Business
- Limited Industrial
- Residential Agriculture

Overlay Districts

- Highway Shopping Center Overlay
- Regional Shopping Center Overlay
- Senior Residential Development Overlay
- Village District Overlay

0 0.25 0.5 1

Miles



1 in = 0.5 miles

Source: Data provided by the Town of Berlin, Central Massachusetts Regional Planning Commission (CMRPC), massDOT and the Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division.

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SOILS & GEOLOGIC FEATURES MAP

Town of Berlin, Massachusetts

OPEN SPACE AND RECREATION PLAN

* The DEP Oil or Hazardous Materials Sites with Activity and Use Limitation (AUL) datalayer is a statewide point dataset containing the approximate location of oil or hazardous material release/disposal sites where an AUL has been filed. The sites mapped in this datalayer represent only a subset of the total reported release sites tracked by MassDEP BWSC.

An AUL provides notice of the presence of oil and/or hazardous material contamination remaining at the location after a cleanup has been conducted pursuant to Chapter 21E and the MCP.
--Description From MassGIS website http://www.mass.gov/mgis/aul.htm.
Data current as of 01/2019

Legend

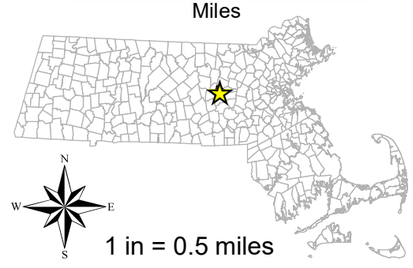
- Town Boundaries
- Major Road
- Local Road
- Active Railroad
- Water Bodies
- Streams
- AUL Location*
- MassDEP Tier 21E Sites**
- Prime Farmland Soils (NRCS Soils-WORC. NE)

NRCS SSURGO-Certified Soils (WORC. NE)

(Dominant Drainage Class)

- Excessively drained
- Somewhat excessively drained
- Well drained
- Moderately well drained
- Poorly drained
- Very poorly drained
- Not Classified

0 0.25 0.5 1
Miles



1 in = 0.5 miles

**Location data contained in this datalayer are based on MassDEP staff interpretation of information provided by PRPs and their LSPs. Point features in this datalayer should ONLY be considered as an "approximation" or "best estimate" of site locations based on the information submitted to the MassDEP BWSC. The accuracy and completeness of the information submitted has not been verified by MassDEP. ----Description From MassGIS website

See the MassGIS data layer description page for full data disclaimer. http://www.mass.gov/mgis/c21e.htm Data current as of 01/2019

Source: Data provided by the Town of Berlin, Central Massachusetts Regional Planning Commission (CMRPC), massDOT and the Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division.

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UNIQUE FEATURES MAP

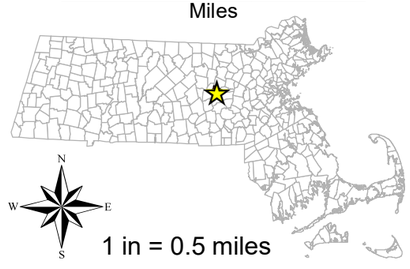
Town of Berlin, Massachusetts

OPEN SPACE AND RECREATION PLAN

Legend

- Town Boundaries
- Major Road
- Local Road
- Active Railroad
- Water Bodies
- Streams
- Nat'l Register of Historic Places
- Inventoried Property
- Nat'l Registerof Historic Places
- Inventoried Area
- Town Hall
- Public
- Public Library
- Police/Fire Station
- Point of Interest

0 0.25 0.5 1
Miles



1 in = 0.5 miles

Source: Data provided by the Town of Berlin, Central Massachusetts Regional Planning Commission (CMRPC), massDOT and the Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division.

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WATER RESOURCES MAP (Page 1)

Town of Berlin, Massachusetts

OPEN SPACE AND RECREATION PLAN

NASHUA RIVER-HEADWATERS TO SQUANNACOOK RIVER WATERSHED

Nashua River-headwaters to North Nashua River Subwatershed

CONCORD RIVER WATERSHED

Assabet River-North Brook to Elizabeth Brook Subwatershed

Assabet River-headwaters to North Brook Subwatershed

Wachusett Reservoir

Gates Pond

Rocky Pond

BOLTON

CLINTON

BOYLSTON

NORTHBOROUGH

HUDSON

MARLBOROUGH

COLLINS ROAD

LANCASTER ROAD

PEACH HILL ROAD

CARR ROAD

HIGHLAND STREET

ALLEN ROAD

RANDALL ROAD

COBURN ROAD

CENTRAL STREET

TAYLOR ROAD

FOSGATE ROAD

GATES POND ROAD

RIVER ROAD EAST

LARKIN ROAD

BOYLSTON ROAD

WEST STREET

CARTER STREET

WALNUT STREET

BARNES HILL ROAD

DERBY ROAD

OAK STREET

PLEASANT STREET

BREWER ROAD

SAWYER HILL ROAD

AUTUMN RIDGE

ESTABROOK LANE

SUMMER ROAD

LINDEN STREET

BALL HILL ROAD

LYMAN ROAD

JONES ROAD

BAILEY ROAD

CROSBY ROAD

SOUTH STREET

BELLEVIEW ROAD

BROOK LANE

RIVER ROAD WEST

BRIDGE ROAD

WHITNEY ROAD

110 62 70 85 290 495

Legend

- Town Boundaries
- Major Road
- Local Road
- Active Railroad
- Water Bodies
- Streams
- DEP Wetlands

Aquifers

- High Yield (> 300 gpm)
- Medium Yield (100-300 gpm)
- NRCS HUC Subbasin Boundary
- NRCS HUC Watershed Boundary

NRCS HUC Subwatersheds

- Assabet River-North Brook to Elizabeth Brook
- Assabet River-headwaters to North Brook
- Nashua River-headwaters to North Nashua River

0 0.25 0.5 1

Miles

1 in = 0.5 miles

Source: Data provided by the Town of Berlin, Central Massachusetts Regional Planning Commission (CMRPC), massDOT and the Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division.

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Date: 6/14/2019 Document Path: H:\Projects\O_Berlin_GIS\Subproject\m028_osrp\osrp028_06_Water_Resources_01_11x17.mxd

WATER RESOURCES MAP (Page 2)

Town of Berlin, Massachusetts

OPEN SPACE AND RECREATION PLAN

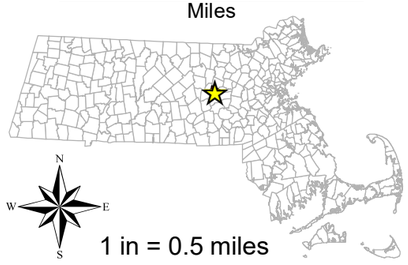
Legend

- Town Boundaries
- Major Road
- Local Road
- Active Railroad
- Water Bodies
- Streams

Public Water Supplies (1)

- Community Groundwater Well
- Non-Transient Non-community
- Community Surface Water Source
- Transient Non-Community
- DEP Approved Zone I (2)
- Approved Wellhead Protection Areas (Zone II) (2)
- Interim Wellhead Protection Areas (2)
- Surface Water Supply Protection Area Zone A (3)
- Surface Water Supply Protection Area Zone B (3)
- Surface Water Supply Protection Area Zone C (3)
- 100-year Flood Area (FEMA National Flood Hazard Layer, DFIRM)

0 0.25 0.5 1
Miles



1 in = 0.5 miles

(1) Data current as of 01/2019
(2) Data current as of 01/2019
(3) Data current as of 04/2017

Source: Data provided by the Town of Berlin, Central Massachusetts Regional Planning Commission (CMRPC), massDOT and the Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division.

Information depicted on this map is for planning purposes only. This information is not adequate for legal boundary definition, regulatory interpretation, or parcel level analysis. Use caution intrepreting positional accuracy.

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Date: 3/18/2019 Document Path: H:\Projects\O_Berlin_GIS\Subproject\m028_osrp\osrp028_07_Water_Resources_02_11x17.mxd

OPEN SPACE INVENTORY MAP

Town of Berlin, Massachusetts

OPEN SPACE AND RECREATION PLAN

Legend

- Town Boundaries
- Major Road
- Local Road
- Active Railroad
- Water Bodies
- Streams

Open Space Categories

Open Space Ownership

- Federal
- State
- Municipal
- Private
- Non-Profit
- Unknown Ownership

Level of Protection

- Perpetuity*
- Limited
- None

** Open space listed as "Perpetuity" will only show a solid Ownership color.*

Chapter Lands

- Chapter 61B
- Chapter 61A
- Chapter 61

Open Space data from MassGIS and current as of 01/2019

0 0.25 0.5 1
Miles

1 in = 0.5 miles

Source: Data provided by the Town of Berlin, Central Massachusetts Regional Planning Commission (CMRPC), massDOT and the Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division.

Information depicted on this map is for planning purposes only. This information is not adequate for legal boundary definition, regulatory interpretation, or parcel level analysis. Use caution intrepreting positional accuracy.

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Date: 6/7/2019 Document Path: H:\Projects\O_Berlin_GIS\Subproject\m028_osrp\osrp028_08_Open_Space_11x17.mxd

OPEN SPACE INVENTORY MAP

Town of Berlin, Massachusetts

OPEN SPACE AND RECREATION PLAN

Legend

- Town Boundaries
- Major Road
- Local Road
- Active Railroad
- Water Bodies
- Streams

Open Space Categories

Open Space Ownership

- Federal
- State
- Municipal
- Private
- Non-Profit
- Unknown Ownership

Level of Protection

- Perpetuity*
- Limited
- None

** Open space listed as "Perpetuity" will only show a solid Ownership color.*

- Conservation Restriction
- Agricultural Preservation Restriction

Chapter Lands

- Chapter 61B
- Chapter 61A
- Chapter 61

Berlin open space data based on town reviewed data as of 04/2019.
Open space data outside of Berlin based on MassGIS open space data, current as of 01/2019

0 0.25 0.5 1
Miles

1 in = 0.5 miles

Source: Data provided by the Town of Berlin, Central Massachusetts Regional Planning Commission (CMRPC), massDOT and the Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division.

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Date: 6/14/2019 Document Path: H:\Projects\O_Berlin_GIS\Subproject\m028_osrp\osrp028_08_Open_Space_11x17.mxd

HABITAT FEATURES MAP

Town of Berlin, Massachusetts

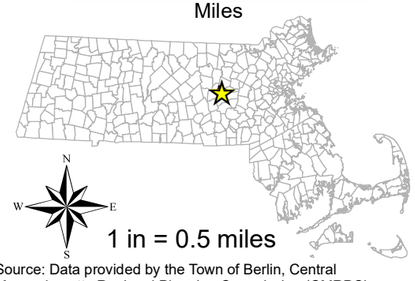
OPEN SPACE AND RECREATION PLAN

Legend

- Town Boundaries
- Major Road
- Local Road
- Active Railroad
- Water Bodies
- Streams
- NHESP Certified Vernal Pools
- NHESP Potential Vernal Pools (1)
- NHESP Priority Habitats of Rare
- MassDEP Wetlands
- NHESP/TNC BioMap2 Core Habitat
- NHESP/TNC BioMap2 Critical Natural Landscape

(1) NHESP Potential Vernal Pools: Not equivalent to Certified Vernal Pools

0 0.25 0.5 1
Miles



1 in = 0.5 miles

Source: Data provided by the Town of Berlin, Central Massachusetts Regional Planning Commission (CMRPC), Natural Heritage & Endangered Species Program (NHESP), massDOT and the Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division.

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Goal 3: Provide opportunities for formal and informal recreation activities that serve the needs of Berlin's population
--Continued improvements at South Commons

Goal 4: Increase public knowledge about and access, as appropriate, to conservation areas and recreation properties and programs.
--Improve parking and general accesibility
--Continue Biodiversity Days

Goal 5: Regulate and guide development to be consistent with town character and land uses and to protect open space systems, natural resources, and scenic vistas
--Review zoning
--Evaluate land use regulations

Goal 6: Support working farms and sustainable farming practices
-- Continue to support Ag Commission

Goal 2: Create open space networks throughout the town.
--Continue to identify and map greenway properties

Goal 1: Preserve and manage open space to maintain the Town's rural character, protect natural and historic resources, and enhance quality of life
--Prioritize parcels for conservation

OPEN SPACE INVENTORY MAP

Town of Berlin, Massachusetts

Legend

- Town Boundaries
- Major Road
- Local Road
- Active Railroad
- Water Bodies
- Streams

Open Space Categories

Open Space Ownership
- Federal
- State
- Municipal
- Private
- Non-Profit
- Unknown Ownership

Level of Protection
- Perpetuity*
- Limited
- None

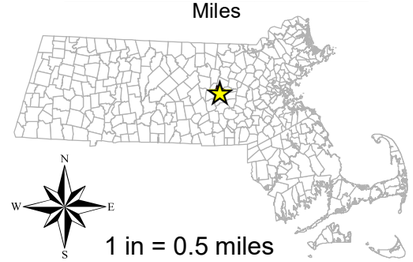
** Open space listed as "Perpetuity" will only show a solid Ownership color.*

- Conservation Restriction
- Agricultural Preservation Restriction

Chapter Lands
- Chapter 61B
- Chapter 61A
- Chapter 61

Berlin open space data based on town reviewed data as of 04/2019.
Open space data outside of Berlin based on MassGIS open space data, current as of 01/2019

0 0.25 0.5 1
Miles



1 in = 0.5 miles

Source: Data provided by the Town of Berlin, Central Massachusetts Regional Planning Commission (CMRPC), massDOT and the Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division.

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OPEN SPACE AND RECREATION PLAN

Date: 6/28/2019 Document Path: Z:\GIS Library\GIS Workspaces\Goldman\Belrin osrp\osrp028_08_Open_Space_11x17.mxd

Appendix B

Community Engagement Materials

Survey Results

Open Space and Recreation

Public Forum

Help develop Berlin's next Open Space & Recreation Plan

WHEN: April 18, 2019 @ 7:00 PM

WHERE: Berlin Town Hall, Room 227

An **Open Space and Recreation Plan (OSRP)** will allow Berlin to **maintain and enhance open spaces** that together make up so much of our community's character and **protect the Town's 'green infrastructure'** (i.e. water supply, land, working farms and forests, wildlife habitats, parks, recreation areas, trails, and greenways).

We'd love your input in identifying goals and areas of interest. Come share your ideas and vision for open space and recreation in Berlin!

BERLIN OSRP COMMUNITY FORUM

April 18, 2019 at 7pm
Agenda

ICE BREAKER EXERCISE (AS ATTENDEES ARRIVE)

To be conducted as participants are arriving. Posters will be placed around the room with the goals and strategies we have discussed. Participants will be given a set of stickers upon arrival and asked to place sticker beside the goals and strategies they think the town should focus on most. Post-it notes will available for participants to add comments.

INTRODUCTIONS, OPENING REMARKS (5 MINUTES)

Committee designee: Basic introduction of project; introductions of Town Staff, Committee Members; brief overview of the evening.

PRESENTATION (10 MINUTES)

CMRPC: Provide a more comprehensive overview of the project, process, purpose and history; Overview of preliminary findings; Review of survey results; preliminary survey findings: how do they align with previous goals; introduction of breakout group activity: what will happen and what we hope to discover.

BREAK OUT GROUPS (40 MINUTES)

PURPOSE: to identifying priority parcels, areas of town to focus on.

EXERCISE: Room will be divided into two to three tables (depending on turn-out); Each table will have a map, showing the protected areas, the conservation land, and lands not protected; Each table with have a moderator who will lead the conversation and take written notes; the conversation will cover 3 topic areas, allowing approximately 10 minutes to each area.

- Open Space: for recreation and preservation; scenic routes and locations;
- Playgrounds, fields and rec facilities: what do we want more of; what parks need more attention; which facilities are working well; how can we apply what works elsewhere;
- Connectivity: walking, hiking and bike to and between parcels.

The discussion around each topic area will be broken down in terms of needs (what is missing; what do we need more of) and opportunities (identify parcels, routes, etc. that provide the best opportunities to fulfil those needs).

REPORT OUT (20 MINUTES)

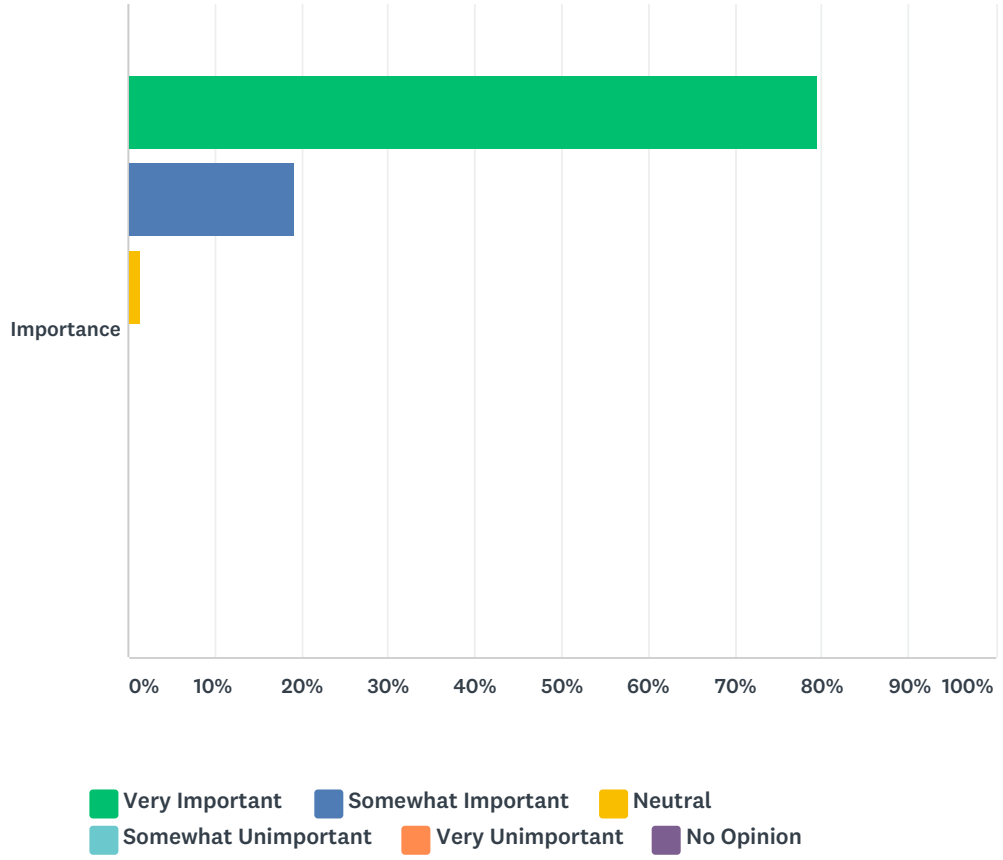
Moderators (typically staff and committee members) or a volunteer will report out on the group discussion; allow space for feedback from all participants as a group; notes will be taken during the discussion (probably by CMRPC) for later summary and analysis.

CLOSING AND NEXT STEPS (5 MINUTES)

Committee designee: thanks to all participants; quick overview of next steps; overview of opportunities for further comment (next meeting, online, via email, etc.).

Q1 How important is it to you to preserve open space and natural areas in Berlin?

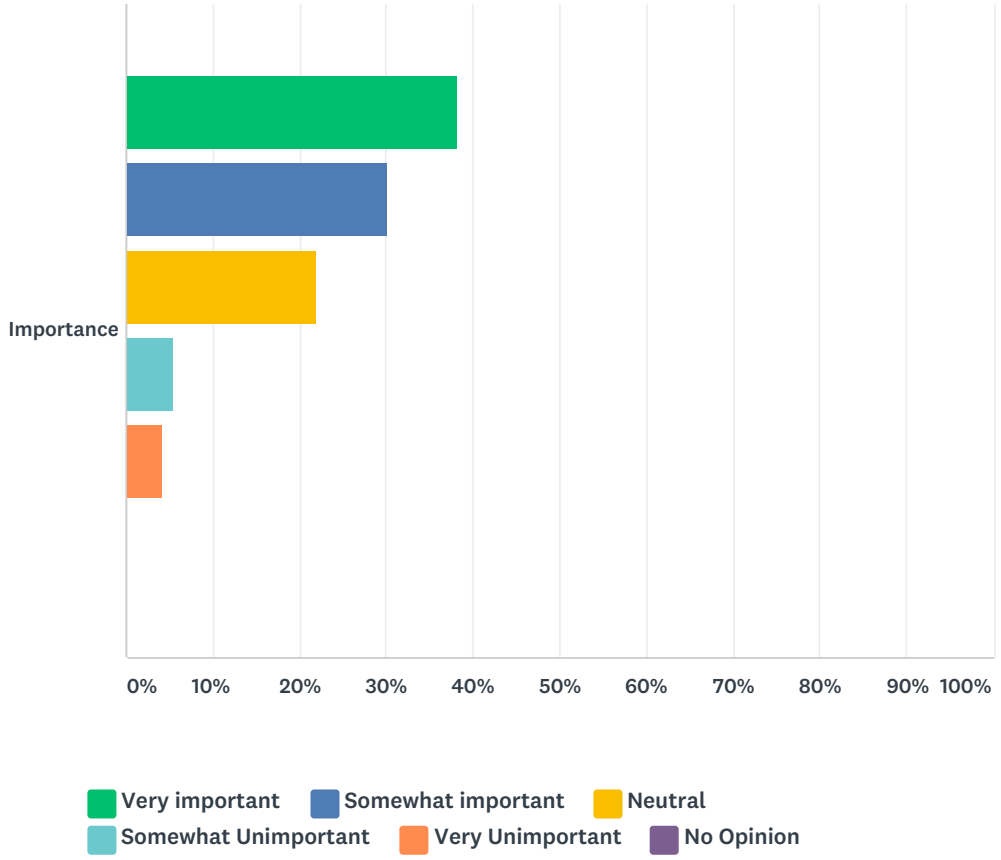
Answered: 73 Skipped: 0



	VERY IMPORTANT	SOMEWHAT IMPORTANT	NEUTRAL	SOMEWHAT UNIMPORTANT	VERY UNIMPORTANT	NO OPINION	TOTAL
Importance	79.45% 58	19.18% 14	1.37% 1	0.00% 0	0.00% 0	0.00% 0	73

Q2 How important is the availability of designated parking areas in open space and recreational destinations in Berlin?

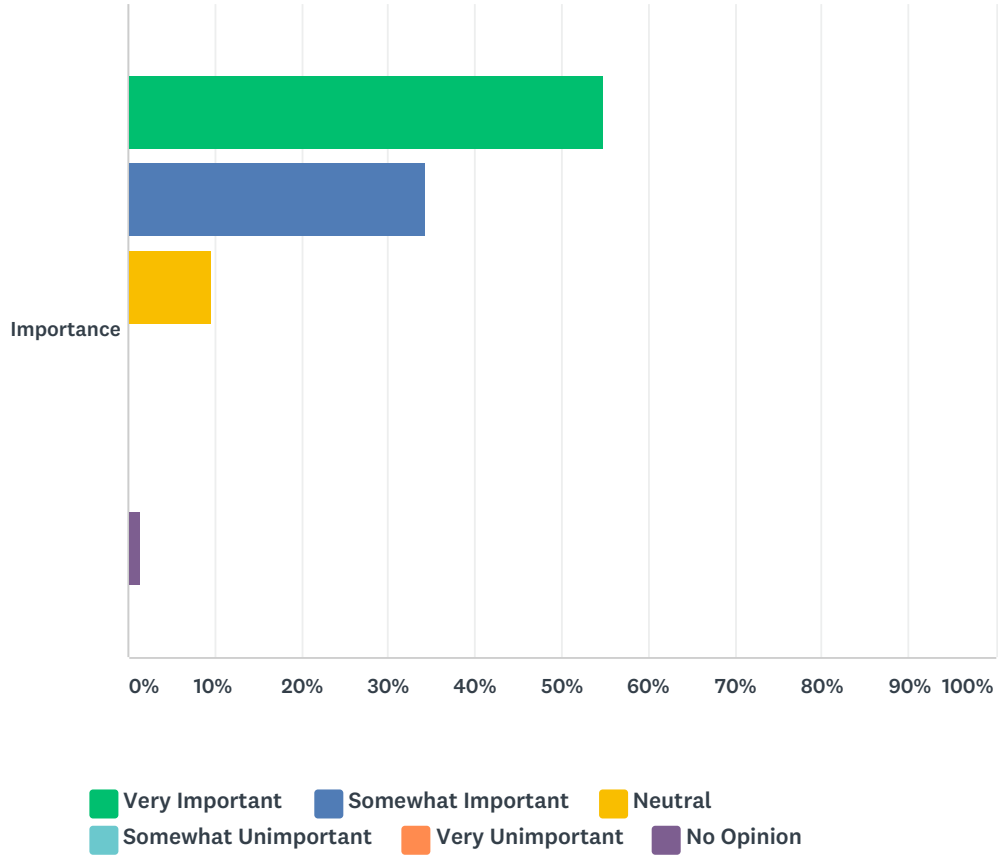
Answered: 73 Skipped: 0



	VERY IMPORTANT	SOMEWHAT IMPORTANT	NEUTRAL	SOMEWHAT UNIMPORTANT	VERY UNIMPORTANT	NO OPINION	TOTAL
Importance	38.36% 28	30.14% 22	21.92% 16	5.48% 4	4.11% 3	0.00% 0	73

Q3 How important is it to be able to access open space and recreational destinations in Berlin by walking or biking?

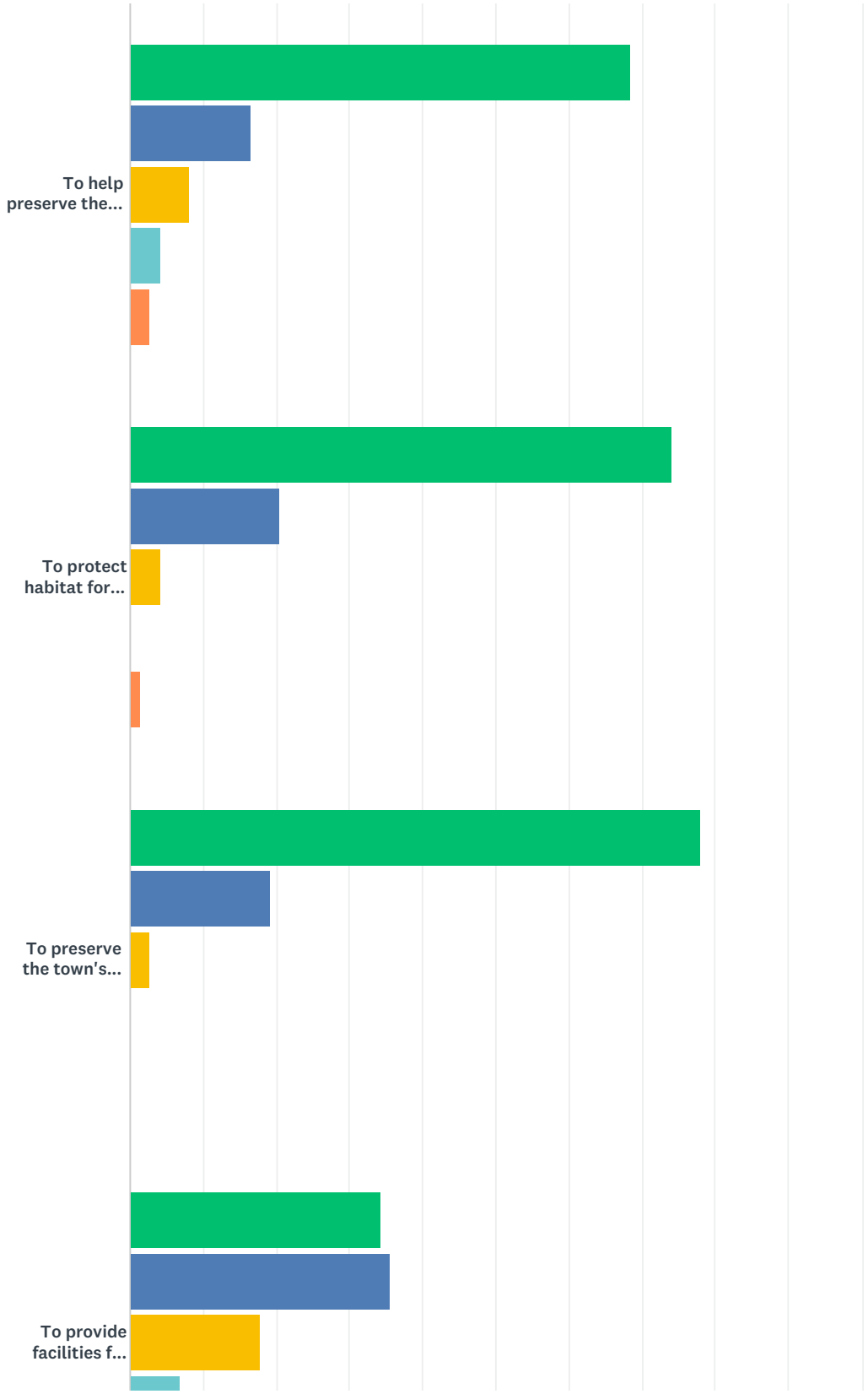
Answered: 73 Skipped: 0

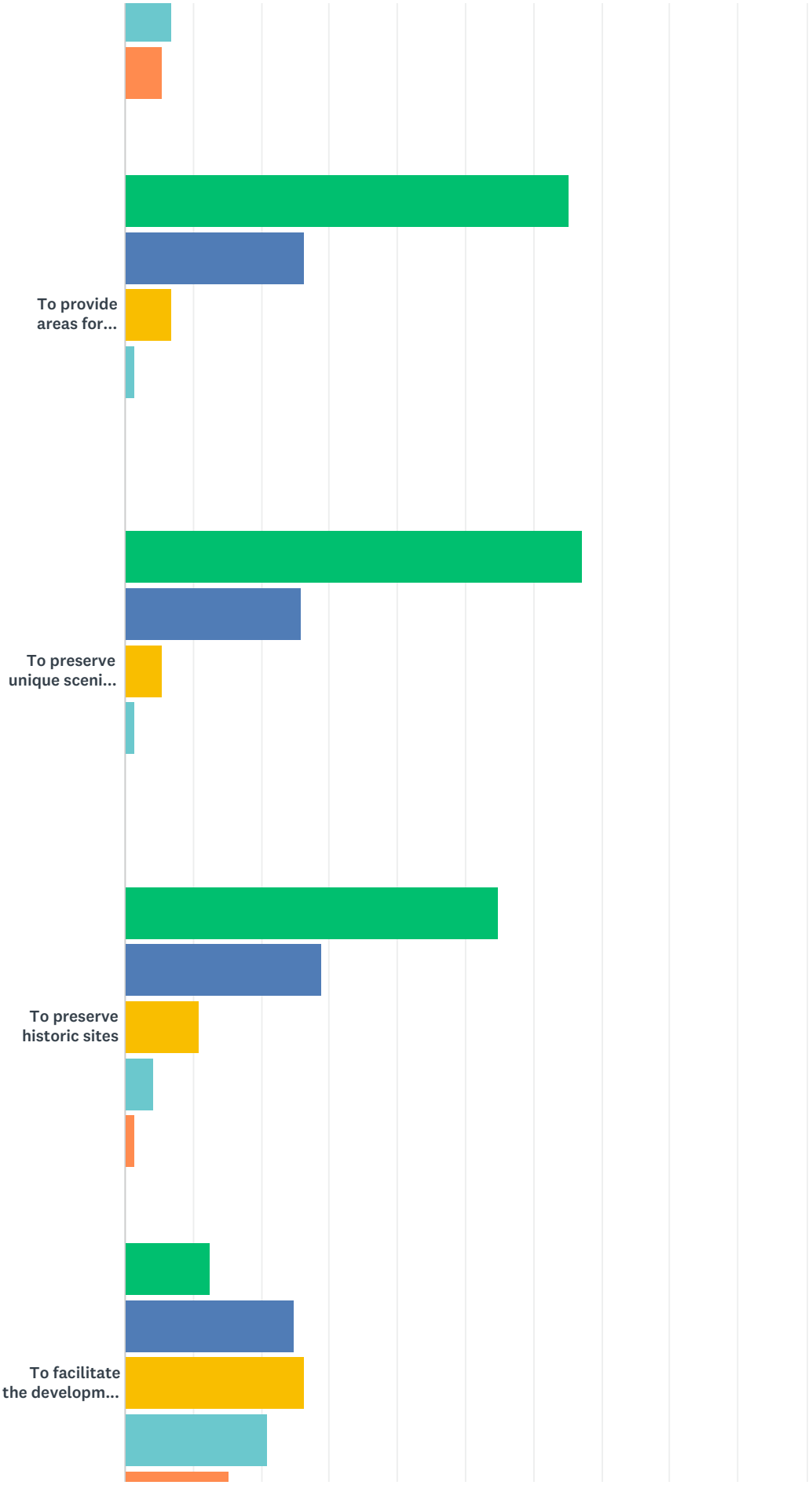


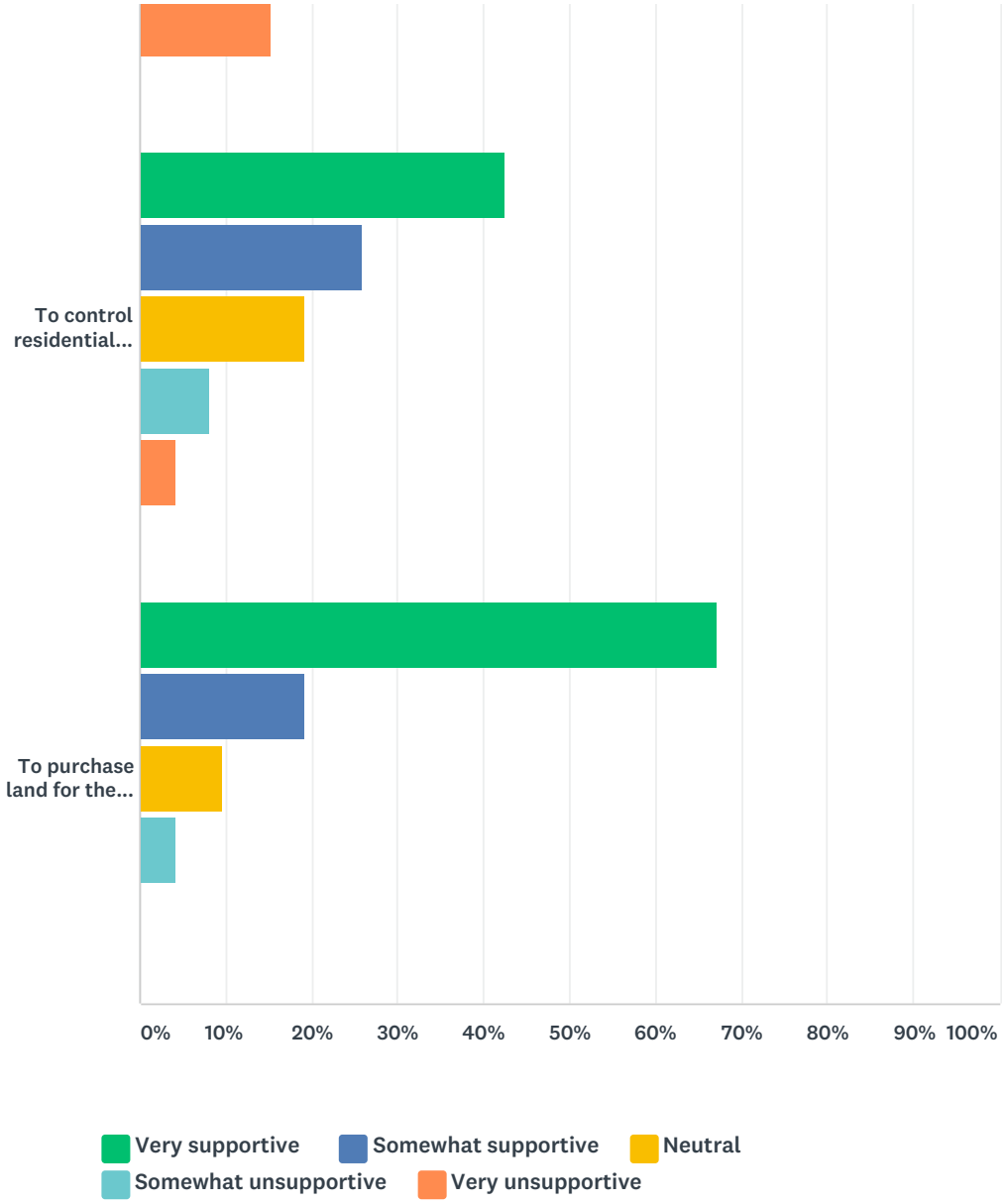
	VERY IMPORTANT	SOMEWHAT IMPORTANT	NEUTRAL	SOMEWHAT UNIMPORTANT	VERY UNIMPORTANT	NO OPINION	TOTAL
Importance	54.79% 40	34.25% 25	9.59% 7	0.00% 0	0.00% 0	1.37% 1	 73

Q4 How strongly do you support Berlin acquiring land for the following reasons?

Answered: 73 Skipped: 0




To provide areas for...
To preserve unique sceni...
To preserve historic sites
To facilitate the developm...

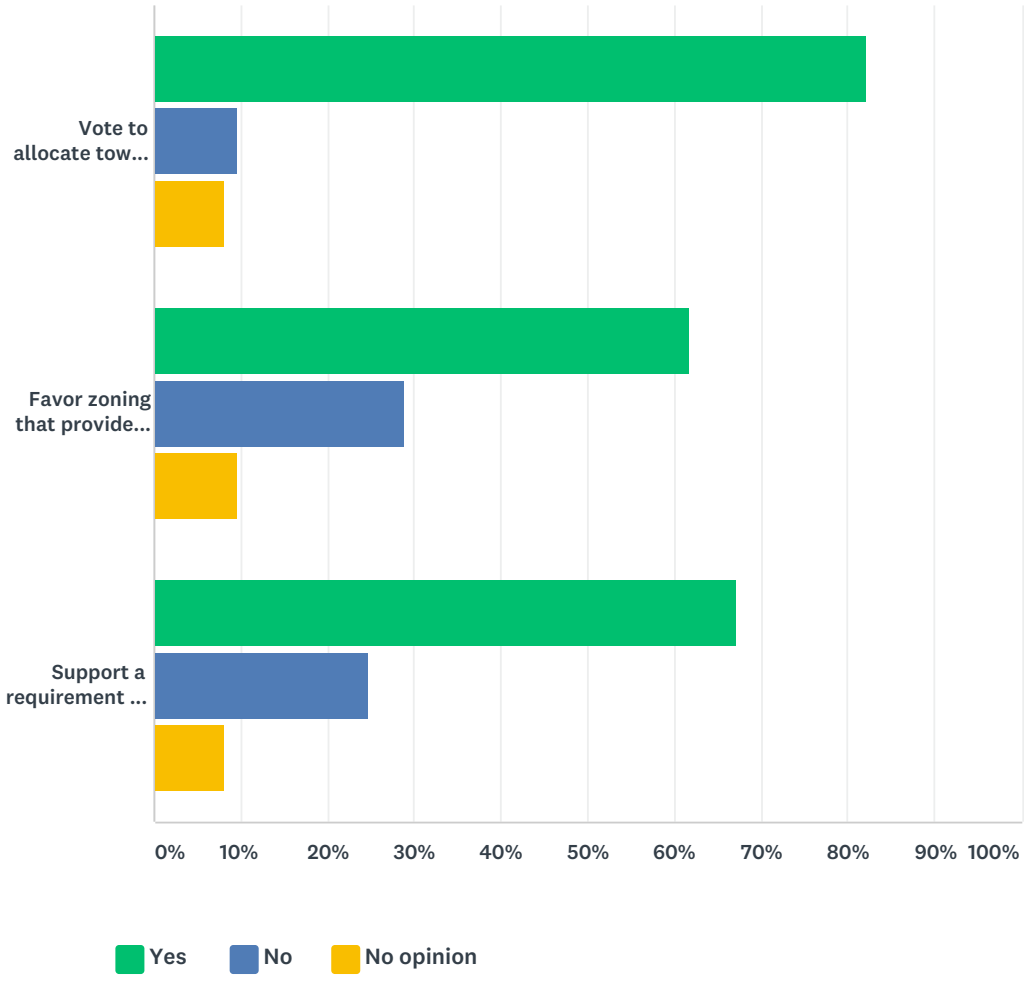


	VERY SUPPORTIVE	SOMEWHAT SUPPORTIVE	NEUTRAL	SOMEWHAT UNSUPPORTIVE	VERY UNSUPPORTIVE	TOTAL
To help preserve the town's rural character	68.49% 50	16.44% 12	8.22% 6	4.11% 3	2.74% 2	73
To protect habitat for Berlin's wide diversity of flora and fauna (mammals, birds, reptiles, amphibians).	73.97% 54	20.55% 15	4.11% 3	0.00% 0	1.37% 1	73
To preserve the town's groundwater resources	78.08% 57	19.18% 14	2.74% 2	0.00% 0	0.00% 0	73

To provide facilities for active recreation (sports, fields, courts, etc.)	34.25% 25	35.62% 26	17.81% 13	6.85% 5	5.48% 4	73
To provide areas for passive recreation (Bird watching, walking, hiking, biking, skiing trails, etc.)	65.28% 47	26.39% 19	6.94% 5	1.39% 1	0.00% 0	72
To preserve unique scenic areas	67.12% 49	26.03% 19	5.48% 4	1.37% 1	0.00% 0	73
To preserve historic sites	54.79% 40	28.77% 21	10.96% 8	4.11% 3	1.37% 1	73
To facilitate the development of additional affordable housing (currently, Berlin's affordable housing rate exceeds State requirements).	12.50% 9	25.00% 18	26.39% 19	20.83% 15	15.28% 11	72
To control residential growth	42.47% 31	26.03% 19	19.18% 14	8.22% 6	4.11% 3	73
To purchase land for the purpose of linking existing conservation land together to increase landscape connectivity, habitat space, and the ecological value of our open space.	67.12% 49	19.18% 14	9.59% 7	4.11% 3	0.00% 0	73

Q5 In order to preserve open spaces in Berlin, would you be willing to:

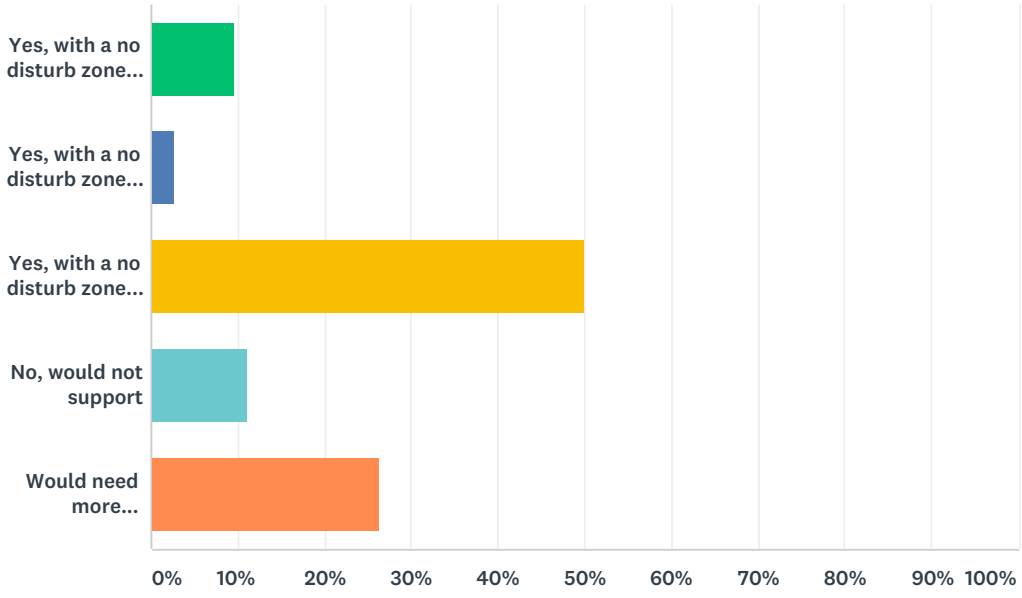
Answered: 73 Skipped: 0



	YES	NO	NO OPINION	TOTAL	WEIGHTED AVERAGE
Vote to allocate town funds to acquire or otherwise conserve more open space?	82.19% 60	9.59% 7	8.22% 6	73	1.26
Favor zoning that provides for increases in density in existing developed areas in exchange for open space in less developed or environmentally sensitive areas?	61.64% 45	28.77% 21	9.59% 7	73	1.48
Support a requirement for all new residential developments to include conservation/open space areas	67.12% 49	24.66% 18	8.22% 6	73	1.41

Q6 Would you support the Town of Berlin in establishing a Wetlands Bylaw to limit development activities adjacent to any wetlands resource area?

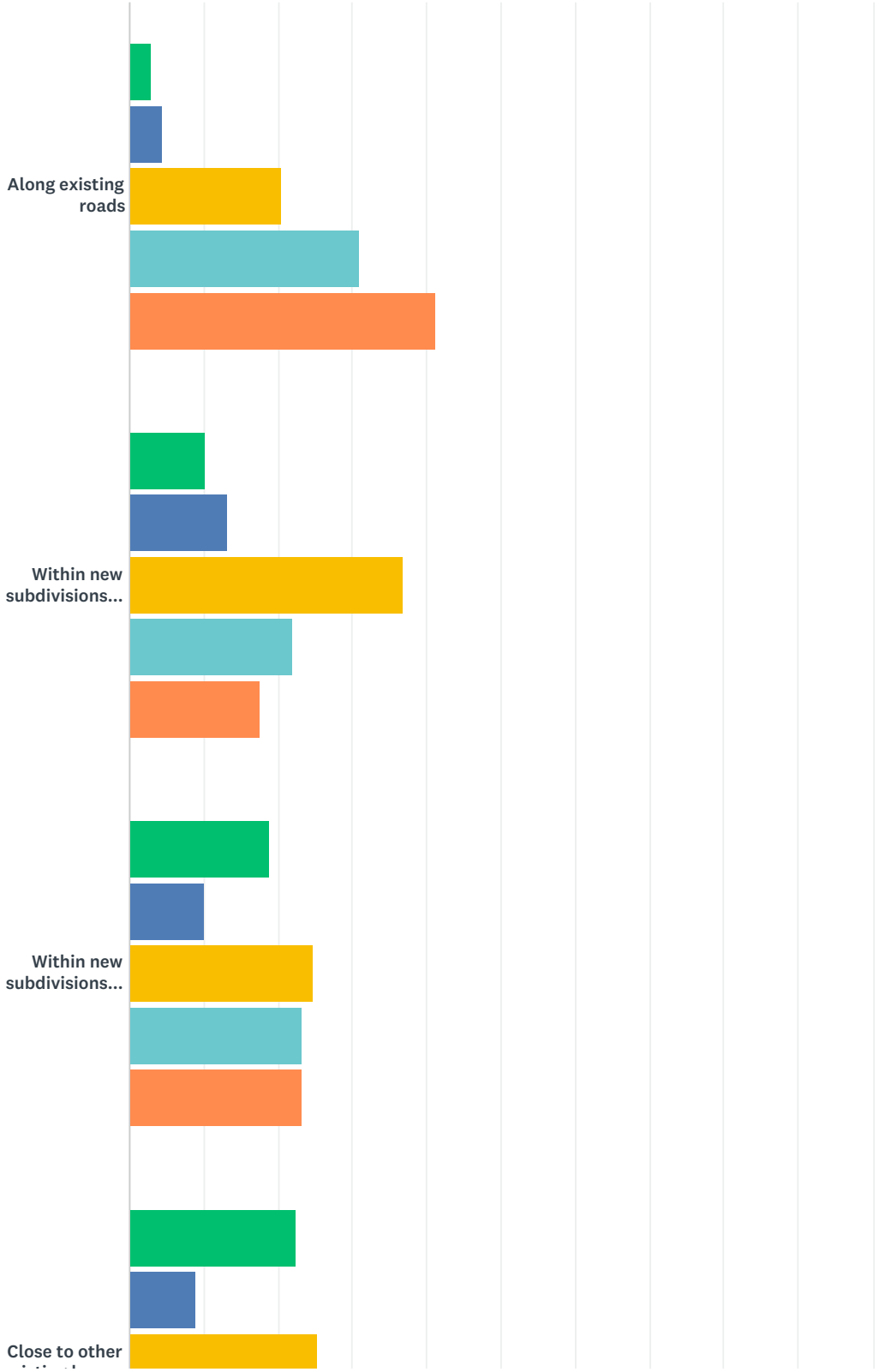
Answered: 72 Skipped: 1

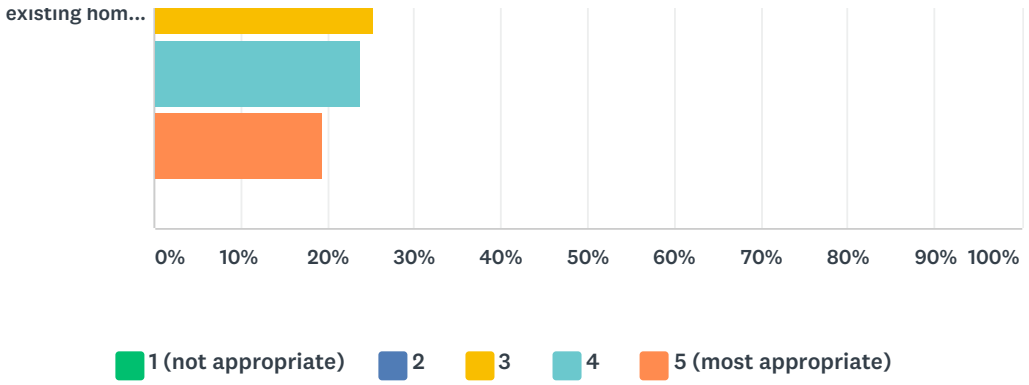


ANSWER CHOICES	RESPONSES	
Yes, with a no disturb zone around wetlands resource areas of 25 ft.	9.72%	7
Yes, with a no disturb zone around wetlands resource areas 35 ft.	2.78%	2
Yes, with a no disturb zone around wetlands resource areas of 50 ft. or more	50.00%	36
No, would not support	11.11%	8
Would need more information	26.39%	19
TOTAL		72

Q7 What locations are appropriate for new residential development in Berlin? Please indicate on a scale of 1 to 5 (1 being not appropriate, 5 being most appropriate).

Answered: 70 Skipped: 3

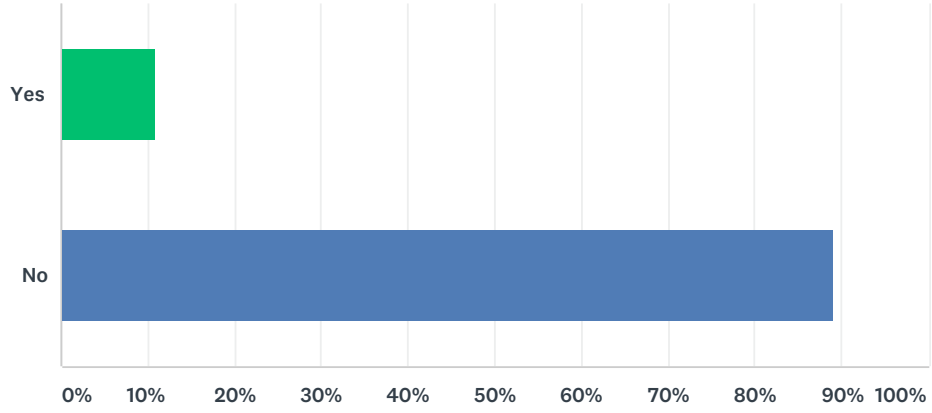




	1 (NOT APPROPRIATE)	2	3	4	5 (MOST APPROPRIATE)	TOTAL	WEIGHTED AVERAGE
Along existing roads	2.94% 2	4.41% 3	20.59% 14	30.88% 21	41.18% 28	68	4.03
Within new subdivisions where all land is privately owned	10.29% 7	13.24% 9	36.76% 25	22.06% 15	17.65% 12	68	3.24
Within new subdivisions that would preserve public open space by allowing houses to be built closer together and on smaller lots	18.84% 13	10.14% 7	24.64% 17	23.19% 16	23.19% 16	69	3.22
Close to other existing homes Berlin	22.39% 15	8.96% 6	25.37% 17	23.88% 16	19.40% 13	67	3.09

Q8 Is anyone in your household actively seeking a place to live in Berlin?

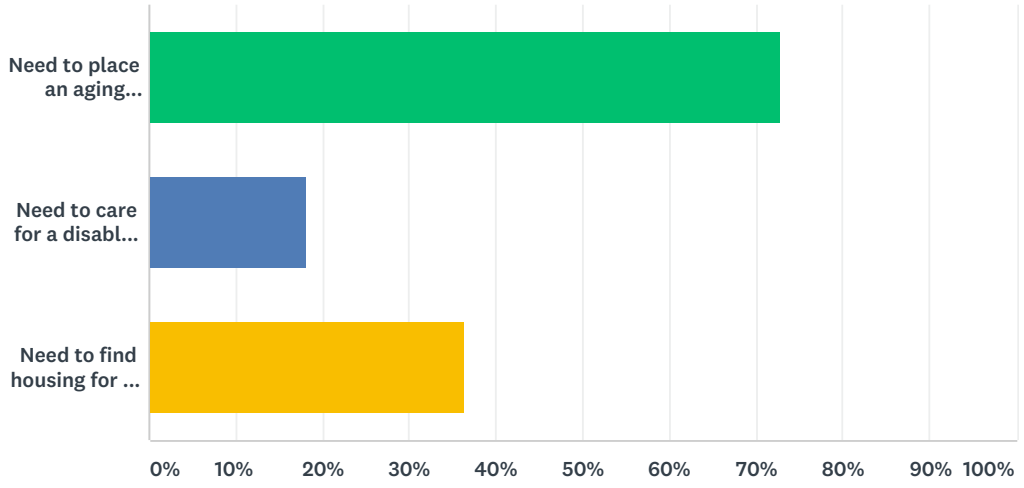
Answered: 73 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	10.96%	8
No	89.04%	65
TOTAL		73

Q9 Does anyone in your family, or among your neighbors and friends, have any of the following needs for affordable housing? (Check as many as apply)

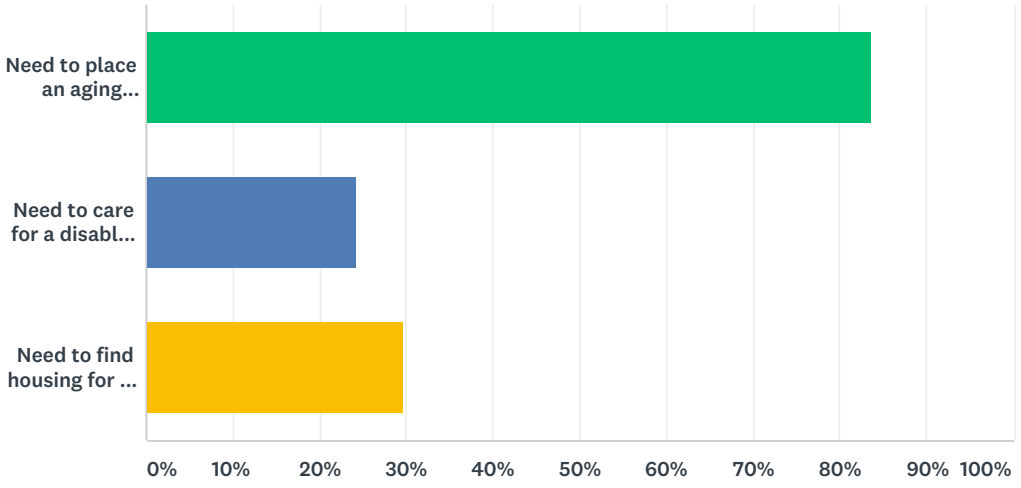
Answered: 11 Skipped: 62



ANSWER CHOICES	RESPONSES	
Need to place an aging relative in housing	72.73%	8
Need to care for a disabled person	18.18%	2
Need to find housing for a child	36.36%	4
Total Respondents: 11		

Q10 In the next ten years, do you anticipate that anyone in your family, or among your neighbors and friends, will have any of the following needs for affordable housing? (Check as many as apply)

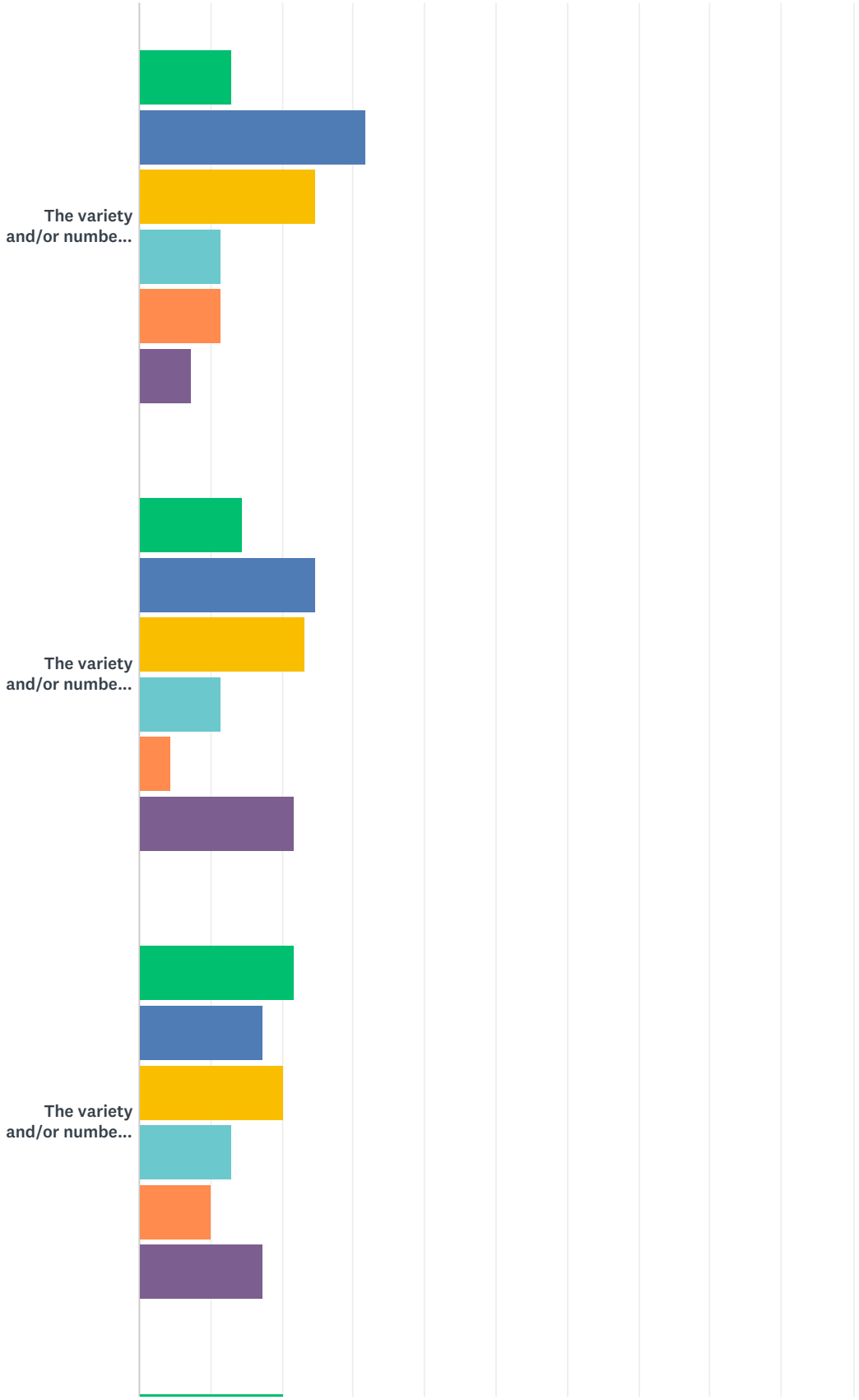
Answered: 37 Skipped: 36

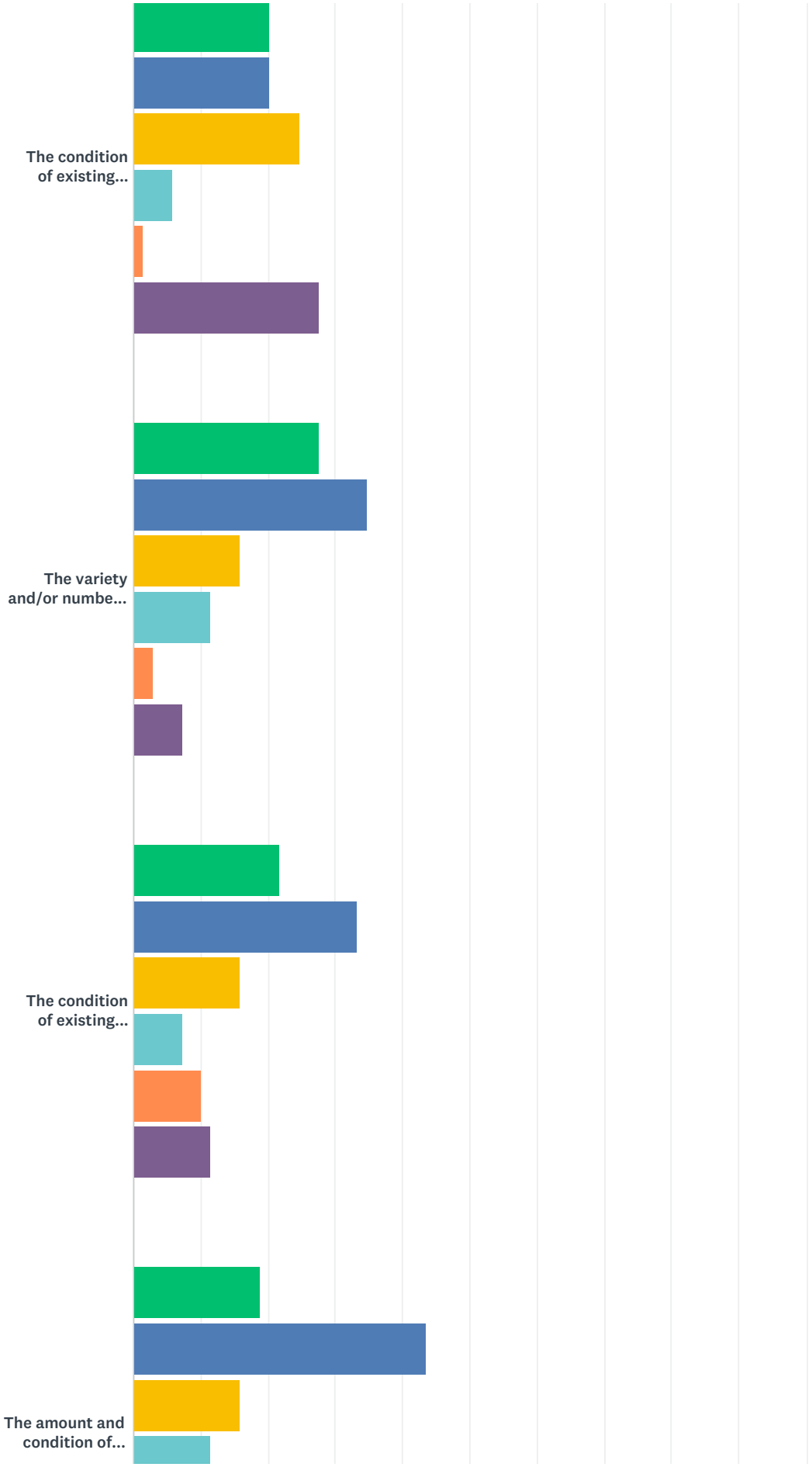


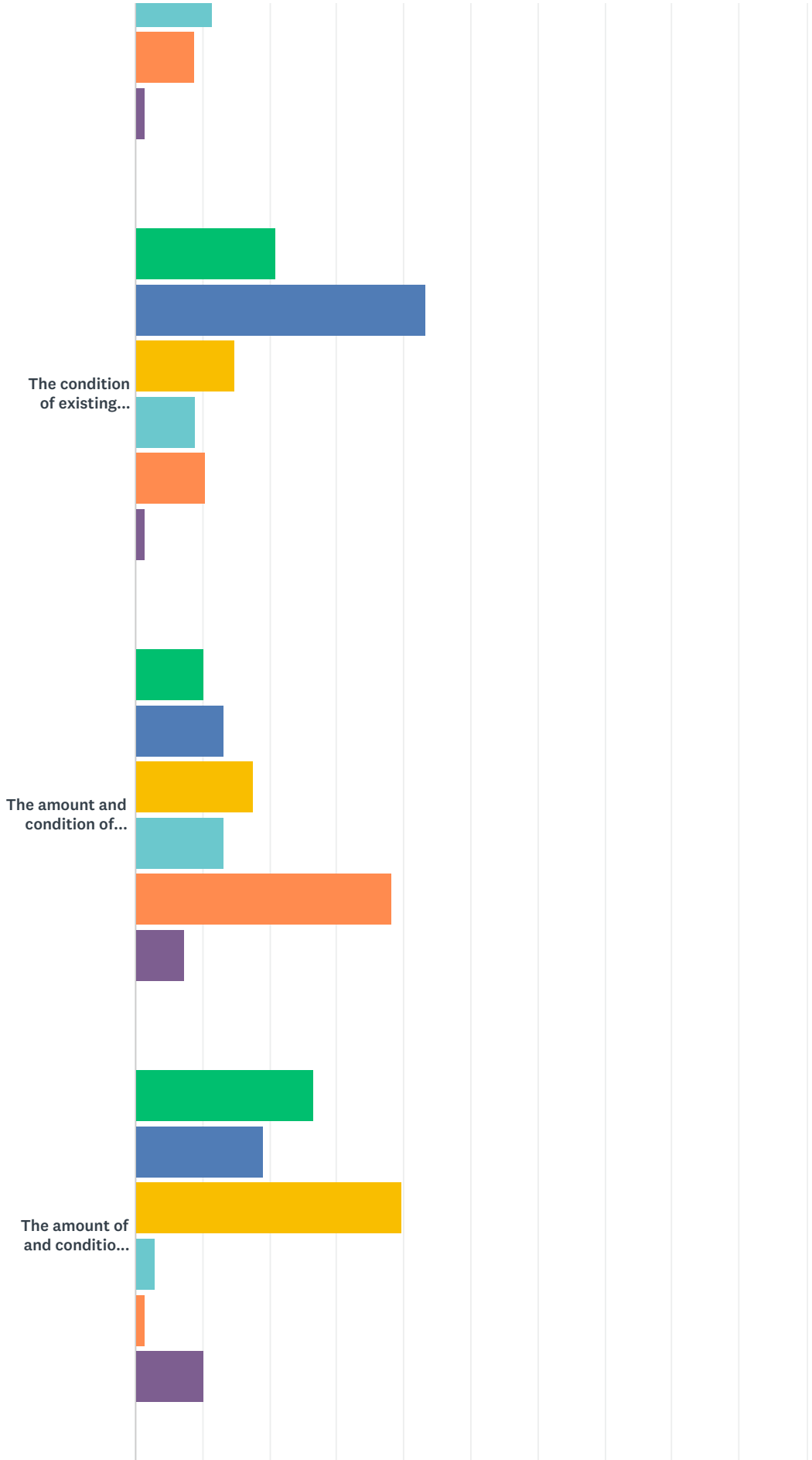
ANSWER CHOICES	RESPONSES	
Need to place an aging relative in housing	83.78%	31
Need to care for a disabled person	24.32%	9
Need to find housing for a child	29.73%	11
Total Respondents: 37		

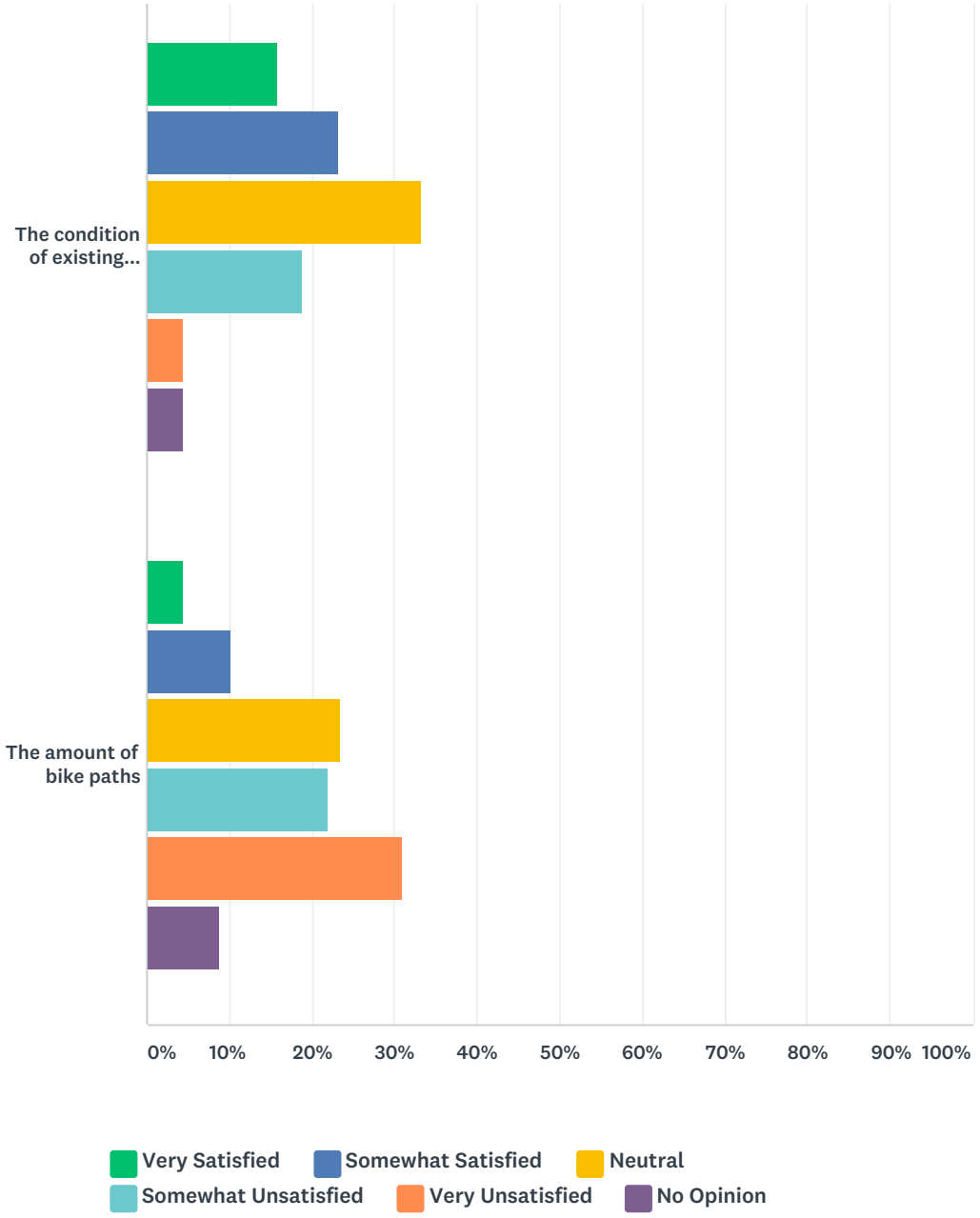
Q11 How satisfied are you with:

Answered: 69 Skipped: 4




The condition of existing...
The variety and/or numbe...
The condition of existing...
The amount and condition of...


The condition of existing...
The amount and condition of...
The amount of and conditio...

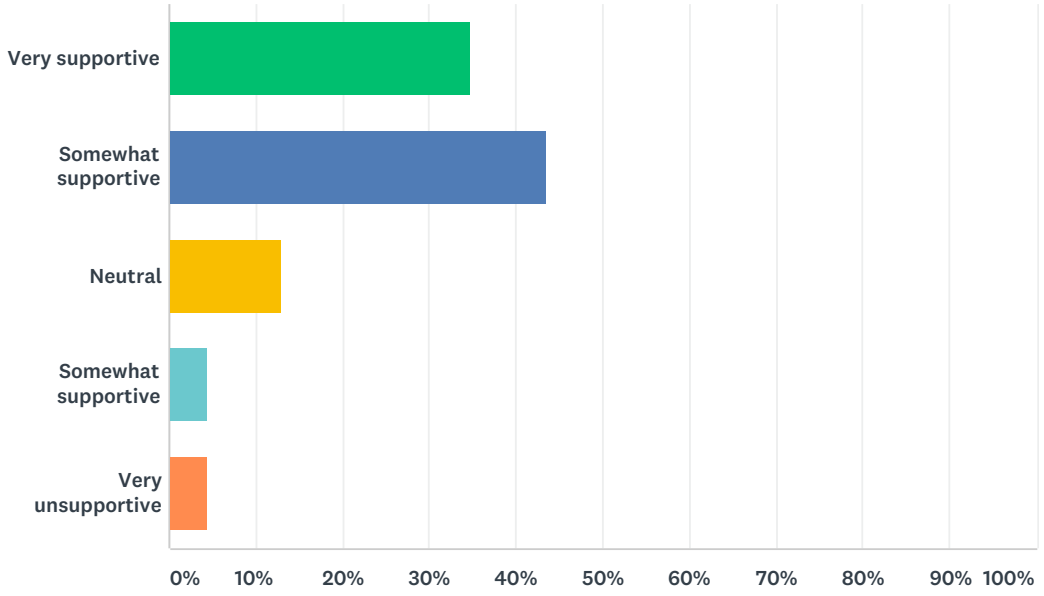


	VERY SATISFIED	SOMEWHAT SATISFIED	NEUTRAL	SOMEWHAT UNSATISFIED	VERY UNSATISFIED	NO OPINION	TOTAL
The variety and/or number of existing recreational programs/opportunities for adults	13.04% 9	31.88% 22	24.64% 17	11.59% 8	11.59% 8	7.25% 5	69
The variety and/or number of existing recreational programs/opportunities for children	14.49% 10	24.64% 17	23.19% 16	11.59% 8	4.35% 3	21.74% 15	69
The variety and/or number of existing indoor recreational facilities	21.74% 15	17.39% 12	20.29% 14	13.04% 9	10.14% 7	17.39% 12	69
The condition of existing indoor recreational facilities	20.29% 14	20.29% 14	24.64% 17	5.80% 4	1.45% 1	27.54% 19	69

The variety and/or number of existing outdoor recreational facilities (fields, playgrounds and parks)	27.54% 19	34.78% 24	15.94% 11	11.59% 8	2.90% 2	7.25% 5	69
The condition of existing outdoor recreational facilities	21.74% 15	33.33% 23	15.94% 11	7.25% 5	10.14% 7	11.59% 8	69
The amount and condition of existing trails and other passive recreation opportunities	18.84% 13	43.48% 30	15.94% 11	11.59% 8	8.70% 6	1.45% 1	69
The condition of existing trails and other passive recreation opportunities	20.90% 14	43.28% 29	14.93% 10	8.96% 6	10.45% 7	1.49% 1	67
The amount and condition of existing sidewalks.	10.29% 7	13.24% 9	17.65% 12	13.24% 9	38.24% 26	7.35% 5	68
The amount of and condition of existing community garden space	26.47% 18	19.12% 13	39.71% 27	2.94% 2	1.47% 1	10.29% 7	68
The condition of existing parking facilities for Berlin's open spaces	15.94% 11	23.19% 16	33.33% 23	18.84% 13	4.35% 3	4.35% 3	69
The amount of bike paths	4.41% 3	10.29% 7	23.53% 16	22.06% 15	30.88% 21	8.82% 6	68

Q12 Please rank your level of support for expanding the budget for recreational activities in Berlin

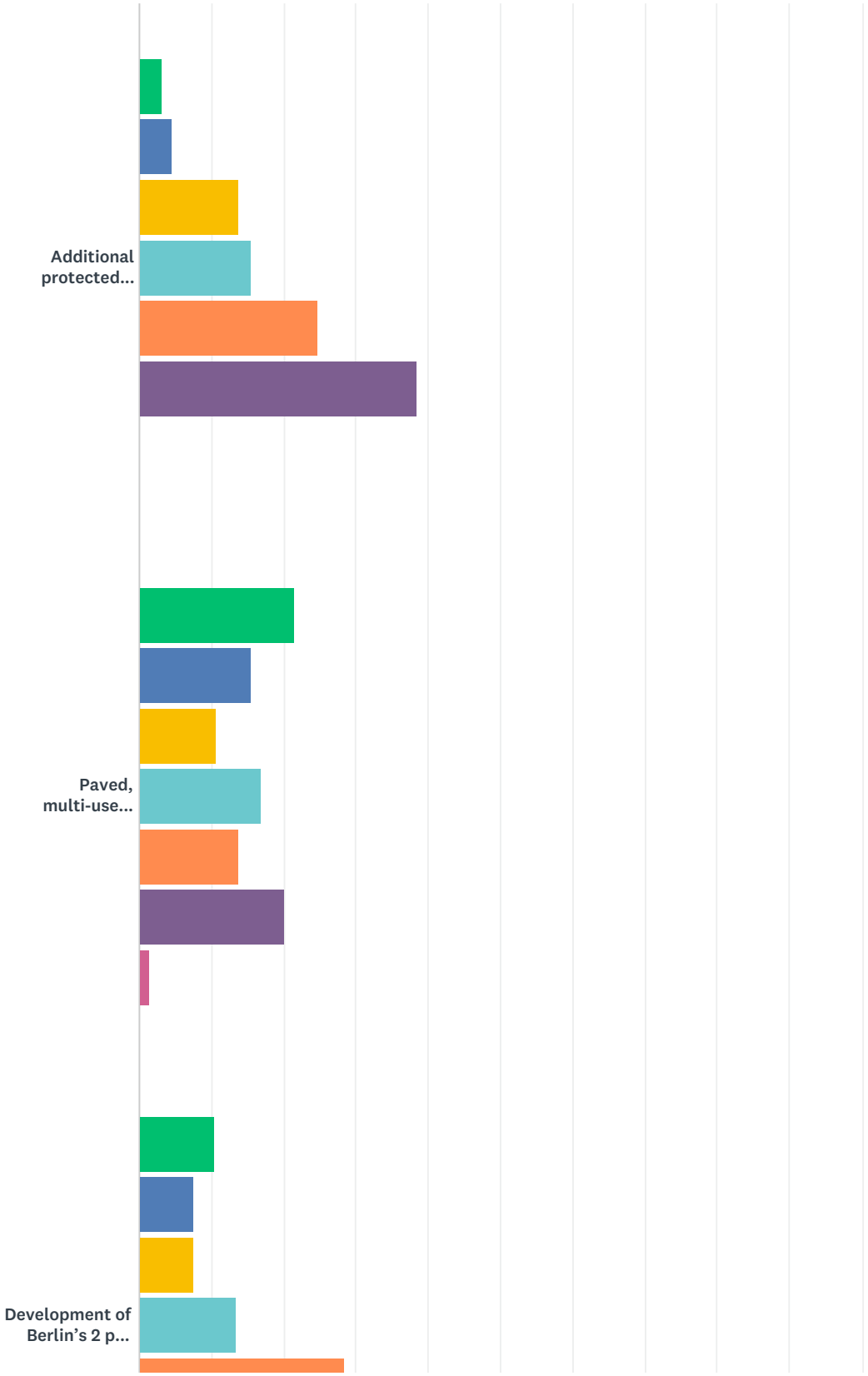
Answered: 69 Skipped: 4

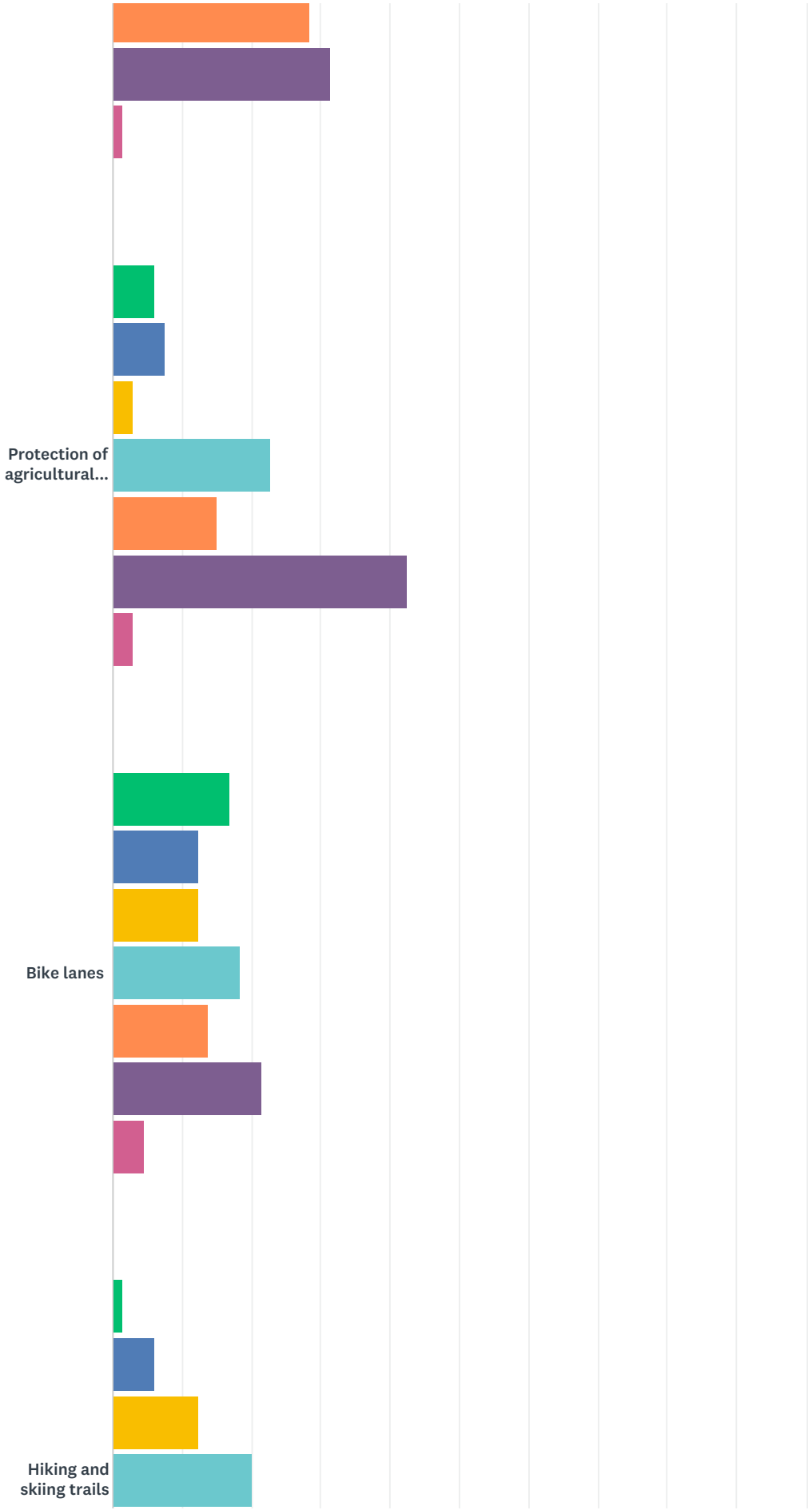


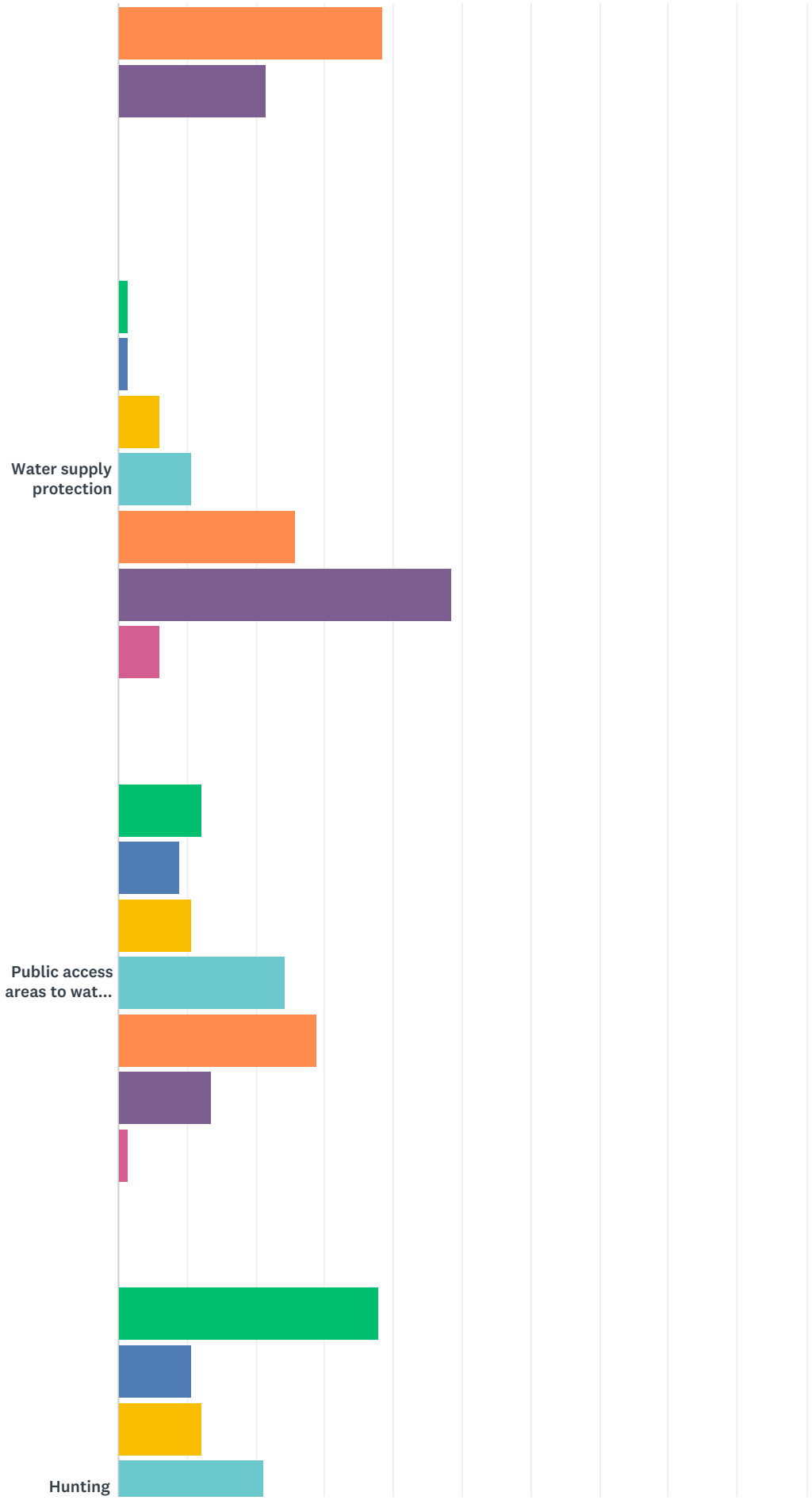
ANSWER CHOICES	RESPONSES	
Very supportive	34.78%	24
Somewhat supportive	43.48%	30
Neutral	13.04%	9
Somewhat supportive	4.35%	3
Very unsupportive	4.35%	3
TOTAL		69

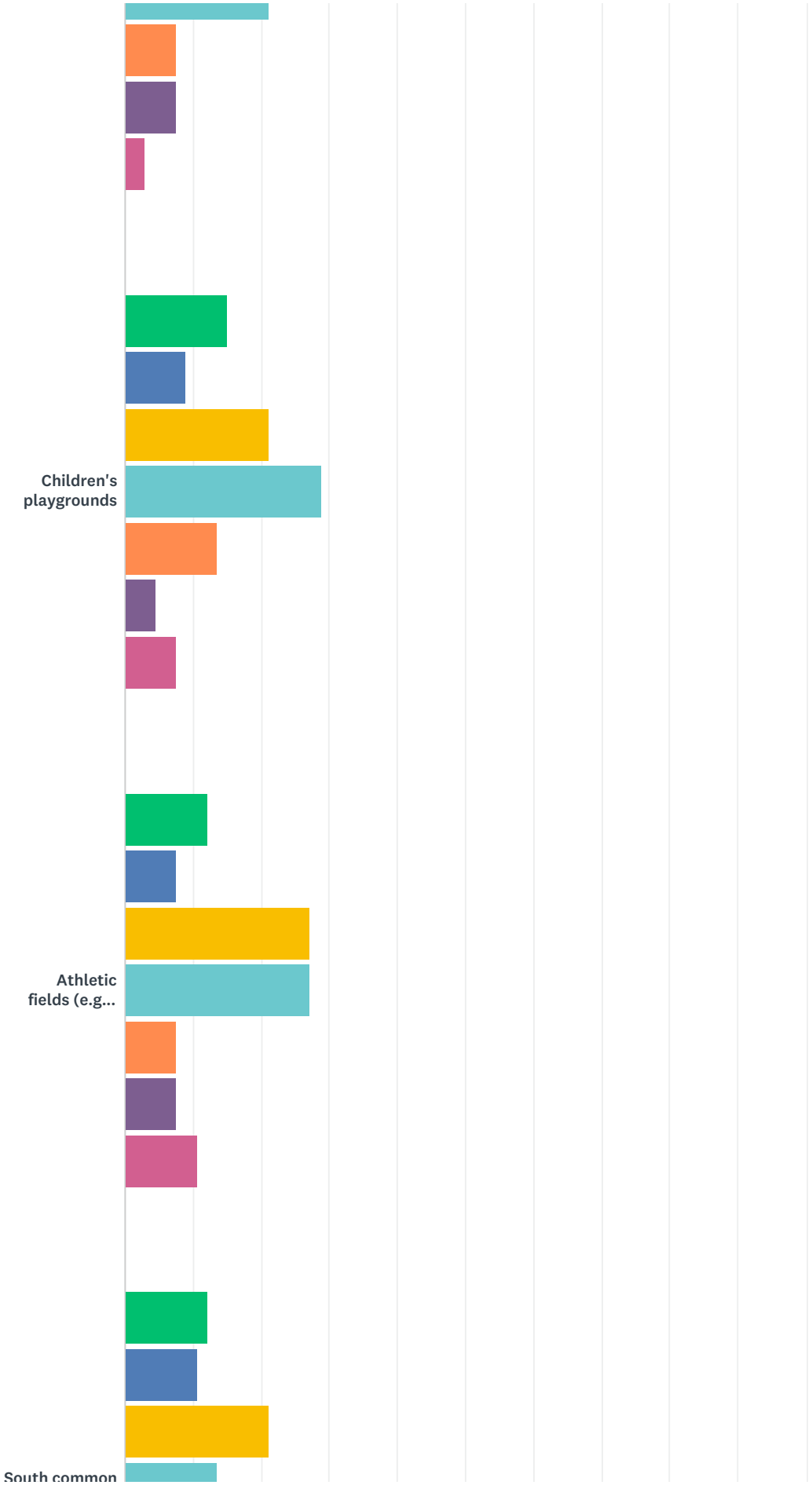
Q13 What do you consider to be the biggest unmet open space/recreation needs in Berlin?

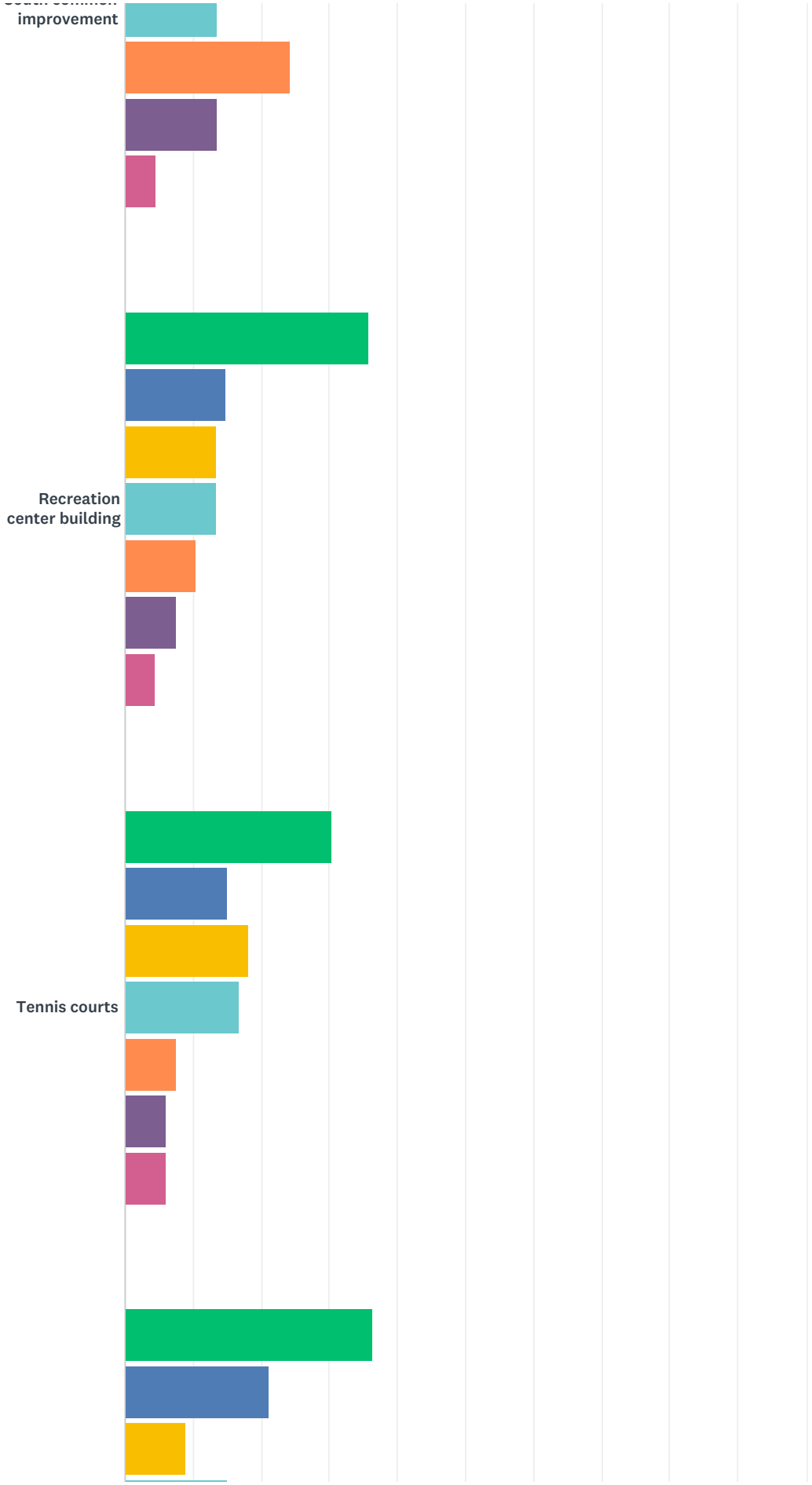
Answered: 68 Skipped: 5

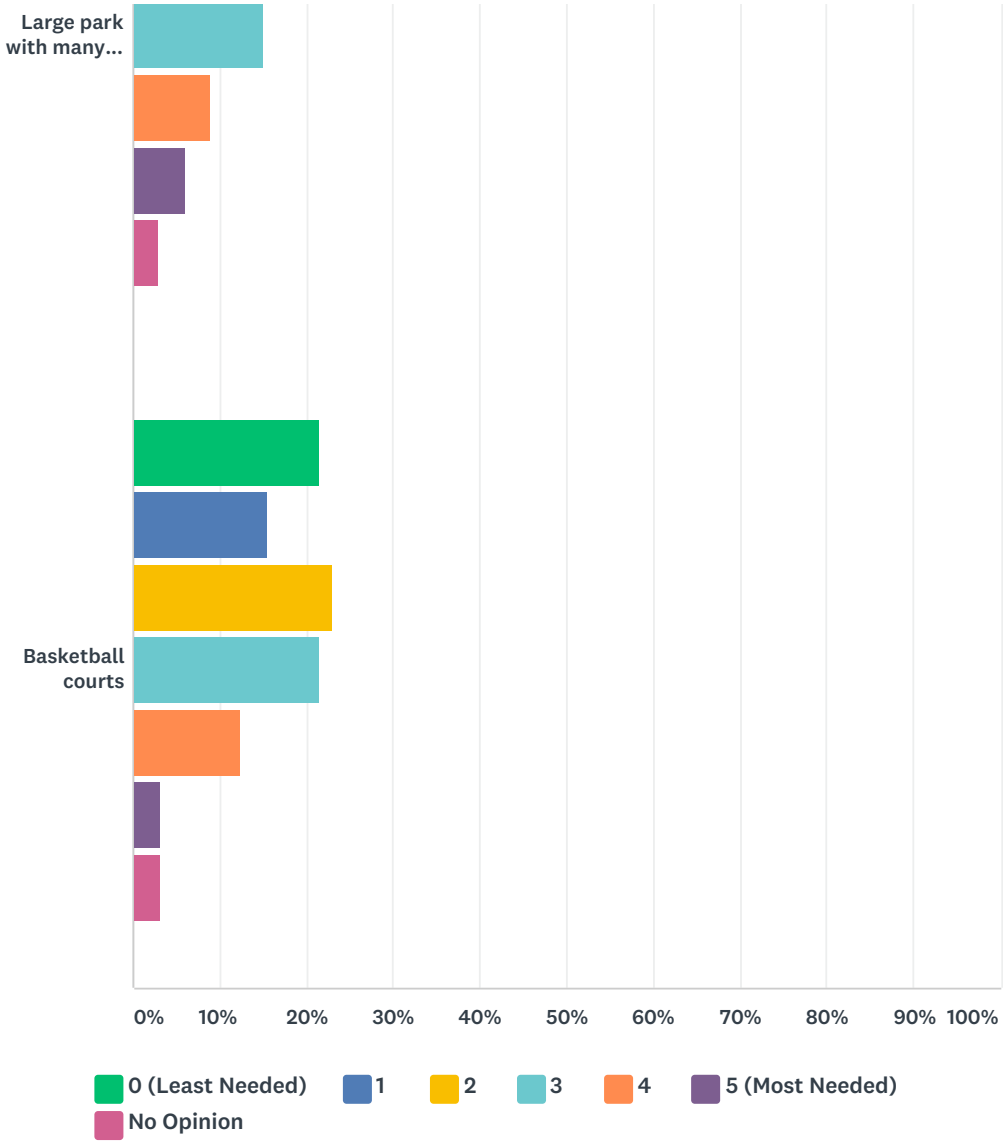



Protection of agricultural...
Bike lanes
Hiking and skiing trails


Water supply protection
Public access areas to wat...
Hunting


Children's playgrounds
Athletic fields (e.g...
South common


improvement
Recreation center building
Tennis courts

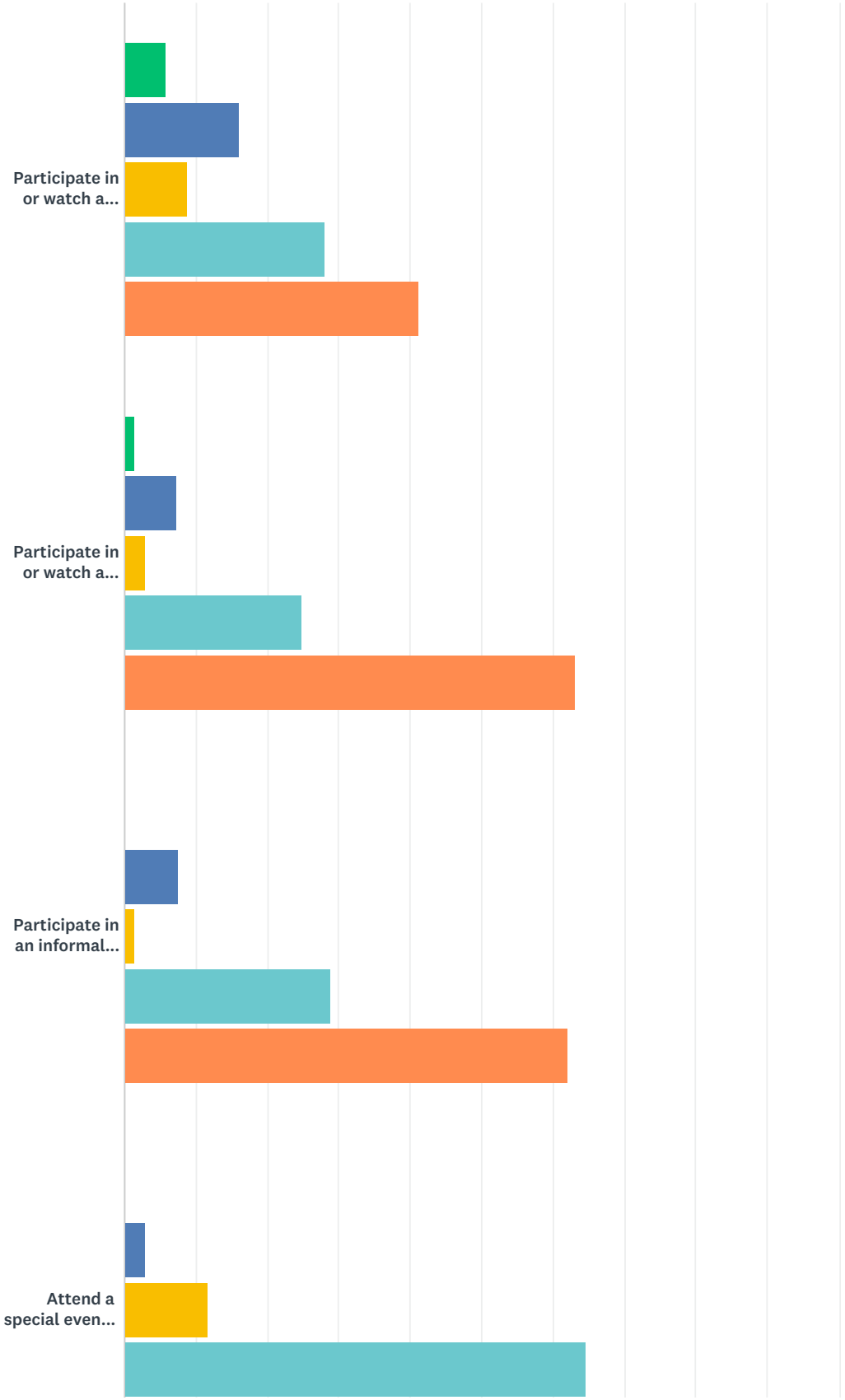


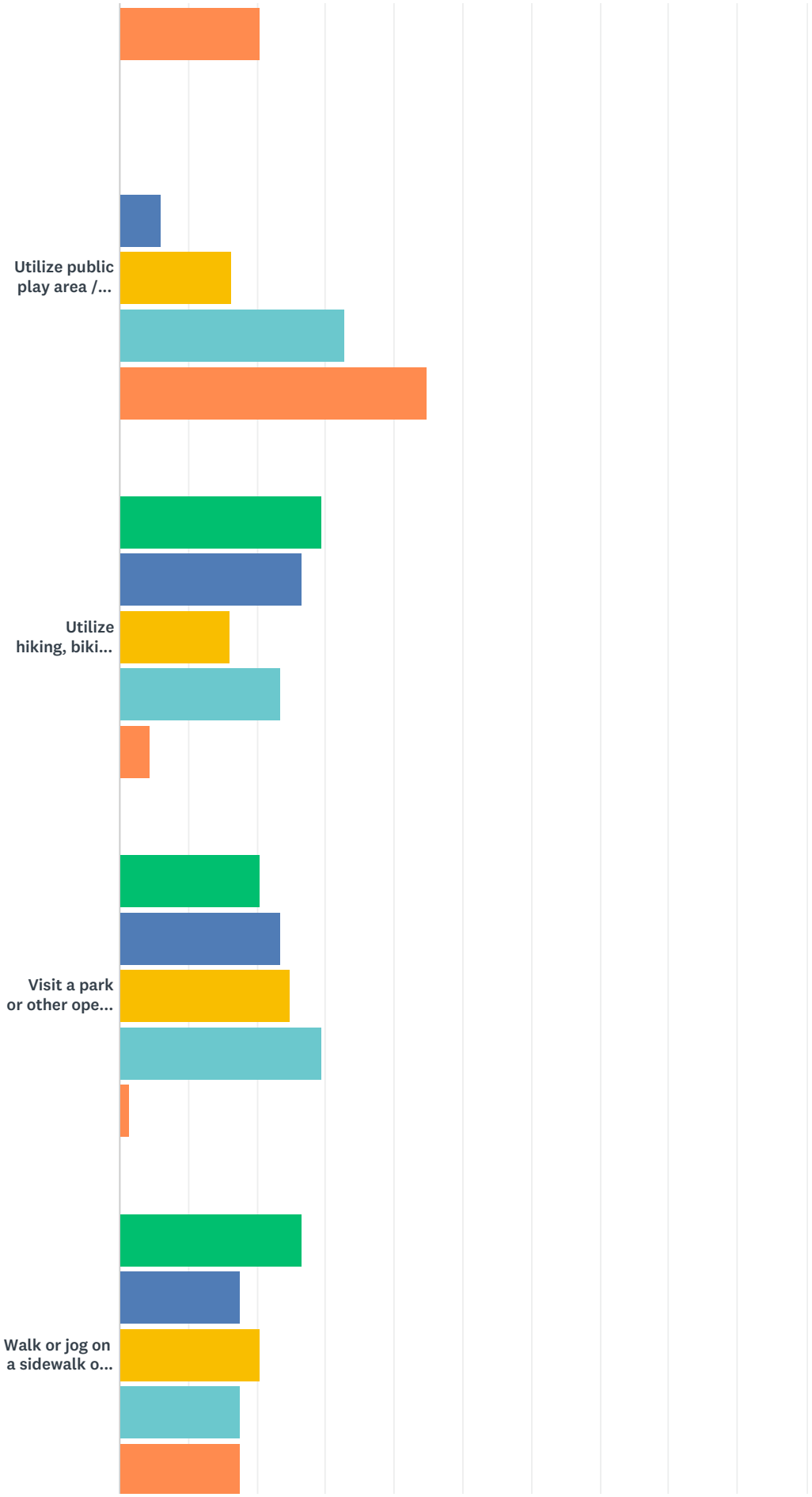
	0 (LEAST NEEDED)	1	2	3	4	5 (MOST NEEDED)	NO OPINION	TOTAL
Additional protected woodlands, meadows, hilltops, agriculture, and stream corridors to protect Berlin's wide diversity of flora and fauna	3.08% 2	4.62% 3	13.85% 9	15.38% 10	24.62% 16	38.46% 25	0.00% 0	65
Paved, multi-use recreational trails	21.54% 14	15.38% 10	10.77% 7	16.92% 11	13.85% 9	20.00% 13	1.54% 1	65
Development of Berlin's 2 plus mile section of the 104 mile long rail bed stretching from Boston to Northampton into a "Rail Trail"	10.45% 7	7.46% 5	7.46% 5	13.43% 9	28.36% 19	31.34% 21	1.49% 1	67
Protection of agricultural land	6.06% 4	7.58% 5	3.03% 2	22.73% 15	15.15% 10	42.42% 28	3.03% 2	66
Bike lanes	16.92% 11	12.31% 8	12.31% 8	18.46% 12	13.85% 9	21.54% 14	4.62% 3	65
Hiking and skiing trails	1.54% 1	6.15% 4	12.31% 8	20.00% 13	38.46% 25	21.54% 14	0.00% 0	65
Water supply protection	1.52% 1	1.52% 1	6.06% 4	10.61% 7	25.76% 17	48.48% 32	6.06% 4	66

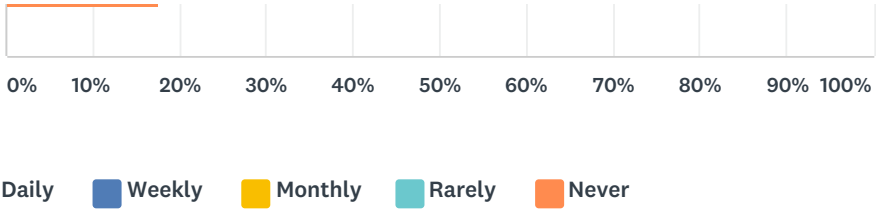
Public access areas to water bodies for canoeing/kayaking	12.12% 8	9.09% 6	10.61% 7	24.24% 16	28.79% 19	13.64% 9	1.52% 1	66
Hunting	37.88% 25	10.61% 7	12.12% 8	21.21% 14	7.58% 5	7.58% 5	3.03% 2	66
Children's playgrounds	15.15% 10	9.09% 6	21.21% 14	28.79% 19	13.64% 9	4.55% 3	7.58% 5	66
Athletic fields (e.g soccer, baseball, football)	12.12% 8	7.58% 5	27.27% 18	27.27% 18	7.58% 5	7.58% 5	10.61% 7	66
South common improvement	12.12% 8	10.61% 7	21.21% 14	13.64% 9	24.24% 16	13.64% 9	4.55% 3	66
Recreation center building	35.82% 24	14.93% 10	13.43% 9	13.43% 9	10.45% 7	7.46% 5	4.48% 3	67
Tennis courts	30.30% 20	15.15% 10	18.18% 12	16.67% 11	7.58% 5	6.06% 4	6.06% 4	66
Large park with many facilities	36.36% 24	21.21% 14	9.09% 6	15.15% 10	9.09% 6	6.06% 4	3.03% 2	66
Basketball courts	21.54% 14	15.38% 10	23.08% 15	21.54% 14	12.31% 8	3.08% 2	3.08% 2	65

Q14 How often do you go to a park or other open space to...

Answered: 68 Skipped: 5



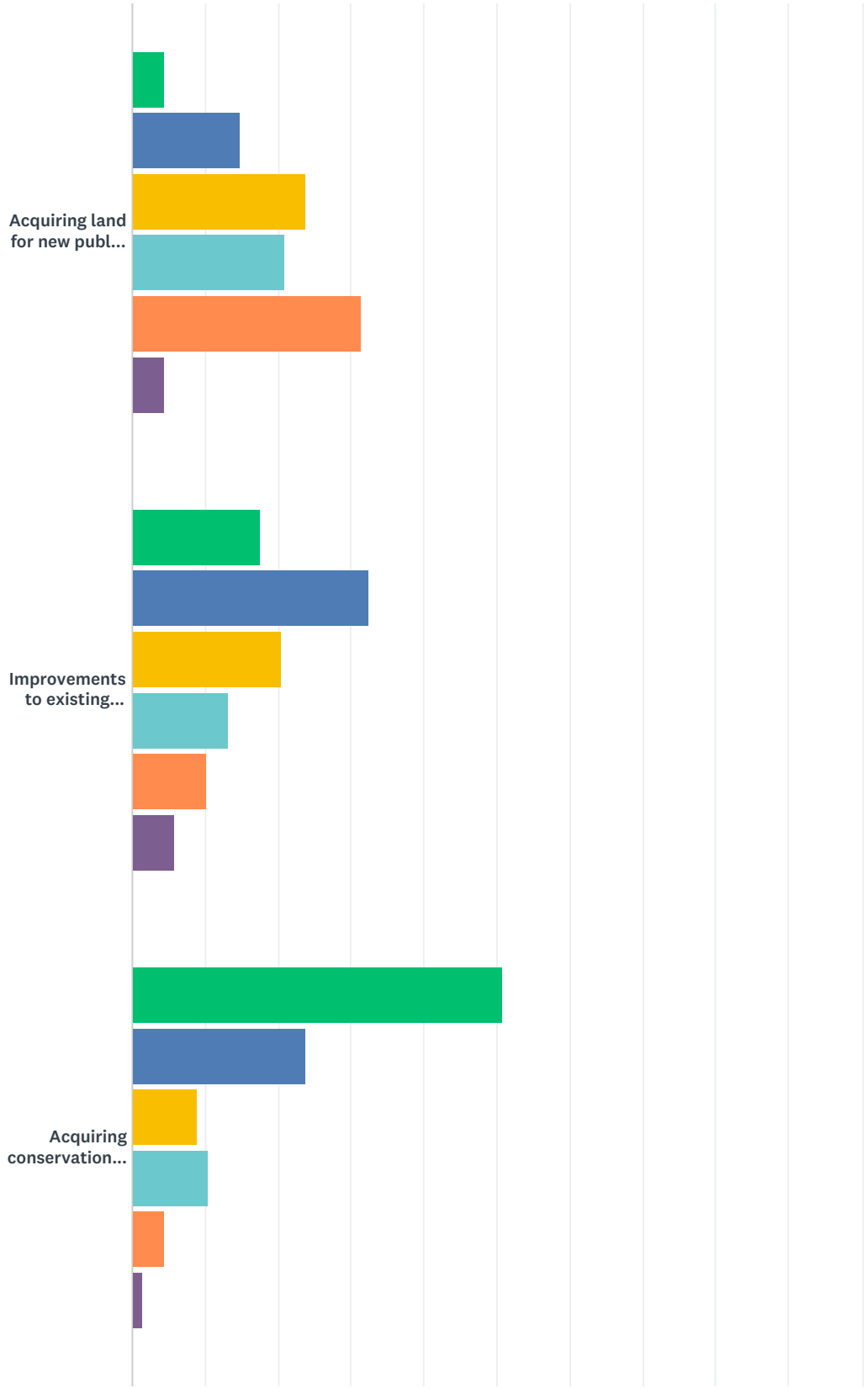

Utilize public play area /...
Utilize hiking, biki...
Visit a park or other ope...
Walk or jog on a sidewalk o...

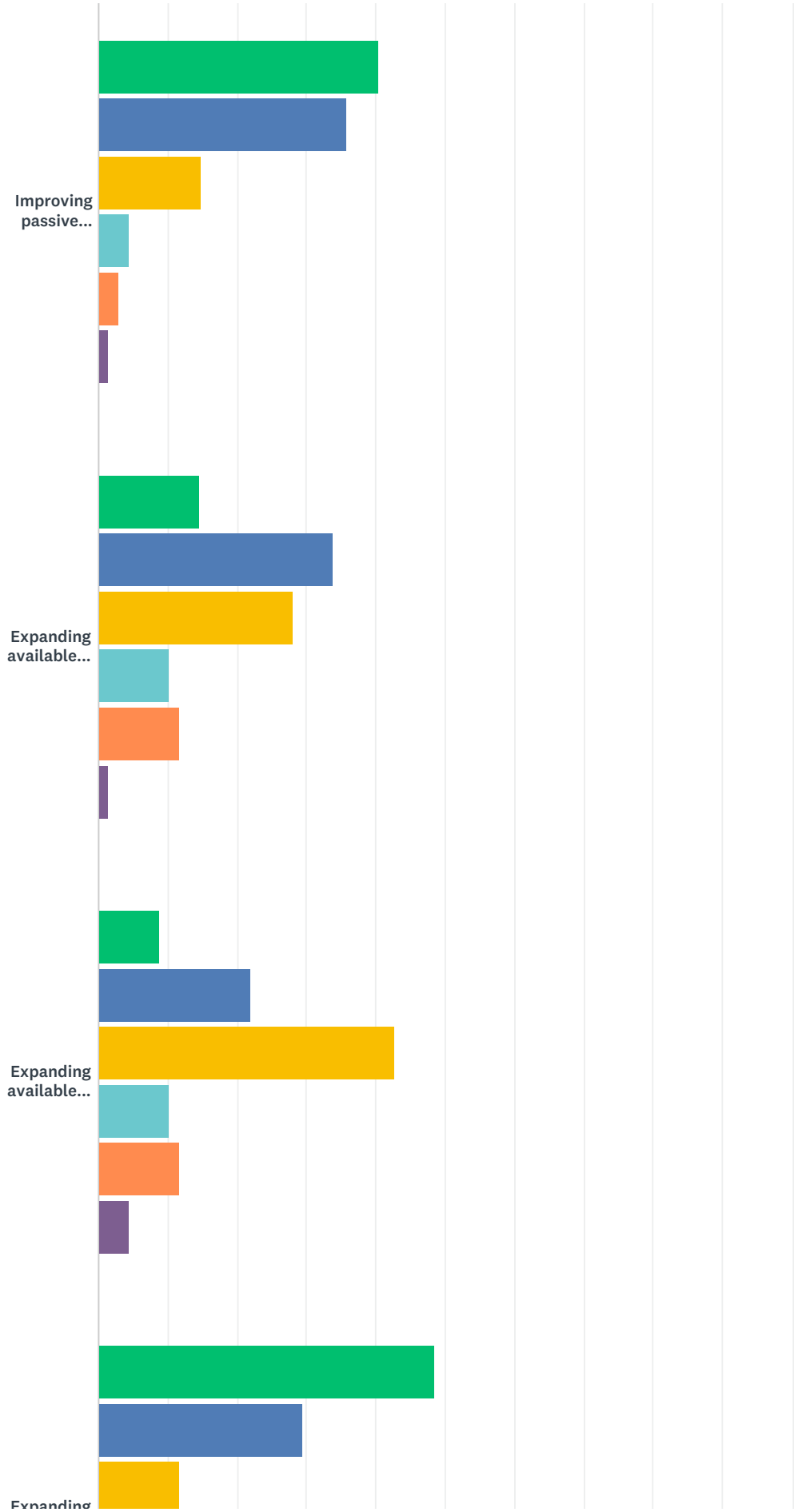


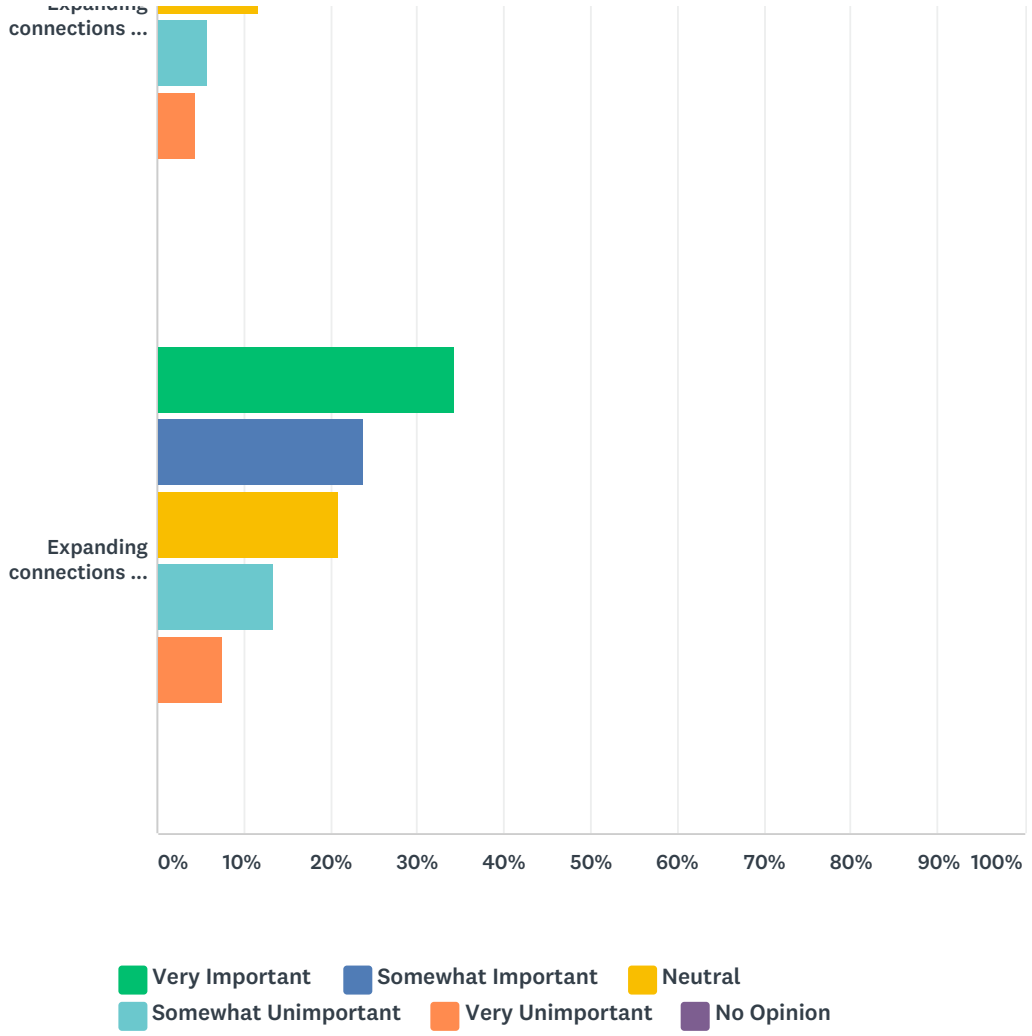
	DAILY	WEEKLY	MONTHLY	RARELY	NEVER	TOTAL
Participate in or watch a formal youth sports league?	5.88% 4	16.18% 11	8.82% 6	27.94% 19	41.18% 28	68
Participate in or watch a formal adult sports league?	1.47% 1	7.35% 5	2.94% 2	25.00% 17	63.24% 43	68
Participate in an informal playgroup or pick up game?	0.00% 0	7.58% 5	1.52% 1	28.79% 19	62.12% 41	66
Attend a special event at a park?	0.00% 0	2.94% 2	11.76% 8	64.71% 44	20.59% 14	68
Utilize public play area / playground?	0.00% 0	5.97% 4	16.42% 11	32.84% 22	44.78% 30	67
Utilize hiking, biking or equestrian trails?	29.41% 20	26.47% 18	16.18% 11	23.53% 16	4.41% 3	68
Visit a park or other open space?	20.59% 14	23.53% 16	25.00% 17	29.41% 20	1.47% 1	68
Walk or jog on a sidewalk or public way	26.47% 18	17.65% 12	20.59% 14	17.65% 12	17.65% 12	68

Q15 What should our Town's priorities for expenditure be? Please choose how important each of the following are...

Answered: 68 Skipped: 5



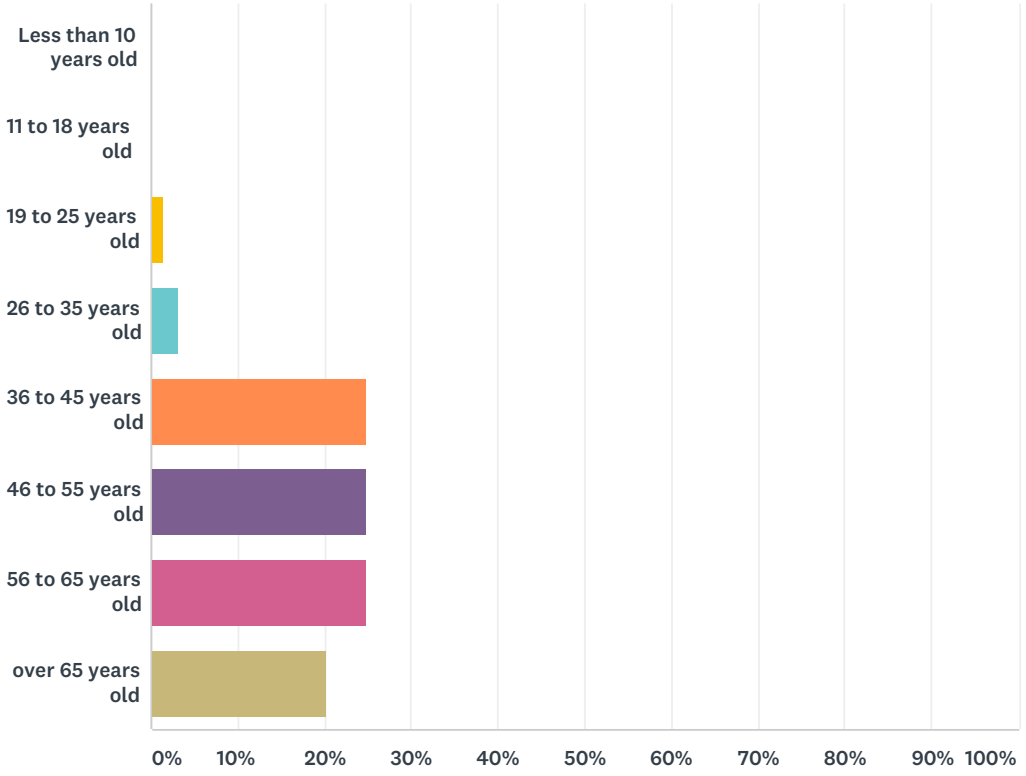

Improving passive...
Expanding available...
Expanding available...
Expanding



	VERY IMPORTANT	SOMEWHAT IMPORTANT	NEUTRAL	SOMEWHAT UNIMPORTANT	VERY UNIMPORTANT	NO OPINION	TOTAL
Acquiring land for new public athletic fields	4.48% 3	14.93% 10	23.88% 16	20.90% 14	31.34% 21	4.48% 3	67
Improvements to existing athletic fields	17.65% 12	32.35% 22	20.59% 14	13.24% 9	10.29% 7	5.88% 4	68
Acquiring conservation lands for passive recreation use (e.g., trails)	50.75% 34	23.88% 16	8.96% 6	10.45% 7	4.48% 3	1.49% 1	67
Improving passive recreation opportunities on existing conservation land	40.30% 27	35.82% 24	14.93% 10	4.48% 3	2.99% 2	1.49% 1	67
Expanding available parking at open space destinations	14.71% 10	33.82% 23	27.94% 19	10.29% 7	11.76% 8	1.47% 1	68
Expanding available parking at recreational destinations	8.82% 6	22.06% 15	42.65% 29	10.29% 7	11.76% 8	4.41% 3	68
Expanding connections for walking (e.g. sidewalks, connecting trails)	48.53% 33	29.41% 20	11.76% 8	5.88% 4	4.41% 3	0.00% 0	68
Expanding connections for biking (e.g. off-road paths, on-road lanes, and rail trails)	34.33% 23	23.88% 16	20.90% 14	13.43% 9	7.46% 5	0.00% 0	67

Q16 What is your age?

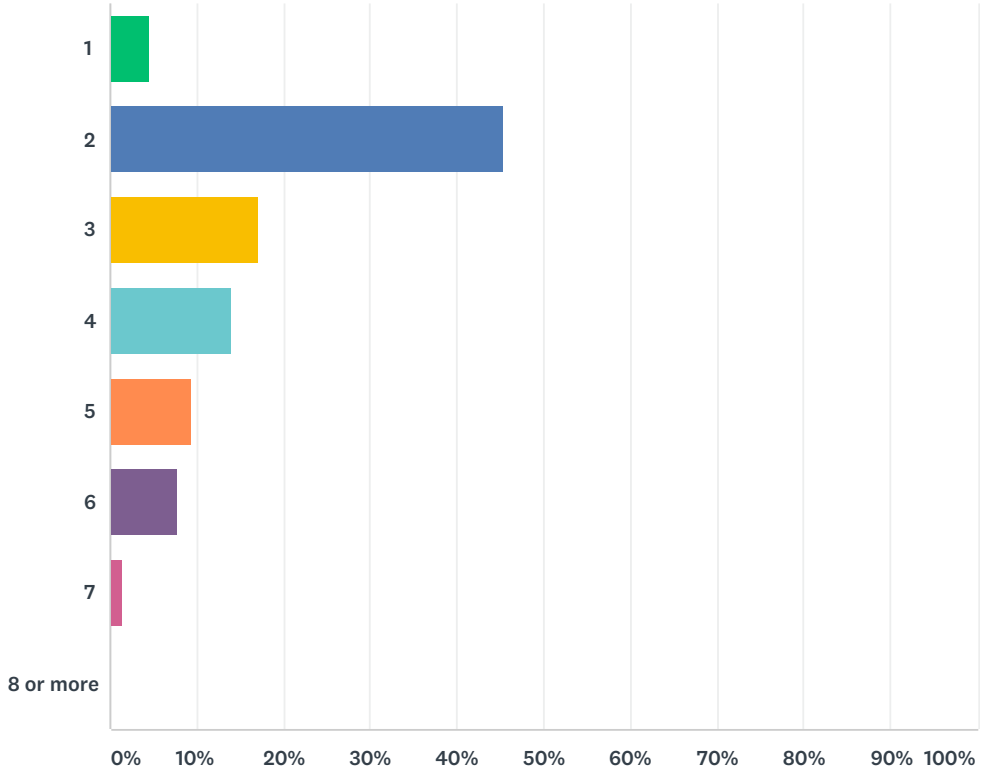
Answered: 64 Skipped: 9



ANSWER CHOICES	RESPONSES	
Less than 10 years old	0.00%	0
11 to 18 years old	0.00%	0
19 to 25 years old	1.56%	1
26 to 35 years old	3.13%	2
36 to 45 years old	25.00%	16
46 to 55 years old	25.00%	16
56 to 65 years old	25.00%	16
over 65 years old	20.31%	13
TOTAL		64

Q17 What is your household size?

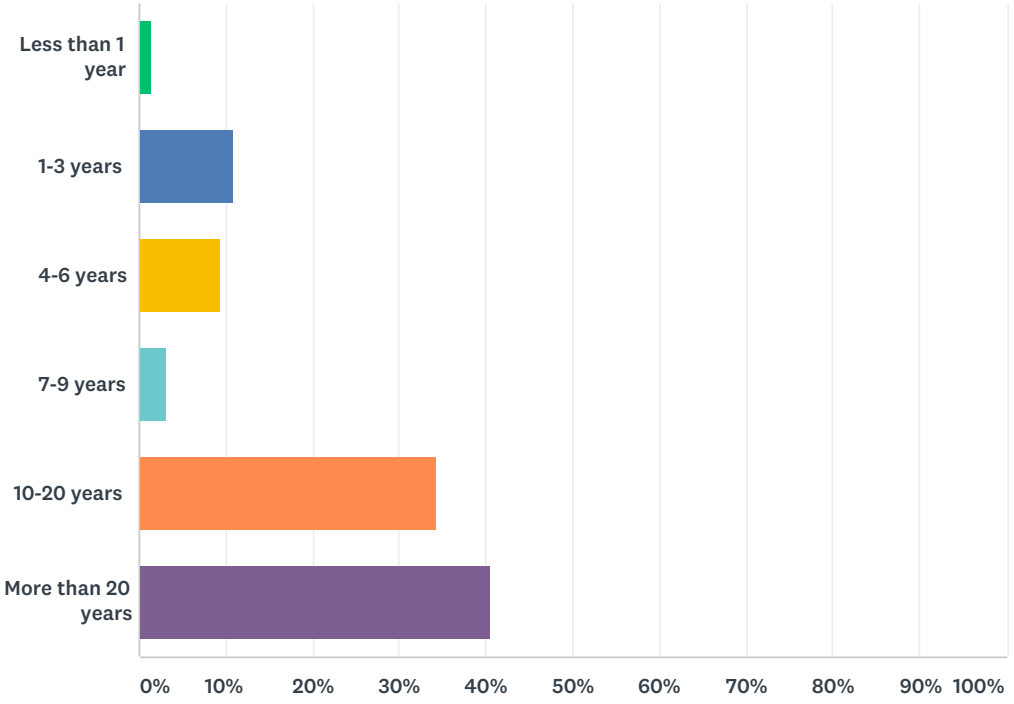
Answered: 64 Skipped: 9



ANSWER CHOICES	RESPONSES	
1	4.69%	3
2	45.31%	29
3	17.19%	11
4	14.06%	9
5	9.38%	6
6	7.81%	5
7	1.56%	1
8 or more	0.00%	0
TOTAL		64

Q18 How long have you lived in Berlin?

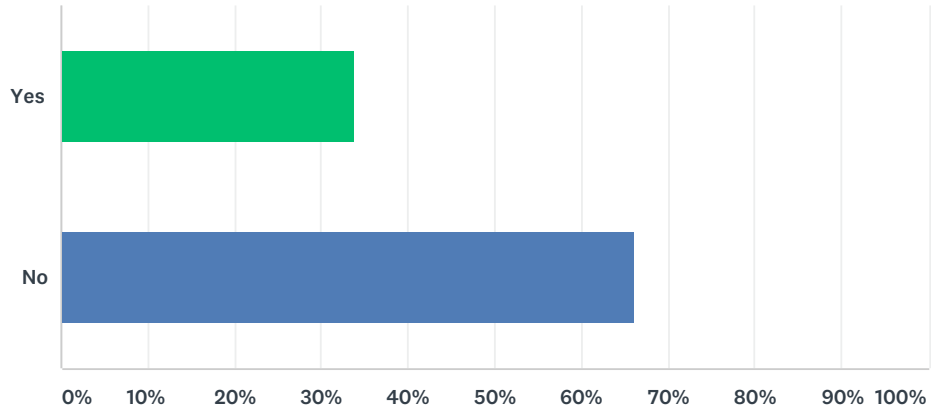
Answered: 64 Skipped: 9



ANSWER CHOICES	RESPONSES	
Less than 1 year	1.56%	1
1-3 years	10.94%	7
4-6 years	9.38%	6
7-9 years	3.13%	2
10-20 years	34.38%	22
More than 20 years	40.63%	26
TOTAL		64

Q19 Do you have children under the age of 18 living with you?

Answered: 62 Skipped: 11



ANSWER CHOICES	RESPONSES	
Yes	33.87%	21
No	66.13%	41
TOTAL		62

Appendix C

Massachusetts Cultural Resource and Information System (MACRIS) Inventory

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Berlin;

Inv. No.	Property Name	Street	Town	Year
BRL.A	Water Supply System of Metropolitan Boston		Berlin	
BRL.B	Wachusett Aqueduct Linear District		Berlin	
BRL.C	Carterville		Berlin	
BRL.D	Berlin Center		Berlin	
BRL.E	South Berlin		Berlin	
BRL.F	Central Streetscape		Berlin	
BRL.G	West Berlin Area		Berlin	
BRL.1	Larkin, Ephraim - Babcock, Ephraim House	88 Allen Rd	Berlin	1785
BRL.4	Barnes, George House	115 Barnes Hill Rd	Berlin	r 1880
BRL.5	Maynard, Barnabas House	49 Belleview Rd	Berlin	1787
BRL.7	Conant, William F. - Woodbury, Zoeth B. House	7 Carter St	Berlin	1843
BRL.8	Bickford, John House	11 Carter St	Berlin	1870
BRL.9	Berlin Old Methodist Episcopal Church	19 Carter St	Berlin	1887
BRL.10	Jewett - Walker House	44 Carter St	Berlin	c 1846
BRL.11	Smith, Riley House	47 Carter St	Berlin	1846
BRL.12	Carter - Pollard House	51 Carter St	Berlin	c 1850
BRL.13	Southwick, Pliny House	55 Carter St	Berlin	c 1830
BRL.14	Andrews, George E. House	56 Carter St	Berlin	c 1850
BRL.15	Carter - Merrill House	63 Carter St	Berlin	1851
BRL.16	Carter, Luther House	64 Carter St	Berlin	1840
BRL.17	Gunnison, James Hoyt - Barnard, Benajah House	67 Carter St	Berlin	1874
BRL.18	Lawrence, Edward H. House	68 Carter St	Berlin	c 1855
BRL.19	Meriam, Levi and Jonathan D. House	119 Carter St	Berlin	c 1780
BRL.27	Conant, Josiah - Sawyer, Amos House	3 Central St	Berlin	c 1815
BRL.28	Gough - Pratt - Sawyer House	7 Central St	Berlin	c 1885
BRL.26	Berlin First Parish Meeting House	12 Central St	Berlin	1826

Inv. No.	Property Name	Street	Town	Year
BRL.29	Howe, Solomon House	15-19 Central St	Berlin	1813
BRL.6	Berlin First Unitarian Church	24 Central St	Berlin	1882
BRL.30	Berlin First Congregational Church Parsonage	27 Central St	Berlin	c 1843
BRL.31	Peters, Dea. Luther House	35 Central St	Berlin	1864
BRL.32	Jones Tavern, Old	44 Central St	Berlin	1748
BRL.33	Carter, Amory House	79 Central St	Berlin	c 1842
BRL.34	Bride, Thomas House	96 Central St	Berlin	c 1800
BRL.35	Bliss, Edward - Rice, Oliver C. House	127 Central St	Berlin	1832
BRL.36	Holt House	136 Central St	Berlin	1779
BRL.38	Bruce, Sylvanus House	200 Central St	Berlin	r 1850
BRL.48	Moore, Jacob House	48 Crosby Rd	Berlin	r 1765
BRL.49	South School, Old	244 Crosby Rd	Berlin	1857
BRL.53	Barnes, Welcome - Derby, Alfred C. House	102 Derby Rd	Berlin	c 1815
BRL.56	Holder, Thomas House	88 Gates Pond Rd	Berlin	c 1800
BRL.57	East School, Old	96 Gates Pond Rd	Berlin	1857
BRL.58	Bride, J. - Maynard, George House	136 Gates Pond Rd	Berlin	c 1830
BRL.59	Brown, Henry E. House	156 Gates Pond Rd	Berlin	1880
BRL.801	Highland Street Cemetery	Highland St	Berlin	1867
BRL.905	Wheeler, Frederick R. Balanced Rock	Highland St	Berlin	
BRL.62	Carter, Luther Building	4 Highland St	Berlin	1846
BRL.63	Goddard, Moses and Eber House	8 Highland St	Berlin	1790
BRL.75	Sawyer - Morse - Bassett House	9 Highland St	Berlin	c 1848
BRL.76	Hartwell, Daniel Pollard House	11 Highland St	Berlin	c 1850
BRL.64	Smith, Oliver House	24 Highland St	Berlin	r 1850
BRL.65	Morse - Wheeler House	36 Highland St	Berlin	1847
BRL.67	North School, Old	80 Highland St	Berlin	1857
BRL.68	Wheeler - Berry House	104 Highland St	Berlin	c 1829
BRL.69	Randall, Reuben House	171 Highland St	Berlin	r 1835
BRL.70	Moore, Warren - Wheeler, Amos House	187 Highland St	Berlin	1817
BRL.71	Wheeler, George Fox House	227 Highland St	Berlin	1843
BRL.73	Bliss, Roswell House	242 Highland St	Berlin	c 1790
BRL.74	Smith, David House	247 Highland St	Berlin	c 1815
BRL.906	Jones Road Bridge over North Brook	Jones Rd	Berlin	1930
BRL.82	Bailey, Barnabas House	79 Jones Rd	Berlin	1750
BRL.83	Berlin Old West School	15 Lincoln Rd	Berlin	1857
BRL.198	Hearse House, Old	Linden St	Berlin	1805
BRL.800	Burying Ground, Old	Linden St	Berlin	1768
BRL.902	Wachusett Aqueduct Metering Chamber	Linden St	Berlin	1897

Inv. No.	Property Name	Street	Town	Year
BRL.86	Bartlett, Amory Adam House	3 Linden St	Berlin	1859
BRL.87	Evangelical Congregational Society Meeting House	5 Linden St	Berlin	1830
BRL.89	Berlin First Town House	8 Linden St	Berlin	1831
BRL.90	Ball, Micah R. - Hartshorn, Dr. Edward House	15 Linden St	Berlin	1834
BRL.91	Sawyer, Josiah E. House	20 Linden St	Berlin	c 1840
BRL.92	Goddard House	48 Linden St	Berlin	c 1825
BRL.93	Berlin Old Center School	72 Linden St	Berlin	1836
BRL.94	Bailey, Lt. Timothy House	218 Linden St	Berlin	r 1850
BRL.95	Howe, Phineas House	264 Linden St	Berlin	r 1750
BRL.96	Barnes, Capt. William House	282 Linden St	Berlin	c 1800
BRL.104	Flagg, Edward W. House	19 Lyman Rd	Berlin	1859
BRL.107	Baker, Judge Samuel L. House	36 Peach Hill Rd	Berlin	c 1785
BRL.802	South Cemetery	Pleasant St	Berlin	1857
BRL.109	Lamson, Rev. David House	11 Pleasant St	Berlin	1835
BRL.110	Babcock House	68 Pleasant St	Berlin	c 1840
BRL.111	Jones, Timothy House	108 Pleasant St	Berlin	c 1806
BRL.112	Bailey, Dea. Stephen House	155 Pleasant St	Berlin	c 1778
BRL.113	Goddard, Ephraim House	168 Pleasant St	Berlin	c 1835
BRL.115	Johnson, Capt. Edward House	232 Pleasant St	Berlin	1750
BRL.116	Johnson, Edward House	243 Pleasant St	Berlin	c 1813
BRL.117	Goddard, John A. House	248 Pleasant St	Berlin	1854
BRL.118	Maynard, George W. House	255 Pleasant St	Berlin	c 1835
BRL.904	Berlin Powder House	Powder House Hill	Berlin	1814
BRL.133	McFadin, Francis House	79 Randall Rd	Berlin	r 1800
BRL.134	Powers, Capt. Henry House	239 Randall Rd	Berlin	1774
BRL.135	Pollard, Luther House	312 Randall Rd	Berlin	1810
BRL.142	Spofford, Job House	100 River Rd West	Berlin	1808
BRL.143	Sawyer, Amos House	190 River Rd West	Berlin	1792
BRL.144	Sawyer, Amory House	210 River Rd West	Berlin	c 1816
BRL.146	Wheeler, Samuel H. House	36 Sawyer Hill Rd	Berlin	1841
BRL.147	Wheeler, Levi House	39 Sawyer Hill Rd	Berlin	1835
BRL.148	Sawyer, Josiah House	119 Sawyer Hill Rd	Berlin	1835
BRL.149	Harper, Henry H. House	159 Sawyer Hill Rd	Berlin	1915
BRL.150	Cooley, Levi - Harper, Henry H. House	185 Sawyer Hill Rd	Berlin	c 1900
BRL.151	Sawyer, Silas House	220 Sawyer Hill Rd	Berlin	r 1800
BRL.152	Sawyer, Dea. Josiah House	228 Sawyer Hill Rd	Berlin	
BRL.155	Jones, Samuel House	16 South St	Berlin	c 1777

Inv. No.	Property Name	Street	Town	Year
BRL.156	Carter, Amory House	51 South St	Berlin	1866
BRL.157	Parmenter, Appleton D. House	95 South St	Berlin	r 1850
BRL.158	Johnson, Eleazer House	244 South St	Berlin	c 1750
BRL.159	Parks, James Russell House	299 South St	Berlin	c 1790
BRL.169	Jones, Solomon House	28 Summer Rd	Berlin	c 1847
BRL.900	Wachusett Aqueduct	Wachusett Aqueduct	Berlin	c 1898
BRL.172	MacBride, Alexander House	64 Walnut St	Berlin	1748
BRL.173	Brookings, Phillip House	122 Walnut St	Berlin	c 1740
BRL.176	Carter Store, Old	220 West St	Berlin	1870
BRL.177	Carter, Silas Rolla House	224 West St	Berlin	c 1895
BRL.178	Power Plant, Old - Car Barn	264 West St	Berlin	c 1900
BRL.901	Wachusett Shaft #4 Access Chamber	Willow Rd	Berlin	1896
BRL.903	Berlin Town Common	Woodward Ave	Berlin	r 1815
BRL.192	Bullard House	4 Woodward Ave	Berlin	c 1780
BRL.193	Berlin Town Hall	12 Woodward Ave	Berlin	1870
BRL.194	Andrews, Samuel Elliot House	16 Woodward Ave	Berlin	1858
BRL.195	Gott, Dr. Barn - Wheeler, Walter House	20 Woodward Ave	Berlin	1855
BRL.196	Gott, Dr. Lemuel D. House	24 Woodward Ave	Berlin	1855
BRL.197	Bennett, John F. House	28 Woodward Ave	Berlin	1855

Appendix D

ADA Access Self Evaluation, ADA Grievance Procedure, Employment Practices,

ADA Coordinator Letter

Town of Berlin
Berlin, Massachusetts 01503
Employment Application

Applicants are considered for all positions without regard to race, color, religion, sex, national origin, sexual orientation, age, martial, veteran status, of the presence of a non-job-related medical consideration.

Please Print

Date of Application _____

Position(s) Applying for _____

On what date would you be available for hire? _____

Personal Data

Name _____

Address _____

Social Security Number _____

Telephone (please indicate home or cell) _____

Check one: U.S. Citizen Yes _____ NO _____ Resident Alien _____

Verified by: Passport _____ Green Card _____ SSN # _____ Driver's License ___

If employed, and you are under 18, have you furnished a work permit? Yes _____ No _____

Have you filed an application or have been employed by the Town of Berlin previously?

Yes _____ If yes, please provide date _____ No _____

Education

High School Name and Address (years are not required) _____

Or Years Completed (please circle) 9 10 11 12

Degree Received _____

College/University (ies) _____

Or Years Completed (please circle) 1 2 3 4

Degree(s) Received _____

Graduate/Professional _____

Degree(s) Received _____

If you possess an Occupational License, Registration, Certification, etc., that you want considered, please attach a copy or list the exact title, date of expiration, etc)

Employment Experience

Former or current employer

Name of company _____

Person to contact _____

Address/Phone Number _____

Dates of Service _____

Former or current employer

Name of company _____

Person to contact _____

Address/Phone Number _____

Dates of Service _____

Former or current employer

Name of company _____

Person to contact _____

Address/Phone Number _____

Dates of Service _____

List professional, trade, business, or civic activities and offices held:

_____

References (not related to you and not previous employers)

Name _____

Title _____

Address/Phone Number _____

Name _____

Title _____

Address/Phone Number _____

Name _____

Title _____

Address/Phone Number _____

State any additional information you may feel be helpful to us in considering your application: _____

Applicant's Statement:

I certify that the answers given herein are true and complete to the best of my knowledge.

I authorize the investigation of all statements contained in this application for employment as may be necessary in arriving at an employment decision. I understand that this application is not and is not intended to be a contract of employment.

In the event of employment, I understand that any false or misleading information given in my application or interview(s) may result in discharge. I understand, also, that I am required to abide by all rules and regulations of the Town of Berlin.

I also understand that my subsequent hiring is conditional on a satisfactory CORI check, as needed. If I refuse to provide authorization for a CORI check, I understand that I will not be considered for the position(s).

_____ _____

Signature of Applicant **Date**

TOWN CLERK
23 LINDEN STREET, #8
BERLIN MA 01503

Phone 978-838-2931 - Fax 978-838-0014 - email: townclerk@townofberlin.com

I, Eloise E. Salls, Town Clerk of Berlin, hereby certify that the following is a true and complete extract from the extract for the **Selectmen's meeting of May 30, 2018**:

Annual Appointments:

ADA Coordinator, Joseph Archue, term to expire May 31, 2019.

A true copy.
Attest: Elaine E. Salls
Town Clerk of Berlin

LOCATION/FACILITY/PROGRAM Facility

Activity	Equipment	Notes	Yes	No	Comment
Picnic Facilities	Tables & Benches	Located adjacent to accessible paths	☒	☐	
		Access to Open Spaces	☒	☐	
		Back and Arm Rests	☐	☒	
		Adequate number	☒	☐	
	Grills	Height of Cooking Surface	☐	☒	
		Located adjacent to accessible paths	☐	☒	
	Trash Cans	Located adjacent to accessible paths	☒	☐	
	Picnic Shelters	Located adjacent to accessible paths	☐	☒	
		Located near accessible water fountains, trash can, restroom, parking, etc.	☐	☒	
Trails		Surface material	☐	☐	walking trail @ South Commons
		Dimensions	☐	☐	will be ADA compliant
		Rails	☐	☒	
		Signage (for visually impaired)	☐	☒	
Swimming Facilities	Pools	Entrance	☐	☒	
		Location from accessible parking	☐	☒	
		Safety features i.e. warning for visually impaired	☐	☒	
	Beaches	Location from accessible path into water	☐	☒	
		Handrails	☐	☒	
		Location from accessible parking	☐	☒	
		Shade provided	☐	☒	
Play Areas (tot lots)	All Play Equipment i.e. swings, slides	Same experience provided to all	☒	☐	
	Access Routes	Located adjacent to accessible paths	☒	☐	
		Enough space between equipment for wheelchair	☒	☐	
Game Areas: *ballfield; *basketball; *tennis	Access Routes	Located adjacent to accessible paths	☒	☐	
		Berm cuts onto courts	☒	☐	
	Equipment	Height	☒	☐	
		Dimensions	☒	☐	

LOCATION/FACILITY/PROGRAM Facility

tennis		Spectator Seating	☒	☐	Open bleachers
Boat Docks	Access Routes	Located adjacent to accessible paths	☐	☒	
		Handrails	☐	☒	
Fishing Facilities	Access Routes	Located adjacent to accessible paths	☐	☒	
		Handrails	☐	☒	
	Equipment	Arm Rests	☐	☒	
		Bait Shelves	☐	☒	
		Handrails	☐	☒	
		Fish Cleaning Tables	☐	☒	
Program-ming	Are special programs at your facilities accessible?	Learn-to-Swim	☐	☐	No swim programs
		Guided Hikes	☐	☒	
		Interpretive Programs	☐	☐	No programs
Services and Technical Assistance	Information available in alternative formats i.e. for visually impaired		☐	☒	
	Process to request interpretive services (i.e. sign language interpreter) for meetings		☐	☒	

PARKING

Total Space	**Required Accessible Spaces**		**Yes**	**No**	**Comment/Transition Notes**
Up to 25	1 space		☐	☐	Recreational fields share parking
26-50	2 spaces		☐	☐	lot with elementry school
51-75	3 spaces		☐	☐	parking is ADA compliant
76-100	4 spaces		☐	☐	
101-150	5 spaces		☐	☐	
151-200	6 spaces		☐	☐	
201-300	7 spaces		☐	☐	
301-400	8 spaces		☐	☐	
401-500	9 spaces		☐	☐	

Specification for Accessible Spaces	**Yes**	**No**	**Comment/Transition Notes**
Accessible space located closest to accessible entrance	☒	☐	
Where spaces cannot be located within 200 ft of accessible entrance, drop-off area is provided within 100 ft.	☒	☐	
Minimum width of 13 ft includes 8 ft space plus 5 ft access aisle	☒	☐	

LOCATION/FACILITY/PROGRAM	Facility		
Van space – minimum of 1 van space for every accessible space, 8 ft wide plus 8 ft aisle. Alternative is to make all accessible spaces 11 ft wide with 5 ft aisle.	☒	❒	
Sign with international symbol of accessibility at each space or pair of spaces	☒	❒	
Sign minimum 5 ft, maximum 8 ft to top of sign	☒	❒	
Surface evenly paved or hard-packed (no cracks)	☒	❒	
Surface slope less than 1:20, 5%	☒	❒	
Curbcut to pathway from parking lot at each space or pair of spaces, if sidewalk (curb) is present	☒	❒	
Curbcut is a minimum width of 3 ft, excluding sloped sides, has sloped sides, all slopes not to exceed 1:12, and textured or painted yellow	☒	❒	

RAMPS

Specifications	Yes	No	Comment/Transition Notes
Slope Maximum 1:12	❒	❒	only in door facility is the
Minimum width 4 ft between handrails	❒	❒	elementry school & town offices
Handrails on both sides if ramp is longer than 6 ft	❒	❒	Both are ADA Compliant
Handrails at 34” and 19” from ramp surface	❒	❒	
Handrails extend 12” beyond top and bottom	❒	❒	
Handgrip oval or round	❒	❒	
Handgrip smooth surface	❒	❒	
Handgrip diameter between 1¼” and 2”	❒	❒	
Clearance of 1½” between wall and wall rail	❒	❒	
Non-slip surface	❒	❒	
Level platforms (4ft x 4 ft) at every 30 ft, at top, at bottom, at change of direction	❒	❒	

Notes

SITE ACCESS, PATH OF TRAVEL, ENTRANCES

Specifications	Yes	No	Comment/Transition Notes
Site Access			

LOCATION/FACILITY/PROGRAM		Facility		
Accessible path of travel from passenger disembarking area and parking area to accessible entrance		☒	❒	
Disembarking area at accessible entrance		☒	❒	
Surface evenly paved or hard-packed		❒	☒	Town office parking lot to be repaved this year
No ponding of water		☒	❒	

Path of Travel

Path does not require the use of stairs		☒	❒	
Path is stable, firm and slip resistant		☒	❒	
3 ft wide minimum		☒	❒	
Slope maximum 1:20 (5%) and maximum cross pitch is 2% (1:50).		☒	❒	
Continuous common surface, no changes in level greater than ½ inch		☒	❒	
Any objects protruding onto the pathway must be detected by a person with a visual disability using a cane		☒	❒	
Objects protruding more than 4” from the wall must be within 27” of the ground, or higher than 80”		☒	❒	
Curb on the pathway must have curb cuts at drives, parking and drop-offs		☒	❒	

Entrances

Primary public entrances accessible to person using wheelchair, must be signed, gotten to independently, and not be the service entrance	☒	❒	
Level space extending 5 ft. from the door, interior and exterior of entrance doors	☒	❒	
Minimum 32” clear width opening (i.e. 36” door with standard hinge)	☒	❒	
At least 18" clear floor area on latch, pull side of door	☒	❒	
Door handle no higher than 48” and operable with a closed fist	☒	❒	
Vestibule is 4 ft plus the width of the door swinging into the space	☒	❒	
Entrance(s) on a level that makes elevators accessible	☒	❒	
Door mats less than ½” thick are securely fastened	☒	❒	
Door mats more than ½“ thick are recessed	☒	❒	
Grates in path of travel have openings of ½” maximum	☒	❒	
Signs at non-accessible entrance(s) indicate direction to accessible entrance	☒	❒	
Emergency egress – alarms with flashing lights and audible signals, sufficiently lighted	☒	❒	

LOCATION/FACILITY/PROGRAM Facility

NOTES

STAIRS and DOORS

Specifications		**Yes**	**No**	**Comment/Transition Notes**
Stairs				
No open risers		☒	☐	
Nosings not projecting		☐	☒	
Treads no less than 11” wide		☒	☐	
Handrails on both sides		☒	☐	
Handrails 34”-38” above tread		☒	☐	
Handrail extends a minimum of 1 ft beyond top and bottom riser (if no safety hazard and space permits)		☒	☐	
Handgrip oval or round		☒	☐	
Handgrip has a smooth surface		☒	☐	
Handgrip diameter between 1¼” and 1½”		☒	☐	
1½” clearance between wall and handrail		☒	☐	
Doors				
Minimum 32” clear opening		☒	☐	
At least 18” clear floor space on pull side of door		☒	☐	
Closing speed minimum 3 seconds to within 3” of the latch		☒	☐	
Maximum pressure 5 pounds interior doors		☒	☐	
Threshold maximum ½” high, beveled on both sides		☒	☐	
Hardware operable with a closed fist (no conventional door knobs or thumb latch devices)		☒	☐	
Hardware minimum 36”, maximum 48” above the floor		☒	☐	
Clear, level floor space extends out 5 ft from both sides of the door		☒	☐	

LOCATION/FACILITY/PROGRAM		Facility	
Door adjacent to revolving door is accessible and unlocked	❒	❒	N/A
Doors opening into hazardous area have hardware that is knurled or roughened	☒	❒	

NOTES

RESTROOMS – also see Doors and Vestibules

Specifications	Yes	No	Comment/Transition Notes
5 ft turning space measured 12” from the floor	☒	❒	

At least one Sink:

Clear floor space of 30” by 48” to allow a forward approach	☒	❒	
Mounted without pedestal or legs, height 34” to top of rim	☒	❒	
Extends at least 22” from the wall	☒	❒	
Open knee space a minimum 19” deep, 30” width, and 27” high	☒	❒	
Cover exposed pipes with insulation	☒	❒	
Faucets operable with closed fist (lever or spring activated handle)	☒	❒	

LOCATION/FACILITY/PROGRAM Facility

At least one Stall:

Accessible to person using wheelchair at 60” wide by 72” deep	☒	❐	
Stall door is 36” wide	☒	❐	
Stall door swings out	☒	❐	
Stall door is self closing	☒	❐	
Stall door has a pull latch	☒	❐	
Lock on stall door is operable with a closed fist, and 32” above the floor	☒	❐	
Coat hook is 54” high	☒	❐	

Toilet

18” from center to nearest side wall	☒	❐	
42” minimum clear space from center to farthest wall or fixture	☒	❐	
Top of seat 17”-19” above the floor	☒	❐	

Grab Bars

On back and side wall closest to toilet	☒	❐	
1¼” diameter	☒	❐	
1½” clearance to wall	☒	❐	
Located 30” above and parallel to the floor	☒	❐	
Acid-etched or roughened surface	☒	❐	
42” long	☒	❐	

Fixtures

Toilet paper dispenser is 24” above floor	☒	❐	
One mirror set a maximum 38” to bottom (if tilted, 42”)	☒	❐	
Dispensers (towel, soap, etc) at least one of each a maximum 42” above the floor	☒	❐	

NOTES

LOCATION/FACILITY/PROGRAM Facility
FLOORS, DRINKING FOUNTAINS, TELEPHONES

Specifications	**Yes**	**No**	**Comment/Transition Notes**
Floors			
Non-slip surface	☒	☐	
Carpeting is high-density, low pile, non-absorbent, stretched taut, securely anchored	☒	☐	
Corridor width minimum is 3 ft	☒	☐	
Objects (signs, ceiling lights, fixtures) can only protrude 4” into the path of travel from a height of 27” to 80” above the floor	☒	☐	
Drinking Fountains			
Spouts no higher than 36” from floor to outlet	☒	☐	
Hand operated push button or level controls	☒	☐	
Spouts located near front with stream of water as parallel to front as possible	☒	☐	
If recessed, recess a minimum 30” width, and no deeper than depth of fountain	☐	☐	
If no clear knee space underneath, clear floor space 30” x 48” to allow parallel approach	☒	☐	
Telephones			
Highest operating part a maximum 54” above the floor	☐	☐	
Access within 12” of phone, 30” high by 30” wide	☐	☐	
Adjustable volume control on headset so identified	☐	☐	

SIGNS, SIGNALS, AND SWITCHES

Switches, Controls and Signs			
Switches and controls for light, heat, ventilation, windows, fire alarms, thermos	☒	☐	
Electrical outlets centered no lower than 18” above the floor	☒	☐	
Warning signals must be visual as well as audible	☒	☐	
Signs			

LOCATION/FACILITY/PROGRAM	Facility		
Mounting height must be 60” to centerline of the sign	☒	❒	
Within 18” of door jamb or recessed	☒	❒	
Letters and numbers a t least 1¼” high	☒	❒	
Letters and numbers raised .03”	☒	❒	
Letters and numbers contrast with the background color	☒	❒	

NOTES

SWIMMING POOLS, SHOWER ROOMS & PICNIC FACILITIES

Specifications	Yes	No	Comment/Transition Notes
SWIMMING POOLS – accessibility can be via ramp, lifting device, or transfer area			
Ramp at least 34” wide with a non-slip surface extending into the shallow end, slope not exceeding 1:6 with handrails on both sides	❒	❒	No swim facilities
Lifting device	❒	❒	N/A
Transfer area 18” above the path of travel and a minimum of 18” wide	❒	❒	N/A
Unobstructed path of travel not less than 48” wide around pool	❒	❒	N/A
Non-slip surface	❒	❒	N/A
SHOWER ROOMS - Showers must accommodate both wheel-in and transfer use			
Stalls 36” by 60” minimum, with a 36” door opening	❒	❒	N/A
Floors are pitched to drain the stall at the corner farthest from entrance	❒	❒	N/A
Floors are non-slip surface	❒	❒	N/A
Controls operate by a single lever with a pressure balance mixing valve	❒	❒	N/A
Controls are located on the center wall adjacent to the hinged seat	❒	❒	N/A
Shower heads attached to a flexible metal hose	❒	❒	N/A
Shower heads attached to wall mounting adjustable from 42” to 72” above the floor	❒	❒	N/A

LOCATION/FACILITY/PROGRAM		Facility	
Seat is hinged and padded and at least 16” deep, folds upward, securely attached to side wall, height is 18” to the top of the seat, and at least 24” long	❒	❒	N/A
Soap trays without handhold features unless they can support 250 pounds	❒	❒	N/A
2 grab bars are provided, one 30” and one 48” long, or one continuous L shaped bar	❒	❒	N/A
Grab bars are placed horizontally at 36” above the floor line	❒	❒	N/A

PICNICKING

A minimum of 5% of the total tables must be accessible with clear space under the table top not less than 30” wide and 19” deep per seating space and not less than 27” clear from the ground to the underside of the table. An additional 29” clear space (totaling 48”) must extend beyond the 19” clear space under the table to provide access	☒	❒	
For tables without toe clearance, the knee space under the table must be at least 28” high, 30” wide and 24” deep	❒	❒	N/A
Top of table no higher than 32” above ground	☒	❒	
Surface of the clear ground space under and around the table must be stable, firma nd slip-resistant, and evenly graded with a maximum slope of 2% in all directions	☒	❒	
Accessible tables, grills and fire rings must have clear ground space of at least 36” around the perimeter	☒	❒	