

# Public Health

## Introduction

Health starts long before illness – it begins in homes, schools, and jobs. Given this connection, the following section provides a brief assessment of the Town’s health status and conditions and identifies strategies to sustain healthy living and outcomes among residents, from childhood to later in life.

The purpose of the Public Health element is to: understand current health conditions and behaviors, assess risks and opportunities presented by built, natural and social environments; and propose how to achieve healthier outcomes through community design strategies and services. The element also considers how certain populations in town may experience disproportionate impact due to factors such as geography, ethnicity, income, age, or other characteristics.

The Public Health element also links to other elements of the Master Plan. It presents new data or different perspectives on how current conditions in other elements, such as those addressing housing, mobility, and open space and recreation, can contribute to healthier outcomes for residents. Furthermore, the Public Health element provides evidence-based and informed strategies that should inform policies, projects, and decisions regarding implementation of the Master Plan. And lastly, the element integrates the perspective of local public health by including the Health Department in the planning process and future decisions around community change.

## Key Findings

- Cohasset is served by strong Health Department and Board of Health that addresses environmental health and community health issues
- Residents of Cohasset generally enjoy healthier outcomes and engage in healthy behaviors more than residents of other towns in the Commonwealth.
- Health issues that could pose potential risks include premature mortality, substance use disorder, mental health challenges from younger residents, an elevated cancer rate, and an aging population.
- The Town has the opportunity to explicitly integrate more health considerations into its planning and development processes in order to reduce the risk of injury, increase daily physical activity and health eating, and become a more age friendly community.

## Public Health Relationship to Planning and the Built Environment

More and more evidence shows that how we plan and build communities affects the health and wellness of residents. Although these figures are not exact, collective research focused on the

history of the causes of disease suggests that roughly 60% of our health is determined by social, environmental, and behavioral factors shaped by the context in which we live (Figure 1).<sup>1</sup>

Figure 1: Factors responsible for population health

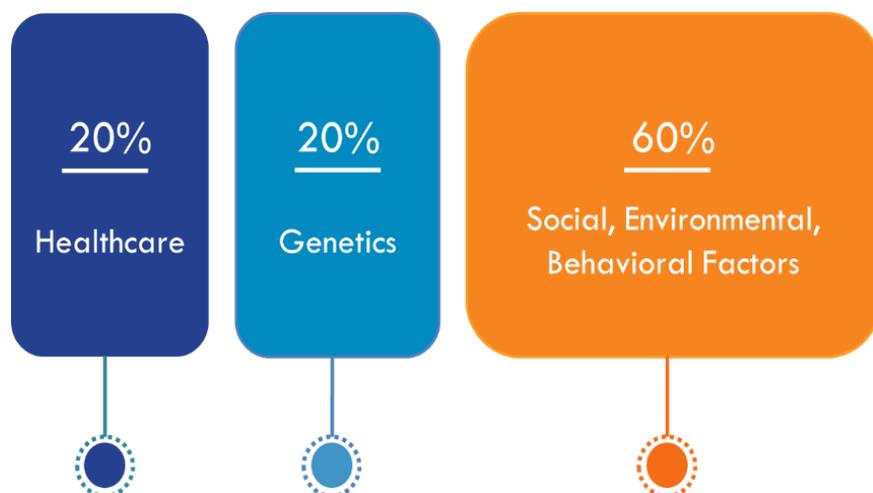


Image: Adapted from US County Health Rankings

The relationship is reinforced by data on the health issues and leading causes of death in the United States. The country is experiencing increasing levels of chronic diseases like obesity and diabetes. More and more people are dying from preventable diseases like heart disease, strokes, and lower respiratory diseases<sup>2</sup>. Yet, it is known that these issues are preventable because they are the result of behaviors, choices, and influences dictated predominantly by a community's surrounding environment.

Understanding the connection is important: it provides impetus for developing communities that provide more opportunities for healthy living. Planning plays a key role in engaging community members in developing a vision for the future, setting the conditions for what and where changes will occur, and ultimately creating places which protect and promote health.

## Community Health System

Sets of individuals and organizations play an important role in planning for and meeting the service needs of residents, particularly those who are suffering from symptoms of environments that do not promote health. At the municipal level, the work is performed by health agents and inspectors and boards of health as well by others including council on aging and recreation departments. In the private sector, health systems and community organizations play this role as they respond to acute health issues (e.g., heart attacks) and seek to intervene in behavioral health issues (e.g., opioid use).

<sup>1</sup> McGinnis, J. M., Williams-Russo, P., & Knickman, J. R. (2002). The case for more active policy attention to health promotion. *Health Affairs*, 21(2), 78-93.

<sup>2</sup> U.S. Centers for Disease Control and Prevention, *Deaths: Final Data for 2013*, Figure 10

## Local Health Department and Board of Health

Cohasset is served by its Health Department, which includes the Town's health agent, public health nurse, and administrative support. The department's mission is to "provide the residents of the Town of Cohasset with comprehensive, high-quality Public Health Services through the evaluation (and developing new) town policies, procedures, regulations, statements, and programs in the areas of Public Health Nursing, Environmental Health, and other Public Health disciplines."<sup>3</sup>

The Health Department assists the Town in meeting health regulatory requirements and works with the Board of Health to support the ten essential functions of public health<sup>4</sup>:

1. Monitor health status to identify community health problems.
2. Diagnose and investigate health problems and health hazards in the community.
3. Inform, educate, and empower people about health issues.
4. Mobilize community partnerships to identify and solve health problems.
5. Develop policies and plans that support individual and community health efforts.
6. Enforce laws and regulations that protect health and ensure safety.
7. Link people to needed personal health services and assure the provision of health care when otherwise unavailable.
8. Assure a competent public health and personal healthcare workforce.
9. Evaluate effectiveness, accessibility, and quality of personal and population-based health services.
10. Research for new insights and innovative solutions to health problems.

The Health Department provides these functions through inspectional work (e.g., food inspections), programming and preventative actions (e.g., flu clinics, farmers market), policy development, and emergency preparedness planning and response (e.g., Health and Medical Coordinating Coalition 4AB).

The Cohasset Board of Health oversees the Town's responsibilities related to state statutes and regulations for the protection of public health disease control, promotion of sanitary living conditions, and the protection of the environment from damage and pollution. The board is comprised of five members and is staffed by the Town's Health Department.

## Healthcare Systems

The Town of Cohasset is located within the service area of the South Shore Health System, which is located in the Town of Weymouth. The health system serves 34 municipalities in Plymouth and Norfolk counties, spanning from the City of Quincy in the north to the towns of Plymouth and Carver to the south and the towns of Sharon and Easton to the west. South Shore Health includes

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<sup>3</sup> Cohasset Health Department: <https://www.cohassetma.org/190/Health-Department>

<sup>4</sup> CDC, "The Public Health System & the 10 Essential Public Health Services," <https://www.cdc.gov/stltpublichealth/publichealthservices/essentialhealthservices.html>

primary and specialty medical care, hospital and health center, home medical care, and preventive and wellness services. The health system also spans three Community Health Network Areas (CHNAs): Blue Hills Community Health Alliance (CHNA 20), South Shore Community Partners in Prevention (CHNA 23), and Greater Brockton Community Health Network Area (CHNA 22).

The South Shore Health system created its most recent Community Health Needs Assessments (CHA) in 2016. The purpose of the needs assessment is to identify health needs in communities where the health system is located (beyond a provider's patient population) and implement strategies that address these needs. The top community health priorities identified in the 2016 South Shore CHA are<sup>5</sup>:

- Access to Health Services (e.g., language, cost and transportation barriers, addition of service providers, and underutilization of services)
- Behavioral Health (e.g., psychiatric services, response to and prevention of substance use disorder, and addition of service providers)
- Cardiovascular Health (e.g., older adults at risk, chronic disease education, and coronary heart disease hospitalizations)

Other priorities included: Diabetes, Older Adults and Aging, Exercise, Nutrition and Weight; Respiratory Diseases; and Cancer.

### Public Health Organizations

Cohasset is part of the Blue Hills Community Health Alliance (CHNA 20) along with 12 other municipalities (Braintree, Canton, Hingham, Hull, Milton, Norwell, Norwood, Quincy, Randolph, Scituate, Sharon and Weymouth). CHNAs were established by the MDPH in 1992 and 27 networks were created to cover all of the cities and towns of Commonwealth. The purpose of the CHNAs were to: eliminate racial and ethnic health disparities and their social determinants; promote wellness in the home, workplace, school, and community; and prevent and manage chronic disease.

CHNA 20 has a set of six operating principles:

- Provide program support and education
- Create opportunities for networking
- Build collaboration and partnerships
- Problem-solve and influence policy
- Find and develop resources
- Share best practices

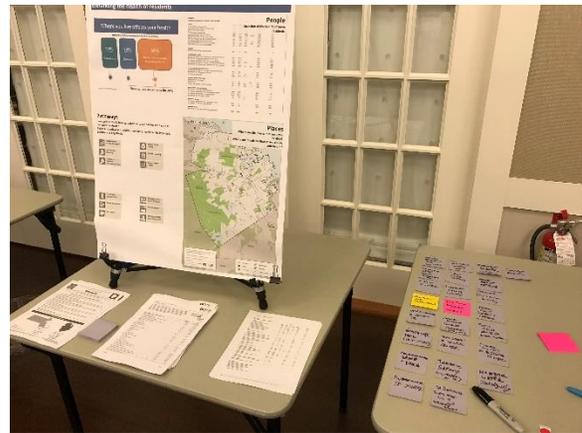
The alliance provides support to its member municipalities and other community partners through grant making, provision of technical assistance and resources, and creating opportunities for those in the health care, community health, and public health fields to convene and connect.

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<sup>5</sup> Source:

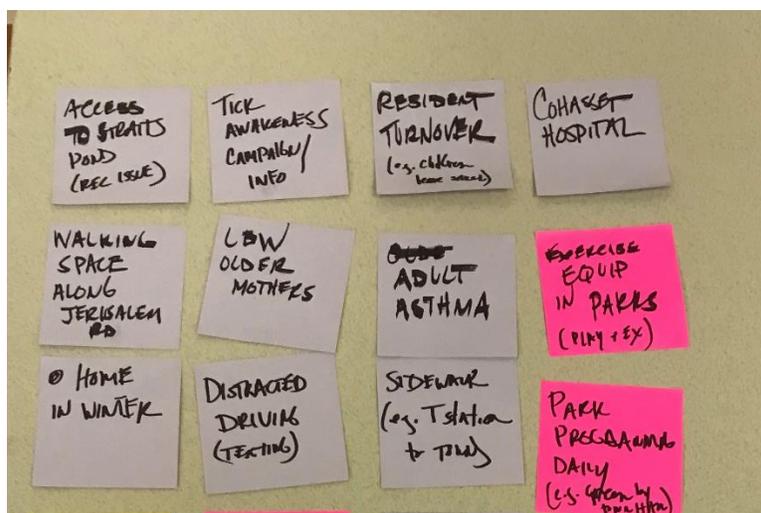
## Community Participation

Residents were engaged during the Master Plan process through data about the health risks (e.g., environmental exposures, chronic disease) and social determinants of health factors (e.g., built environment characteristics, socioeconomic conditions) in order to understand perspectives on current conditions and potential opportunities.



Feedback from residents including the following points:

- More people could engage in daily physical activity through infrastructure investments such as a walking path along Jerusalem Road
- Capitalize on parks as places for physical activity through provision of exercise equipment in parks (for youth and adults) and new programming.
- Sustain and build on current health services and programs such as the flu clinic and exercise classes that are offered at the Senior Center.
- Address traffic safety particular as it relates to distracted driving.
- Explore history of Wompatuck State Park to understand potential environmental hazards that may still be present from previous uses (e.g., military munitions storage).
- Improve access to Straits Pond and Little Harbor as a place for water-based recreation and physical activity.
- Understand the role of social connectedness in town both for those who may become isolated (e.g., single older adults) and as it relates to resident turnover (e.g., residents who leave town after children finish school).
- Focus more tick-borne diseases, particularly as exposure to ticks is increasing and in the context of climate change.



## Understanding health data

Due to the way that health data are collected, all data for Cohasset are *estimates* generated based on larger collections of data, from sources including the Massachusetts Department of Public Health (MDPH) and the Center for Health Information and Analysis (CHIA). Here is how the numbers for each type of data are generated:

- Hospitalizations. These data are based on the place of residence listed on hospital discharge forms. Hospitalizations are age adjusted rates of hospital discharges per 10,000 people or per 100,000 people. The reason data are age adjusted is that older people are typically more susceptible to illnesses than those who are younger, and therefore populations with greater proportions of older residents may look artificially less healthy than others. These data are therefore “adjusted” for age to ensure that populations with differing age distributions can be meaningfully compared to each other.
- Disease prevalence and Health Behavior. These data are statistical estimates calculated by MDPH based on the Behavioral Risk Factor Surveillance System Survey, which is a self-report. For the ranking, a number of “1” means the municipality has one of the lowest percentages of people reporting the identified health condition, risk factor, or protective factor while a “5” means the community has one of the highest percentage of people with that health condition, risk factor, or protective factor. For example, a “1” ranking for smoking would indicate a municipality is among cities and towns with the lowest percentages of residents who report smoking while a “1” ranking for exercise would indicate a municipality is among cities and towns with the lowest percentages of residents report engaging in physical activity.

These data are also reported with confidence limits. The upper (UCL) and lower (LCL) provide a range that characterizes the level of uncertainty for the reported percentage.

- Youth Data. All data on Cohasset youth are based on a survey administered to middle and high school students every other year by the [Safe Harbors Coalition](#). The coalition includes representatives from the school department, local law enforcement, fire department, town government, members of the faith, the medical and recovery communities, mental health professionals, and parents.
- Aging Population Data. All data for populations over 60 are derived from the [Massachusetts Health Aging Collaborative Community Profiles](#). More information on the methodology can be found [here](#).

## Community Health Conditions

### Active Living

The health benefits of physical activity have been well documented, yet less than half (49%) of all adults meet the Surgeon General’s recommended 30 minutes of moderate intensity physical activity on most days of the week; only a fifth meet (20%) the guidelines for both aerobic physical and muscle-strengthening activity<sup>i</sup>. A recent study estimates that physical inactivity causes

6% of the global burden of disease from coronary heart disease, 7% of type 2 diabetes, 10% of breast cancer, 10% of colon cancer, 9% of premature mortality<sup>ii</sup>. If inactivity were decreased by 10% to 25%, between 533,000 and 1.3 million deaths could be prevented every year. Evidence suggests that good infrastructure (sidewalks, bike lanes etc.) and public transportation access leads to increases in walking and biking for transportation purposes, and therefore plays an important role in increasing population level physical activity<sup>iii</sup>. A very robust body of literature links physical activity to a panoply of health benefits<sup>iv</sup>. Furthermore recent evidence suggests that while active transit may expose users to air pollution on the road, the positive benefits of physical activity outweigh the negative impacts of increased air pollution exposure.<sup>v</sup> Compared to the National walking average of six minutes per day, public transit users spend a median of 19 daily minutes walking<sup>vi</sup>. Estimates show that an individual walks an additional 8.3 minutes per day when they switch from driving to transit<sup>vii</sup>.

The percentage of Cohasset residents who report engaging in some form of exercise is among the highest in the state and, with the exception of Hingham, higher than surrounding municipalities.

Figure 2: Any Physical Activity in the Past 30 Days among Adults

Town Name	Quintile
Cohasset	5
Hingham	5
Hull	2
Norwell	3
Rockland	1
Scituate	2
Weymouth	1

Source: MA BRFSSS 2012-2014

Conversely, town residents are estimated to have some the highest percentages of those with heart disease in the state. The high percentage of those estimated to have heart disease can also be found in several surrounding municipalities, including Hingham and Hull. Heart disease is the leading cause of death in the nation.<sup>6</sup> In addition, many who experience cardiovascular-related disease can experience lower quality of life and take on significant additional costs to manage or treat their conditions.

Figure 3: Heart Disease among Adults

Town Name	%	LCL	UCL	Quintile
Cohasset	5.9	4.2	8.2	4
Hingham	6.5	4.8	8.8	5
Hull	6.8	5.0	9.2	5
Norwell	5.5	4.0	7.6	3
Rockland	5.1	3.7	6.9	2
Scituate	5.7	4.2	7.7	3

<sup>6</sup> Centers for Disease Control and Prevention, National Center for Health Statistics Mortality in the United States, 2016. <https://www.cdc.gov/nchs/products/databriefs/db293.htm>

Weymouth	6.2	4.7	8.1	4
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Source: MA BRFSS 2011, 2012, 2014

Although the Town is estimated to have one of the higher percentages of heart disease, residents do not seem to experience hospitalizations or deaths higher than state averages.

Figure 4: Heart Disease-related Hospitalization and Death Rates per 100,000, 2012

Conditions	Cohasset Rate	MA Rate	US Rate
Age-Adjusted Hospitalization Rate due to Coronary Heart Disease	258.9	264.5	--
Age-Adjusted Hospitalization Rate due to Heart Attack	138.2	153.9	--
Age-Adjusted Death Rate due to Coronary Heart Disease	71.5	85.9	115.4
Age-Adjusted Hospitalization Rate due to Cerebrovascular Disease	172.4	219.5	--
Age-Adjusted Death Rate due to Cerebrovascular Disease (Stroke)	18.5	27.9	36.9

Source: South Shore Health System 2016 Community Health Needs Assessment

Motor vehicle crashes are one of the leading causes of death among younger populations in the US (i.e., those between 16 – 25 years old), and annually account for more than 32,000 deaths and over two million nonfatal injuries to motorists, pedestrians, and cyclists<sup>viii</sup>. In addition to actual safety and injury risk, the perception of how safe the transportation system has effects on people’s behaviors. Studies that consider traffic and perceptions of safety generally agree that pedestrians and bicyclists have negative perceptions of traffic and that real and/or perceived danger and discomfort in traffic discourages walking and bicycling<sup>ix</sup>. Safety concerns appear to be strongest in children, the elderly and women<sup>x</sup>.

The number of reported crashes in Cohasset has increased recently according to the most recent crash data. In 2014, there were 126 crashes in the town. There were 155 and 146 crashes in 2015 and 2016, respectively. Among the crashes, nearly three quarters were property damage only crashes, which means those involved were not injured and could potentially indicate the crashes occurred at lower speeds. Twenty percent of the crashes did involve some form of injury and one road user died as a result of a crash.

Figure 5: Crash Severity, 2014-2016

Crash Severity	Count
Fatal injury	1
Non-fatal injury	83
Property damage only (none injured)	312
Not Reported	29
Unknown	2
<b>Total</b>	<b>427</b>

Source: MassDOT

### Food and Nutrition

Research suggests that access to healthy and nutritious foods in neighborhoods may play a critical role in residents’ diets<sup>xi</sup>. The choices that residents have and make regarding their diet are

associated with risks for chronic diseases, such as Type 2 diabetes, hypertension, and overweight and obesity<sup>xii</sup>.

Most research related to food access has focused on supermarkets, which provide a greater variety of healthy foods that are generally higher quality and more affordable when compared to smaller food stores. Although some discrepancy exists in the literature, poor supermarket access has been linked to increased rates of poor health outcomes such as diabetes, cardiovascular disease, and obesity when compared to neighborhoods that have supermarkets<sup>xiii</sup>.

One indicator of the consumption of healthy foods is the prevalence of diabetes. While some people are born with diabetes, increasingly more people have developed diabetes (Type 2) because of diet, lack of physical activity and unhealthy weight, which can be seen in the percentage of residents who are overweight or obese. Cohasset is estimated to have one of the lowest percentages of those who are overweight or obese in the state, as do many of the Town’s surrounding municipalities.

Figure 6: Obesity among Adults<sup>7</sup>

Town Name	%	LCL	UCL	Quintile
Cohasset	19.8	13.6	27.7	2
Hingham	20.6	15.3	27.2	2
Hull	22.9	16.3	31.2	4
Norwell	19.1	13.0	27.1	1
Rockland	18.9	13.7	25.4	1
Scituate	14.3	10.1	19.8	1
Weymouth	23.1	18.3	28.8	4

Source: MA BRFSS 2012-2014

Figure 7: Overweight among Adults

Town Name	%	LCL	UCL	Quintile
Cohasset	55.0	45.5	64.1	2
Hingham	54.5	46.8	61.9	2
Hull	58.7	49.4	67.4	3
Norwell	55.5	45.8	64.8	2
Rockland	56.6	48.6	64.3	2
Scituate	44.3	36.9	52.0	1
Weymouth	60.7	54.5	66.7	4

Source: MA BRFSS 2012-2014

<sup>7</sup> In order to provide data for more Massachusetts communities, town level estimates are included that may be based on relatively few respondents or have standard errors that are larger than average. When a cell is has a red accent, the confidence interval for this community is wider than the normal limits set by MDPH. Therefore, the estimate for this town should be interpreted with caution.

Cohasset is estimated to be among the municipalities with the highest percentage of adult residents who have diabetes or pre-diabetes, which is a condition where blood sugar levels are high but not yet at a level for a diabetes diagnosis.

Figure 8: Diabetes among Adults

Town Name	%	LCL	UCL	Quintile
Cohasset	8.0	5.0	12.4	4
Hingham	5.8	3.7	9.0	1
Hull	7.7	4.9	11.9	3
Norwell	7.1	4.3	11.2	2
Rockland	5.8	3.7	8.8	1
Scituate	6.4	4.1	9.7	1
Weymouth	8.0	5.7	11.0	4

Source: MA BRFSSS 2012-2014

Figure 9: Prediabetes among Adults

Town Name	%	LCL	UCL	Quintile
Cohasset	7.0	5.4	9.2	5
Hingham	6.9	5.2	8.9	4
Hull	6.9	5.3	9.1	4
Norwell	6.4	4.8	8.4	2
Rockland	6.2	4.7	8.2	2
Scituate	6.2	4.7	8.1	2
Weymouth	6.0	4.6	7.8	1

Source: MA BRFSSS 2012-2014

Data from the South Shore Community Health Needs Assessment also indicates that Cohasset residents experience a higher rate of diabetes-related deaths than the state or the US.

Figure 10; Diabetes Death Rate per 100,000, 2012

	Cohasset	State	Nation
Age-Adjusted Death Rate due to Diabetes	46.1	13.6	21.2

Source: South Shore Health System 2016 Community Health Needs Assessment

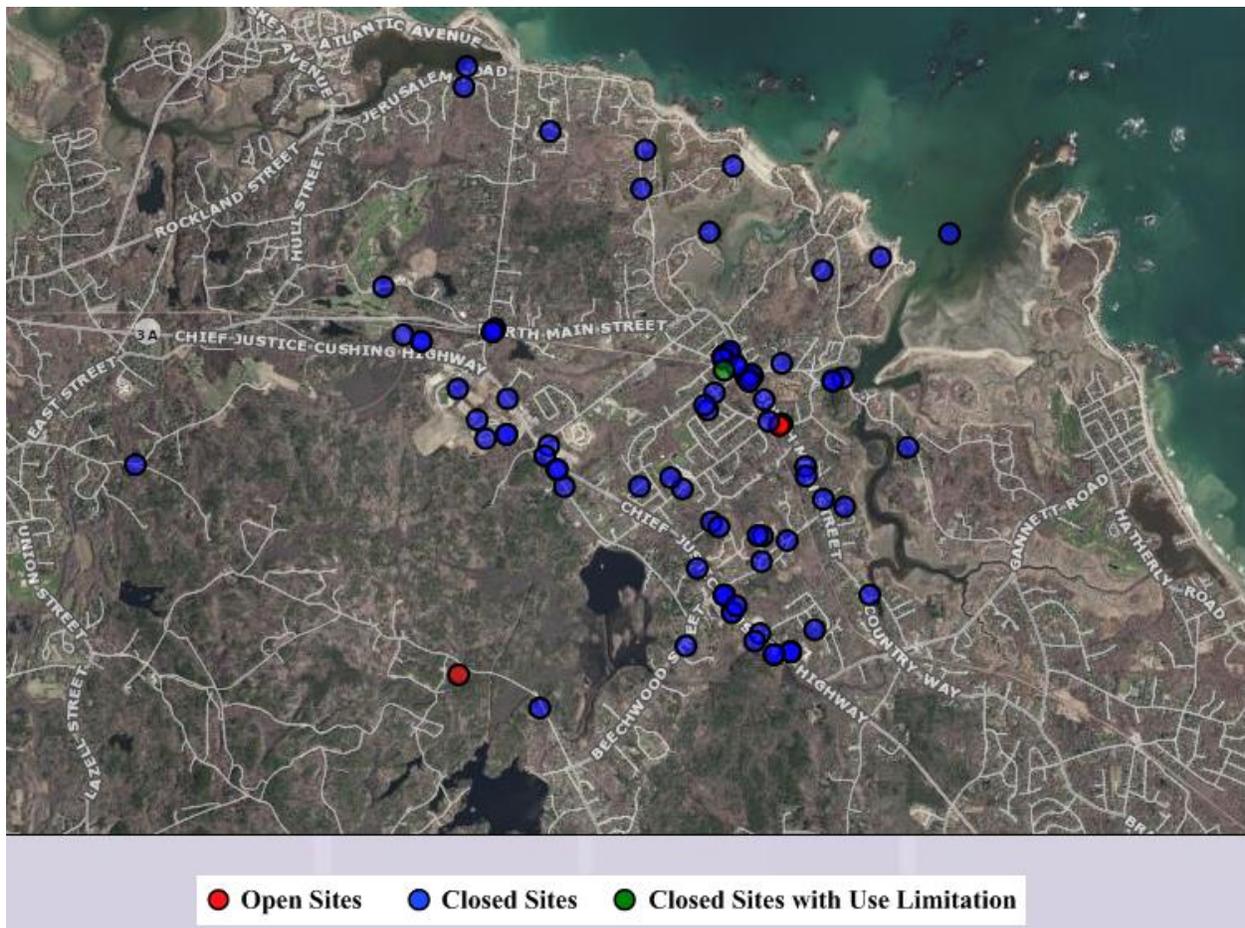
## Environmental Exposures

Exposure to environmental contamination can have numerous health effects depending on the specifics of the pollutants and levels of exposure experienced by people. A brownfield is defined by the CDC as “abandoned or underused portions of land occupied by vacant businesses or closed military structures, located in formerly industrial or urban areas”<sup>xiv</sup>. While there is no formal definition of the term “brownfields” in Massachusetts, brownfields are typically abandoned or for sale or lease and have been used for commercial or industrial purposes. Brownfields may have been reported to the Massachusetts Department of Environmental Protection (MassDEP) because contamination has been found or they may not have been assessed due to fear of unknown contamination conditions<sup>xv</sup>.

Health impacts due to brownfields and contaminated sites include:

- Safety due to abandoned structures, open foundations, other infrastructure or equipment that may be compromised due to lack of maintenance, vandalism or deterioration, controlled substance contaminated sites (i.e., methamphetamine labs) and abandoned mine sites;
- Social and economic concerns due to blight, crime, reduced social capital, reductions in the local government tax base and private property values that may reduce social services; and,
- Environmental issues due to biological, physical, and chemical site contamination, groundwater impacts, surface runoff or migration of contaminants as well as wastes dumped on site<sup>xvi</sup>.

Figure 11: Map of Waste Sites and Reportable Releases in Cohasset



Source: Mass DEP

Over the past 30 years, there have been approximately 100 reported waste sites and releases in the town. Only 16 reports have been issued in the past 10 years with nearly all having response actions that were sufficient to achieve a level of no significant risk or ensure that all

substantial hazards were eliminated. One site has required more remediation and cleanup due to the detection of fuel oil in soils in the vicinity of previously removed underground storage tanks.

An additional site not included in the reporting, but that have been identified by town residents, is the former NIKE launch sites and weapons storage facilities which are located in Wompatuck State Park. Former munitions and other uses could have left potential pollutants on the property which, if so, could create conditions for exposure to unsafe materials and limit use of the property (if not properly remediated).

Exposure to air pollution can have effects on human as can land based environmental contamination. There is an extensive body of literature linking vehicular air pollution to mortality and hospitalizations due to asthma exacerbation, chronic lung disease, heart attacks, ischemic heart disease, and major cardiovascular disease<sup>xvii</sup>. The Environmental Protection Agency (EPA) identifies 6 criteria air pollutants that have important human health impacts: Ozone (O<sub>3</sub>), carbon monoxide (CO), particulate matter (PM), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), and lead (Pb). Four of these air pollutants are most closely linked to vehicular traffic pollution. Concentrations of traffic-related air pollution can be particularly high in areas with heavy congestion or high volumes of vehicle traffic. In these locations, nearby uses like schools or homes and those who walk or bicycle along can be directly affected by short- and long-term the pollution. Although identifying the source of the emissions, the presence of the higher traffic volumes and congestion can serve as guide. Research suggests that exposure concerns are relevant to those traveling on or living within 500 feet of corridors that have traffic volumes exceeding 30,000 vehicles per day. Estimated traffic volumes do not cross this threshold on roadways in the Town of Cohasset.

In areas with more wooded and vegetated undeveloped lands, more vectors such as ticks and mosquitoes can be present, posing an increased risk to health. Vectors can transit infectious disease through contact with people and in Massachusetts, vectors have been responsible for increases in diseases such as Lyme and Babesiosis. In some cases, these diseases can be treated easily while in others they can cause long-term chronic health issues and in extreme cases, death.

Recent reporting data for the Massachusetts shows that there have not been positive tests for mosquito-borne illnesses (e.g., as West Nile) in Cohasset.<sup>xviii</sup> Data on tick-borne diseases is not readily available at the municipal level so county level data is used. Based on state data, the areas surrounding and including Cohasset have seen increasing number of cases of tick-borne diseases. In fact, although the Town is Norfolk County, its surrounding municipalities are in Plymouth County which ranked 57<sup>th</sup> nationally for its rate of Lyme cases (127 per 100,000 residents).<sup>xix</sup>

## Public Health and Climate Change

### Overview

The changing climate will affect health of individuals, families, and communities. The projected changes, such as higher temperatures and extreme weather, will exacerbate existing health conditions, such as asthma and cardiovascular disease. New health issues will also emerge as vectors and water borne diseases are facilitated by the warmer and wetter conditions. While our physical places will be vulnerable so will be the health of people that define, live, work and gather in these places. The following section describes in more detail these potential impacts and their relevance to the Town of Cohasset.

### Extreme Weather and Flooding

Cohasset, like the rest of Massachusetts, is expected to incur more turbulent weather<sup>8</sup>, especially those weather events that bring precipitation. Extreme weather events cause disturbances in people's lives and the systems that they rely on. This is particularly true when it comes to human health and welfare.

More frequent storm events are projected to mean precipitation events that occur more frequently and with greater volumes. Flooding will be a result of these storms. Flooding can be expected to disrupt transportation systems and potentially isolate people in their homes. The breakdown in these connections has consequences such as individuals not being able to get to medical care, meet basic daily needs like shopping for food and water, and being exposed to water-borne pollutants. Older adults, people with disabilities, and those with acute health needs like those requiring dialysis are at particularly high risk when these disruptions occur.

Often extreme storms are accompanied by disruptions in electrical systems. When this occurs, heating, air conditioning, and ventilation systems can be put at risk if there are not backup power systems. As result, residents may face difficulties in maintain indoor temperatures. Longer term impacts of reduced air circulation in combination with increased moisture can lead to more indoor mold and contaminants<sup>xx</sup>. Those who suffer from respiratory issues like asthma face challenges during these situations and others become susceptible to developing similar health issues.

### Extreme Heat

Extreme heat is the leading weather-related cause of death in the United States<sup>xxi</sup>. Prolonged exposure to high temperatures can cause heat-related illnesses, such as heat cramps, heat syncope, heat exhaustion, heat stroke, and death. Heat exhaustion is the most common heat-related illness and if untreated, it may progress to heat stroke<sup>xxii</sup>. Additionally, heat is expected to contribute to the exacerbation of chronic health conditions<sup>xxiii</sup>. In particular, hyperthermia—elevated body temperature due to failed thermoregulation can be caused by heat stroke — is a contributing factor to cardiovascular, metabolic, and other causes of death<sup>xxiv</sup>.

Extreme heat has the potential to contribute to greater levels of ground level air pollution and allergens. Heat helps form by chemical reactions between NO<sub>x</sub> and volatile organic compounds (VOCs) in the presence of sunlight. Breathing ozone can irritate the respiratory system, reduce lung function and heighten sensitivity to allergens<sup>xxv</sup>. Likewise, increased temperatures in the presence of higher concentrations of CO<sub>2</sub> has been linked to earlier blooming of flowers (shrubs

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<sup>8</sup> Extreme heat can be considered an aspect of extreme weather. For this purposes of this document, extreme heat is treated separately due some of its specific effects on health.

and trees), which in turn affects the timing, distribution, and composition of pollen and other allergens<sup>xxvi</sup>.

Those at particularly high risk of adverse health effects from extreme heat exposure are older adults, children, those living alone, those with chronic illnesses, urban residents, minorities, people of low income, people with less education, and people without access to air conditioning<sup>xxvii, xxviii</sup>. In addition, people with chronic mental disorders or pre-existing medical conditions (e.g., cardiovascular disease, obesity, diabetes, neurologic or psychiatric disease), and those participating in outdoor manual labor or sports in hot weather also are at increased risk for heat-related illness<sup>xxix, xxx</sup>.

### Vector Borne Diseases

With climate change, the public will likely be subject to greater exposure to disease vectors, such as Eastern equine encephalitis (Triple E), West Nile virus, St. Louis encephalitis virus and Lyme disease. Massachusetts is predicted to have a general trend of warmer temperatures, which may lead to higher mosquito and tick numbers and greater activity. This may prolong transmission seasons for all vector-borne diseases, extending the risk of transmission outside of the traditional late spring through early fall timeframe.

### Populations More At Risk

Climate change will impact all populations in a variety of ways, but these impacts will not be felt equally by all and not only according to pre-existing health conditions. Because of this, the following section provides information on populations that might be more vulnerable due to their social, environmental, or economic conditions. In Cohasset, these vulnerable populations include low-income residents, younger and older populations, those living alone, and those who may speak languages other than English.

### Social Cohesion and Mental Health

Social cohesion, which describes the extent of connectedness and solidarity of a community, and social support are associated with positive health outcomes. Communities with greater levels of social cohesion—often characterized by high levels of trust and respect, participation in community activities and public affairs, and increased participation in community groups—have better health outcomes than those with low levels<sup>xxx</sup>. This is true on an individual level as well. Those with rich social environments—who have more friends and social interactions, hold a greater level of trust in their neighbors, and are part of a more tightly knit community—have access to a greater network of social resources which in turn help them stay healthier<sup>xxxii</sup>. These social resources can manifest as emotional support in difficult times, material support such as a ride to work when the family car breaks down, or simply through health-promoting information shared amongst neighbors. Access to social support such as this is associated with protective health effects including improved mental health outcomes, reduced stress, better cardiovascular health, better immune system functioning and more<sup>xxxiii</sup>.

Voting has been used to characterize social cohesion since it can represent ties and engagement with the community. Using Elections and Voting data from the Secretary of the Commonwealth, it is estimated that nearly two thirds of voting-eligible residents (63%) were registered in 2016, which

is similar to the state percentage of registered votes (64%) from the same period<sup>xxxiv</sup>. Among those registered to vote, 83% participated in the 2016 elections. Participation in local elections, which occur in May, offer a perspective on civic participation that is typically outside of state and national elections. Over the past five years, participation has varied in the annual town elections from a high of 37% in 2014 to a low of 8% in 2017. Most recently, there was a turnout of 21% of registered voters in the May 2018 local election.

Measure of mental health, which involve social cohesion factors as well as others, are reporting on days of poor mental health and substance use disorders. For Cohasset, it is estimated that percentage of residents reporting 15 days or more of poor mental health falls within the average for the state, when compared to other municipalities.

Figure 12: Adults Reporting 15 Days or More of Poor Mental Health

Town Name	%	LCL	UCL	Quintile
Cohasset	10.0	6.7	14.6	3
Hingham	8.5	5.9	12.2	1
Hull	12.8	8.9	18.1	5
Norwell	8.6	5.7	12.7	1
Rockland	11.2	7.8	15.7	5
Scituate	7.7	5.3	11.1	1
Weymouth	14.0	10.5	18.3	5

Source: MA BRFSS 2012-2014

Cohasset is one of many communities served by the William James INTERFACE Referral Service, which collects and categorizes a wide range of valuable resources related to mental health, substance abuse, and wellness issues for the benefit of children, adults and families living in Cohasset.<sup>9</sup> The referral service works with the Youth Health Connection, a community benefits program of South Shore Health. It is dedicated to developing the positive mental health and physical well-being of young people across our region.<sup>10</sup>

### Health over the Lifespan: Age Specific Health

Data specific to youth and older adults are included here. The purpose is to provide a spotlight on populations that are more susceptible to changes that can either promote or provide lifelong health and wellness.

#### Youth

Childhood and youth are critical periods for physical and mental development and a time when external factors such as significant personal or social events (e.g., housing instability, trauma) or exposure to pollutants can adversely affect development. Similarly, engagement in prosocial and healthy behaviors can serve as protective factors that improve health outcomes and prevent

<sup>9</sup> <https://interface.williamjames.edu/>

<sup>10</sup> <https://www.southshorehealth.org/wellness/youth-health-connection>

illnesses. Many municipalities use youth surveys to gather information from you about their health and their experiences growing up in healthy environments.

Cohasset Public Schools included social and emotional learning as one of the five pillars to the 2016-2021 Strategic Plan. The strategic goal is to promote the social and emotional well-being of students. The key initiatives included for social and emotional learning are:

- Identify areas of student need
- Build programs to provide social-emotional support to all students
- Develop tiered intervention strategies
- Build student resiliency to prepare students for college and careers beyond Cohasset High School.<sup>11</sup>

Cohasset is home to the Safe Harbors Cohasset Coalition (SHCC), which began in 2014 with a focus on substance use disorder and has now become an established coalition (including a full-time Program Director and part-time Project Coordinator) after receiving the 5-year Federal Drug Free Communities Grant in 2017. The coalition has developed youth-focused programming (e.g., youth ambassadors) as well as new resources (e.g., Guiding Good Choices) and collaborations with local businesses (e.g., free participation in fitness classes) to support health promoting behavior among Cohasset’s younger residents. Cohasset Public Schools, with support from SHCC, administered several surveys of the Town’s youth and adolescents to gather and analyze data about their experiences, perspectives, and behaviors.

The most recent available survey results (a combination of Communities that Care Survey and the Youth Risk Behavior Survey) are from 2017.<sup>12</sup> The survey, which included Middle and High School students, collected student self-report responses to questions about behaviors, substance use, weight and physical activity, and mental health, among other information. A summary of the key 2017 results are presented below and compared to previous survey results (2015), which represent responses provided by those in the grades surveyed two years prior.

Figure 13: 2017 Survey Results

Progress	Challenges
<ul style="list-style-type: none"> <li>• Lifetime alcohol and marijuana use is down</li> <li>• Marijuana use over the past 30 days is down (with exception of grade 10 respondents)</li> <li>• Alcohol consumption down among 10<sup>th</sup> and 11<sup>th</sup> graders</li> <li>• Overall student perception of marijuana use as risky has increased</li> </ul>	<ul style="list-style-type: none"> <li>• A large number of students, particularly students of color, students who are LGBTQ/Non-Binary, and younger students (grades 6-9), do not feel as supported in the school environment.</li> <li>• Tobacco use is up significantly, particularly regarding vaping and cigarette use</li> </ul>

<sup>11</sup> Cohasset Public Schools Strategic Plan 2016-2021, <https://www.cohassetk12.org/cms/lib/MA01907530/Centricity/Domain/56/CPS%202016-2021%20Strategic%20-%20Updated%206.20.16.pdf>

<sup>12</sup> Cohasset Public Schools conducted a more recent survey and results should be available in April/May 2019. The survey is typically conducted on a two-year cycle.

Progress	Challenges
	<ul style="list-style-type: none"> <li>• A general reduction in the perception that tobacco, alcohol, and marijuana is risky, particularly as it relates to parents' perception of risk</li> <li>• Student stress and mental health concerns continue to rise, including grades (not learning) as the primary source of stress.</li> <li>• Approximately 1 in 5 of HS students and 1 in 10 MS students indicated atypical sadness or suicidal thoughts (Adults are only made aware of students considering suicide in about 20% of cases.).</li> <li>• New data indicates that sexual violence increases as students get older (noted a possible correlation to an increase in substance use).</li> </ul>

Source: Cohasset Public Schools 2017 Survey Results

Existing conditions data was not available on healthy eating behaviors (e.g., daily consumption of fruits and vegetables) or physical activity rates (e.g., physical activity over past week).

Overweight and obesity estimates were available from a recent publication. Approximately 14% of students in Cohasset public schools are estimated to have an unhealthy weight (overweight or obese as defined by body mass index – BMI) as compared to the state average of 30%.

**Older Adults**

Massachusetts is set to experience growth in the number of residents who are 65 years old and older. The growth in the number of older residents will challenge how infrastructure is built, what services are offered, and how and where these residents interact with the rest of the community. The older population in Cohasset is projected to grow by 90% and could account for nearly a quarter of the Town's overall population by 2030.

The Massachusetts Healthy Aging Collaborative has developed municipal profiles for cities and towns that show the health of older residents. This dataset provides detail for a population that may or may not reflect general health trends for the Town. Select data for Cohasset is presented below.

Figure 14: Massachusetts Healthy Aging Collaborative Municipal Profile for Cohasset

Health Metric	Performance <sup>13</sup>	Cohasset	State
<b>WELLNESS and PREVENTION</b>			
% any physical activity within last month		71.7%	72.4%
% injured in a fall within last 3 months		4.6%	5.1%
% with self-reported fair or poor health status		18.6%	20.7%
% with 15+ physically unhealthy days last month		11.3%	14.0%
% with physical exam/check-up in past year		90.6%	90.2%
<b>NUTRITION/DIET</b>			
% with 5 or more servings of fruit or vegetables per day		23.1%	24.9%
% obese		23.1%	22.6%
% high cholesterol	B	65.0%	73.6%
% current smokers		8.2%	9.1%
% excessive drinking		12.0%	9.2%
<b>MENTAL HEALTH</b>			
% with 15+ days poor mental health last month		6.0%	6.7%
% satisfied with life		95.6%	95.8%
% receiving adequate emotional support		80.7%	80.7%
<b>CHRONIC DISEASE</b>			
% with Alzheimer's disease or related dementias		12.5%	14.4%
% with diabetes	B	22.3%	32.1%
% with stroke		12.5%	12.6%
% with chronic obstructive pulmonary disease	B	19.8%	23.3%
% with asthma	B	9.8%	11.8%
% with hypertension	B	70.5%	77.5%
% ever had a heart attack	B	3.7%	5.0%
Summary chronic disease measures			
% with 4+ chronic conditions	B	52.9%	61.5%

<sup>13</sup> Interpretations about whether or not the Town is performing better, worse, or no differently than the state average are based on statistical significance. Statistical significance in this case was derived by the Massachusetts Healthy Aging Collaborative and is based on 95% confidence intervals. For specific information on how these were calculated, please visit: <https://mahealthyagingcollaborative.org/data-report/explore-the-profiles/data-sources-and-methods/#data>

Health Metric	Performance <sup>13</sup>	Cohasset	State
% with 0 chronic conditions		9.0%	7.8%
<b>LIVING WITH DISABILITY</b>			
% disabled for a year or more		31.1%	31.0%
Independent living impairment			
% 65-74 with independent living difficulty		8.7%	7.2%
% 75+ with independent living difficulty		16.3%	24.3%

These data show that on nearly each measure the older population in Cohasset is line with or better off than the state’s performance. While Cohasset’s older residents appear better in a relative sense, the percentages themselves provide useful information to consider. For example, the data indicate that older residents are receiving emotional support, mostly satisfied with life, and have healthy behaviors that include physical activity and eat fruits and vegetables daily. In contrast, the data convey that more than a third of the older adult population is living with a disability, slightly more than one in ten are living with dementia, and that over half live with multiple chronic health conditions.

**Planning Ahead for Community Health**

Current conditions suggest that the Town of Cohasset’s residents, overall, experiences physical, social, and mental health outcomes that are equal to or better than the average of the Commonwealth. The Town’s economic, housing, and environmental conditions support these beneficial outcomes and represent conditions that are supportive of wellness. Although residents in the town generally enjoy better health, there are actions that Cohasset can to prevent future threats to health of residents and help all in the town enjoy greater wellbeing.

**Goal 1: Sustain and expand access to locally produced and healthy foods in town**

Cohasset does better on most measures related to healthy food behavior and access when compared to the state. Residents have access to a full service grocery stores and on average they eat more fruits and vegetables than those in the state. However, residents seem to experience health issues that are diet-related, such as diabetes and heart disease. Going forward, Cohasset should continue to support conditions and behaviors related to consumption of healthy foods.

**Strategy 1.1: Continue support and identify expansion opportunities for the farmers market to encourage use of local and healthy foods (e.g., Holly Hill)**

- Explore potential for winter farmers market to have local, fresh food available year round.

**Strategy 1.2: Develop and implement a Community Food System Action to help preserve existing agricultural uses and soils, use of marine resources, and respond to climate driven issues that could affect local food production**

**Strategy 1.3: Monitor local needs for supplemental nutrition benefits, especially among vulnerable populations including low income households and seniors**

**Goal 2: Sustain support for actions to monitor and respond to issue relates to the mental and emotional wellness of residents, particularly that of youth and older adults**

Cohasset residents engage in prosocial behaviors and high levels of physical activity, two factors that help maintain good mental health. There are small signs that some in town, particularly youth and older adults, may experience depressive periods or times when they might feel isolated.

**Strategy 2.1: Conducting an annual town-wide communications campaign to reduce the perception of stigma for receiving mental and emotional support**

- Work could be led by or build on by the Safe Harbors Cohasset Coalition.

**Strategy 2.2: Continue to support programs that provide social and emotional support to younger and older residents**

- Provide additional attention to outreach work for those who are or are at risk of social isolation.

**Strategy 2.3: Supporting the development of a teen or intergenerational center in town**

- The center could be located in a new or existing building and include collaboration with current community and faith organizations. The purpose would be to provide a welcoming space to youth in town to engage with their peers as well as potentially seniors in town in constructive and community-supportive activities (e.g. volunteering).

**Strategy 2.4: Conducting regular (annual or bi-annual) town-wide surveys to gather information about parents' behaviors in relation to their children and youth in town (e.g., social host law, conversation with children about substance use)**

- The data would complement youth survey and provide information to develop a community-wide action plan around behavioral health.

**Goal 3: Prioritize active transportation (walking, biking, and transit use) and open space access to promote physical activity and exposure to outdoor natural environments**

Cohasset residents benefit from higher level of access to open spaces and exposure to greenness. However, accessing many of these outdoor spaces requires use of vehicle or travel along thoroughfares that are not perceived as safe. In addition, increased use of green spaces is

associated with higher levels of physical activity and social cohesion – both protective factors for certain chronic diseases.

**Strategy 3.1: Sustain and expand local programming for activities that include physical activity**

- Programming can include age-specific activities (e.g., older adult walking groups) or mixed age activities (e.g., open hours at school through joint use agreement).

**Goal 4: Addresses environment hazards to reduce resident exposure to substances that reduce the quality of life in town**

Cohasset residents face few threats related to environmental quality. To maintain the protective features that reduce the risk of exposures, Cohasset should monitor factors that pose health risks from environmental contaminants under current conditions and as conditions shift due to climate change.

**Strategy 4.1: Develop and disseminate information about prevention and reduction of tick and mosquito exposure**

- Consider modeling materials on information available from the Centers for Disease Control and Prevention, including use of landscaping techniques (e.g., Middlesex Tick Taskforce *Landscaping a Tick Safe Zone*)

**Strategy 4.2: Provide informational materials for new and existing residents who live in proximity to roadways with higher traffic volumes (e.g., Route 3A)**

**Strategy 4.3: Prioritize actions that reduce local single occupant vehicle trips in order to reduce locally-generated motor vehicle trips and related air pollutants**

**Strategy 4.4: Provide more mobility options for older residents and households with limited access to personal vehicles in order to enhance transportation safety, connect with local destinations and maintain community connections**

**Strategy 4.5: Explore current risks associated with Wampatuck Park's former military uses and where necessary, update information (e.g., signage) for park users so that they are aware of potential exposures**

**Goal 5: Assess potential health impacts of proposed projects and policies by integrating a health and equity lens into local decision-making**

The Town will face additional growth and development pressures. It can be helpful to anticipate public health impacts as part of these pressures similar to assessing other impacts (e.g., housing, public finances).

**Strategy 5.1: Use a health assessment tool, such as the NACCHO Public Health in Land Use Planning & Community Design checklist, in planning and development decision making**

**Strategy 5.2: Bring health perspective the Community Preservation Committee through consultation with the Health Department or Board of Health**

**Strategy 5.3: Explore use of Racial Equity Impact Assessment in municipal planning and development decision making**

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