



COMMUNITY MASTER PLAN

Town of Stratham

Adopted
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Acknowledgements

The Town of Stratham wishes to thank every member of our community who dedicated time and effort into creating this document.

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Introduction

What is the Stratham Master Plan?

A community Master Plan provides the answers to two important questions: “Where do we want to be 20 years from now?” and “How do we make that happen?”

The Master Plan sets a course for a Town’s future by developing a policy framework that is consistent and complementary across a diverse set of issues: the homes available for existing and future residents; the way people get around town; the businesses and industry that provide jobs; the way we use our land and natural resources. All of these issues and many more come together to create quality of life, community character, and a sustainable future for generations to come.

Once a Master Plan is adopted, it is used in local government by departments, boards and commissions to help set budgets, identify areas for investment, establish program activities, and work on special projects. It guides amendments to zoning ordinances in order to pursue land use objectives identified in the Plan.

Why Develop a Master Plan?

“Plan your community’s future or
it will be planned for you.”

Plan your community’s future or it will be planned for you. This maxim, popular with community planners, speaks to the value of looking to the future and taking the time to develop policies and strategies that will move a town towards a particular vision. Without this framework, a town will find itself reacting to market forces, environmental challenges, changes in demands for municipal services, and service-level expectations in inefficient and unorganized ways.

Stratham’s recent history demonstrates the power of a well-designed Master Plan. While the preceding Master Plan was developed in 1998, the list of achievements since that plan’s adoption show the value of a thoughtful policy framework. The following text quotes policy statements from the 1998 Master Plan, then lists achievements that have occurred since the adoption of that plan.

Economic Development and Growth Management

“It is the policy of the Town of Stratham to maintain a balance of land uses and development opportunities that results in a well planned community with a diverse tax base...As Stratham continues to grow in residential population, it will be necessary to increase opportunity for additional commercial and industrial growth.”

- 1998 Master Plan Section 8.5

Since the adoption of that policy, the Town:

- Rezoned the former New Hampshire Vocational Technical College (Vo-Tech) site for future mixed-use redevelopment.
- Created the Gateway District Master Plan and rezoned the Route 108 commercial corridor for mixed-use redevelopment and improved transportation connectivity.
- Hosted the PlanNH Charette process for the Town Center.
- Supported multiple successful expansions of Lindt & Sprungli in the Industrial Park.

Protecting Sensitive Lands

“It is the policy of the Town of Stratham through both regulatory and non-regulatory means, to limit and control development in environmentally sensitive areas...”

- 1998 Master Plan Section 6.1

Since the adoption of that policy, the Town:

- Dedicated Land Use Change Tax (LUCT) funds to support permanent conservation.
- Passed a \$5M conservation bond used to protect valuable lands.
- Purchased the Zarnowski riverfront property (Squamscott River) for environmental protection and possible future public use.
- Expanded the Town Forest with acquisition of the former Noyes land.
- Enhanced environmental protections in various zoning regulation updates.

Historic Resource Protection

“It is a fundamental goal of the Town of Stratham to conserve and protect its...historic buildings and sites.”

- 1998 Master Plan Section 6.0

Since the adoption of that policy, the Town:

- Established the Stratham Heritage Commission.
- Constructed the Veterans Memorial Garden.
- Hosted the 300th anniversary celebration for the Town, published an updated history book.
- Adopted NH RSA 79-E and 79-D resulting in the enrollment of the Old Town Hall and 18 barns respectively.
- Prevented the demolition of the Old Town Hall with adaptive reuse as housing.
- Established permanent preservation easements for the Bartlett-Cushman House and Lane Homestead.
- Added Emery Farm/Chase Tavern, Bartlett-Cushman House, and Scamman Farm to the National Register of Historic Places; and Wiggin Memorial Library building to the New Hampshire Register of Historic Places.

How is the Master Plan Organized?

This plan reflects the process used to identify important issues, policy commitments, and strategies for success. The overall effort to develop this plan created two documents:

1. The Stratham Baseline Report.

This document takes a brief look back in history and provides a detailed snapshot of existing conditions in Stratham today. It synthesizes the findings of several previous studies and, where possible, adds more recent data to give the most up to date facts and figures describing conditions and trends in our community. The document was developed in large part by the project consultants with considerable input from the Master Plan Steering Committee and municipal staff. The Stratham Baseline Report is Appendix A of this Master Plan.

2. The Master Plan document.

This document (what you are reading now) answers two critical questions: Where do we want to be 20 years from now and how to we get there? The document is organized in chapters that reflect the community discussions used to inform the community engagement process of developing the Master Plan. The chapters include:

Our Hometown

This chapter summarizes what Stratham residents said makes this town special. The elements of this chapter represent Stratham's greatest strengths and assets upon which the community can build its future.

Forces Driving Change

This chapter looks at local, regional, and global trends that are impacting Stratham. The Town can build upon some of these trends to reach the community's vision. Others are pushing Stratham away from its vision and will need to be addressed.

Choosing a Future for Stratham

This chapter examines a wide array of choices that are critical to the future health and prosperity of Stratham. Each section presents a policy commitment along with a set of actions that reflect this commitment.

Implementation

This section lists all the policy commitments and associated actions provided throughout the document. It also provides a description of how the Town will incorporate the Master Plan into its everyday operation to ensure implementation.

The Process

The development of the Stratham Master Plan unfolded over the course of almost 18 months. Highlights of the process included the events and efforts listed below. Documentation for several of these public engagement and outreach efforts is provided as Appendix B.

Project Steering Committee – The development of the Master Plan was supervised by a 13-member Steering Committee appointed by the Select Board. This group met approximately monthly during this process to review materials, discuss policy issues, and assist with public outreach.

Public Forums – Two Public Forums were held at strategic points in the process. The first forum (October 16, 2018) was used to initiate public discussion and learn about what people value most in the community and what they believe are the most important challenges for Stratham’s future. The second forum (May 13, 2019) was used to introduce the major issues comprising the policy framework within the plan.

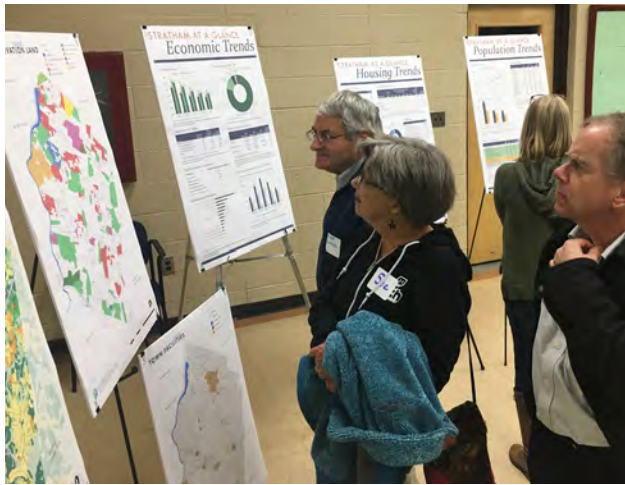
Follow Up Survey – The first public forum was immediately followed by a town-wide survey that presented the same questions as those discussed at the forum. This allowed people who were unable to make the forum an opportunity to add to the round table discussions.

Focused Group Discussions – A series of focus group discussions were held to capture input from smaller audiences that have a unique perspective on the plan. Members of the Conservation Commission, Recreation Commission, Stratham Seniors, Stratham Hill Park Association, Heritage Commission, Pedestrian and Cyclist Advocacy Committee, and Volunteer Fire Department were represented at different topical group gatherings. The Town also convened members of the agricultural community and the regional business community as part of these discussions.

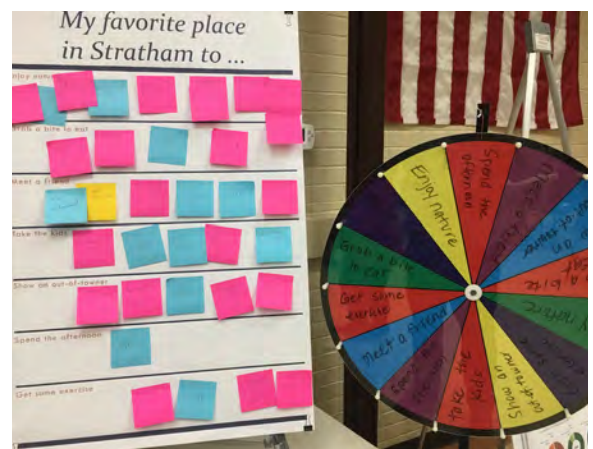
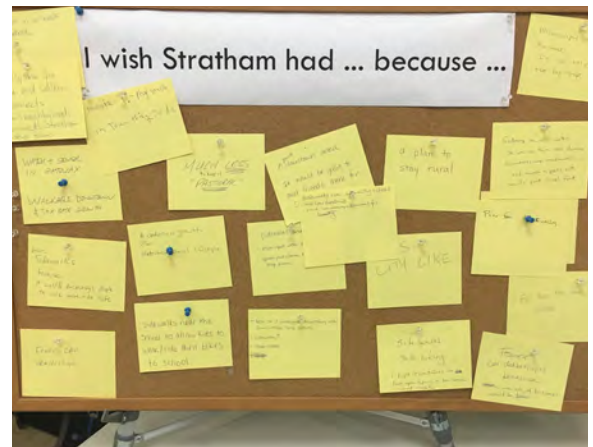
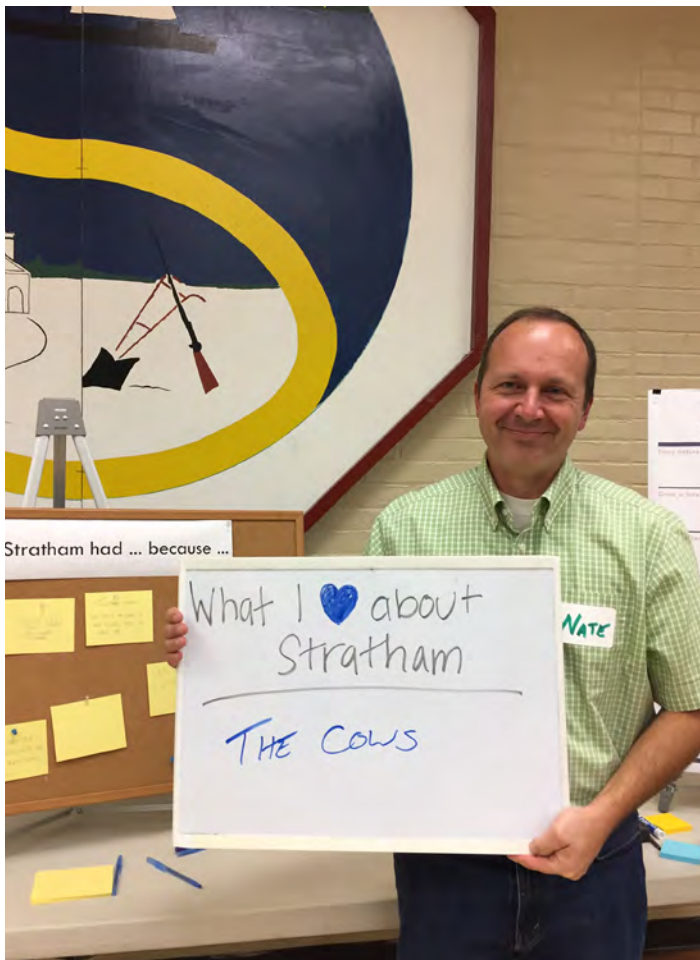
Project Interviews – In addition to focus group meetings, over a dozen one-on-one interviews were conducted with key individuals to gather information and gain insight into the complexities of policy issues at the local level.

Independent Reviews – Once a complete draft of the plan was developed by the consultant, it was reviewed by the Heritage Commission, the Conservation Commission, and the Recreation Department.

Planning Board Proceedings – The Planning Board was engaged in two workshops with the Master Plan Steering Committee. These sessions were used to review the policy direction and strategies presented in the document, including one session that also included representatives from Boards and Commissions in Town. The Planning Board also held a public hearing during which the final draft was presented for public comment and adoption.



The Master Plan's first forum was used a collection of visual feedback tools as ice breaker exercises before getting into small group discussions.



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Haying fields is a common summertime activity in Stratham. Wide open expanses of agricultural lands are an important part of the local landscape. Photo credit: Nathan Merrill

Our Hometown

The community engagement process was used, in part, to identify the elements of Stratham that are most important to residents or best reflect their idea of what is most valuable in the community. Stratham’s motto, adopted by town vote for its 300th anniversary, is clearly still relevant today and remains widely endorsed by the community. Stratham is “inspired by the past and committed to the future.”

Agricultural Heritage

Agriculture is inextricably woven into the identity of Stratham. Sloping hay fields, grazing livestock, stone walls, and historic structures still exist in a network of farms that lie between residential neighborhoods and forested land. These farms provide jobs for local residents and greenhouses, farm stands, and CSAs provide access to fresh, healthy food. The continued strong presence of 4-H programs and agriculture at the annual Stratham Fair is also a reflection of this heritage.



Photo credit: Nathan Merrill

From left to right: Former Wiggin Memorial Library, Kenniston Tavern, and the Old Town Hall.

Historic Buildings and Sites

The Town of Stratham is over 300 years old and is New Hampshire's sixth-oldest municipality. Stratham sits in the center of New Hampshire's richest collection of historic communities that line its seacoast. While the legacy landscapes of our agricultural past remain one of our greatest cultural resources, the Town is also home to an impressive collection of historic buildings. Because of its agricultural heritage, Stratham was settled in a more dispersed fashion when compared with regional neighbors like Exeter, Durham, and Portsmouth. Where these communities established a densely developed town center early in their history, Stratham's agrarian economy kept development patterns more spread out and historic buildings accent the landscape in a scattered pattern throughout the town.

Natural Areas, Parks, and Historic Landscapes



Central to so many community discussions around Stratham's strengths are our forests, waterways, and parks. The inventory, extent, and diversity of these areas is impressive, including Stratham Hill Park, Stevens Park, Smyk Park, Great Bay Estuary, the Squamscott River, Gordon Barker Town Forest, and many others. These places provide opportunities for recreation and relaxation, education, programmed activities, scenic viewing, gathering,

and (where specifically allowed) hunting and fishing. The value of these areas is reflected in the consistent financial investments made by the Town for acquisition and maintenance.

“There is a great deal of thinking about the future, conserving open lands, assembling parcels for future bike/pedestrian connections, We are fortunate to have forward thinking volunteers, activists, and elected officials on the same page.”

-Master Plan Survey Response



Stratham Seniors create a sense of community, gathering regularly for social, education, and recreational events. Photo credit: Richard Swett

A Sense of Community

Despite its rapid growth into a suburban community, Stratham has managed to maintain much of its small-town character. Rural landscapes and winding roads contribute to the Town's identity and make people feel at home. Recreational opportunities help bring people together in parks and on trails, and the Town takes great pride in its public education system. The Town is viewed by its residents as a great place to raise a family. Stratham is also fortunate to be home to many people who care deeply about the town and their neighbors, and who volunteer their time and talents to make the community a better place for everyone. In addition to Stratham's municipal government, many local organizations rely heavily on volunteers, such as the Stratham Volunteer Fire Department, the Stratham Fair, Stratham Seniors, the Great Bay National Estuarine Research Reserve, the Stratham Historical Society and Stratham Hill Park as well as Stratham's municipal government.



Stratham Boy Scouts Troup 158 continues to instill a sense of civic responsibility in its young scouts and provides numerous volunteer opportunities. Photo credit: Stratham Boy Scouts Troup 185.

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Forces Driving Change

This chapter presents a variety of trends driving change in Stratham.

An Aging Population

Stratham's population is aging. As described in the Stratham Baseline Report, the average age of Stratham residents jumped just over six years between 2000 and 2016, from approximately 38 to 44 years. While this trend is not unique to Stratham (Rockingham County and the entire state of New Hampshire have been aging significantly, as have all states in New England overall), Stratham appears to be aging at a rate faster than New Hampshire as a whole. The average Stratham resident is now almost two years older than the average New Hampshire resident. Further, almost every age group under the age of 55 has been shrinking as a percent of the population, even as the Town's population increases.



Photo credit: Richard Swett

Services and Facilities

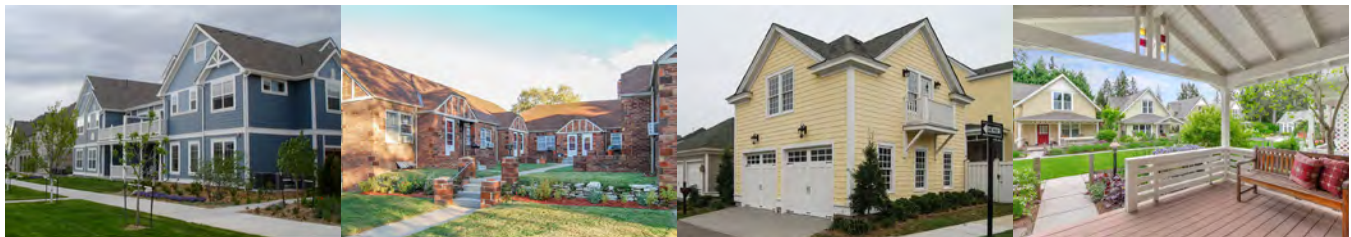
If over the next ten years the majority of current residents aged 55 and older choose to continue living in Stratham (and interviews and focus groups conducted for this plan suggest that many

would like to do so whenever possible), there are potential implications for the services that the Town provides. Mobility for this population will be critical, and the Town may find it necessary to invest in para-transit service. Further, as more people retire, there will be a greater need for senior-oriented (or at least senior-friendly) events, recreation, and activities. The Town may consider investing in a senior center with services and programming, or at least find better ways to connect local seniors with services and activities in neighboring towns, such as those available at the Exeter Senior Center. Another consideration will be the impacts on public safety services – particularly calls for medical emergencies. Statistically, such service calls increase as the population ages. The Town should be prepared to absorb additional costs related to these potential increases in service.



Housing

Many of today's younger senior citizens in Stratham live in single-family homes on individual lots. These homes currently account for over 75% of the Town's housing stock. This type of housing may have suited them well in their earlier years, and indeed may have been what attracted them to Stratham in the first place, but for many seniors, these homes can become a burden as they age. Maintaining more space than they need, paying a larger tax bill than they can comfortably afford, and navigating a home that was not necessarily designed for the elderly—these are the challenges faced by seniors looking to “age in place.” The Town should explore ways to encourage the development of smaller, low-maintenance homes designed in a way that is friendly to individuals with mobility issues.



Stratham can choose from a variety of traditional New England styles to offer more affordable and accessible housing in the community. Images courtesy of Opticos Design

Fiscal Impacts

Finally, as people of working age population declines in number, there are fewer and fewer adults to support the Town's growing senior population. This exacerbates the need for services provided by municipal government. The Town should support more young adults and families with children moving to Stratham, particularly as seniors downsize out of their current homes. Incidentally, the same smaller, lower-maintenance homes desired by seniors are often also desired by younger adults, and can serve as stepping stones for people who would like to move up into a larger single-family home as their families grow.

Market Forces/Business Trends

No municipality can properly plan for its future without understanding the region in which it lies. Stratham, like all its neighbors, is subject to regional, national, and even global market forces that shape the local economy. The location alone, within the economic sphere of Greater Boston and New Hampshire's Seacoast Region, and the proximity of high-wage jobs associated with those areas, puts immense pressure on the existing housing market and the demand for new development. While there are certain market forces that the Town cannot influence on its own, there are many ways Stratham can face these realities and manage them to its advantage. Importantly, all these things involve a thoughtful balance of several inherent trade-offs.

Growth Management and Fiscal Health

There are fiscal implications for the Town's current growth trajectory, and it can be tempting to think that modest levels of development embodied in the Town's two-acre lot subdivisions will maintain fiscal stability. However, as municipalities like Stratham continue to build out with low density subdivisions, they find it more and more difficult to cover expenses. In brief, even with little to no growth, the costs of providing services and paying municipal employees will increase over time. New equipment will need to be purchased, roads will need plowing and repairs, and municipal buildings will need to be replaced. With little growth to feed the tax base, a higher tax burden will be placed on fewer people over time. Furthermore, the development of single-family homes on mid-sized lots (1-3 acres) is shown to be a "net negative" in fiscal terms, meaning the taxes paid by the property owners, on average, do not cover the cost for services.

Commercial/Industrial Development

One trade-off common to many small, rural communities like Stratham is the extent to which commercial/industrial development is allowed versus maintaining a predominantly residential and agricultural community. It is worth noting that the less commercial/industrial development in a town, the more local government must rely on residential property taxes for its revenue. For some communities, residents are comfortable paying higher property taxes in order to maintain a strictly residential/rural environment. Over time, these communities become exclusive bedroom communities with most (if not all) of their previously unprotected lands converting to high-end subdivisions. However, other communities find that investing in viable commercial/industrial areas in targeted portions of town can help shift some of the tax burden away from residential property owners, while also providing space for local businesses and services. It has long been Stratham's intention to promote this sort of targeted commercial growth along the Portsmouth Avenue (NH Route 108) "Gateway" corridor and targeted industrial growth in the Industrial Park.

Business Trends

Beyond providing land and infrastructure for commercial development, there are business trends that will impact the types of development and businesses that Stratham can expect to attract and maintain. In an environment, nationally and regionally, where "bricks and mortar" retail is in decline, Stratham needs to continue to build on what makes it special, providing opportunities for small-scale "mom and pop" commercial spaces that complement, and do not compete with,



Aerial view of the industrial park that covers land in both Stratham and Exeter.

larger retailers outside of town. The Town also needs to be prepared for a future where more and more retail sales occur online, and commercial buildings are occupied by services, maker spaces, recreation, unique retailers, and other niche uses. A lot of these contemporary commercial businesses are locating in shared spaces, in order to more efficiently take advantage of shared resources. Other people are taking advantage of the power of the Internet to run businesses from their homes.

Housing Market

The local housing market in Stratham is expensive by several measures and prices are rising. Stratham's market has completely recovered from the Great Recession, and now exceeds pre-recession prices. The median home sale price in Stratham between 2007 and 2017 was \$400,000 and anecdotal evidence suggests this number is still increasing. Assuming a monthly mortgage that accounts for no more than 30% of a household's income, a household income of over \$100,000 a year would be required to afford a "starter" home in Stratham. This is perhaps the most influential factor affecting who can and cannot afford to live in Stratham and will have future implications relative to the demographic profile.

In addition to cost, Stratham should consider the types of housing the market is not currently providing but that people need. As discussed above, both seniors and young adults have a need for smaller, lower-maintenance (and consequently, generally more affordable) homes, both to own and to rent, ideally within walking distance to amenities and services. While the overall housing development patterns in Stratham are not likely to change much, some targeted mixed-

Relative Housing Costs in Stratham:

- The gap between median home costs in Stratham and Rockingham County as a whole was approximately \$50,000 in 2010. In 2017, this gap increased to almost \$100,000.
- Median home costs in Stratham are approximately 67% higher than the median cost statewide.
- Median gross rent in Stratham in 2016 was approximately \$1,500, nearly \$500 higher than that of the state and \$370 higher than Rockingham County.

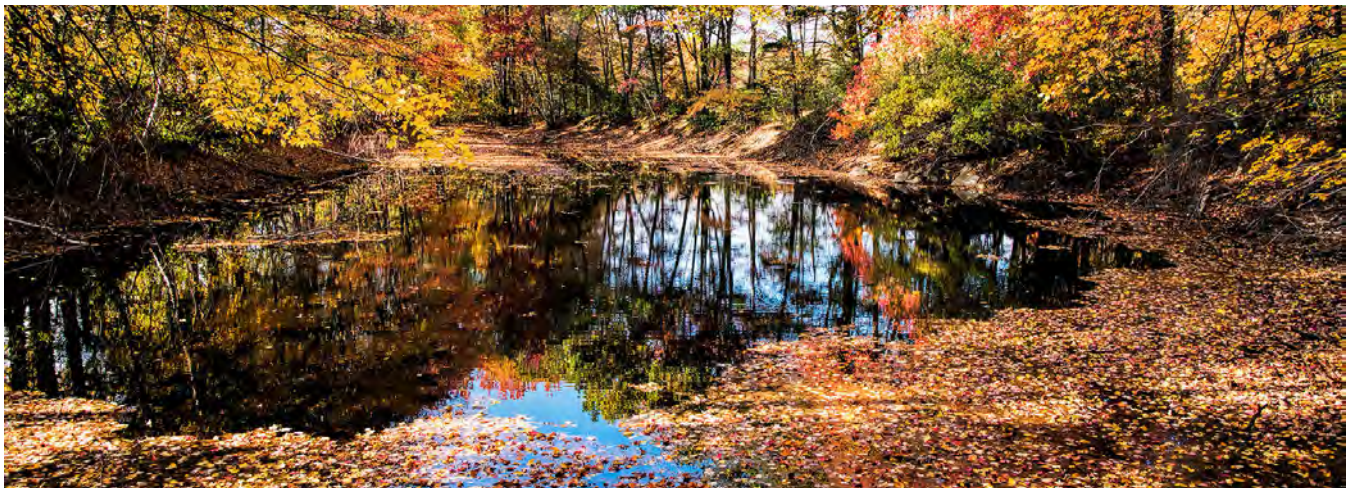
use development in the Gateway District, Town Center, and the Flexible/Mixed Use District (former Vo-Tech site) could go a long way. Along with adaptive reuse of properties in other zones along transportation corridors, these more concentrated areas can provide options for downsizing seniors and starter homes for younger adults who might otherwise move elsewhere.

Land Available for Development

As with every municipality, undeveloped land is a finite resource in Stratham. While there are still hundreds of acres of vacant developable land in Town, under the pressures of the current housing market unprotected lands will not stay undeveloped for long.

Lands with Ecological Value

There is a great deal of natural habitat in Town that is already permanently protected with conservation easements. Outside these areas, there are also a number of wetlands and other lands with environmental constraints that will preclude or seriously limit future development. However, there is still a notable amount of land that is privately owned, technically “developable,” and ecologically valuable for the estuary, forests, and other important local habitats. The Town will need to continue to evaluate these areas and refine a system for prioritizing future conservation efforts. While the housing market remains strong, there will be more and more pressure to develop these sensitive areas, especially if no other land areas in Stratham are available and able to contain and accommodate this development pressure and market demand.



Ponds that intermittently dry up are known as vernal pools. They are incredibly important to Stratham's local ecology.

Farmland

Currently, approximately 20% of Stratham's land area is farmed. This is a tremendous asset for a community located so close to the coast and metropolitan Boston, and agriculture is embedded in the cultural heritage of Stratham. Fortunately, Stratham has done an excellent job working with local farmers to establish conservation easements on farm properties. Today, about 55% of all active farms in Stratham are conserved. However, that still leaves about 900 acres of farmland susceptible to future development.

The Great Bay Estuary Watershed

As land continues to be developed in Stratham, it is important to recognize the impact of this development in the larger context of the Great Bay Estuary. Continued study shows the estuary is under stress with many important indicators showing negative trends over time. Increases in impervious cover, on-site wastewater systems, fertilizer application and other activities contribute more pollution to the estuary either through steady groundwater recharge or stormwater runoff. New development and improvements to existing developed areas will occur within this watershed context and should be designed and regulated accordingly.

Major Roadways

The early settlement patterns in the region established a series of trade highways that connected the major commercial/industrial hubs. The Town of Exeter connected to Durham through what is now Route 108 (College Road) and to Portsmouth through what is now Route 33 (Portsmouth Avenue). These arterial roads were, and still are, incredibly influential on the Town of Stratham. Historically, during Stratham's peak agricultural years, these roads served as the first transportation link for produce and dairy products that would move to the urban centers and then see national and international distribution. Today, these roads provide passage for tens of thousands of automobiles moving within or passing through Stratham on a daily basis. Much of this traffic is comprised of commuters coming and going from Stratham or passing through as they head toward more densely populated job centers. Further, particularly for Portsmouth Avenue, these roads can serve as barriers that divide neighborhoods from one another, making it unsafe to cross by any means other than with an automobile.

In addition to these major arterial roadways, local roads like Bunker Hill Avenue and Winnicutt Road served as the primary travel routes for some of Stratham's earliest residents and farmers. As a result, these important local roads and the more regional arterials described above provide access to many of the scattered historic homesteads and landscapes as well as institutional buildings integral to Stratham's identity. Historic homes and the lots where they stand provide a setting that connects passersby with the history of these corridors. As regional and local traffic on these roads increases, the appeal of living along these roads will decrease and the future of these homesteads will become more uncertain.

Climate Change

The planet's climate is changing, generally becoming warmer. This trend has resulted in changing weather patterns, changing hydrologic patterns, and sea level rise. The implications of these trends for municipal governments, particularly for communities close to the coast, are significant. Typical predictions for communities like Stratham include:

- Rising groundwater levels caused primarily by an inland response to sea level rise.
- Localized disruption of hydrology (e.g., groundwater, streams, and wetlands) due to increased frequency of severe storms.
- Destruction or migration of coastal habitats caused by sea level rise (inundation) and coastal storms.
- Infrastructure failure from high frequency, high intensity storms (e.g. roadway damage, culverts, storm drains, etc.).
- Migration of wildlife species northward, including invasive species.
- Loss of property, including important public utilities and other facilities, to flood waters.

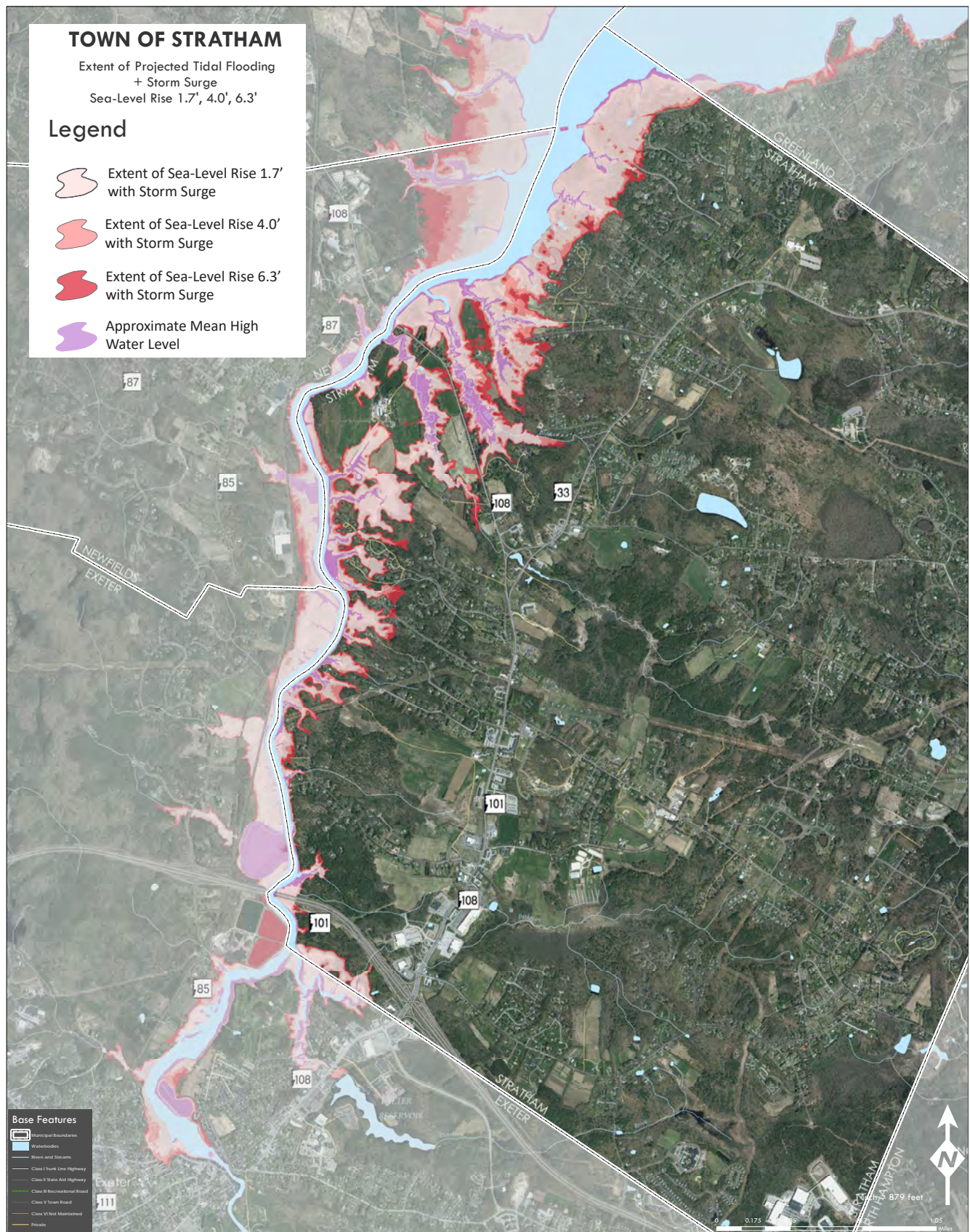
The most recent study of risks to Stratham associated with climate change is the 2017 *Climate Risk in The Seacoast: Vulnerability Assessment Report for Town of Stratham, New Hampshire (C-RiSe)*. This report was developed by the Rockingham Planning Commission to assess impacts to six communities in the region from various storm event and sea level rise scenarios. The impacts predicted in Stratham are not insignificant, with the report stating:

The inland coastal portion of Stratham that is most susceptible to coastal flooding is located in lowlands adjacent to and within the floodplain of the Squamscott River and its tributaries. Although confined in extent, these low-lying areas, containing a mix of residential and commercial development and the infrastructure that services them, are particularly vulnerable to flooding from seasonal high tides, sea-level rise and coastal storms. Other flood impacts include:

- *Chapmans Landing water recreation access and parking lot.*
- *Stuart Farm and Scamman Farm bordering the Squamscott River.*
- *Reduced hydraulic capacity of four culverts on Squamscott Road.*
- *Well-head protection areas for residential developments west of Route 33.*
- *128 parcels valued at \$40.6 million and 6 residential structures valued at \$2.5 million.*

The report goes on to examine the capacity of culverts at street crossings as these are particularly important for public safety. Where culverts are improperly sized or designed, water can easily overtop roadways cutting off emergency access and evacuation routes. Of the ten culverts examined in the study, seven of them are over capacity during a 100-year storm. Even at a storm frequency as low as the 10-year storm,¹ three of these culverts are over capacity.

¹ A 10-year storm is an event of such size that over a long period of time, the average time between storms of equal or greater magnitude is 10 years. Likewise, for a 100-year storm, the average time between events of equal or greater magnitude is 100 years. Mathematically, a 10-year event has a probability of 0.1 or 10% of being equaled or exceeded in any one year.



The C-RiSe report shows the impact of different sea level rise scenarios on Stratham waterfront properties and roads.



Community Vision

“Inspired by the past and committed to the future.”

The Town of Stratham is a community “inspired by the past and committed to the future.” The Town will maintain and build a well-planned community designed to meet the needs of our current and future residents in a way that is sustainable, attractive, accessible, and affordable. To achieve this vision, we, the community of Stratham, will follow and seek to balance these guiding principles:

Heritage

- Celebrate Stratham’s agrarian heritage by protecting buildings and landscapes that connect us to our agricultural past.
- Support our farmers by tailoring our policies and regulations to facilitate economic success on farms where appropriate.
- Pursue the preservation and continued use of historic buildings, sites, and landscapes.

Land Use

- Invest in infrastructure that will foster a high quality of life, increase public safety, anticipate climate change, and keep us fiscally sound.
- Promote a diversity of housing that is thoughtfully located, well-designed, and responsive to local needs.
- Maintain our parks and natural areas in a way that protects our natural resources and balances the needs of people with varied interests and abilities.

- Foster the development and long-term prosperity of commercial, mixed use, and industrial development in areas designated for those uses.
- Reduce sprawl from development pressure in the more rural Residential/Agricultural zone by planning for Stratham's future growth in focused locations, such as the Gateway District and the mixed-use zone at the Vo-Tech site. Planning for future growth and focusing that growth in targeted locations will reduce pressure on Stratham's historical and agricultural resources.
- Connect different areas of our community with a network of roadways, paths, trails, sidewalks, and bikeways designed to foster community and improve the environment.

Community

- Foster a community that invests in children and continues to be highly desirable for raising families.
- Foster a community that provides for its senior residents, looking to keep them active in town.
- Foster an inclusive, diverse, and welcoming community.
- Foster a collaborative decision-making process wherever possible.
- Work proactively to maintain and enhance transparency in our government affairs.
- Communicate openly and honestly about the future of our community, respect differences of opinion, and work toward collaborative solutions.



Choosing a Future for Stratham

The chapter on *Our Hometown* provides a summary of what people value most in Stratham and the *Community Vision* aspires to a future where these assets remain healthy and integral to the community for decades to come. However, when we examine the more powerful *Forces Driving Change* in Stratham today, it is easy to see many of our most cherished assets are at risk and our vision will not be achieved without strong commitments and bold actions.

The path on which this community is traveling is one where the housing market gradually consumes our available land, including our farmland, and makes it possible only for the wealthy to live here. If no changes are made to current land use policies and the community does not invest in a different future, the Community Vision articulated in this Master Plan will not be achieved.

The desire of people to move to Stratham is as high as it has ever been. Further, people fortunate enough to already live here generally want to stay. Scenic landscapes, good schools, and a healthy regional economy have made Stratham a desirable place to live. Combined with trends in transportation, needs for services, and demographic shifts, Stratham is at risk of becoming a victim of its own success. The path on which this community is traveling is one where the housing market gradually consumes our available land, including our farmland, and makes it possible only for the wealthy to live here. If no changes are made to current land use policies and the community does not invest in a different future, the *Community Vision* articulated in this Master Plan will not be achieved.

In order to achieve the future vision set forth in this plan, the Town of Stratham will need to make a series of bold choices going forward. In some cases, these choices are easy to identify, and the path forward is clear. In other instances, the path forward is not yet entirely clear. Some issues require further study before concrete action can be taken. In these instances, this plan will establish a deep commitment and strong policy framework. The sections below present ten key issues for which important policy commitments are needed from the Town.

STRATHAM'S MASTER PLAN KEY ISSUES

The Gateway	Historic Resource Preservation	Public Services and Facilities
The Viability of Our Farms	Biking, Walking, and Automobiles	Open Spaces and Parklands
The Town Center	Sustaining Our Natural Resources	Stratham's Industrial Park
	Housing for the Future	

The Gateway

The vision for the Gateway District articulated in this plan was adopted by the Planning Board in 2008. The Gateway District refers to the commercial/mixed use zones along Portsmouth Avenue beginning at the edge of Town near Route 101 and ending approximately at Raeder Drive. This district has a clearly articulated vision in The Gateway Commercial Business District Master Plan (District Master Plan), which states the district will...

“Enhance the economic vitality, business diversity, accessibility, and visual appeal of Stratham’s Gateway Commercial Business District, in a manner that is consistent with the landscape and architecture of the Town’s agricultural tradition.”

The current zoning of the Gateway District was adopted to implement the Vision in the District Master Plan. The opportunities and benefits to Stratham residents:

- Upgraded amenities (i.e. modernized shopping facilities for groceries, markets).
- New services and uses and gathering spaces (i.e. theaters and civic spaces).
- Diversified housing options for seniors and people at all stages of life.
- Modern site development that better cares for the environment (i.e. stormwater quality and waterways).
- Connections through side and interior roads, which relieve congestion by providing motorists with multiple ways to reach their destination. These also increase access for pedestrians and bicyclists.

AND

- More viable economic structure for the Town through added property valuation.

Quality of Development

In addition to more vibrant uses - including a mix of stores, eating places, residential units, and offices - the quality of site development will provide many physical improvements. Site design techniques will incorporate best practices related to circulation, aesthetics, environmental sustainability, retail planning, and safety. Development proposals will be scrutinized for their ability to create cohesion between abutting land uses, the surrounding landscape, and meet the intent of the District Master Plan.

The Gateway District regulations require:

- Public spaces that are attractive and inviting.
- Compact redevelopment patterns scaled to the pedestrian experience.
- Well-connected pedestrian and bicycle networks.
- Sustainable landscaping that uses resilient native plants and stonework reflective of the region.

Every aspect of site design, building orientation, circulation, and architecture will be chosen to establish the Gateway District as a unique destination where people live, work, dine, and come for entertainment.

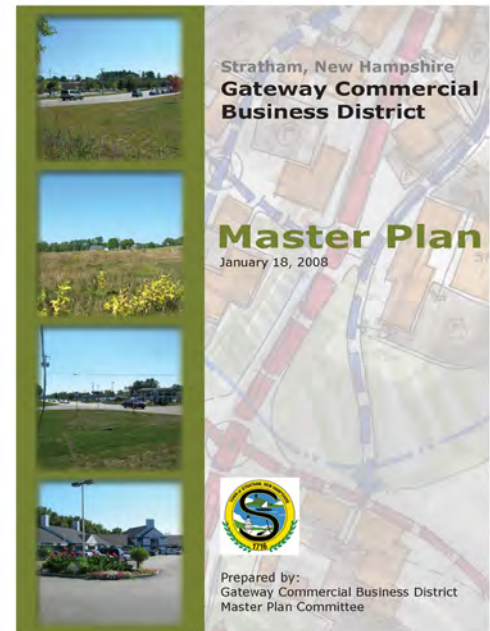
Town Meeting Actions for Adoption (2009 & 2014)

The Gateway District vision has been adopted and many steps taken toward implementation with some key steps remaining.

This vision for the Gateway District emerged from a local planning process that dates back to the early 2000's. A summary of the adoption steps and implementation is provided below:

- The District Master Plan was adopted unanimously by the Planning Board in 2008.
- The Gateway District zoning ordinance was approved by Stratham voters as an optional overlay in the General Commercial zone in 2009.
- The Gateway District zoning ordinance was made mandatory by Stratham voters in 2014 (rescinding the previous General Commercial district in that area).

The corridor has seen some limited development that incorporates Gateway District streetscape and architecture requirements since the Gateway District zoning provisions were adopted. However, none of these newly developed or redeveloped sites are the higher value, denser developments that provide the sought-after public services, spaces, and amenities in the District Master Plan vision. Recent developments have included single-story/single-use auto-dependent retail structures that are more typical of strip malls that have limited infrastructure.



The Gateway Commercial Business District Master Plan marked an important milestone in the evolution of this area of Stratham.

In order for the development and redevelopment potential of this key asset to materialize, additional implementation steps are required. Denser developments with more use by the public require access to public utilities such as water and sewer for basic services, as well as fire protection and more sophisticated stormwater management systems.

Implementation Efforts

Following the 2016 Town Meeting, where a bond measure to finance the connection of water infrastructure to the Exeter system did not pass, the Select Board appointed a new Committee to study the future of the corridor in order to address concerns raised at the Town meeting and, in particular, to review the financial viability of the Gateway District zoning as it relates to water and sewer infrastructure.

With guidance and technical assistance from a professional consultant, the Committee studied the technical options for connecting to existing water and sewer systems in the region as well as creating a Stratham system. In addition, it studied the financial feasibility of these services into the district. The Committee concluded that the most logical connection is to the existing

Exeter systems and, further, that a Tax Increment Financing District (TIF) – a municipal finance tool used successfully in many New Hampshire communities and elsewhere to target tax revenues from a certain district to public improvements (such as water and sewer) in that same district – offers a viable financial model for financing the infrastructure. The financial projections were very conservative and did not include funding sources from any state or federal programs, which could further improve the financial projections.

In 2018, extensive public engagement, including a community-wide survey, demonstrated both a commitment to the vision of the Gateway and a commitment to investing in infrastructure.

The community survey showed very strong support for further implementing the Gateway District vision. A total of 611 Stratham residents, 20 years and older (or 11.3% of the town's population), responded. Highlights from the survey are below:

- The survey showed overwhelming support for a more walkable commercial area; more variety in restaurants and gatherings spaces; and more variety of retail and business options.
- “So long as developers pay their share, some investment from the town makes sense” (80% agree and strongly agree).
- “Taxpayers will benefit in the long term from town infrastructure investment” (76% agree and strongly agree).

Input received during the development of this plan includes interests from walking and biking advocates, farmers, business owners, seniors, local officials, parents, and others. Almost universally, these groups and individuals saw the tremendous potential of the Gateway District to contribute positively to the future of Stratham. These discussions, and those that came before the Master Plan, place the Gateway District high on the list of local priorities.

Our Commitment to the Gateway District:

Stratham is committed to actively working toward the success of the Gateway District as envisioned in the Gateway Master Plan.

To achieve success, Stratham will:

1. Continue to pursue the vision of the Gateway Corridor Master Plan and the full range of development and redevelopment envisioned.
2. Continue to engage property owners and developers along the corridor who have not yet been able to take advantage of the Gateway vision due to infrastructure limitations.
3. Develop and approve a financing plan and tools that provide the necessary funding for the design and installation of water and sewer infrastructure in accordance with recommended project phasing.
4. Further develop the existing inter-municipal agreement for water and pursue sewer connection discussions.
5. Install water and sewer infrastructure in accordance with the terms and conditions of the financial and legal documents (such as a TIF District and Financing Plan).
6. Keep the public informed as progress toward the Gateway vision unfolds, including design of public improvements, new development projects, and other progress related to the Gateway.
7. Re-visit, as appropriate, the existing zoning for the Gateway District and make amendments that will facilitate achieving the vision.

The Viability of Our Farms

A core element of this Master Plan vision includes the continued presence of viable farms in Stratham. The agricultural legacy in our community shapes our landscapes and connects us to a history rich in cultivation and industry. Beyond our connection to Stratham's agrarian heritage, active farms provide many benefits to the community. Residents agree these lands provide a public benefit due to their scenic quality. But it is important to note that the scenic quality of these views often requires maintenance in the form of building repairs, mowing, path/road repair, and other items that may be outside the normal daily operations of a working farm. Maintenance of these scenic views therefore often falls to the farmer, who provides the service at no direct cost to the Town. Finally, from an economic perspective, agricultural commerce is a significant regional draw in Stratham, bringing tens of thousands of visitors into Stratham every year.

Farmers face many challenges relative to financial sustainability, and as one farmer stated in the outreach process, "If farms don't make a profit, then they'll just close." Costs that impact farmers disproportionately to their income level can include property tax assessments, permit fees and building code requirements, intensive stewardship of the property (e.g., maintenance and mowing), and start-up costs for young farmers. The strength of the regional housing market and gradual loss of developable land in Stratham will continue to make it more financially attractive for landowners

to develop their farms as single-family home subdivisions. To curb the development of farmland for residential subdivisions or other development, an array of land use and tax-based tools are needed to help farms remain financially viable. Land conservation easements, current use taxation, historic preservation and barn easements, and zoning tailored to farm viability all help to ensure the long-term sustainability of agriculture in Stratham.

Diversified Income

Small farm operation in the 21st century is often a story of adaptation and diversification. While many traditional farm activities like cultivation, animal husbandry, and harvest still lie at the core of everyday farm life, new and sometimes unexpected streams of revenue are emerging. For example, a re-kindled interest in agriculture and nostalgia has created a surge in agritourism as well as some opportunities to establish other revenue-generating uses on site. Some of these uses are closely related to agriculture and might include activities like machinery/electrical repair, farm-related crafts, or cheese making. Other activities are more non-traditional and, in other communities, have included public meeting space (leasable), heritage-based education, special events (e.g., weddings, concerts, fund raisers), or culinary workshops.

The choices Stratham needs to make related to agricultural viability deal in large part with this issue of accessory uses. The benefits of additional revenue are easy to see. More revenue, especially from diverse sources, will make a farm more financially resilient. This, in turn, can make farmers more inclined to keep the property in agricultural use, which is consistent with the vision of this plan. With every choice, however, there may be trade-offs for the community. Expanded allowances



*21st century farms are adding retail, community events, and many other enterprises in order to increase revenue.
Photo credit: Nathan Merrill*

for accessory uses can lead to changes in farm operations that may seem disruptive or undesirable to the surrounding neighborhood or residents in general. Additional commercial activity on site can lead to increased localized traffic, outside storage, or the construction of new “out buildings” that impact the scenic quality of the farm.

The Town currently addresses these issues in the Zoning Ordinance through a broadly defined set of allowances under “Agritourism.” Based on the way this term is defined, it can be unclear whether a specific use proposed by a farmer is included. Ultimately, the Town should develop a clear list of accessory uses that are potentially allowable and a set of standards to reasonably regulate those uses. This is a challenging but potentially rewarding process for a community like Stratham. A great deal of public education and engagement is required for this type of exercise so that farmers have an opportunity to talk about what they want, and residents can talk about where they have concerns.

Other Development Regulations

While the issue of accessory uses is a high priority for the Town, it is not the only issue that Stratham should consider related to agricultural viability. Regulating construction activities on farms, for example, was discussed at length during the engagement process. Anecdotal accounts suggest that some of the permit review processes imposed on farmers were more arduous and costly than they may need to be. Further, some of the standards or permit processes used for more conventional construction (e.g., residential homes or commercial use) may not be a practical for some of the improvements more typical to farm operations. While the Town certainly should have assurances that construction activities are done properly, there may be opportunities unique to farmland for reducing costs and other investments related to local permitting.

Easements for Agricultural Properties

Stratham relies primarily on two different easement programs to assist with issues of farm viability. First, more broadly, conservation easements have been applied to over a thousand acres of farmland in the town, more than half of the current active acreage. These easements provide farmers with the opportunity for significant tax benefits and improved estate planning, while allowing the farmer to live and work on the land. The ultimate holder of the easement can vary, with Stratham sometimes using the town, the state, or a variety of land trust organizations. The second easement tool used in Stratham is the so called “barn easement.” Effective in 2002, NH RSA 79-D5 allows municipalities to grant property tax relief to barn owners who (a) can demonstrate the public benefit of preserving their barns or other historic farm buildings, and (b) agree to maintain their structures throughout a minimum 10-year preservation easement. The Stratham Select Board has approved preservation easements for 18 barns that meet the statutory qualifications.

POLICY CONNECTION

The use of easements is an integral part of the broader town-wide approach to preserving historic resources.



Preserving barns like the Robinson Barn pictured above and below is essential to maintaining Stratham's connection to its past. Photo credit: Sophie Robinson

Easements have proven to be an effective tool for farm viability in Stratham and agricultural stakeholders vocally supported their continued use. The Town will need to consider whether to establish a fund in order to have access to funding in the future when unexpected opportunities to purchase easements arise. Finally, it was acknowledged that some of the restrictions attached to easements applied in the past were narrowly written. Moving forward, the parties involved in purchasing/selling new easements should be mindful that the easement language is not unnecessarily restrictive and therefore counterproductive.



Photo credit: Sophie Robinson

Our Commitment to the Viability of Our Farms:

Stratham is committed to the continued viability of our farms. We recognize the unique challenges to this industry and the unique benefits of agricultural operations to our community. Stratham will look for ways in which the Town can facilitate the long-term economic health of farmers without unreasonably impacting scenic viewsheds and neighboring properties.

To achieve success, Stratham will:

1. Organize a public discussion around accessory uses for active farms to determine what uses are acceptable and what performance standards should apply.
2. In the discussion of accessory uses, include a component that looks specifically at barn structures rehabilitated under the barn easement program.
3. Review existing local regulations through the lens of farm operations. Identify areas where permit review processes or specific standards are not practical for farm operations and amend the regulations as appropriate.
4. Continue the use of conservation and barn easements in the community. Because conservation easements are permanent deed restrictions, it is important to develop easement terms that allow for diverse agricultural uses, ensuring competing interests do not impinge on the long-term goal of agricultural viability.
5. Consider re-establishing funding for purchasing conservation easements when opportunities arise.

The Town Center

As discussed in previous sections of the plan, Stratham did not develop a compact “Town Center” in the way that more urbanized nearby mill communities did (e.g., Exeter, Newmarket). Nonetheless, Stratham’s Town Center served for centuries as a municipal, secular, and business hub for the community. Our Town Center has at various times been home to three churches, taverns, town hall/municipal government, town library, public safety, highway department, the post office, the electric streetcar trolley barn, and village stores. However, some of those institutions have relocated and this area of Town does not have the same cohesive identity as other traditional New England town centers. Further, the design of the roadway system through



Renovated Old Town Hall. Photo credit: Nathan Merrill



Photo credit: Wallace Stuart



Photo credit: Ironwood Design

this area (from its earlier days as the Route 101 corridor) burdens residents and visitors with severe challenges related to walkability and bicyclist safety.

Despite its challenges, the Town Center does have a collection of businesses, historic buildings, and municipal uses. In recognition of these assets, Stratham has invested resources in Town Center planning, zoning, and infrastructure. The foundation for this work was the 2011 PlanNH charrette, which drew heavily on the previous community Master Plan (1998). The plan that resulted from the 2011 charrette provides a bold, but not impractical vision for the Town Center. The document was reviewed favorably by New Hampshire Department of Transportation (NHDOT) and recommends a “phased approach” to both public and private investment that would, over time, transform this area into something much more walkable and welcoming. In 2014, voters adopted NH RSA 79-E, known as the Community Revitalization Tax Relief Incentive. Properties in the Town Center (and the Professional/Residential District immediately south) are now eligible for this tax incentive, which was instrumental in preserving the Old Town Hall.

POLICY CONNECTION

The use of easements is an integral part of the broader town-wide approach to preserving historic resources.

Since the development of the charrette plan, street lamps and sidewalk sections have been installed, which will be part of a larger suite of improvements and sidewalk extensions over time. The bolder design recommendations related to roadway realignment and the installation of round-about traffic circles will require more significant investments from NHDOT, and the Town will continue to coordinate and advocate for the best possible design solutions (see also *Walking and Biking*).

Our Commitment to the Town Center:

Stratham is committed to the vision for our Town Center put forward in the local plans generated for this area. We acknowledge the enormous challenges created by the existing street network and commit to a long-term vision for changing that network to facilitate a more walkable, cohesive center.

To achieve success, Stratham will:

1. Continue to keep the district eligible for tax relief related to qualifying structures.
2. Coordinate with NHDOT on all proposed work within the center.
3. Amend the Town Center zoning as necessary to meet the goals of the district.
4. Coordinate later phases of sewer service installation (related to the Gateway District) with roadway and streetscape improvements in the Town Center.

Historic Resource Preservation

In addition to its agrarian roots, historic resources define the character of Stratham and contribute to its sense of place and quality of life. As discussed in *Our Hometown* (above), Stratham's rural development patterns created a scattered, spread out collection of homes, farms, and institutions. Preservation of these resources, therefore, generally occurs site by site rather than across a more concentrated district. Preservation efforts recognize the value of the resources that remain intact and provide context for new development. Historic resources include farms, houses, cemeteries, churches, parks, schools, and other town buildings as well as landscapes and sites of archaeological or historic interest. A partial but extensive inventory of structures developed through volunteer efforts is included in the Master Plan Baseline Report and the map on the following page is taken from that document.

Tools for Preservation

Stratham has used a number of tools over decades past to preserve historic structures and sites. A brief summary of these tools is provided below.

Local Zoning

There are provisions in Stratham's town regulations protecting stone walls and establishing a process of demolition review. The Residential/Agricultural Zone is also intended to maintain Stratham's historic character.

NH RSA 79

NH RSA 79 is a provision to lower tax assessments of open space and historic structures. The Town uses NH RSAs 79-A, 79-D, and 79-E. Section A of RSA 79 permits current use taxation on open lands keeping undeveloped land open. With regard to farm sites, 79-D allows the Town to grant property tax relief to barn owners who (a) can demonstrate the public benefit of preserving

their barns or other historic farm buildings, and (b) agree to maintain their structures throughout a minimum 10-year preservation easement. The Stratham Select Board has approved preservation easements for more than 18 barns that meet the statutory qualifications.

The provisions of 79-E encourage the rehabilitation and active use of underutilized commercial, office, mixed use, and residential buildings in the Town Center and Professional/Residential districts. Improvements must meet 79-E guidelines as well as the public benefit test. In return, the Select Board may provide tax relief at a pre-rehabilitation value for a limited period. The historic Town Hall is an example of how 79-E can be used for preserving important structures in Stratham.

Historic Resources Surveys

A town-wide historic resources survey can be used to help raise public awareness of the community's historic and cultural resources and assist in the prioritization of properties for preservation. A 2007 partial inventory was completed under the auspices of the Heritage Commission.

Portsmouth Avenue Area Survey

This comprehensive survey of historical resources in the Portsmouth Avenue and Emery Lane corridor was completed in 2017 and can be used to increase public awareness of local historic and cultural resources. It also provides valuable information to help develop local planning policies and zoning regulations to meet preservation priorities.

Archaeological Surveys

Archaeological surveys have been conducted formally and informally in Stratham since the first half of the 20th century. The results of formal surveys are held at the New Hampshire Division of Historical Resources. Presently there are professional archaeological projects in many of the towns surrounding the Great Bay. The relatively intact sites in Stratham have the potential to provide important artifacts and information to this regional effort.

Preservation Easements

Like conservation easements discussed in Open Space and Conservations Lands and agricultural easements in Agriculture, preservation easements are also voluntary, legal agreements between the landowner and a monitoring agency. Preservation easements are customized to each property. They typically do not limit uses of the property, but they can limit what changes may or may not be allowed to the exterior and/or interior of the structure(s). As with other easements, private owners retain many of their rights, including the right to own and use the property, sell it, and pass it on to their heirs. Preservation, agricultural, and conservation easements go hand-in-hand in Stratham, as many historically significant properties are linked to farmland and natural areas. This preservation tool was successfully deployed with the Old Town Hall, Lane Homestead, and the Bartlett-Cushman home.

Historic Demolition Review Ordinance

The Town's Historic Demolition Review Ordinance gives the Town an opportunity to review demolition applications for properties that are over 50 years of age. Within five days of receiving

a demolition application, the Demolition Review Committee must issue their opinion whether the building is potentially “historically significant” and a more thorough investigation is warranted to prepare a recommendation. The Committee has 60 days to conduct its investigation, hold public hearings, and write its recommendation. Ultimately, this ordinance does not give the Town the authority to refuse demolition. The 60-day review provides an opportunity for all parties to explore options for preservation, documentation, and possible salvage operations.

Stratham’s Legacy Roadways

As previously discussed in this plan (*Forces Driving Change*), the arterial roadways leading north and east out of town have shaped Stratham in many ways. During the Master Plan process, it was noted that some of our most beautiful historic homes, scenic homestead settings, and other historic sites (e.g., schools, churches, etc.) are concentrated on these roadways. Further, because of their location along busier streets, these buildings and sites are the most visible resources in the Town and play an integral role in establishing historic character. To facilitate the preservation of these

The former Stratham Hill School was one of four district schoolhouses that were replaced c. 1955 with the opening of Stratham Memorial School on Bunker Hill Avenue (the current Municipal Center). Photo credit: Rebecca Mitchell





The former Wiggin dairy farm is located across the street from Stratham Hill Park. Most of the farm's land was used to build the former New Hampshire Vocational-Technical College c. 1980. Photo credit: Rebecca Mitchell

properties and the historic structures thereon, Stratham will need to think creatively about providing incentives to property owners.

One of the tools already being used in Stratham is the barn easement (RSA 79-D5), where property owners receive tax relief when they invest in the restoration of a historical barn structure. This tool could be used for certain properties along these major roads in an effort to increase investment in a specific structure. However, similar to the accessory use issue with agriculture, the Town should think carefully about what types of restrictions it will place on future uses of the barn structure. Another tool used elsewhere in Town is the Community Revitalization Tax Relief Incentive (see Town Center section), which has potentially broader application than the barn easement program. The Town could explore expanding the geographic reach of this program to include areas along major roadways that are particularly rich with historic buildings.

Another tool to consider strengthening these areas would be expanding uses along the major roadways for home-based business (referred to in zoning as “home occupation”) or professional, office, or residential uses. Stratham already allows home occupation business along the roadways targeted in this section of the plan. However, home occupation businesses are only allowed through a Special Exception and there are several performance standards that could be adjusted if appropriate. The Town should reevaluate the current zoning language especially with regard to

Route 33 as it heads north out of the Town Center then turns east to the Greenland border. This corridor was discussed at length during the Master Plan process, picking up on debates that have occurred over a long period within the community. A proposal to change zoning along this stretch of the corridor to General Business was defeated in 2016 and public sentiment showed little appetite for major changes to its current character.

However, in order to maintain that character, incentives for things like home-based business or other professional/office/residential uses—perhaps at a larger scale than what is considered today—may be needed. In addition, flexible zoning standards (such as a form-based code) may promote desirable redevelopment and infill development. Standards can be used to ensure construction complements the existing historic fabric, providing a context-sensitive approach to enabling economically viable reuse. Preventing demolition of historic structures should be at the center of regulatory adjustments in this corridor.

Finally, while many of these roadways have a higher concentration of adjacent historic properties, it is important to note the scenic and historic character of some of the actual roadways. As Stratham continues to make roadway improvements based on infrastructure needs and the desire to increase biking and walking, it will be important to coordinate these improvements with the desire to maintain a rural, historic setting. This includes minimizing impacts to assets such as stonewalls and large street trees or enhancing them through landscape treatments or other strategies.

Our Commitment to Historic Resource Preservation:

Stratham is committed to providing incentives and accessing funds to preserve, maintain and, where appropriate, adaptively re-use our valuable inventory of historic resources.

To achieve success, Stratham will:

1. Ensure the extensive and geographically disbursed historic structures, barns, homesteads, and other features contributing to Stratham's connection the past remain intact for the future.
 - a. Evaluate existing land use ordinances (such as the Use Table and associated performance standards) to ensure they encourage effective and vibrant reuse of historic properties, decreasing the risk of losing them to deterioration (e.g. new or expanded uses along Route 33).
 - b. Explore regulatory tools available in New Hampshire, but not adopted in Stratham, to designate historic districts in the zoning ordinance for the purpose of preserving and protecting existing current historic resources.
 - c. Evaluate existing ordinances (such as demolition ordinance) to ensure they effectively fulfill the purposes of the ordinance and other goals in this Master Plan.

2. Make investments that actively preserve historic buildings and important spaces to the Town.
 - a. Investigate the possibility of establishing a revolving loan fund or small grants program for critical repairs to privately-owned historic structures.
 - b. Continue municipal funding for preservation easement purchases on particularly important historical resources.
 - c. Identify tools to incentivize the rehabilitation and preservation of historic structures along the Portsmouth Avenue corridor from Town Center to the Greenland town line. Viable tools may include, but are not limited, to the expansion of RSA 79-E.
3. Expand the Town's base of knowledge and appreciation for Stratham's architectural and agricultural heritage.
 - a. Complete a town-wide survey of historic resources and create an interactive online map of historical resources in our town.
 - b. Pursue efforts to share information about the history and historic development of the town through initiatives such as historic markers, interpretive signboards, and related educational materials to be installed at key locations.
4. Continue to ask the Heritage Commission to serve as resource for the Select Board, boards and commissions, and Town staff in carrying out public works improvements for the Town.
 - a. Designate a list and map of "heritage streets" and add specific zoning language that applies to them – particularly regarding streetscape changes such as any proposed sidewalks, roadway widening, bike lanes, etc. and also special protections for stone walls, open spaces, and other features.
 - b. Provide input on Town operations and capital projects affecting Town-owned historic properties and landscapes.

Biking, Walking, and Automobiles

The idea of investing significant resources in creating safe conditions for walking and biking alongside automobile traffic has been embraced at varying levels in different municipalities across the country. Collectively, this movement is often referred to as the “Complete Streets” approach (see inset). In Stratham, trails enthusiasts have advocated for investments in off-road transportation options for years and a cohesive network throughout town is beginning to emerge. More recently, the Pedestrian and Cyclist Advocacy Committee (PCAC) took on the role of establishing both a broad policy framework and making project-specific recommendations. These groups have started to raise awareness of the many benefits related to pro-bike and pro-walking investments.

Benefits of Complete Streets

Building Community

One of the key themes in the chapter entitled *Our Hometown* is “a sense of community.” Stratham maintains a strong sense of community through a

Complete Streets are streets designed and operated to enable safe use and support mobility for all users. Those include people of all ages and abilities, regardless of whether they are traveling as drivers, pedestrians, bicyclists, or public transportation riders. The concept of Complete Streets encompasses many approaches to planning, designing...with all users in mind to make the transportation network safer and more efficient...Complete Streets approaches vary based on community contexts.

- U.S. Department of Transportation



Photo credit: www.ruraldesignguide.com



In rural areas, a complete streets approach sometimes requires creating separate “streets” for bikers and pedestrians.

variety of networks and groups, whether connections are made through government groups, social groups, the schools, or other organizations. A sense of community is not just fostered through these social connections, but also through physical connections between different places in town. Community planners have long observed that towns foster a stronger sense of community where people have lots of opportunities to walk and bike. These connections provide opportunities for chance meetings between friends and also connect gathering places and neighborhoods in a way that fosters more interaction.

Public Health

People who regularly walk and bike tend to be healthier than people who need to drive everywhere they go. Studies have shown that those regularly engaged in biking or walking have lower risk of heart disease, cancer, and diabetes. There is also documentation showing that these more active individuals have better mental health than more sedentary individuals. The other obvious public health benefit comes from greater safety on the roadways where “Complete Streets” design principles are applied.

Economic

Connectivity is fast becoming a higher priority for both incoming residents and business owners looking to relocate or (in the case of a business owner) expand. The presence of well-designed streets, sidewalk networks in more densely developed areas, and a comprehensive network of

trails in more rural area—these amenities signal a commitment to vitality, connection, health, and safety. Infrastructure for bicyclists and pedestrians fosters an “economics of place” where multiple businesses have access to a mobile group of consumers.

Complete Streets, as a concept, is widely recognized across the country and NHDOT embraces these principles where possible. The state agency also offers technical assistance to communities looking to develop a strong local policy preference for these street design techniques. For this reason, to be consistent with the State initiatives, Stratham should set its policy foundation on the complete streets approach. However, it is important to recognize that planners, advocates, urban designers, and engineers have built upon complete streets to incorporate other benefits through innovative design. Perhaps the most notable example is the Green Streets approach, which looks to integrate innovative stormwater treatment practices into the streetscape in a manner that enhances the pedestrian experience. Tree box filters, sidewalk swales, and pocket bioretention facilities are examples of stormwater management practices that can be woven into more urban settings in a way that creates both environmental and aesthetic benefits. Stratham will have ample opportunity to consider these types of practices moving forward, especially in areas like the Gateway District, the Vo-Tech site, and the Industrial Park as they continue to grow.

POLICY CONNECTION

The development of a network of off-road bicycle and walking trails that connects neighborhoods and parks is an integral component of strengthening Stratham’s recreational facilities.



These landscaped areas treat stormwater and can be integrated into designs for safer walking, biking and parking.

The Challenge of Rural Roadways

Rural application of complete streets principles often looks very different from urban application but can be just as transformative to the host community. While dedicated bike lanes, bold crosswalks, and sidewalks may be appropriate to areas like the future Gateway District, other areas of Stratham will focus more on off road solutions. Paved or hard-packed pathways that run alongside historic winding roads, for example, are a much more common rural complete streets application. Further, viewing trails as important connections throughout the community can add a different perspective to the discussion of establishing new connections. While some communities view trails as more of a recreational amenity, the idea that they are part of the local transportation system can affect the way they are located and designed. As connectivity continues to improve, linking neighborhoods, parks, farms, and commercial areas through a more comprehensive system of trails will be just as important as “in road” improvements.

A final important consideration for rural roadway design is the local regulatory framework in which streets are designed. In general, Stratham governs the design of streets through its Subdivision Rules and Regulations. The standards contained in these regulations provide a straightforward way to design conventional street configurations in a safe manner. Stratham should build upon the regulatory framework it has today and provide a broader menu of street profiles that shows developers how to integrate complete street elements on different roadways depending on the opportunities presented on a specific site.



Applying complete streets to rural areas requires a Town like Stratham to consider softer approaches in residential areas and treatments on long, busy corridors. Photo credit: www.ruraldesignguide.com

New Hampshire's Context Sensitive Solutions Program

NHDOT is tasked with the enormous responsibility of managing, building, and maintaining all state-owned roads. This process takes place through an elaborate planning process, which is used to prioritize funding on an annual basis for roadway construction/maintenance jobs. Many important roadways have different stewards for different stretches of roadway. Certain stretches of roadway can be owned and maintained by the Town, others are owned and maintained by the State, while others may be owned by one entity and maintained by the other through an agreement.

Like many other state departments, NHDOT recognizes the benefits of incorporating bicycle and pedestrian infrastructure into its projects. It recognizes that the state owns a diversity of roadway types—from major highways to rural throughways—and decisions about how bicycle and pedestrian elements are woven into their roadways need to be adaptable. The organization also understands that local knowledge and plans for placemaking should be part of the discussion related to roadway improvements in key locations. NHDOT has therefore created the Context Sensitive Solutions (CSS) process, which is a collaborative planning process that combines local planning goals and state-level expertise toward better roadway improvements. From the NHDOT website:

“CSS involves a commitment to a process that encourages transportation officials to collaborate with stakeholders from the community and environmental resource groups so the design of the project reflects the goals of the people who live, work and travel in the area. Such collaboration results in creative and safe transportation solutions.”

The Town of Stratham could meet with NHDOT and present the results of different studies in Town, particularly the Gateway District Master Plan and the Town Center Charrette Plan. Outside of those special areas, the Town could also identify which streets are a priority for multiple modes of

transportation. The Town and DOT can then decide if the CSS program is a good fit for any planned improvements to the state-owned roads in Stratham.

Safe Routes to School

The Town of Stratham started participating in Safe Routes to School (SRTS) activities in 2014 with National Bike to School Day. Since then, interest and resources put toward participation in Safe Routes to School has steadily increased. In 2018, the Town (with significant assistance from PCAC) won a grant that would help to fund the study and identification of potential design solutions. What followed was the Stratham Safe Routes to School Action Plan, which includes:

- A portfolio of infrastructure design strategies.
- Infrastructure project recommendations for the Stratham Memorial School and the Cooperative Middle School.
- Non-infrastructure recommendations for public education, encouraging walking and biking, and enforcing laws that will help the program become a success.

The Stratham SRTS Program is based on the “five E’s”

Evaluation: All-around data collection with parent survey, in class tallies about student travel patterns, student concentration maps, walk/bike ability checklist to identify future travel roads, review of pedestrian and cyclist infrastructure around schools, traffic count and traffic speed assessment, specific concerns of community

Education: Bike safety course for Grades 4 and 5 held by the Bike and Walk Alliance of NH, Bike Safety Rodeo in August, pop-up infrastructure, outreach material

Encouragement: Bike to School Day, Wellness Walk, Walk to School Day, Walking School Bus, Bike Safety Rodeo

Enforcement: Safety patrol by Stratham police, speed monitors, traffic complaint hotline

Engineering: Engineering consulting firm will analyze data and suggest preferred Safe Routes to School from different neighborhoods. The firm will develop conceptual designs and estimates for priority infrastructure projects in school zones.

Source: Stratham Safe Routes to School Action Plan

Traffic Congestion

Existing conditions in Stratham for transportation are almost completely auto-dependent, and much of the traffic in the community comes at peak commuting times where residents going through town and commuters going through town combine to create heavy congestion. While broader complete streets improvements should always be part of discussions with NHDOT, there may be specific design or management improvements in the short-term that could help to alleviate traffic congestion. The Town can consider financing the conceptual design of improvements to help push NHDOT in a particular direction and should regularly advocate for improvements to signalization changes and prioritization on the State improvements program.

Public Transportation

As presented in the Baseline Report, Stratham is located along Route 7 of the COAST bus system, which travels along NH 108. Route 7 provides as-needed bus service to riders. Reservations are accepted up to two weeks before the ride; however, same day reservations are not allowed. Riders can be picked up in the Market Basket parking lot for a fee of \$1.50, or anywhere not specified as a stop along the designated route for \$3.00. The bus takes riders south to Exeter or north to Newmarket, where riders can transfer to the Wildcat Transit services run by the University of New Hampshire. Stops in Exeter include those at the train station, YMCA, Exeter Hospital, and the downtown area. COAST also offers paratransit services for people with disabilities.

Transportation Assistance for Seacoast Citizens (TASC) provides transportation for individuals 55 years old and older or adults with a disability that prevents them from driving. Services are offered to residents in the communities of Exeter, Brentwood, Greenland, Hampton, Falls, Kensington, North Hampton, Rye, Seabrook, and Stratham. Drivers are volunteers. While it is difficult to invest in more public transportation in areas where ridership is naturally low, in the immediate future Stratham should continue to advocate for service from COAST and TASC and continue to educate residents (particularly seniors) about these opportunities. Looking farther into the future, the growth of the Gateway District, the Flexible Mixed Use Zone (Vo-Tech site), the Town Center, and the Industrial Park may create a critical mass of activity that could support some form of local transit option (e.g., shuttle, etc.). Stratham should be ready to investigate different opportunities as these areas begin to grow.

Our Commitment to Walking, Biking and Automobiles:

Stratham is committed to fostering the development of a town-wide walking and biking transportation system. We understand that these improvements may occur over the course of many years, but there are several near-term opportunities to set policy, change regulations, and make physical improvements.

To achieve success, Stratham will:

1. Draft and adopt a “Complete Streets” policy committing the Town to seriously considering all possibilities for incorporating walking and biking infrastructure into local roadway improvements.
2. Apply techniques related to “Green Streets” particularly in more densely developed areas like the Gateway, Town Center, and future redevelopment of the Vo-Tech site.
3. Building on what we have today, develop a comprehensive Trails Master Plan that maps out the potential town-wide network of trails with a focus on making connections between neighborhoods, parks, and mixed-use centers.
4. Seek input from bicycle, pedestrian, and trail advocates in the local planning including, but not limited to, capital improvement planning, the development of any Park/Forest Management Plan, and discussions with NHDOT.

5. Coordinate closely with NHDOT to ensure specific future roadway improvements (on state roads) are designed consistent with the goals of this section, such as through the Context Sensitive Solutions (CSS) process.
6. Advocate for short-term improvements from NHDOT, including periodic adjustments to signalization at commuting times.
7. Develop an expanded menu of roadway design standards to be used at the local level, which includes different configurations for pedestrian and bicycle elements.
8. Require development proposals to identify where new roads, trails, or paths may be able to connect with the same features on adjacent sites.
9. Prioritize Safe Routes to School (SRTS) Infrastructure Projects as provided in the SRTS Plan (see Appendix C).
10. Seek opportunities for establishing or expanding public transportation options in Town, such as COAST and TASC. Continue to plan for future options that expand services and serve the community, particularly vulnerable populations (i.e. seniors and people with disabilities).
11. Continue to work toward a more comprehensive local transit service as the Gateway, Industrial Park, Town Center, and Vo-Tech areas continue to mature and develop.

Sustaining Our Natural Resources

In addition to its farms and historic settings throughout town, Stratham's character is defined in large part by the natural resources that support wildlife and water resources within the larger context of our watersheds. The Town's Natural Resources Inventory (NRI) was updated as part of the Master Plan development process, largely focusing on updates of data and mapping associated with the document. Similar to other plans referenced in the Master Plan (e.g., Safe Routes to School, Gateway Commercial Business Master Plan, etc.) the NRI provides more detailed information related to its focus and serves as an important supplement to the Master Plan. As discussed previously in the Master Plan, work performed by PREP related to the Great Bay Estuary is also critical and helps to frame natural systems policy in Stratham. PREP's most recent publication *The State of Our Estuaries 2018* serves as another important supplement to this Master Plan. Some of the driving policy issues from each of these documents are highlighted below.

A Snapshot of Our Natural Resource Issues

Coastal System Protection

Stratham shares one of New England's richest ecological resources with a number of other communities, all bordering the Great Bay Estuary, which is part of the National Estuaries Program. Home to a remarkable diversity of marine, plant, and animal wildlife, this coastal ecosystem is perhaps the region's most notable natural resource and is the focal point of numerous governmental, non-profit, and academic research/advocacy groups.

The Great Bay Estuary faces continuous threats to its delicate ecosystem, primarily from land-based pollution that eventually makes it way to the estuary via rivers and streams or through groundwater

recharge. The majority of this pollution begins with activities on land, generally associated with developed areas. Nutrients from septic systems, stormwater runoff, fertilizers, and other sources make their way to the estuary and upset the natural balance by encouraging plant and algae growth. This growth, in turn, can reduce light penetration, oxygen levels, and the general health of marine plants, fish, and other important organisms.

Surface Water Protection

Stratham contains a rich network of streams and ponds, as well as the larger tidal Squamscott River, which serves as part of the Town's border. These surface waters provide important habitat for a unique set of animal and plant species and serve as important feature in the scenic landscapes around town. From an ecological perspective, the lands adjacent to surface water resources help to provide wildlife corridors, breeding areas, and hunting grounds for many predators. More practically for our residents, these areas serve as flooding resources during heavy rains and the maintenance of adjacent floodplains provides a critical "eco-service" to the community.

Water quality in Stratham's surface waters, like the Great Bay Estuary, is threatened primarily by land-based activity. The same sources of pollution can load pathogens, nutrients, metals, and sediment into these water bodies causing significant damage to the aquatic ecosystem. Poorly designed drainage systems can pour stormwater into streams at high velocities, causing the banks to scour and erode. In many cases, these water quality and flooding impacts can be mitigated through the maintenance of healthy buffers to rivers, streams, and ponds.



Snowy Egrets are just one example of the amazing wildlife species that can be found in the Great Bay Estuary.

Groundwater Protection

Groundwater is the primary source of drinking water for Stratham's residents, and as discussed above, recharges our surface waters and the Great Bay Estuary. Groundwater quality can be compromised in many different ways, and is dependent upon the quality and quantity of water that is allowed to recharge into the soils down to the water table. Accidental leaks or spills of toxic materials can negatively impact groundwater quality where these leaks or spills go undetected and make their way to the water table. Nutrients, particularly nitrogen, can migrate through soils and become mobile in groundwater flow, eventually making their way to surface water habitats.

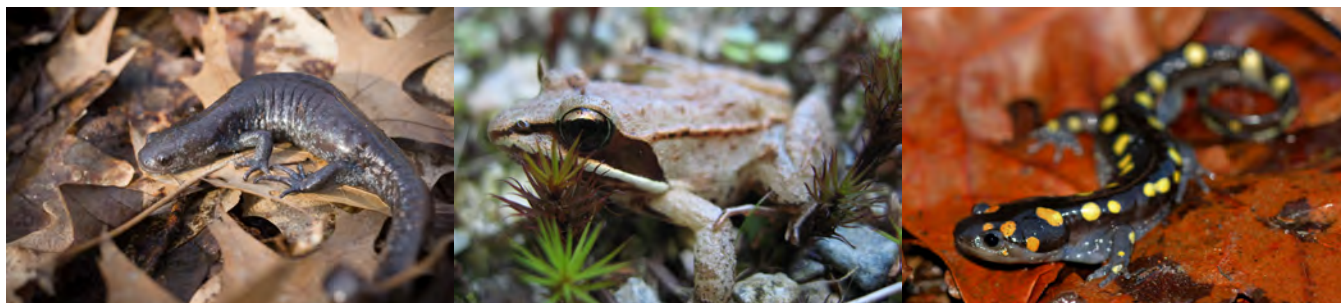
Another important consideration for groundwater protection is the installation and maintenance of on-site septic systems. Because there is no sewer service in Stratham, every property has its own individual septic system. These smaller systems do not treat wastewater as effectively as larger wastewater treatment facilities, which are able to employ more sophisticated technologies because of larger effluent flow and facility size. Throughout New England, different states allow innovative individual septic system technologies on a more limited basis. The New Hampshire Department of

Environmental Services has approved over a dozen different “innovative and alternative” systems that can be installed at different scales.

Wetlands and Vernal Pools

Wetlands occur where the surficial soils remain saturated (or near saturation) for at least most of the year. These areas create an environment for plant and animal life specifically suited to wet conditions. Fluctuations in water levels across the seasons, periodic flooding, and micro-climates make these areas particularly rich in biodiversity and many regional rare plants and animals are dependent on wetlands for survival. Similar to the protection of rivers and streams, maintaining healthy buffers adjacent to wetlands is an important preservation strategy.

Vernal pools generally appear in the spring when snow melt, heavier rain, and rising groundwater levels create pools of standing water that last for several weeks. During that time, these pools provide specialized habitat for micro-organisms, amphibians, and plants that may not be able to exist without this special resource. The standing water, shoreline, and adjacent lands serve as breeding grounds for some of our ecosystem’s most sensitive and unique species including fairy shrimp, spotted salamanders, wood frogs, the spotted turtle and Blanding’s turtle. Because vernal pools dry out for much of the year, it is easy for people to overlook these resources. Impacts to these areas often include clearing of vegetation around the pool, stockpiling slash, encroaching on buffers, or even filling.



The Jefferson Salamander, Wood Frog, and Spotted Salamander are examples of wildlife that depend upon the sustained presence and health of vernal pools in Stratham.

Forests

Forests are an important part of Stratham’s landscape and can provide an easily accessible place for residents and visitors to connect with nature. Beyond recreational benefits, forests provide eco-services in the form of carbon sinks, stormwater retention, good air quality, temperature reduction, wind protection, and effective buffers to surface water resources. In addition to eco-services, forest lands can provide food for hunters, wood products, and specialty items like maple syrup.

Gordon Barker Town Forest is Stratham’s most notable forest area with just over 84 acres of land and the need to protect and manage this resource is widely recognized in the community (see Open Spaces & Parklands). But as land continues to develop in Stratham, smaller stands of forest will become more important to providing corridors for wildlife, preserving localized hydrology, and buffering important surface water resources.

Invasive Species

As the world becomes more physically connected through transportation networks and shipping, plant and animal species from different regions and different countries will continue to find their way to places like Stratham. In some cases, the introduction of these species goes without notice. In other cases, the arrival is incredibly disruptive to the local ecosystem and, in the case of plant species, the visual landscape. Eliminating invasive species is sometimes impossible and, in those instances, regular management strategies are developed that mitigate damage to the greatest extent possible.

In the ongoing battle against invasive species, public awareness is an incredibly important tool. Providing education to residents about how to identify and remove invasive species can help stop the spread of these plants or prevent new populations from taking hold. The University of New Hampshire Extension publishes excellent materials that help residents identify and take action against invasive species.

Renewable Energy

Generating renewable energy at smaller (non-utility) scales in Stratham is possible with some technologies. Wind power generation in New Hampshire statewide is fairly limited, as is small-scale hydro power. Geo-thermal wells used for heating and cooling are not uncommon in the region, but the most promising technology is solar energy.

Protecting Natural Resources – Regulation and Public Education

Strategies to protect natural resources often start with regulatory measures to address issues related to development and ongoing operations that could be environmentally damaging. At the local level, Stratham has incorporated numerous protective measures that enable a close look at environmental issues during permit review. Notable examples include:

Residential Open Space Cluster Development

These provisions potentially allow a developer to cluster new homes on smaller lots so that a minimum percentage of land will be set aside as protected open space.

Wetlands Conservation District

This overlay district is designed to place added protections where development activity occurs in close proximity to wetlands or poorly drained soils.

Shoreland Protection District

These provisions establish a set of protective overlay zones related to the Squamscott River, Great Bay Estuary, and other inland shoreline areas.

Aquifer Protection District

This section of the Zoning Ordinance limits the types of uses that can occur over sensitive aquifer areas and prescribes performance standards for those uses that are allowed (e.g., limited impervious cover).

Floodplain Management District

These provisions ensure compliance with State requirements for disturbance within regulated floodplain areas and local requirements designed to protect individual properties during a flood, as well as downstream properties.

In addition to these special provisions, Stratham's local regulations address stormwater management, septic system installation, and erosion and sediment control during construction practices. For all of these provisions, it is critical that Stratham continues to revise and refine their local requirements to address the realities of development and the ever-evolving best practices that emerge from ongoing research and industry innovation.

The other important overarching strategy for protecting natural resources is public education. While some potential negative impacts can be averted through regulating development proposals, the everyday activities of residents and business owners generally occur outside the world of regulation but can be equally harmful to natural resources. Examples of issues that could be included in a public education campaign include:

Role of Water Resources Buffers

Residents and business owners may be compelled to maintain buffers to surface waters, wetlands, and vernal pools if they understand the importance of these areas to the health of the resource.

Sustainable Landscape and Land Management Practices

Education on selecting and installing native plants for landscaping can encourage property owners to replace turf, hardscape, or "thirsty" plant species with low-maintenance varieties that serve pollinators and other wildlife.

Using Pesticides, Fertilizer, Cleaners, and Hazardous Materials

Homeowners should understand the potential impacts of using toxic chemicals on their lawns and in their driveways. Proper disposal is also critical to the health of water resources.

Maintenance of Septic Systems

Well maintained septic systems are an integral component of protecting both groundwater and surface water resources throughout town.

The Value and Fragility of the Great Bay Estuary

A well-designed public education campaign around Great Bay Estuary would communicate the ecological and economic value of the resources. It would also help residents make the direct connection between their property management habits at home and the health of the estuary.

Invasive Plant and Insect Species

Homeowners can be educated about their own plant selection and avoiding species that can cause problems. They can also be educated on how to respond to identifying invasive plant or insect species.

Opportunities for Renewable Energy

Businesses, homeowners, and government agencies have opportunities to incorporate renewable energy technology into their buildings and operations at varying scales. Education about the state-level programs and local regulations that govern solar facility installation can help business owners and residents retrofit their existing buildings. Developers can also be educated about making smart choices that allow for easier installation of solar panels in the future (e.g., roof type, building orientation, etc.).



Emanuel Companies, Inc. installed a double solar array in November of 2018 on the roofs of buildings A & B. This array can produce 74.4 kW and is to date the largest array in Stratham. Most people know these buildings as Millbrook Office Park and are located at 118 Portsmouth Avenue just south of the traffic circle. Their green infrastructure is also infused with porous pavement. This pavement allows storm water to be infiltrated to the aquifer, after being treated.

Our Commitment to Sustaining Our Natural Resources:

Stratham is committed to sustaining the natural resources that are integral to the community's identity and overall health.

To achieve success, Stratham will:

1. Work to protect land that will, in turn, protect our sensitive natural resources. This could include:
 - a. Engage with the Conservation Commission during the review of development proposals or the planning of public improvements where natural resources may be impacted.
 - b. Use conservation easements, outright purchase of land, the purchase of development rights, or other mechanisms to extinguish development rights on land that serves as buffers to surface waters, wetlands, or vernal pools, or as recharge areas to important aquifers.
 - c. Encourage the use of cluster subdivisions, especially where the established open space will protect existing resources.
 - d. Identifying and mapping vernal pools to the extent possible.
2. Actively participate on the regional advisory groups such as the Squamscott/Exeter River Local Advisory Committee and support the efforts of non-profit and/or community organizations who monitor water quality in and around Stratham.

3. Continue to regulate and encourage activities and development that is protective of natural resources.
 - a. Ensure existing conditions plans in development applications identify the location and extent of sensitive water resources and wildlife habitat.
 - b. Consider making cluster subdivisions more accessible by reducing the minimum amount of land for eligibility.
 - c. Consider making the design of cluster subdivisions more flexible with greater requirements for open space, more flexible property buffer requirements, and smaller lots.
 - d. Update the Groundwater Protection District provisions to ensure the land use limitations are up to date and site development performance standards are current with best practices.
 - e. Require or provide incentives for low impact design in sensitive areas like the Wetlands Conservation District and the Shoreline Protection District.
 - f. Update requirements for erosion and sediment control (during construction) and stormwater management (post-construction) to incorporate the most current best practices.
 - g. Encourage the use of alternative energy applications in both new development and redevelopment projects.
 - h. Review local requirements for on-site septic systems and ensure there are no unnecessary barriers to the installation of innovative systems approved by NHDES.
4. Develop and implement a detailed five-year public education work plan related to the natural resource issues identified in this Master Plan.
5. Expand knowledge of staff and residents about management of invasive species through ongoing training and education.
6. Develop permitting guides that explain the basic provisions of federal, State, and local laws that apply to typical proposals in Stratham.

Public Services and Facilities

Regardless of the growth management strategies Stratham will choose to pursue in the coming decades, the community will continue to grow. As the community does continue to grow, a subsequent increase in the demand for services will follow. Discussions throughout the Master Plan development process suggest there are pressures to expand several areas of service based on current trends. Some of the issues discussed during the engagement process include:

Senior Services

The increase in aging population in Stratham shows where there may be gaps in services for those seniors who want to continue living in town. Getting around is always one of the greatest challenges to aging seniors as personal mobility may become compromised and comfort levels with driving may decrease. Discussions with seniors in Stratham showed that meeting places for seniors in the

community are scarce and, where there is space, availability is limited. Seniors generally need to travel to neighboring communities to take part in daily programs and receive technical assistance on issues like health care and financial planning. Additionally, services available to shuttle seniors from their homes to other communities or important appointments are very limited.

Public Safety

Public safety services in Stratham benefit from facilities that are in good condition (e.g., the Police Station and Fire Station). However, discussions about the volunteer Fire Department suggest there is some strain on its ability to provide all the services demanded at this time. Further, with the anticipated increase in overall population along with the increase in the elderly population (see Baseline Report), demand for emergency services will likely increase and Stratham will need to plan accordingly.

Recreational Services

As Stratham continues to transition from a sparsely developed rural town to more of a 'bedroom community,' demand for recreational services will increase along with user conflicts. The current workload for the Town's Parks and Recreation Department is considerable, due primarily to the number of facilities, trails, programs, and special events they supervise or participate in. It should be noted that the Parks and Recreation Department also plays a role in providing Senior Services in the form of programs and special field trips organized on a regular basis. Of course, the Parks and Recreation Department works 'hand-in-hand' with the Conservation Commission, Planning Department, and many community groups to help provide these essential services. However, the scope of the Parks and Recreation Department's responsibilities suggests that increases in facility demand will need to be monitored closely and regularly juxtaposed with staff capacity.

POLICY CONNECTION

Recreation services are an integral part of the management of Stratham's open spaces. Planning, programming and maintenance of open space areas is an important component of the larger suite of recreation services provided by the Town.

During the Master Plan process, the Parks and Recreation Department performed a brief survey to gauge what residents felt were the strengths, weaknesses and needs in the community relative to recreation. The survey generally showed a high level of satisfaction with the management of the department as well as with the condition of facilities. In terms of the relative importance of different facilities, picnic areas, ballfields, playgrounds and trails were most popular. Also, the survey showed that residents were largely comfortable with the concept of fee increases related to programs, and a majority were in favor of tax increases for the purposes of bolstering recreation offerings. The survey provides a general snapshot of residents thoughts about several important issues and can serve as a platform for a more detailed survey related to a formal Recreation Needs Assessment.

In addition to more detailed assessment, the Town should consider a more sophisticated system for gathering, organizing, and displaying data. For example, some basic GIS information does exist

for the existing recreation properties and trails. This information can be bolstered through the use of data gathering software in the field along with recording of usage for different parks and trails. In terms of displaying the data, the full network of properties and trails could be available to residents and visitors through an online platform. This would help to display existing connections between facilities and help identify gaps that need to be filled.

Wiggin Memorial Library

The Wiggin Memorial Library is one of the community's most beloved and utilized facilities. Like many other libraries across the country, Wiggin continually strives to increase its reach in the community and serve needs that go well beyond the responsibilities associated with libraries just one or two generations past. Community programming for education, senior activities, youth programming, and political discussion are a big part of what Wiggin Memorial Library offers to the community. Their 2014-2020 Strategic Plan makes a commitment to continuing their wide range of programming and reminds the reader that basic supports are needed to keep these programs going. For example, having access to high quality tech devices and infrastructure is becoming more and more important as electronic devices become more integral to the learning and information sharing experience.



The Municipal Building, Wiggin Memorial Library, and Steven's Park are a few examples of the many public facilities maintained by the Town.

Community Resilience

In recent years, with increased awareness of climate change, municipalities are closely examining their capacity to maintain services and operate facilities during and shortly after natural hazards. Flooding, power outages, ice storms, high winds, and heat waves are examples of events that are expected to increase both in frequency and intensity as climate change continues to unfold. The goal of community resilience is to be able to respond to, and recover from, these events in the safest and most efficient manner possible. Most emergency response professionals are now receiving advanced training that will help communities effectively handle these situations. Planners are also getting involved with these issues by assessing the vulnerability of different facilities (i.e., Are important buildings or evacuation routes susceptible to flooding?) and helping to prioritize capital improvements that will help mitigate the effects of natural hazards. As discussed earlier, the C-RiSe report developed by the Rockingham Planning Commission provides a good foundation for this work in Stratham. Local departments should review this document when considering future investment in the Capital Improvements Program process.

Stormwater Management

The issue of stormwater management is always a high priority at the municipal level, primarily because of the extent of infrastructure that needs to be maintained. Proper management of stormwater and maintenance of the associated infrastructure reduces flooding and helps to protect the health of our water resources. More recently, the prominence of stormwater management has increased because of new requirements associated with the State-level Municipal Separate Storm Sewer System (MS4) program. This program requires Stratham (and over 50 other New Hampshire municipalities) to develop a Stormwater Management Plan that addresses six minimum control measures (see inset).

MS4 Program – Six Minimum Performance Measures:

1. Public Education and Outreach - Municipalities are required to provide educational material about stormwater to four audiences (residents, industry, commercial, and construction).
 2. Public participation - Municipalities are required to at least annually provide an opportunity for the public to participate in the development/implementation of their Stormwater Management Program (SWMP).
 3. Illicit Discharge Detection and Elimination - Municipalities are required to find and eliminate sources of non-stormwater from their storm sewer system.
 4. Management of Construction Site Runoff - Municipalities are required to have an ordinance for management of stormwater discharges from construction sites that disturb one or more acres of land.
 5. Management of Post Construction Site Runoff - Municipalities are required to address stormwater runoff from new development and redevelopment that disturb one or more acres of land.
 6. Good Housekeeping in Municipal Operations - Municipalities are required to implement good housekeeping practices in municipal operations such as vehicle maintenance, open space, buildings, and infrastructure.
-



Left: This low impact development bioswale was installed in 2015 as part of the Exeter Subaru expansion that included construction of one part of the small connector roadway between River Road and Market Basket envisioned in the Gateway District. Right: This bioretention system, located at the Stratham Municipal Center, was installed in 2013 as part of a parking lot expansion. This system provides treatment for stormwater runoff carrying pollutants from the parking lots and turf fields and provides clean surface water and groundwater recharge.

Considering the Cost of Services

The specific services and facilities issues described above are those that received the most attention during the Master Plan process. These issues, however, represent pieces of a larger scope of services provided by the Town over the course of a given year. Each year, all departments provide information regarding anticipated needs for the coming fiscal budget. Some needs for the community are also tallied in the annual Capital Improvements Plan, which summarizes anticipated capital costs related to roads, facilities, and similar “bricks and mortar” projects.

While many residents who participated in the Master Plan process felt strongly about the need to expand services and facilities, many also expressed concern about expenses and the potential for tax rates to climb in direct response to those added expenses. Most commonly, participants in the process understood that some form of growth will occur regardless of the policy choices made by

Our Commitment to Public Services and Facilities:

Stratham is committed to providing services important to its residents and maintaining the quality of its facilities mindful of budgetary limitations.

To achieve success, Stratham will:

1. Develop a 10-year staffing plan for the Volunteer Fire Department that phases in paid employees to match anticipated demands.
2. Ensure active participation from municipal departments—including the Town Administrator, Town Planner, and Parks and Recreation—in the next update of the Wiggin Memorial Library Strategic Plan.
3. Provide funding and staff resources necessary to address the revised requirement of the MS4 stormwater management program.
4. Actively pursue the success of the Gateway District and the Town Center as significant mid to long-term positive contributors to the municipal tax base in order to fund future expansions of public services.
5. Develop a Recreation Needs Assessment to assess future programming, facilities, and staffing needs and to prioritize investments identified for programming, services, and facilities (upgrades and new) (ie. senior center and community center).
6. Using 2019 survey results as a platform, continue to engage the community to understand needs related to youth, adult, and senior programming.
7. Continue to improve upon the ways the Town shares information with seniors about programming and special events.
8. Evaluate and invest in digital mapping tools and data collection for recreation facilities including the trail systems to facilitate analysis, management (communicating use limitations and scheduling) and policy making as well as capital planning.
9. Continue parks and recreation programming, sponsorship of community events, and inter-departmental coordination that promote community building.

the community, and with that growth will come increased services. The policy choices that are most important in this discussion, therefore, examine whether the coming growth will represent a drain on the municipal budget, or will have a “net positive” effect on the budget over time.

Open Spaces & Parklands

The role played by open spaces and parklands in defining Stratham’s community character cannot be understated (see *Our Hometown*). Many of the open spaces in the community not only receive high levels of use from Stratham residents, but also draw large numbers from neighboring communities. People visiting parks have diverse interests, abilities, and needs and there will be ever mounting pressure to manage this diversity of needs through programming, facility development, and general management. Trends in regional recreational facilities (and this is reportedly true in Stratham) show the diversity of desired uses can lead to conflicts between users or damage to facilities that are not being used as intended.



Steven's Park is one of Stratham's most important active recreation facilities with tennis courts, athletic fields, and a playground for public use.

Communities that face these management challenges are often well served by individual management plans for large and/or highly trafficked open space and recreational facilities. In Stratham, for example, there is a Forest Management Plan for Stratham Hill Park and the Town Forest that provides a framework for defining acceptable recreational uses, preserving scenic vistas, managing invasive species, and protecting forest, pond, and field resources. The diversity

of properties like Stevens Park, Smyk Park, and the Zarnowski property on Boat Club Road demonstrates the variety of uses and priorities that will be applied based on the attributes of a specific park. While the scope of these individual management plans can differ, some of the more important features typically include:

- Defining the activities that will or will not be allowed. This can be for the park as a whole or can be more specific to sub-areas.
- Identifying strategies for conveying important information both on and off-site. Large parks, for example, often benefit from a system of signage that informs users of what is and what is not allowed.
- Identifying threats or problems associated with natural communities or built infrastructure. For example, invasive species management can be critical to saving the natural resources or a constructed stream crossing may be showing signs of deterioration and resources will be required to fix it.
- Estimating costs associated with addressing the problems identified. This can be particularly useful during the Town's Capital Improvement Plan development.

Importantly, individual management plans for recreational parks or forest lands do not need to be lengthy documents that are difficult to write and amend. A concise presentation of issues that need to be addressed, recommended solutions, and estimated costs is often enough to provide a powerful reference for local boards. The plan should also be accessible enough so that average residents can navigate the document and understand what is being proposed. What may be slightly more complex is the process for identifying the challenges that need to be addressed and associated solutions. The Town will need to ensure that there is opportunity for groups like the Stratham Hill Park Association to provide input into the plan development.

Our Commitment to Open Spaces & Parklands:

Stratham is committed to maintaining and expanding our irreplaceable network of open spaces and continually improving the experience of residents and visitors who come to enjoy them. We recognize that management of these open spaces can be complex and will often require intensive planning and community engagement.

To achieve success, Stratham will:

1. Consider the development of a Stratham Hill Park Master Plan in order to plan future investments in this invaluable public asset and gift to the people of Stratham. A site-specific plan benefiting from the input from the public, user and advocacy groups, and various boards and commissions of the Town will serve to guide near and short-term investments in the various park facilities and amenities.
2. Explore the need for a comprehensive management plan required for individual open space/forest areas and develop those plans through a public engagement process. Set aside resources to develop and maintain those plans.

3. Continue to update and publicize guidelines and prioritize criteria for acquiring new open spaces, easements or other interests in land to be used in evaluating opportunities as they come before the Town.
4. Develop a network of trails and connections between open space lands to facilitate access by walking or biking.
5. Ensure Recreation, Public Works, Fire, Police, and other Town departments participate in providing input on subdivision and site plans during conceptual and later phases in order to promote features and improvements reflective of the Master Plan goals and connections with open space assets.
6. Inventory, map, and publicize open space lands, recreation facilities, and parklands and methods of connecting between (including those not publicly owned where access rights exist).
7. Coordinate any campaigns or mechanisms for public awareness about activities and restrictions across other municipal departments.

Stratham's Industrial Park

Stratham's industrial park lies in the southern corner of town and contains over 10 major corporate operations. This park is a major piece of Stratham's economic and fiscal base providing over 1,000 jobs for the region and generating significant property tax revenue for the Town. Stratham has always valued the industrial park as a major economic asset, and has supported growth within the district in whatever way the Town thought was appropriate. This policy remains strong in the community and the goal for the industrial park includes long-term full occupancy.

The most important tool for the Town related to the long-term health of the industrial park is building relationships with the resident companies. Municipal staff, particularly the Town Administrator and Town Planner, should cultivate these relationships by establishing some form of regular communication with company leadership. The form of that connection will vary from one company to another. What is important is that each company has a regular reminder that the Town is thinking of them and is invested in their success. Some recent trends in office/industrial park revitalization suggest ancillary uses are becoming more common in these areas and at increasingly larger scales. Outdoor recreational amenities, indoor workout facilities, limited food service, coffee shops, and similar uses that would be convenient for employees are becoming more popular. These trends are examples of issues Stratham should discuss with company ownership to see if there is any demand for items not currently allowed in local regulations.

As a final consideration for the Industrial Park, the current location is somewhat isolated and access/egress is generally limited to one point of entry by automobile on Route 111. Looking to the future, the Town should encourage tenants and work with the Town of Exeter to improve accessibility to the site by more than one means. As the Gateway District implementation continues, the Town can also be mindful of opportunities to leverage higher levels of activity with transit opportunities related to both the Gateway District and the Industrial Park.

Our Commitment to the Industrial Park:

Stratham is committed to the sustained success of our Industrial Park and we recognize the park as one of our strongest economic assets.

To achieve success, Stratham will:

1. Continue to maintain regular lines of communication with current tenants' company leadership.
2. Revise zoning language as appropriate to accommodate trends in industrial park development and to ensure the full range of desirable uses is allowed.
3. Revise zoning language as appropriate to allow for accessory uses that may make the park more self-sufficient and reduce vehicle trips (e.g., indoor fitness, outdoor recreation, café, flex space, etc.)
4. Encourage tenants and ownership to consider accessibility and circulation improvements for the site. Advocate for transit opportunities in the Industrial Park, particularly as the Gateway begins to develop.

Housing for the Future

Perhaps more than any other issue addressed in this Master Plan, the impact of housing policy directly cuts across almost every other issue of concern. The ubiquitous nature of housing issues highlights the urgency behind Stratham's need to develop a comprehensive housing strategy focused on meeting the diverse needs and preferences of residents today and into the future.

Housing Policy Shapes Success in Other Issues

The Gateway District

If the Gateway District receives the investment it requires for infrastructure, development proposals will need to include housing to ensure profitability. Housing development in the Gateway District could provide opportunities for smaller units (ownership and rentals) that allow young professionals, seniors looking to downsize, and first-time buyers the opportunity to live in Stratham.

Housing will be essential to the financial success of the Gateway District and long-term housing choice in the community.

An Aging Population

Housing for seniors is an enormously important and multi-layered issue. Many seniors would like to move to smaller homes in a more densely populated area like the Gateway District is envisioned to become. Others would prefer downsizing to a quieter model like cottage community style, multi-plex, or bungalow housing. Further, in new construction, there is rising demand for homes built with "universal design" standards that make it far easier for people with mobility challenges or other disabilities to live independently.

Housing development is the foundation for meeting the needs of an aging population.

Agricultural Viability

One of the more challenging aspects of agricultural sustainability is recruiting and retaining skilled employees. Sometimes, these employees even become future business partners and owners. The high cost of housing in the region makes it cost prohibitive for aspiring farmers to settle here and work at our local farms. Being able to provide accessory housing for farm employees and other family members on-site is essential for developing the next generation of farmers and preserving long-term agricultural land viability in Stratham.

Flexible housing strategies can help protect farms long-term.

Town Center

Similar to the Gateway District, but on a smaller scale, the Town Center is envisioned to become a walkable center that provides a complementary mix of uses. Increased residential use in a wider variety of housing styles will be an integral component to the future success of the Town Center.

Housing development in the Town Center will be necessary to achieve the vision for this area.

Bicycle and Walking Infrastructure

One of the greatest needs in the community moving forward will be providing alternative means of mobility for people in all stages of life. The development of new housing, whether high or low density, will need to incorporate amenities and connections to a larger mobility network.

Housing location and design can help sustain bicycle and pedestrian networks.

Historic Resource Preservation

Living along some of the busier roadways in Town has become less desirable due to the traffic volumes and, perhaps, the difficulties associated with maintaining an old historic home. Keeping the homes viable along these major roads is critical to maintaining our stock of historic buildings and setting a “design context” for new development. Ensuring the success of areas such as the Gateway District as an opportunity for housing development will help to mitigate pressure on historic properties and landscapes in Town.

Maintaining historic homes is critical to the identity of our community.

Open Spaces

While the plan focuses primarily on Stratham’s larger open space areas, residential subdivisions can augment a community’s open space resources through innovative site design techniques like cluster subdivisions and cottage community zoning.

Housing location and design can create small but valuable pockets of open space.

The Industrial Park

From discussions with business owners in the industrial park and in other commercial/industrial areas in Stratham, it was clear that the biggest barrier to sustaining their businesses was finding

qualified workers. These business owners further explained that the inability to find qualified workers is directly tied to the cost of housing in Stratham and across the region. The lack of diverse housing options exacerbates the affordability issue, whereas housing in mixed-use settings, apartments and condos with smaller square footage, and units located along corridors generally tend to be more affordable.

Housing affordability is a major economic development issue.

Stratham's Housing Approach

Stratham's current regulatory framework does potentially allow for some housing diversity. Provisions for duplex, in-law apartments, workforce housing, multi-family housing (own or rent), senior housing, and open space cluster subdivisions are all part of the toolbox Stratham currently uses. However, even with these provisions, the dominant product in Stratham remains the market-rate single-family home. Between 2010 and 2016, the State reported that Stratham had permitted the construction of 91 single-family homes compared with only 10 multi-family units (see Baseline Report).

To create a more balanced housing stock, Stratham will need to revisit and potentially revise some of the existing provisions in the Zoning Ordinance. The goal of this exercise should be to increase opportunities for a variety of housing types in a way that will not compromise the rural character so important to residents today. Fortunately, housing design in the past couple of decades has focused intently on this issue of "choice" and architects have done amazing work resurrecting traditional forms of housing that provide options consistent with Stratham's vision.

A Summary of Housing Tools

Accessory Dwelling Units (ADUs)

The State of New Hampshire requires municipalities to allow ADUs that are either contained within or attached to the primary residence. The State enables municipalities to allow for detached ADUs (e.g., above a garage or as an "out building"), but does not require the allowance. Stratham currently allows ADUs inside of a primary residence or above a garage with restrictions. The Town should consider whether a Conditional Use Permits may be appropriate for certain situations (such as historic homesteads or farms), or where any of the prescriptive performance standards could be relaxed under specific conditions (e.g., large lot size, active farms etc.)

Inclusionary Zoning

This term is used to describe a very specific regulatory tool that requires a fraction of proposed housing units must be deed restricted as "affordable" to a particular income level. For example, a community could require subdivisions for single family homes over 10 lots to provide 10% of the homes as deed restricted "workforce housing." Similarly, a community could require a percentage of multi-family units to be deed restricted in the same way. The goal is to develop subsidized housing at a controlled pace and in a manner that integrates subsidized units with market rate units.

Stratham provides opportunities for developers to receive density bonuses where a fixed percentage of housing is affordable in accordance with state law. A review of best practices related to inclusionary zoning suggests it is most effective where:

- The inclusion of subsidized housing is required for developments of a certain size. Optional programs rarely work.
- The income limits targeted for the subsidized units have some flexibility. Subsidy programs can change over time and zoning language should account for that variability.
- Developers receive a density bonus (additional market-rate units) to compensate for the lost profit on the subsidized units.

Missing Middle Housing

The term “missing middle housing” was coined as planners realized that many communities were missing significant opportunities to enable a more diverse housing stock. Countless communities allow for single-family (and maybe two-family) homes along with larger multi-family structures (e.g., apartment buildings). The detached homes represent one extreme on the scale of housing types, and the apartment buildings represent the other extreme. What is missing too often is what is “in the middle” of these extremes. This realization has prompted designers and regulators to work together in a way that creates a more sophisticated menu of options in communities like Stratham.



The photos here show a range of housing options that are architecturally consistent with traditional New England homes. From cottages to small-scale multi-family models, Stratham can explore a range of options for the Gateway District, former New Hampshire Vo-Tech site, and other areas of town. Images courtesy of Opticos Design.

These types of images can be used as part of a public education campaign to see which types of missing middle homes residents feel would be appropriate in Stratham. The results of this engagement process would then be used to expand the list of allowable housing in the Zoning Ordinance and draft design guidelines.

Innovative Subdivision Design

For several decades, since the groundbreaking book *Rural by Design*, was first published, communities like Stratham have been re-inventing the subdivision process to achieve more sustainable and attractive outcomes in residential development. Over a dozen different models are common across the country with both minor and major differences in approach. Stratham currently uses Open Space Cluster Development in the Zoning Ordinance to facilitate flexible “context sensitive” design. The provisions also include a series of incentives to include deed restricted affordable housing.



Rollins Hill is a 104 acre Low Impact Development by Pipers Properties located off of Rollins Farm Road in Stratham. The development is designed to integrate homes with the landscape and provide protection for water quality and habitat with over 50 acres of conservation land. Permeable pavements, raingardens, and rooftop infiltration are used to protect water quality, vernal pool habitat, recharge groundwater, and reduce the need for stormwater ponds and drainage.

The Flexible Mixed Use Development District

The former New Hampshire Vo-Tech site provides a truly unique redevelopment opportunity in Stratham. The site has its own zoning district designed to encourage the development of a neighborhood scale mix of commercial operations and housing. With regard to residential use, the ordinance specifies that the following uses (as defined in the ordinance) are allowed by right:

- Retirement planned community.

- Senior multi-family housing.
- Congregate care facilities.
- Retirement home or other supported or independent living arrangement for active adults.

Standard multi-family housing (not age restricted) is allowed with the following stipulations:

- Approval of a Conditional Use Permit.
- Housing units are limited to two-bedrooms.
- Multi-family will be “subordinate or complimentary” to uses allowed by right.

Given the clearly articulated goals related to housing in this Master Plan, the Town should review the zoning on this site from this perspective. It is possible that amendments could be identified that make multi-family homes more easily permitted, level the playing field between age-restricted and non-restricted housing, and diversify the units to include some that are more conducive to housing young families.

Our Commitment to Housing for the Future:

Stratham is committed to fostering a diversity of housing choices that will meet the needs of residents with a wide range of preferences, abilities, and financial means. To achieve success, Stratham will:

1. Develop updated educational materials for local boards and residents about the different tools and housing types discussed in the Master Plan.
2. Identify areas in the community where expanding the types of housing potentially allowed is appropriate.
3. Revise zoning language as appropriate to promote new housing types and tools. Revisions to consider will include:
 - a. More flexible standards for Accessory Dwelling Units (ADUs) on actively farmed property.
 - b. Adding incentives for single family-subdivisions to include deed-restricted affordable/workforce housing (i.e., inclusionary zoning).
 - c. Adding a new section for cottage community zoning.
 - d. Expanding the list of potential housing types allowed in residential districts to include more “missing middle” housing options.
 - e. More flexible and innovative site design techniques for Residential Open Space Cluster Development.
 - f. Broader by-right housing allowances for the Flexible/Mixed Use Development District (Vo-Tech site).
 - g. Clarifying the distinction between how market rate multi-family and deed restricted affordable multi-family are developed.

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Stuart Farm. Photo credit: Nathan Merrill

Implementation

“Institutionalizing” the Master Plan

The most common criticism of Master Plans is that they require considerable resources to develop, then they end up “sitting on a shelf.” Moving forward, Stratham will consider the following measures to ensure the continued utility of the plan:

1. The Planning Board and Town Planner will provide regular (e.g., quarterly) updates on Master Plan Implementation in a regularly scheduled Planning Board meeting.
2. The plan will be posted on the Town’s website and copies will be available in the library.
3. A separate implementation matrix will be printed for each department identified as a lead or supporting party for any of the strategies.
4. A concise implementation update report will be developed by the Town Planner twice each year. This will be posted to the Town’s website and distributed to every department, board, and commission.
5. Any recommendations for the Capital Improvement Plan by individual departments will be accompanied by a statement of consistency with the Master Plan.
6. Decisions regarding Conditional Use Permits, Use Exceptions, and Variances will include a statement regarding the consistency of the proposal with the Master Plan.

Cross-Cutting and Complementary Strategies

Strategies that cut across numerous issues, if implemented, can achieve multiple objectives at once. For example, implementation of the Gateway helps to address issues related to the local economy, housing needs, fiscal health, etc.

Similarly, individual strategies related to separate issues may be related, and it may be more efficient to package these strategies for implementation. Examples in this Master Plan include:

Local Regulatory Reform

The strategies provided under several key issues include recommendations for regulatory reform. Recommended items include (but are not limited to):

- Revisiting allowances for different housing types to encourage construction of “missing middle” housing where appropriate.
- Potential revisions to performance standards and accessory use allowances on active farms.
- Revisions to the subdivision regulations to expand guidance on complete street design options.
- Potential revisions to the Open Space Cluster Development ordinance to provide more flexibility and stronger incentives for affordable housing.

The scope of the reforms listed above varies in complexity and in the degree to which they may “ripple” through other regulatory documents. Further, drafting some of these changes may require considerable public engagement, while other amendments will be of little consequence to the general public. It will be critical for the Town to consider how to best package these efforts to manage public discourse and anticipate the complexity of weaving some of these changes into the existing regulations.

Roadway Infrastructure Improvements

Numerous potential roadway infrastructure improvements are called for in the Master Plan. These include:

- Retrofits to incorporate complete streets design elements.
- The replacement of under-sized culverts to account for more severe storms.
- The phased installation of sewer lines through the Gateway District and farther north through Town Center.
- Streetscape improvements in the Town Center and Gateway Districts.
- Targeted improvements along state roads as identified in their annual improvements planning.

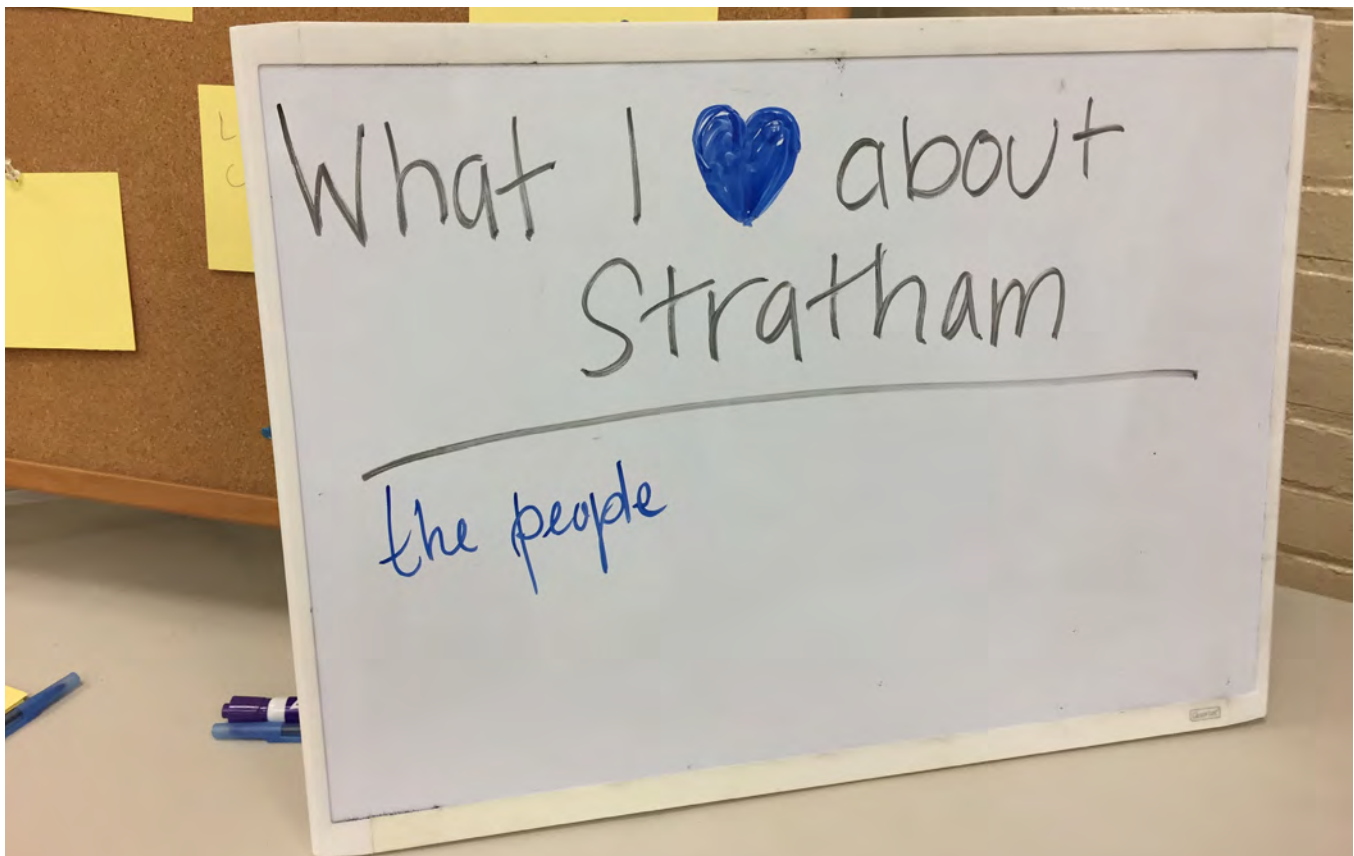
The Town will need to coordinate these improvements to the degree possible and look for opportunities to combine construction activities to achieve multiple objectives.

Transparency and Communication

Throughout the public engagement process, a recurring theme that underpinned several different issues was effective communication between local government and residents/business owners. Stratham effectively uses a number of different media to let residents know when important events or meetings are scheduled and when important actions will be deliberated and decided. As the community grows, the amount of information local government will need to distribute will grow, and the diversity of the residential population will require an equally diverse set of communication tools. This plan calls for the Town to continually improve communications for:

- Environmental issues (education).
- The progress of implementation in the Gateway.
- Future needs of the Industrial Park.
- Needs related to recreational programming and facilities.
- The location and descriptions of different trails.
- Permitting requirements.
- Planning and programming of Town-owned open spaces and parks.
- Inter-departmental coordination.

Moving forward, the Town will need to think strategically about the different platforms used to communicate to ensure it captures as many opportunities and reaches as many different audiences as possible.



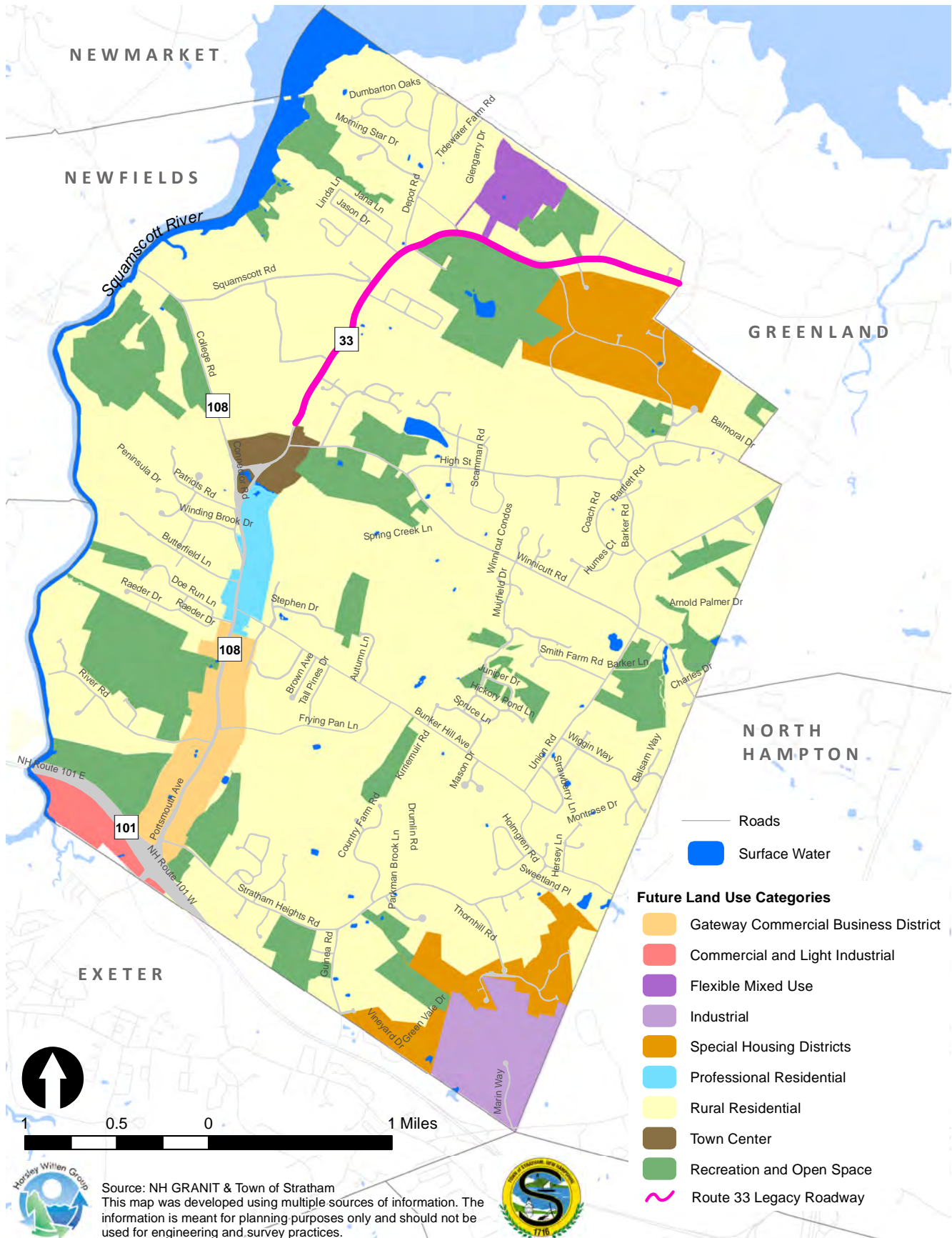


The Future Land Use Map

Pursuant to state law, a community Master Plan requires a Future Land Use Map (FLUM) that visualizes the preferred uses of land across the entire Town. One of the primary functions of this map, from an implementation perspective, is to show where new policy development may require changes in the Zoning Ordinance or other regulations. Importantly, Stratham made major zoning changes in advance of this Master Plan that are still generally consistent with this more recent FLUM. Accordingly, no alterations to land use categories are necessary in order to reflect the goals of the community. That notwithstanding, several of the areas identified on the FLUM are referenced in the Master Plan and review/changes to zoning in these areas are called for. These proposed reforms are not reflective of major policy changes either in the location of the zones or the uses they are meant to foster. Rather, the Master Plan generally calls for zoning reforms that strengthen the work already in place and brings the Town closer to successful implementation.

Future Land Use Map

Refer to Future Land Use Category descriptions.



Future Land Use Categories

Gateway Commercial Business District

Uses in areas categorized as the Gateway Commercial Business District follow the vision of the Gateway Community Business District Master Plan and create a vibrant, walkable neighborhood that is a mix of public spaces, homes, shopping, services, and offices.

Commercial and Light Industrial

Uses in Commercial and Light Industrial areas are businesses that do not create a level of noise, dust, odor, or other nuisance or hazard that would impact the natural environment or adjacent homes. These businesses could include allowable manufacturing or assembly of products, offices, retail, or restaurants.

Flexible Mixed Use

Flexible Mixed Use is the former New Hampshire Community College. The Town envisions the redevelopment of this area as a mix of residential, commercial, and public spaces that is walkable.

Industrial

Areas categorized as Industrial are for uses focused on the manufacture, production, and assembly of goods. Performance standards are in place that minimize the impacts to the natural environment and surrounding community.

Special Housing Districts

Special Housing Districts encompass areas for more specialized housing types that include manufactured homes and age-restricted developments.

Professional Residential

Professional Residential areas are office uses compatible with nearby homes.

Rural Residential

Lands categorized as Rural Residential are areas that the Town sees as maintaining the rural qualities of Stratham. Uses are a mix of single-family homes, agricultural activities, and conservation land.

Town Center

Areas categorized as Town Center support the vision expressed in the PlanNH design charrette as a walkable, cohesive center with a mix of homes, shopping, public spaces, and services.

Recreation and Open Space

Areas categorized as Recreation and Open Space are lands the town has identified for recreation facilities or dedicated open space for protecting resources for public access, farmland, water quality, or wildlife habitat, among other criteria.

Route 33 Legacy Highway

Uses along what is categorized as the Route 33 Legacy Highway maintain the rural, historic character of the corridor while optimizing the reuse of properties.

Implementation Matrix

The following table provides the implementation matrix for this Master Plan. The table is organized by the nine major commitments the Town is making by adopting the plan. Beside each major commitment is a concise list of strategies. Each strategy also has the most prominent responsible parties and a potential timeline for implementation. Abbreviations in the table include:

Admin:	Town Administrator	P&R:	Parks and Recreation
Cons:	Conservation Commission	P&Z:	Planning & Zoning Department
DPW:	Department of Public Works	Rec:	Recreation Commission
Heritage:	Heritage Commission	108:	108 Study Commission
Library:	Wiggin Memorial Library	SB	Select Board
PB:	Planning Board	Seniors:	Stratham Seniors (“76ers”)
PCAC:	Pedestrian & Cyclist Advocacy Committee	SHPA:	Stratham Hill Park Association
Police:	Police Department	TBD:	To be determined
		VFD:	Volunteer Fire Department

The Gateway District

STRATEGY		RESPONSIBLE PARTIES	TIMEFRAME
1	Continue to pursue the vision of the Gateway Corridor Master Plan and the full range of development and redevelopment envisioned.	P&Z, 108, Admin, SB, PB	Ongoing
2	Continue to engage property owners and developers along the corridor who have not yet been able to take advantage of the Gateway vision due to infrastructure limitations.	P&Z, PB	Ongoing
3	Develop and approve a financing plan and tools that provide the necessary funding for the design and installation of water and sewer infrastructure in accordance with recommended project phasing.	P&Z, 108, Admin, SB	1-2 years
4	Further develop the existing inter-municipal agreement for water and additionally pursue sewer connection discussions.	P&Z, 108, Admin SB	1-2 years
5	Install water and sewer infrastructure in accordance with the terms and conditions of the financial and legal documents (such as a TIF District and Financing Plan).	TBD	2-10 years
6	Keep public informed as progress toward the Gateway vision unfolds, including design of public improvements, new development projects, and other progress related to the Gateway.	P&Z	Ongoing
7	Revisit the existing zoning for the Gateway District and make amendments that will facilitate achieving the vision.	P&Z, PB	Ongoing

Viability of Our Farms

STRATEGY		RESPONSIBLE PARTIES	TIMEFRAME
1	Organize a public discussion around accessory uses for active farms to determine what uses are acceptable and what performance standards should apply.	P&Z, Heritage, Historic, Cons	1-2 years
2	In the discussion of accessory uses, include a component that looks specifically at barn structures rehabilitated under the barn easement program.	P&Z, Heritage, Historic, Cons	1-2 years
3	Review existing local regulations through the lens of farm operations. Identify areas where permit review processes or specific standards are not practical for farm operations and amend the regulations as appropriate.	P&Z, PB	2-3 years
4	Continue the use of conservation and barn easements in the community. Because conservation easements are permanent deed restrictions, it is important to develop easement terms that allow for diverse agricultural uses, ensuring competing interests do not impinge on the long-term goal of agricultural viability.	P&Z, Heritage, Cons	Ongoing
5	Consider re-establishing funding for purchasing conservation easements when opportunities arise.	Administrator, SB, Cons	1-2 years

The Town Center

STRATEGY		RESPONSIBLE PARTIES	TIMEFRAME
1	Continue to keep the district eligible for tax relief related to qualifying structures.	P&Z, SB	Ongoing
2	Coordinate with NHDOT on all proposed work within the center.	P&Z, DPW, Police, PCAC, Heritage	Ongoing
3	Amend the Town Center zoning as necessary to meet the goals of the district.	P&Z, PB, Heritage	Ongoing
4	Coordinate later phases of sewer service installation (related to the Gateway District) with roadway and streetscape improvements in the Town Center.	TBD	TBD

Historic Resource Preservation

STRATEGY		RESPONSIBLE PARTIES	TIMEFRAME
1	<p>Ensure the extensive and geographically disbursed historic structures, barns, homesteads, and other features contributing to Stratham's connection to the past remain intact for the future.</p> <ol style="list-style-type: none"> Evaluate existing land use ordinances (such as the Use Table and associated performance standards) to ensure they encourage effective and vibrant reuses of historic properties, decreasing the risk of losing them to deterioration or demolition (e.g. new or expanded uses along Route 33). Explore regulatory tools available in New Hampshire to designate historic districts in the zoning ordinance for the purpose of preserving and protecting existing current historic resources. Evaluate existing ordinances (such as the demolition delay ordinance) to ensure they effectively fulfillment of the purpose of the ordinance and other goals in this Master Plan. 	P&Z, PB, Heritage	1-2 years, then ongoing
2	<p>Make investments that actively preserve historic buildings and important spaces to the Town.</p> <ol style="list-style-type: none"> Investigate the possibility of establishing a revolving loan fund or small grants program for critical repairs to privately-owned historic structures. Continue municipal funding for preservation easement purchases on particularly important historical resources. Identify tools to incentivize the rehabilitation and preservation of historic structures along the Portsmouth Avenue corridor from Town Center to the Greenland town line. Viable tool may include, but are not limited, to the expansion of RSA 79-E. 	P&Z, PB, Heritage	1-2 years, then ongoing
3	<p>Expand the Town's base of knowledge and appreciation for Stratham's architectural and agricultural heritage.</p> <ol style="list-style-type: none"> Complete a town-wide survey of historic resources and create an interactive online map of historical resources in town. Pursue efforts to share information about the history and historic development of the Town through initiatives such as historic markers, interpretive signboards, and related educational materials to be installed at key locations. 	P&Z, Heritage	2-3 years, then ongoing
4	<p>Continue to ask the Heritage Commission to serve as resource for the Select Board, boards and commissions, Town staff in carrying out public works improvements for the Town.</p> <ol style="list-style-type: none"> Designate a list and map of "heritage streets" and add specific zoning language that applies to them, particularly regarding streetscape changes like proposed sidewalks, roadway widening, bike lanes, etc. and also special protections for stone walls, open spaces, and other features. Provide input on Town operations and capital projects affecting Town-owned historic properties and landscapes. 	P&Z, Heritage	1-2 years, then ongoing

Walking, Biking and Automobiles

STRATEGY		RESPONSIBLE PARTIES	TIMEFRAME
1	Draft and adopt a “Complete Streets” policy committing the Town to seriously considering all possibilities for incorporating walking and biking infrastructure into local roadway improvements.	PCAC, P&Z	1-2 years
2	Apply techniques related to “Green Streets,” particularly in more densely developed areas like the Gateway District, Town Center, and future development of the Vo-Tech site.	P&R, Rec, Cons, PCAC	2-3 years
3	Building on what we have today, develop a comprehensive Trails Master Plan that maps out the potential town-wide network of trails with a focus on making connections between neighborhoods, parks, and mixed-use centers.	PB, PCAC	Ongoing
4	Seek input from bicycle, pedestrian, and trail advocates in local planning, including, but not limited to, capital improvements planning, the development of any Park/Forest Management Plan, and discussions with NHDOT.	P&Z, PCAC	1-2 years
5	Coordinate closely with NHDOT to ensure specific future roadway improvements (on state roads) are designed consistent with the goals of this section, such as through the Context Sensitive Solutions (CSS) process.	P&Z, DPW, PCAC	1-2 years
6	Advocate for short-term improvements from NHDOT, including periodic adjustments to signalization at commuting times.	P&Z, DPW, PCAC	1-2 years
7	Develop an expanded menu of roadway design standards to be used at the local level, which include different configurations for pedestrian and bicycle elements.	PB (CIP), PCAC, SB	2-5 years
8	Require development proposals to identify where new roads, trails, or paths may be able to connect with the same features on adjacent sites.	P&Z, PCAC	Ongoing
9	Prioritize Safe Routes to School (SRTS) Infrastructure Projects as provided in the SRTS Plan (see Appendix C).	PB (CIP), PCAC, SB	2-5 years
10	Seek opportunities for establishing or expanding public transportation options in Town, such as COAST and TASC. Continue to plan for future options that expand services and serve the community, particularly vulnerable populations (e.g. seniors and people with disabilities).	P&Z, Seniors	Ongoing
11	Continue to work toward a more comprehensive local transit service as the Gateway, Industrial Park, Town Center, and Vo-Tech areas continue to mature and develop.	P&Z, Admin	Ongoing

Sustaining Our Natural Resources

STRATEGY		RESPONSIBLE PARTIES	TIMEFRAME
1	<p>Work to protect land that will, in turn, protect our sensitive natural resources.</p> <ul style="list-style-type: none"> a. Engage with the Conservation Commission during the review of development proposals or the planning of public improvements where natural resources may be impacted. b. Use conservation easements, outright purchase of land, the purchase of development rights, or other mechanisms to extinguish development rights on land that serves as buffers to surface waters, wetlands, or vernal pools, or as recharge areas to important aquifers. c. Encourage the use of cluster subdivisions, especially where the establishment of open space will protect existing resources. d. Identify and map vernal pools to the extent possible. 	P&Z, PB, Cons, SB, Admin	Ongoing
2	Participate on the Squamscott/Exeter River Local Advisory Committee with a representative from the Conservation Commission.	Cons	1-2, ongoing
3	<p>Continue to regulate and encourage activities and development that is protective of natural resources.</p> <ul style="list-style-type: none"> a. Ensure existing conditions plans identify the location and extent of sensitive water resources and wildlife habitat. b. Consider making cluster subdivisions more accessible by reducing the minimum amount of land for eligibility. c. Consider making the design of cluster subdivisions more flexible with greater requirements for open space, more flexible property buffer requirements, and smaller lots. d. Update the Groundwater Protection District provisions to ensure the land use limitations are up to date and site development performance standards are current with best practices. e. Require or provide incentives for low impact design in sensitive areas like the Wetland Conservation District and the Shoreline Protection District. f. Update requirements for erosion and sediment control (during construction) and stormwater management (post-construction) to incorporate current best practices. g. Encourage the use of alternative energy applications in both new development and redevelopment projects. h. Review local requirements for on-site septic system to ensure there are no unnecessary barriers for installation of innovative systems approved by NHDES. 	P&Z, PB	2-5 years

Sustaining Our Natural Resources, cont.

4	Develop and implement a detailed five-year public education work plan related to the natural resource issues identified in this Master Plan.	Cons	1-2 years
5	Expand knowledge of staff and residents about management of invasive species through ongoing training and education.	Cons	Ongoing
6	Develop permitting guides that explain the basic provisions of federal, State, and local laws that apply to typical proposals in Stratham.	P&Z, PB	1-2 years

Public Services and Facilities

STRATEGY		RESPONSIBLE PARTIES	TIMEFRAME
1	Develop a 10-year staffing plan for the Volunteer Fire Department that phases in paid employees to match anticipated demands.	VFD, SB, Admin	1-2 years
2	Ensure active participation from municipal departments—including the Town Administrator, Town Planner, and Parks and Recreation—in the next update of the Wiggin Memorial Library Strategic Plan.	Library, Admin, P&Z, P&R, Rec	TBD
3	Provide funding and staff resources necessary to address the revised requirement of the MS4 stormwater management program.	Admin, DPW	1-2 years, then ongoing
4	Actively pursue the success of the Gateway District and the Town Center as significant mid to long-term positive contributors to the municipal tax base in order to fund future expansions of public services.	P&Z, PB, Admin, SB	Ongoing
5	Develop a Recreation Needs Assessment to assess future programming, facilities, and staffing needs and to prioritize investments identified for programming, services, and facilities (upgrades and new) (ie. senior center and community center).	Admin, P&R, Rec	2-3 years
6	Using 2019 survey results as a platform, continue to engage the community to understand needs related to youth, adult, and senior programming.	Admin, P&R, Rec	2-3 years, ongoing
7	Continue to improve upon the ways the Town shares information with seniors about programming and special events.	Admin, P&R, Rec, Cons, Library, Seniors	Ongoing
8	Evaluate and invest in digital mapping tools and data collection for recreation facilities including the trail systems to facilitate analysis, management (communicating use limitations and scheduling) and policy making as well as capital planning.	P&Z, P&R, Rec	2-3 years
9	Continue to build community in Stratham through parks and recreation programming as well as sponsoring community events that promote community building.	Admin, P&R, Rec, Cons, P&Z, Seniors	Ongoing

Open Spaces & Parklands

STRATEGY		RESPONSIBLE PARTIES	TIMEFRAME
1	Consider the development of a Stratham Hill Park Master Plan in order to plan future investments in this invaluable public asset and gift to the people of Stratham. A site-specific plan benefiting from the input from the public, user and advocacy groups, and various boards and commissions of the Town will serve to guide near and short-term investments in the various park facilities and amenities.	P&Z, SHPA, P&R, Rec, Heritage, Cons, SB, Admin	1-5 years
2	Explore the need for a comprehensive management plan required for individual open space/forest areas and develop those plans through a public engagement process. Set aside resources to develop and maintain those plans.	P&R, Rec, Heritage, Cons, SB, Admin	Ongoing
3	Continue to update and publicize guidelines and prioritize criteria for acquiring new open spaces, easements, or other interests in land to be used in evaluating opportunities as they come before the Town.	P&Z, P&R, Rec, Heritage, Cons, SB, Admin	1-2 years
4	Develop a network of trails and connections between open space lands to facilitate access by walking or biking.	P&Z, P&R, Rec, Heritage, Cons	Ongoing
5	Ensure Recreation, Public Works, Fire, Police, and other Town departments participate in providing input on subdivision and site plans during conceptual and later phases in order to promote features and improvements reflective of the Master Plan goals and connections with open space assets.	P&R, Rec, PW, VFD, Police, PB, P&Z	Ongoing
6	Inventory, map, and publicize open space lands, recreation facilities, and parklands and methods of connecting between (including those not publicly owned where access rights exist).	P&Z, PCAC, P&R, Cons	2-3 years, then ongoing
7	Coordinate any campaigns or mechanisms for public awareness about activities and restrictions across other municipal departments.	P&Z, P&R, PB, Heritage, Cons, SB, Admin	Ongoing

The Industrial Park

STRATEGY		RESPONSIBLE PARTIES	TIMEFRAME
1	Continue to maintain regular lines of communication with current tenants' company leadership.	P&Z, Admin	Ongoing
2	Revise zoning language as appropriate to accommodate trends in industrial park development to ensure the full range of desirable uses is allowed.	P&Z, PB	Ongoing
3	Revise zoning language as appropriate to allow for accessory uses that may make the park more self-sufficient and reduce vehicle trips (e.g., indoor fitness, outdoor recreation, café, flex space, etc.).	P&Z, PB	1-2 years
4	Encourage tenants and ownership to consider accessibility and circulation improvements for the site. Advocate for transit opportunities in the Industrial park, particularly as the Gateway District begins to develop.	P&Z, PB	Ongoing

Housing for the Future

STRATEGY		RESPONSIBLE PARTIES	TIMEFRAME
1	Develop updated educational materials for local boards and residents about the different tools and housing types discussed in the Master Plan.	P&Z, PB	1-2 years
2	Identify areas in the community where expanding the types of housing potentially allowed is appropriate.	P&Z	2-3 years
3	Revise zoning language as appropriate to accommodate new housing types and tools. Revisions to consider will include: <ul style="list-style-type: none"> a. More flexible standards for Accessory Dwelling Units (ADUs) on actively farmed property. b. Adding incentives for single family-subdivisions to include deed-restricted affordable/workforce housing (i.e., inclusionary zoning). c. Adding a new section for cottage community zoning. d. Expanding the list of potential housing types allowed in residential districts to include more "missing middle" housing options. e. More flexible and innovative site design techniques for Residential Open Space Cluster Development. f. Broader by-right housing allowances for the Flexible/Mixed Use Development District (Vo-Tech site). g. Clarifying the distinction between how market rate multi-family and deed restricted affordable multi-family are developed. 	P&Z, PB, 108	3-10 years



Sunset on Mill Brook. Photo credit Nathan Merrill

Critical Plans and Surveys

The development of this Master Plan benefited immensely from previous planning efforts in the community. These efforts culminated in the development of a series of focused planning documents that examine specific issue areas in a more detailed manner than a community Master Plan. This Master Plan can incorporate these other efforts by reference and draws significant policy content and direction from these documents.

Land Use and Economic & Community Development

Gateway Commercial Business Master Plan (2008)

This document (“the Gateway Plan”) lays the foundation for the issues that were most frequently discussed in the Master Plan process. The vision for the area is clearly presented and served as the foundation for a major rezoning of this corridor. A complete, illustrated set of design guidelines also emerged from this process.

The Town Center Charrette Report (2011)

Developed under the leadership of PlanNH, this plan documents a local design charrette intended to reimagine the Town Center district. The vision for this area is articulated both in text and with extensive visualizations. Streetscape improvements and zoning amendments were informed by this report, which still has much to offer.

108 Corridor Study Committee Community Survey (2018)

The 108 Corridor Study Committee released a survey in 2018 to gauge public opinion around potential infrastructure investment in the Gateway District. Over 600 residents took the survey with results indicating strong support for infrastructure investment and continued study on the details of future plans and financing.

108 Corridor Study Committee Final Report (2019)

The 108 Corridor Study Committee released its final report concurrently with the drafting of the Master Plan. The report provides an overview of the importance of commercial development to the fiscal sustainability of Stratham, a comprehensive account of the public discussion leading to the report, and recommendations for next steps.

Recreation Department Survey (2019)

The Recreation Department issued a town-wide survey to help understand public opinion around the issues of recreation desires and needs related to different groups in Stratham (e.g., young children, adults, seniors, etc.)

Protection of Cultural and Heritage Resources

Historical Resources Master Plan (2008)

This document provides an excellent summary of important historic events in Stratham as well as well as preservation activity in the community over the past several decades. Goals and recommendations provided in the document were used as a reference for this Master Plan.

Historic Sites Inventory (2008 – Ongoing)

This document is appended to the Baseline Report for this Master Plan and serves as a reference for the document as well as the foundation for future inventory efforts.

Environmental Quality and Protection

Vulnerability Assessment of Projected Impacts from Sea-Level Rise and Coastal Storm Surge Flooding (2017)

As part of the Climate Risk in the Seacoast (C-RiSe) program, the Rockingham Planning Commission (RPC) developed vulnerability assessments for the seacoast communities closest to the ocean. Stratham's assessment provides excellent discussion of which areas of public infrastructure are vulnerable to events like major flooding. The recommendations in that report are also considered a valuable reference and supplement to this document.

State of our Estuaries 2018

The Piscataqua Region Estuaries Partnership (PREP) publishes this report every five years, with the most recent being released in 2018. This report provides an in-depth summary of the health of the Great Bay and the Hampton-Seabrook Estuaries based on the measurement of 16 indicators within the watersheds to these resources.

Transportation

Stratham Safe Routes to School Action Plan (2019)

This most recent document provides an excellent assessment of safety conditions related to walking or biking to school. The document provides a long, detailed list of actions that are specific to the SRTS implementation in Stratham, serving as an important reference and supplement to the Master Plan.

Transportation Chapter, 2015 Regional Master Plan

The Rockingham Planning Commission (RPC) developed its Regional Master Plan in 2015. The Transportation Chapter provided a regional framework for the Stratham Master Plan.



Stratham Master Plan BASELINE REPORT

October 1, 2019



Prepared for the Stratham Master Plan Steering Committee

Prepared by Horsley Witten Group, Inc.

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Introduction

The Stratham Master Plan is made up of two volumes: The Baseline Report and The Master Plan. This document, the Baseline Report, is a snapshot of existing conditions as they relate to neighborhoods, parks, roadways, town services, the local economy, and historic and natural assets, and other things that define the quality of life in Stratham. The report includes inventories and data collected from a variety of local, regional, state, and federal sources. Information was also obtained through town staff interviews, outreach to key stakeholders, and review of existing reports and other documentation.

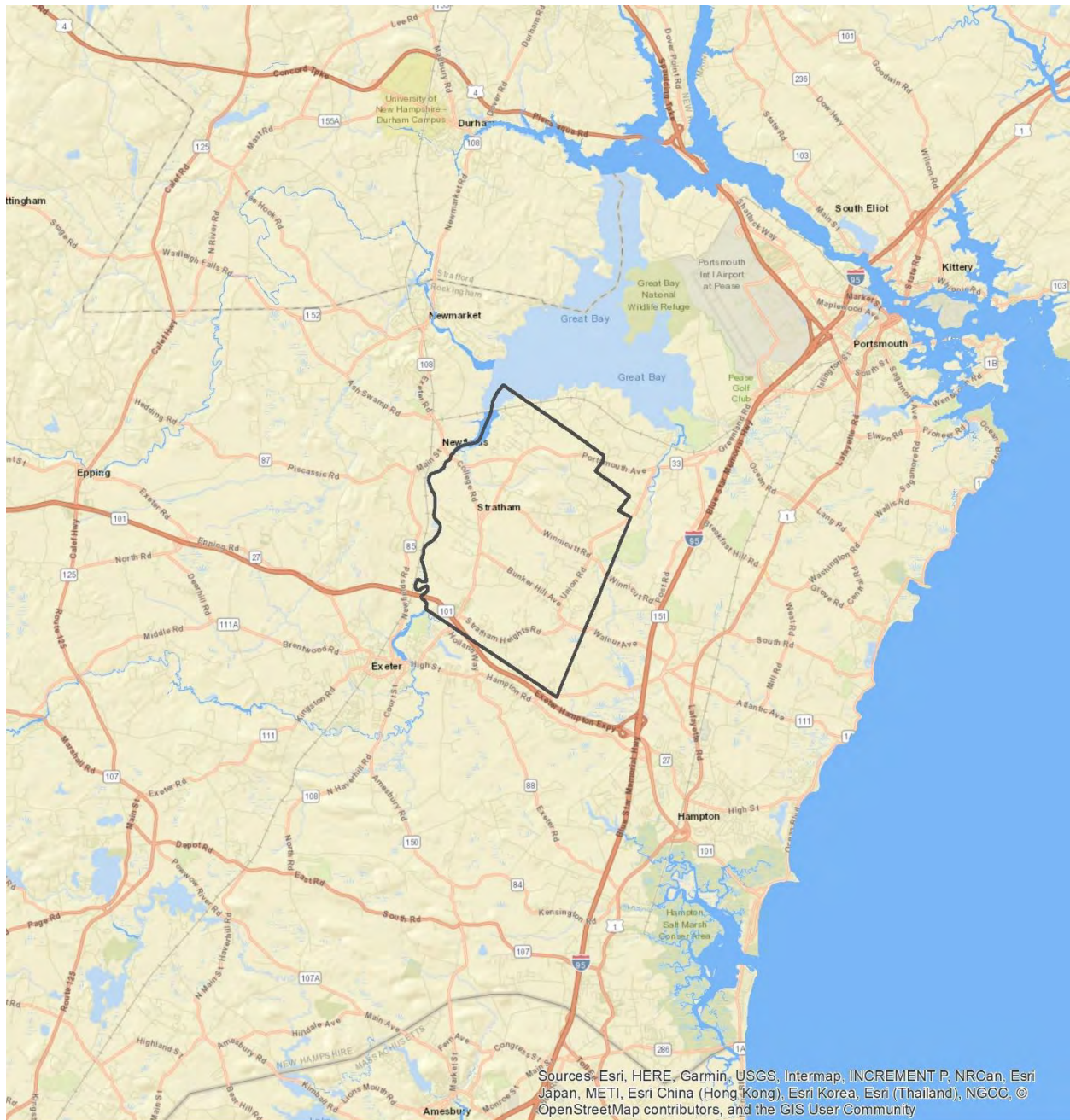
The Baseline Report was prepared at the onset of the Master Plan update process. It sets the stage for discussion of issues in the Master Plan, where policies and actions are established to reach the Town's vision for itself in the next 20 years.

Location

Stratham is part of Rockingham County. It is located along Route 101, about 10 miles west of Interstate 95 (Map 1). This proximity to a major interstate makes it easily accessible to points north in Maine (about 60 miles to Portland) and south in Massachusetts (about 60 miles to Boston). Via Route 101, Manchester is about 30 miles away and Concord is approximately 46 miles away.



Stratham Hill Park



Source: NH GRANIT & Town of Stratham
 This map was developed using multiple sources of information. The information is meant for planning purposes only and should not be used for engineering and survey practices.



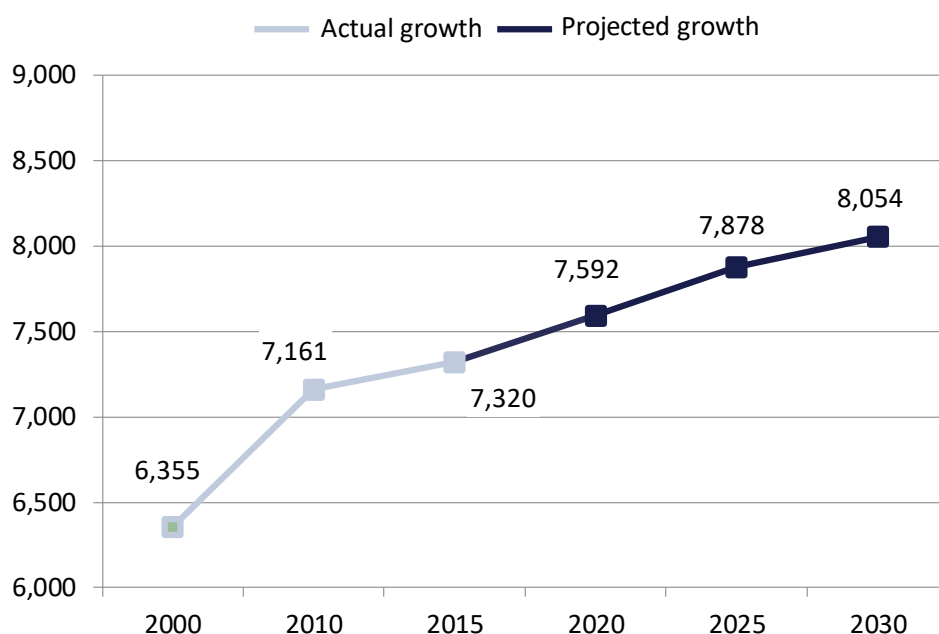
Map 1. Stratham's Regional Context

Demographics

It is important for Stratham to understand who lives in the community and how that composition has changed or will change over time. Changes in population size as well as age, race and ethnic background, household composition, income, and special needs can give Stratham guidance as it plans for its future. All these factors can influence needs and preferences for housing, education, recreation, transportation, and other public services.

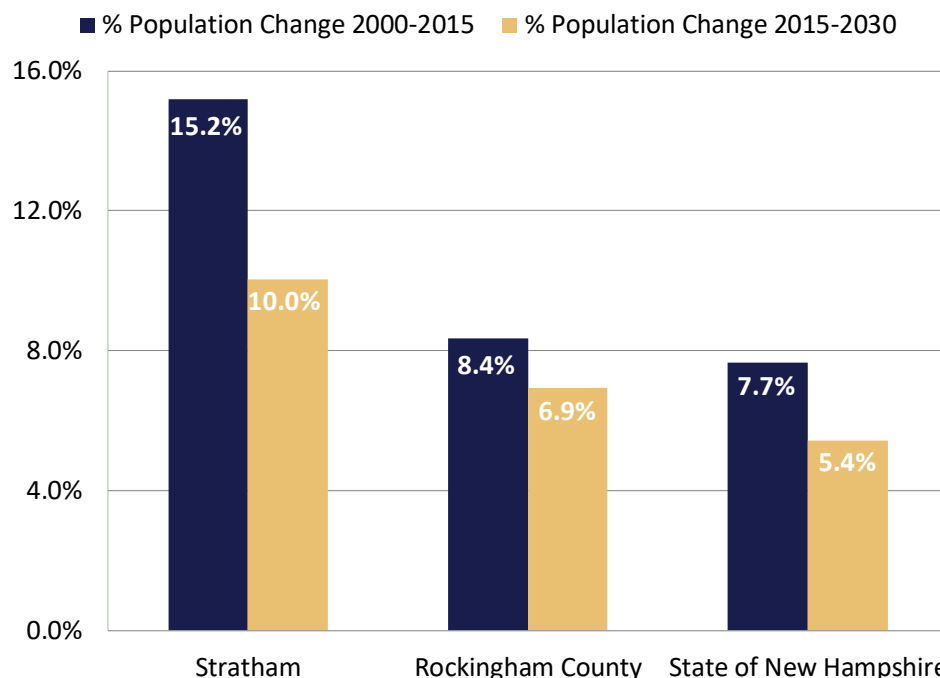
Growth

Stratham's population has grown since the year 2000, with a slower growth rate in more recent years. Between 2000 and 2015, the population increased by 965 residents, for an overall growth rate of approximately 15.2% (Figure 1). Stratham is projected to grow another 10% between the years 2015 and 2030 to a total population of 8,054. Growth in Stratham will continue to be greater than growth elsewhere in Rockingham County and New Hampshire.



Source: 2000 and 2010 US Census, 2015 American Community Survey 5-Year Estimates, State of New Hampshire Population Projections (September 2016)

Figure 1. Population Counts and Projected Growth in Stratham, 2000 to 2030



Source: 2000 and 2010 US Census, 2016 American Community Survey 5-Year Estimates, State of New Hampshire Population Projections (September 2016)

Figure 2. Percentage of Population Change (2000-2015) and Projected Growth (2015-2030) in Exeter, Rockingham County, and State of New Hampshire

Age

Stratham's population remains, on average, slightly older than the rest of Rockingham County and the State of New Hampshire (Table 1). Like the rest of the state, Stratham's population is growing older, with the average age in town increasing by 6.3 years between 2000 and 2016.

Table 1. Median Age in Stratham, Rockingham County, and the State of New Hampshire, 2000 to 2016

	2000	2010 Estimate	2016 Estimate	Change 2000-2016
Stratham	37.9	42.1	44.1	+ 6.3
Rockingham	37.2	41.4	43.8	+ 6.6
State of NH	37.1	40.3	42.4	+ 5.3

Source: 2000 US Census, 2010 and 2016 American Community Survey 5-Year Estimates

Table 2. Change in the Distribution of Population by Age in Stratham, 2000 to 2016

	2000	2010 Estimate	Difference 2000-2010	2016 Estimate	Difference 2000-2016
Under 5 years	6.80%	4.20%	-2.60%	5.40%	-1.40
5 to 9 years	8.70%	9.20%	0.50%	6.80%	-1.90
10 to 14 years	9.30%	9.10%	-0.20%	8.50%	-0.80
15 to 19 years	6.20%	6.20%	0.00%	6.00%	-0.20
20 to 24 years	2.30%	2.80%	0.50%	3.50%	1.20
25 to 34 years	10.80%	8.40%	-2.40%	8.00%	-2.80
35 to 44 years	21.50%	17.10%	-4.40%	13.20%	-8.30
45 to 54 years	17.70%	18.00%	0.30%	16.60%	-1.10
55 to 59 years	4.40%	6.50%	2.10%	8.90%	5.50
60 to 64 years	3.40%	9.10%	5.70%	10.10%	6.70
65 to 74 years	5.40%	5.40%	0.00%	8.00%	2.60
75 to 84 years	3.10%	2.70%	-0.40%	4.00%	0.90
85 years and over	0.40%	1.20%	0.80%	1.00%	0.60

Source: 2000 US Census, 2010 and 2016 American Community Survey 5-Year Estimates

The increase in median age from 2000 to 2016 is further detailed in the Table 2. Areas in the table shaded pink show where a decrease occurs from the previous sampling, while areas in green show an increase. Where values are in **bold**, these show a repeated upward or downward trend. The greatest population growth since 2000 has been in residents between the ages of 55 and 64. Most notable, and consistent with trends in many rural/suburban areas, a steady decline is shown in age groups between 25 to 44, while a significant increase is shown for ages 55 to 64.

Race/Ethnicity

Over the past 15 years, Stratham has remained a predominately white community (Table 3). The percentage of people who identify as a race other than white has increased from 2% to 3.7% of the total population. The Hispanic and Latino community has also grown slightly, from 0.6% to 1% of the population.

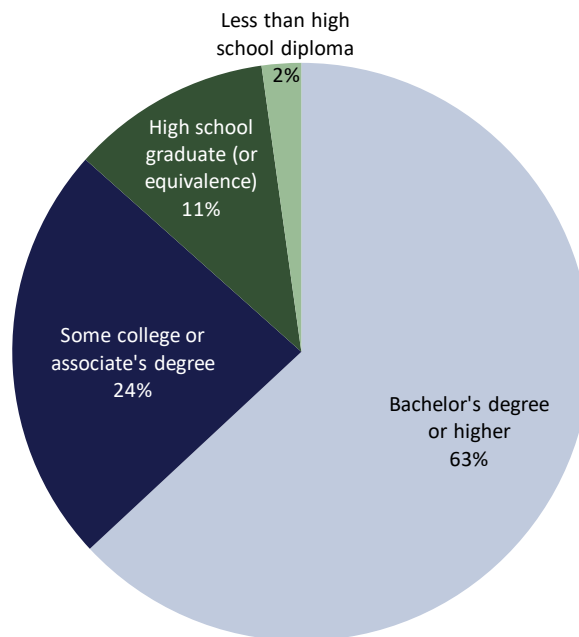
Table 3. Composition of Race and Ethnicity in Stratham, 2000 to 2016

	2000	2010	2016 Estimate
RACE			
Total Population	6,355	7,161	7,361
One race	99.2%	99.4%	98.1%
White	98.0%	96.9%	96.3%
Black or African American	0.2%	0.0%	0.0%
American Indian and Alaska Native	0.0%	0.0%	0.0%
Asian	0.8%	1.1%	1.7%
Some other race	0.1%	1.4%	0.0%
Two or more races	0.8%	0.6%	1.9%
HISPANIC OR LATINO			
Hispanic or Latino (of any race)	0.6%	1.4%	1.0%
Not Hispanic or Latino	99.4%	98.6%	99.0%

Source: 2000 US Census, 2010 and 2016 American Community Survey 5-Year Estimates

Education

Stratham residents are well educated. In 2016, nearly 63% of residents 25 years and older had a bachelor's degree or higher (Figure 3) an increase of 13 percentage points since 2000 (Table 4).



Source: 2016 American Community Survey 5-Year Estimates

Figure 3. Education Attainment of Stratham Residents 25 Years and Older, 2016

Table 4. Percentage of Stratham Residents 25 Years and Older Graduating from High School (or Equivalent) or Having a Bachelor's Degree or Higher, 2000-2016

	2000	2010	2016
Percent high school graduate or higher	96.1%	97.7%	97.8%
Percent bachelor's degree or higher	49.6%	57.8%	63.0%

Source: 2000 US Census, 2010 and 2016 American Community Survey 5-Year Estimates

Households Characteristics

Composition

The number of family households in Stratham (defined as related individuals living together) increased by 406 between 2000 and 2016, a growth rate of approximately 18% (Table 5). During this period, the average household size and family size saw negligible changes; however, the composition of these households changed. The number of households with individuals under 18 years old changed by -9%, and households with individuals 65 years and older also saw a larger increase of 67%.

Another shift was a decrease of female-headed family households with no spouse present (-27%), including 47 female-headed households with children under the age of 18 (-55%). However, there was a significant increase in the number of male-headed households with no spouse present, 94 households, or 204%, and male-headed households with children under the age of 18 rose from seven to 88.

The percentage of non-family households (non-related individuals living together) saw a small decrease (-1%), however the number of individuals living alone increased (20% overall), particularly those 65 years and older (116%).

Table 5. Change in Household Composition in Stratham, 2000 to 2016

	2000	2010	2016	Change 2000-2016
Total households	2,306	2,636	2,712	18%
Family households	1,744	2,050	2,154	24%
With own children under 18 years	939	1,063	864	-8%
Married-couple family	1,556	1,801	1,913	23%
With own children under 18 years	827	900	738	-11%
Female householder, no spouse present	139	197	101	-27%
With own children under 18 years	85	124	38	-55%
Male householder, no spouse present	46	52	140	204%
With own children under 18 years	7	39	88	1157%
Nonfamily households	562	586	558	-1%
Householder living alone	426	447	512	20%
Householder 65 years and over	112	141	242	116%
Households with individuals under 18 years	974	1,093	885	-9%
Households with individuals 65 years and over	403	476	674	67%
Average household size	2.76	2.72	2.71	negligible
Average family size	3.18	3.12	3.11	negligible

Source: 2000 US Census, 2010 and 2016 American Community Survey 5-Year Estimates

Income

Between 2000 and 2016 the median household income in Stratham increased by an estimated 48%; however, when adjusted using the Consumer Price Index to show 2016 dollars, the rise in income decreased a household's buying power for goods and services (Table 6). Incomes in Stratham have increased by less than incomes elsewhere in the State, but still remain significantly higher than the State median.

Table 6. Change in Household Median Income in Stratham, Rockingham County, and the State of New Hampshire, 2000 to 2016

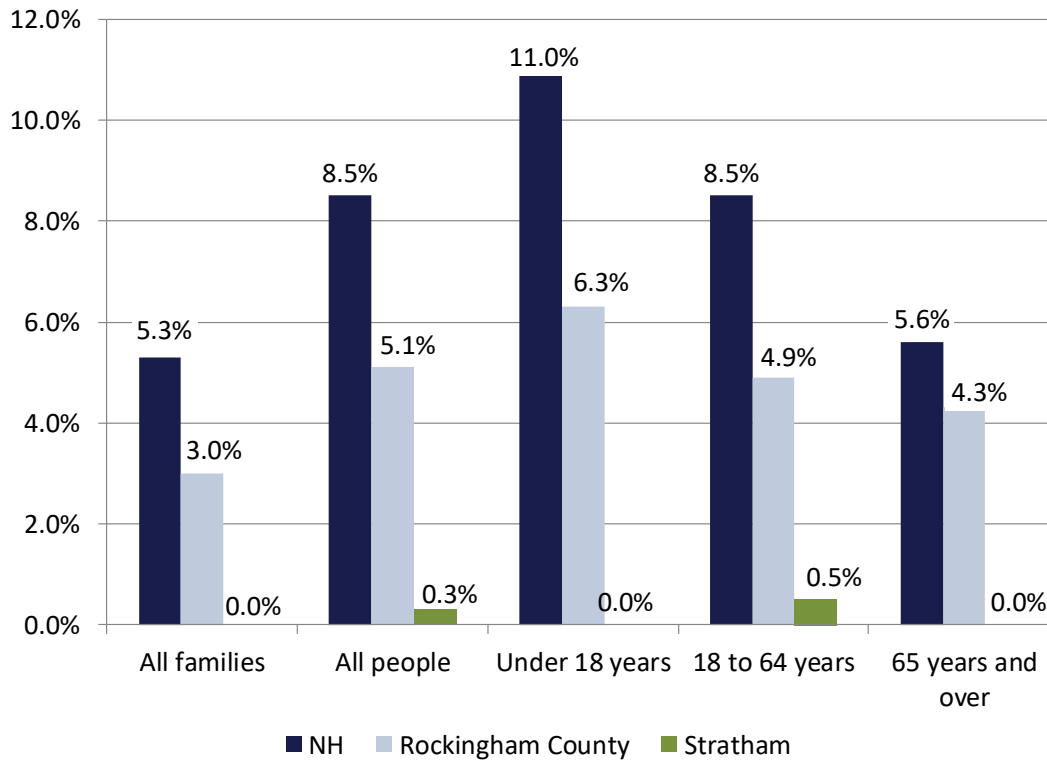
	2000 (1999 dollars)	2000 (2016 dollars*)	2016 Estimate	% Change 2000-2016 (uncorrected dollars)	% Change 2000-2016 (2016 dollars*)
Stratham	\$76,726	\$108,007	\$104,611	36%	-3%
Rockingham County	\$58,150	\$81,858	\$82,398	42%	1%
State of NH	\$49,467	\$69,635	\$68,485	38%	-2%

* Based on US Bureau of Labor Statistics Consumer Price Index (CPI) inflation calculator

Source: 2000 US Census and 2016 American Community Survey 5-Year Estimates

Poverty

In 2016, the percentage of families and individuals living below the poverty rate in Stratham continues to be well below that of Rockingham County and the State (Figure 4). Most people living below the poverty were adults aged 18 to 64 years old.



Source: 2016 American Community Survey 5-Year Estimate

Figure 4. Percentage of Families and Individuals Living in Poverty in Stratham, Rockingham County, and State of New Hampshire, 2016

Land Use

How land is used across the landscape of Stratham will influence the economic, environmental, and social aspects of the community. Where certain activities occur and what they look like impact where we work, shop, live, and play. They determine places we want to protect and how we access services, opportunities, and resources. Land uses are influenced by available infrastructure, like roads, walking and biking amenities, drinking water, and wastewater treatment.

Land use – what’s happening on the ground, including development and natural land cover.

Zoning – local regulations that specify allowable uses in a district or area, including setbacks and size restrictions for buildings, among other development standards.

Land Use Trends

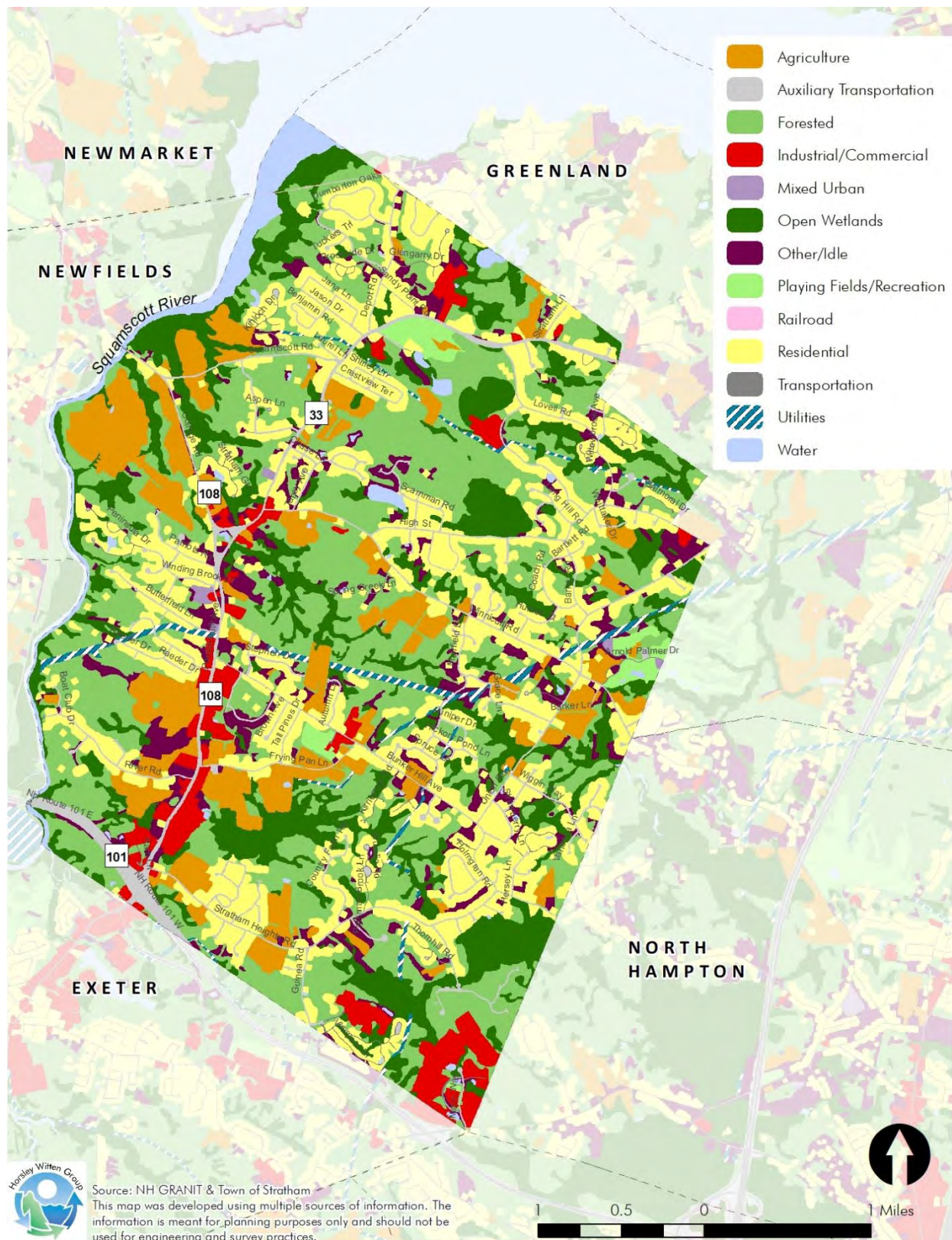
Land uses in Stratham today are predominantly forested areas, residences, and wetlands (Map 2 and Table 7). The Town has historically identified itself as an agricultural community. This use occupies about 10% of the town’s area, still a significant portion. Large holdings of agricultural land lie along the Squamscott River as well as Portsmouth Avenue and Frying Pan Lane. Other agricultural operations are scattered throughout town. Commercial uses are concentrated along Portsmouth Avenue and into the Town Center. Industrial uses are located in the southern corner of town.

Table 7. Historic Land Use Changes in Stratham, 1962 to 2015

Land Use Type	1962	1974	1998	2005	2010	2015	2010 to 2015 Change in Acreage	2010 to 2015 Percent Change
Active Agricultural	2,707	2,182	1,310	934	934	937	3	0.32%
Aux Transportation				42	44	44	0	0.00%
Farmsteads	82	62	25	89	92	91	-1	-1.09%
Forested	5,772	5,767	5,226	3,059	2,995	2,940	-55	-1.84%
Industrial/Commercial	52	85	239	296	334	369	35	10.48%
Mixed Urban	9	9	70	11	14	14	0	0.00%
Open Wetlands	277	293	306	1,643	1,634	1,635	1	0.06%
Other/Idle Land	331	568	462	663	642	583	-59	-9.19%
Playing Fields/Recreation				111	101	105	4	0.40%
Railroad				2	2	2	0	0.00%
Residential	355	589	1,829	2,415	2,471	2,529	58	2.35%
Transportation	91	105	186	256	258	267	9	3.49%
Utilities				127	127	131	4	3.15%
Water	227	241	247	254	254	254	0	
Total: 9,902 acres								

Years 1962, 1974, and 1998 were compiled with a slightly different methodology than 2005, 2010, and 2015. Aux Transportation, Playing Fields and Utilities are categories only broken out in 2005, 2010, and 2015. Classification of Open Wetlands improved between 1998 and 2005 due to higher quality aerial photos. Many Open Wetlands had previously been classified as Forested. Classification of Playing Fields/Recreation improved in 2015 to ensure that those in proximity to a school were classified as Education.

Source: Rockingham Regional Planning Council, June 28, 2018, available at <http://www.rpc-nh.org/application/files/5015/3020/2182/Stratham.pdf>



Over the past two decades, Stratham has seen growth and increased land development. During this time, the Town's population grew 16% and 20% of its housing stock was built. This growth is reflected in the changes across the landscape. Using geographic data from NH GRANIT, New Hampshire's statewide geographic information system (GIS), land use data were grouped into general categories to compare conditions in 1998 and 2015 (the most current available). Table 7 summarizes the changes in acres, mainly an increase in land for residential uses. It is also significant to highlight that the town lost 8% of its land once used for agriculture.

Two additional changes stand out: an increase in wetlands and a decrease in forested area. The loss of forested area can be partially attributed to residential growth. It could also be the result of better data available today. In 1998, USGS 1:12,000 scale black and white digital orthophotography was used to classify land uses across the state. In 2015, high resolution (1-foot), true color aerial photography was used, which shows sharper detail and allowed for more accurate classification. This may account for these discrepancies, and the increase in wetlands could be primarily due to the reclassification of some forested areas along streams and other areas as wetlands.

Land Management Tools

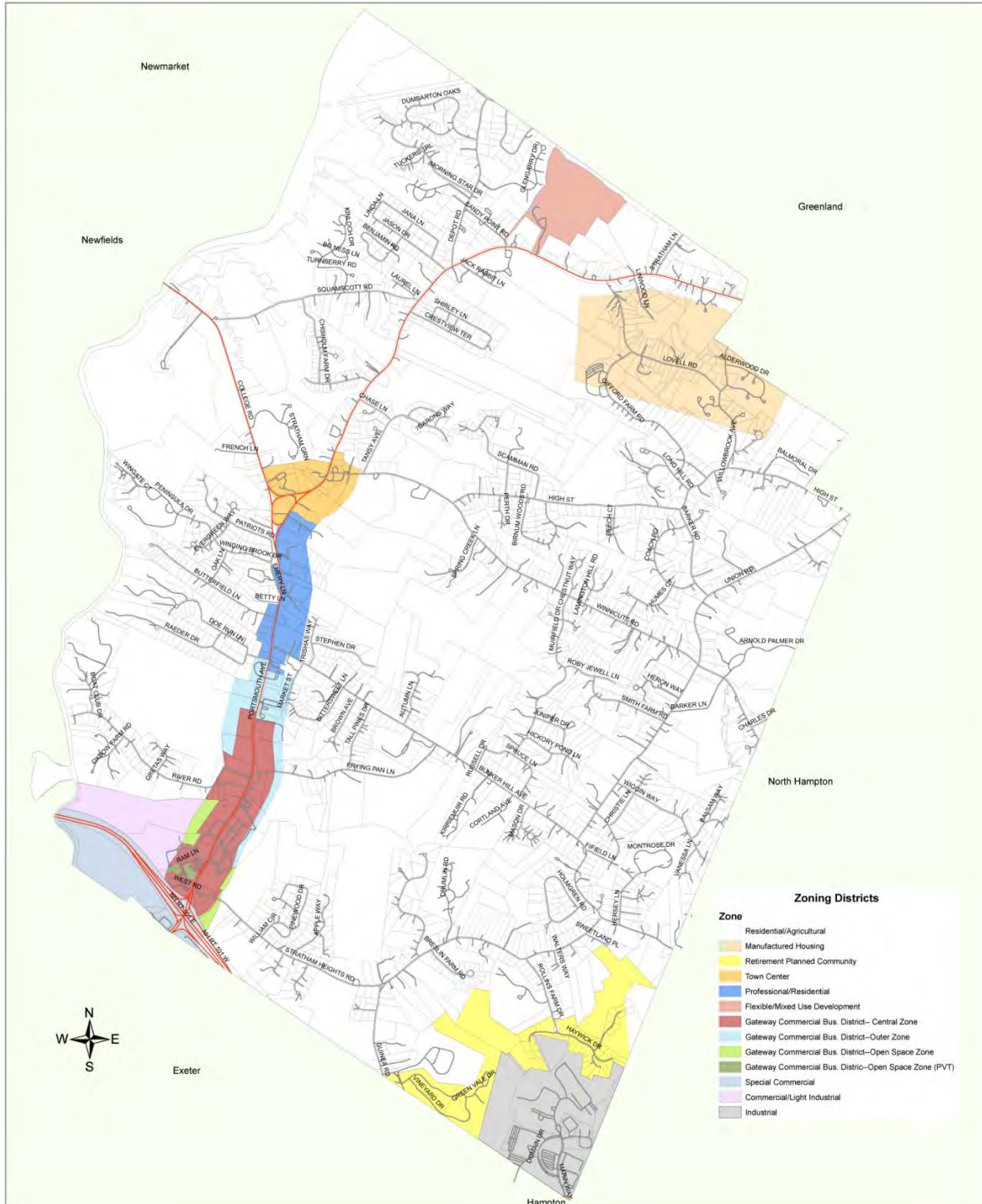
Zoning Ordinance

The Town is almost entirely zoned as the Residential/Agricultural District, which is intended for conservation, agricultural uses, and low-density residential development (Map 3). The Town has targeted specific areas and corridors to concentrate higher intensity uses in order to preserve its rural character while still accommodating community needs. Additional zoning districts include:

- **Manufactured Housing/Mobile Home District:** This district is designated for manufactured and mobile home housing. Single family homes are also permitted in this district.
- **Retirement Planned Community District:** Residential development restricted to residents 55 and older.
- **Professional/Residential District:** This district allows professional offices and some types of limited retail near residential areas. It also provides an opportunity to mix uses in a creative and context-sensitive way.
- **Commercial/Light Industrial/Office District:** This district provides opportunities for these uses to locate in close proximity for mutual benefit. The purpose is to attract employment opportunities and businesses that can build the town's tax base.
- **Industrial District:** This district provides space for research and development, manufacturing, processing, assembly, wholesaling, transportation-oriented activities, and related services like trucking and warehousing.
- **Special Commercial District:** This district is intended for larger-scale, mixed use development that could include a hotel, conference center, restaurant, or entertainment complex.
- **Flexible/Mixed Use Development District:** The intent of this district is to address the development of Great Bay Community College. Developers should use compact village development guidelines for new development and adaptive reuse of existing building.
- **Town Center District:** The intent of this district is to encourage a mix of uses, a traditional pattern of development, and walkable streets. See more discussion below.



TOWN OF STRATHAM ZONING MAP 2018



Map 3. Stratham Zoning Map

- **Gateway Commercial Business District:** This District promotes economic vitality, business diversity, accessibility, and the visual appeal of the Route 108/Portsmouth Avenue corridor. Development should be consistent with the landscape and architecture of the Town’s agricultural tradition. A mix of uses integrating open spaces, transit, cyclist, and pedestrian accommodations is expected. It is divided into sub-districts as defined in the Regulating Plan. See more discussion below.

Area Master Plans

Area master plans are tools the Town uses to articulate how it envisions the future of an area. These plans are designed to be more focused and detailed than a community-wide Master Plan, and can address aspects such as public spaces, site design, street layout, landscaping, and pedestrian and biking amenities. In Stratham, these plans are written with extensive public input and the Town has created two of these documents: Town Center Area Master Plan and Gateway Commercial Business District Master Plan. The following provides a brief overview of each plan and its purpose.

Town Center Area Master Plan

In 2011, the Town completed the Town Center Area Master Plan through a community design charrette.¹ The process was funded and led by the non-profit organization PlanNH. The purpose of the design charrette was to visualize vehicular and pedestrian improvements and identify land development strategies that support a long-range vision for the Town Center. The Town Center District already existed in the Zoning Ordinance, but the area was experiencing changes and starting to lose its rural characteristics. The result of the charrette process was the *Town Center Area Master Plan*, which included a vision with an accompanying conceptual plan. Recommended actions look to attract investors by promoting compact mixed-use design, circulation and connectivity improvements, and walking and biking amenities. Supplemental regulations were drafted and adopted into the Zoning Ordinance and a regulating plan is meant move the vision of the area forward. Standards for building design, streetscape elements, lighting, parking, public spaces, and other development features are outlined with the intention that proposals fit into the community’s vision of the town center articulated during the charrette.

Gateway Commercial Business District Master Plan

The *Gateway Commercial Business District (GCBD) Master Plan* was drafted in 2008. Its purpose was to create a vision that would encourage the development of a vibrant mixed-use area that fosters economic development. As with other initiatives in Stratham, future development in the GCBD needs to be compatible with the rural, agricultural landscape of the town.

The GCBD Master Plan was developed through a public process that included a number of public meetings, including a public visioning workshop. The process and development of the Plan was led by a committee that represented a broad cross-section of Stratham residents and business owners. The Plan provides recommendations and guidance to enhance the appearance of the area as a gateway into Stratham. Recommendations include improvements to Portsmouth Avenue with landscaping, sidewalks,

¹ Charrette is defined as “an accelerated, collaborative, design-based process that harnesses the talents and energies of all interested stakeholders to create and support a feasible plan.” Taken from National Charrette Institute at the University of Michigan, <https://www.canr.msu.edu/nci/nci-charrette-system/>.

bike lanes, and attractive signage. Recommendations also address site and building design and elements that make the area more attractive to investors and visitors, such as mixing uses, secondary roadways to manage traffic, and public spaces. Challenges in reaching this vision are addressing water and sewer needs that would allow additional development in the area at a more compact, efficient, and higher density scale.

Supplemental regulations in the Zoning Ordinance include a regulatory plan that details sub-districts and their intended purposes, as well as *Architectural and Site Design Guidelines* (September 2010). This manual provides illustrative guidance to encourage development that is in the traditional neighborhood design while also compatible with the rural and agricultural landscape of the Town.

Community Revitalization Tax Incentive Program (NH RSA 79-E)

NH RSA 79-E is a temporary property tax relief program that seeks to encourage investment in town centers and to rehabilitate underutilized buildings within these areas. The application process is made to the governing body by property owners desiring to make improvements that meet 79-E guidelines as well as the public benefit test.² In return, the governing body may provide tax relief at a pre-rehabilitation value for a limited period of time.

In 2014, Stratham adopted NH RSA 79E to encourage the rehabilitation and active use of underutilized commercial, office, mixed use, and residential buildings in the Town Center and Professional/Residential districts. In order to qualify, rehabilitation costs must be at least 15% of the building's pre-rehab assessed value (or \$75,000, whichever is less), and the rehabilitation must be consistent with Stratham's Master Plan or development regulations. Public benefits of a project may include:

- Increase economic activity
- Improve a culturally or historically important structure
- Promote development in the Town Center and/or Professional/Residential districts
- Increase housing in the Town Center and/or Professional/Residential districts

² In order to qualify for tax relief under this program, the proposed substantial rehabilitation must provide at least one of the public benefits listed in RSA 79:E-7. They are: enhances the economic vitality of the designated area; enhances and improves a culturally or historically important structure; promotes development in the designated area, providing efficiency, safety, and greater sense of community, consistent with RSA 9-B; and increases residential housing in the Professional Residential and Town Center Districts. See the Town's [website](#).

Historic Resources

Historic resources define the character of Stratham and contribute to its sense of place and quality of life. Preservation of these resources is not meant to slow or stop development; rather, it seeks to recognize the value of that which is already here and provide context for new development. Historic resources include farms, houses, cemeteries, churches, parks, schools, and other town buildings as well as landscapes and sites of archeological or historic interest.

Stratham's History

Native Americans Indians were the sole occupants of the area until the arrival of European explorers and settlers. Squamscott Indians, who inhabited the area, had their population decimated along with other native peoples in the region by exposure to smallpox and influenza brought by the Europeans between 1615 and 1620. Prehistoric archaeological sites provide information regarding the cultural traditions of the early residents. Several partial excavations, featuring hearths, tools, arrowheads, pottery and foundations, originally were semi-permanent villages or seasonal camps.

Rockingham County is New Hampshire's earliest settled area. In 1623, European settlers were attracted by the region's location and natural resources - lumber, rivers, furs and fertile soil. Settlements were under Massachusetts Bay Colony's jurisdiction; however, by 1697, New Hampshire became a separate province.

Settling in Dover in 1633, noted community leader Captain Thomas Wiggin, affiliated with the Puritan authorities of the Massachusetts Bay Colony, was hired by associates of Hilton from Bristol and Shrewsbury, England, to serve as agent in charge of the Shrewsbury Patent. Wiggin, later Governor of the Dover settlement, built a house in Stratham in 1639. Under the authority of Massachusetts in 1656, the Squamscott Patent was divided into three parcels. The middle section was assigned to Wiggin and his partners and the southern one, to the company known as the "Shrewsbury Men," with Wiggin as the agent. The Town of Stratham was located within both parcels.

As noted in the 'Agriculture' section, Stratham was a primarily agrarian community and never developed a traditional village center. Established in 1681, the King's Great Highway (Portsmouth Avenue) was an important thoroughfare that connected the interior and the seaport, and local farmers in Stratham benefited from its presence. Trades supporting agriculture began establishing themselves in the early 1700s, and the population grew from 35 in 1703 to 50 in 1709. On March 20, 1716, Stratham became the sixth New Hampshire town to be incorporated.

By the mid-1700s, trades such as cooperages, cider mills, tanneries, and textile mills existed in Stratham. In 1775, the population reached 1,137; however, it declined to 907 nearly 10 years later and remained constant to the end of century.

With the 1870 construction of a train depot, Stratham farmers geared their agricultural products to a market economy. They grew many varieties of fruits and vegetables. Expanded greenhouse operations enabled them to lengthen growing seasons and produce quality produce. The Town's population continued to decline to 680 in 1890.

The 1940 census records 643 residents. Train service ended in 1954 when the automobile began to grow in popularity. Agriculture no longer needed to be the mainstay of residents, who could travel elsewhere

for employment. The prime agricultural soils facilitated easy residential and commercial development. During the 1980s, Stratham's population nearly doubled from 2,507 to 4,955, while housing units climbed from 844 to 1,917. This growth trend continued through the next three decades.

Registered Historic Sites

Within Stratham, there are no official historic districts, however, there are seven buildings listed in the National Register of Historic Places:

- Wiggin Memorial Library (home of the Stratham Historical Society, 158 Portsmouth Avenue), listed in 1993. Also listed on the State Register of Historic Places in 2012.
- Samuel Lane House (also known as Jabez Lane House, 132 Portsmouth Avenue), listed in 1983.
- Kenniston Tavern (also known as Ephraim Crockett House, 245 Portsmouth Avenue), listed in 1983.
- The Tannery (also known as the *Tannery*, *Coronet Wiggin House*, and the *Widow Sarah Wiggin House*, 249 Portsmouth Avenue), listed in 1983.
- Bartlett-Cushman House (82 Portsmouth Avenue), listed in 2014.
- Emery Farm (also known as Chase's Tavern and Chase's Inn, 16 Emery Lane), listed in 2017.
- Scamman Farm (69 Portsmouth Avenue), listed in 2019.

Currently, two Stratham properties are determined eligible for the National Register:

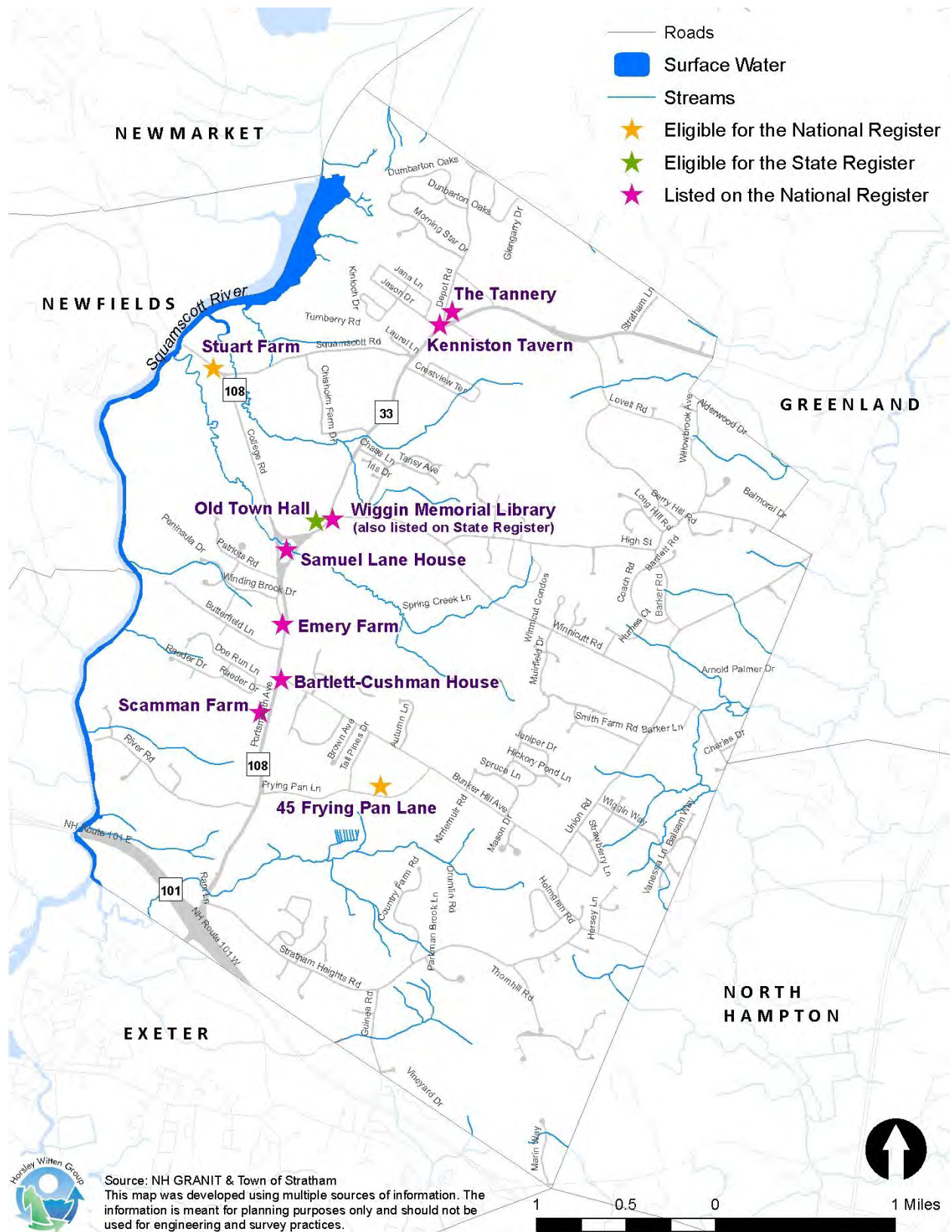
- Stuart Farm (73 College Road)
- Frying Pan Farm (45 Frying Pan Lane)

The Commission recently save the Old Town Hall with a preservation easement and is working to have it listed on the State Register of Historic Places. These buildings are shown on Map 4.

Historic Resources Inventory

In 2007, the Stratham Heritage Commission initiated a survey of historical resources, a multi-year project that involved the Heritage Commission, the Stratham Historical Society, volunteers, and outside consultants. Using standards and forms established by the New Hampshire Division of Historical Resources, the survey prepared descriptive inventories of historical resources over 50 years old. Resources inventoried included not only buildings, but also sites and landscape features of historic significance. Stratham now has physical files stored at the Historical Society with folders of research on each resource, and a publicly accessible digital database. The survey identified:

- 47 homes dating between 1700 and 1799 with 17 of them located on Portsmouth Avenue
- 67 homes dating from between 1800 and 1899 with 18 on Portsmouth Avenue
- 122 homes dating from between 1900 and 1957 with 21 on Portsmouth Avenue



Map 4. Buildings and properties listed on the National Register of Historic Places or are eligible for listing

In 2017, a professional consultant was hired to complete a comprehensive survey of historic resources along the entire Portsmouth Avenue corridor. This work will help guide development of preservation strategies through planning and zoning efforts.

Archaeological Sites

Stratham contains several archeological sites worthy of protection. Two sites of particular value include the Town Landing at Sandy Point, which was the 1633 landing site of the first Colonial settlers, and the Thomas Wiggin gravesite, located about 500 yards west of the old Depot on the south side of the railroad tracks. Two preliminary excavations were conducted at the Sandy Point site. A house foundation and colonial artifacts were found at the contact site near the Thomas Wiggin gravesite and Wiggin Cemetery. The second dig on the far side of the railroad tracks showed evidence of early use by maritime archaic peoples.

According to studies completed to date, there are at least three significant prehistoric sites in Stratham. One site is the Sandy Point location previously discussed. A second is located in the vicinity of the confluence of Jewett Hill Brook and the Squamscott River. Another identified site is near the confluence of Mill Brook and the Squamscott River. These sites were used as semi-permanent villages or seasonal camps by Native Americans and are probably about 1,000 years old. It is also likely that the majority of identified sites are from the period before European settlement; however, there may be several sites which date back to prehistoric times. Items commonly found at the Town's various archeological sites include fire hearths, tools, arrowheads, pottery, and old structural foundations.

Events

The Stratham Fair started in 1966 as the Town celebrated its 250th anniversary. It is a significant annual event for the Town and serves as a critical fundraising opportunity for the Stratham Volunteer Fire Department and many other local non-profit organizations. It is held at Stratham Hill Park over a four-day weekend and attracts over 20,000 people to the area. See Parks and Recreation.

Preservation and Management Leaders

Stratham Historical Society

Founded in 1970 as a not-for-profit organization, the Stratham Historical Society has developed into a strong voice for the town's heritage while collecting a significant number of artifacts, documents, and manuscripts. A notable accomplishment of the Society was the documentation of surviving structures that appear on the Phinehas Merrill map of 1793. In 1985, the group prepared a list and map of 80 historical properties and sites, which was enhanced in 2001 with photographs of surviving structures.

Stratham Heritage Commission

The Heritage Commission was established in 1997 and works to "recognize, use, and protect resources... that are valued for their historic, cultural, aesthetic, or community significance..." The Heritage Commission led the design and installation of a Veterans' Memorial Garden at Stratham Hill Park and initiated a survey of historical resources, among other activities. It also spearheaded efforts to permanently protect the Lane Homestead, Bartlett-Cushman House, and most recently Old Town Hall. The Heritage Commission strives to reach out to the public through regular newspaper and magazine articles, periodic public programs, and Town Meeting warrant article requests.

Preservation and Management Tools

Stratham still has structures, sites, and landscapes illustrative of different periods of history. However, many have been compromised by development over the past four decades. The town has, through a number of means, acted to protect and preserve its historic and cultural resources. These efforts include, but are not limited to, the following:

Local Zoning

Zoning can be a means to protect community character. There are provisions in Stratham's town regulations protecting stone walls and establishing a process of demolition review. The Residential/Agricultural Zone is also intended to maintain Stratham's historic character.

NH RSA 79

NH RSA 79 is a provision to lower tax assessments of open space and historic structures. The Town uses NH RSA 79-A (Current Use assessment), 79-D and 79-E. As noted in Agriculture, 79-D allows the Town to grant property tax relief to barn owners who (a) can demonstrate the public benefit of preserving their barns or other historic farm buildings, and (b) agree to maintain their structures throughout a minimum 10-year preservation easement. The Stratham Board of Selectmen have approved preservation easements for 18 important barns that meet the statutory qualifications.

As noted in Land Use, 79-E encourages the rehabilitation and active use of underutilized commercial, office, mixed use, and residential buildings in the Town Center and Professional/Residential districts. Improvements must meet 79-E guidelines as well as the public benefit test. In return, the Board of Selectmen may provide tax relief at a pre-rehabilitation value for a limited period of time.

Stratham Heritage Preservation Fund

Created in 2011, the Heritage Preservation Fund is a capital reserve fund that the Town can use to finance projects, acquisitions, maintenance, and operations associated with historic preservation efforts. Funds are appropriated by the Board of Selectmen.

Historic Resources Survey

The 2007 town-wide historic resources survey can be used to help raise public awareness of the community's historic and cultural resources and assist in the prioritization of properties for preservation.

Portsmouth Avenue Comprehensive Historic Resources Survey

The 2017 comprehensive historic resources survey of Portsmouth Avenue can also be used to increase public awareness of local historic and cultural resources. It also provides valuable information to help develop local planning policies and zoning regulations to meet preservation priorities.

Archaeological Surveys

Archaeological surveys have been conducted formally and informally in Stratham since the first half of the 20th century. The results of formal surveys are held at the New Hampshire Division of Historical Resources. Presently there are professional archaeological projects in many of the towns surrounding the Great Bay. The relatively intact sites in Stratham have the potential to provide important artifacts and information to this regional effort.

Preservation Easements

Like conservation easements discussed in Open Space and Conservations Lands and agricultural easements in Agriculture, preservation easements are also voluntary, legal agreements between the landowner and a preservation agency. These easements permanently limit uses of the land and its historically significant structures in order to protect the properties historical values. As with other easements, landowners retain many of their rights, including the right to own and use the land, sell it, and pass it on to their heirs. Preservation, agricultural, and conservation easements go hand-in-hand in Stratham, as many historically significant properties are linked to farmland and natural areas.

Historic Demolition Review Ordinance

The Town's Historic Demolition Review Ordinance gives the Town an opportunity to review demolition applications for properties that are:

1. Involve demolition of greater than 500 square feet of gross floor area.
2. Building is assumed to have been constructed more than 50 years before the date of the application for demolition.
3. Is visible from the adjacent right-of-way or public lands or is listed or eligible for listing on the National Register of Historic Places or state or local registers.

Within five days of receiving a demolition application, the Demolition Review Committee³ must issue their opinion whether the building is potentially significant and a more thorough investigation is warranted to prepare a recommendation. The Committee has 60 days to conduct its investigation, hold public hearings, and write its recommendation. Criteria it uses to evaluate a building or structure are:

1. The building or structure is of such interest or quality that it would meet national, state or local criteria for designation as a historic, cultural, or architectural landmark.
2. The building or structure is of such unusual or uncommon design, texture, or materials that it could not be reproduced or could be reproduced only with great difficulty and expense.
3. The building or structure is of such architectural or historic interest that its removal would be to the detriment of the public interest.
4. Retention of the building or structure would help preserve and protect a historic place or area of historic interest in the town.

The historic surveys noted above become valuable resources in these determinations.

³ A committee of the Stratham Heritage Commission comprised of three Commission members and two alternates appointed by the chair of the Commission.

Agriculture

Stratham residents value local agricultural land not only for what it produces and the animals raised on it, but also for its scenic beauty and landscapes. By maintaining active agriculture in town, local farmers help the community connect with its history and rural heritage. Local farmers are also stewards of significant natural resources, and most are actively working toward sustainable land management practices. Farming also provides economic benefits, both locally and regionally. Beyond the local tax revenue generated by agricultural businesses, farms attract visitors to Stratham from across the region.

Farms in Stratham

Stratham was established as an agrarian town in its earliest years, which accounts for the lack of a more established “town center” similar to what you find in neighboring communities like Exeter and Newmarket. Even with the pressure for residential development over the decades, Stratham has retained a number of prominent farm properties (Table 8), totaling nearly 2,000 acres or 20% of Stratham’s total land area. The largest are Stuart Farm, Scamman Farm, and Barker’s Farm, which account for more than half of all the farmland in Stratham, and 12% of the town’s total land area.

35 farm properties

23 farm operators

**17 different products
and services**

Although most of the local farms are smaller in size, they provide diverse products, from fruits and vegetables, to nursery plants and horses, to hay and meats. Hay is grown on a commercial basis by several farms; however, there are also Stratham residents who hay or have their fields hayed but are not commercial operations. There are numerous other residents unaccounted for in Table 8 who have horses, sheep, chickens, and other livestock. In addition, many people raise vegetables, fruits, and herbs for their own consumption and to share with their neighbors. Agriculture is part of the cultural fabric of Stratham.

Table 8. Farms in Stratham

Farm Operator	Address	Products	Acres*	Conserved?
4.0 Farm	86 Winnicutt Rd.	equine	13	Yes
Barker's Farm	216 Portsmouth Ave.	retail vegetables, fruits, flowers, meats	83	Yes
	Off Tansy Ln.	sweet corn, pumpkins	41	Yes
	Squamscott Rd.	sweet corn	57	Yes
Robinwood Center	61 Stratham Heights Rd.	vegetables, fruits, education/community	67	Yes
Blueberry Bay Farm	38 Depot Rd.	vegetables, fruits, flowers	11	No
Frying Pan Farm	45 + 64 Frying Pan Ln.	equine, hay	77	No
Jean Pauly	94 Stratham Heights Rd.	vegetables	20	Yes
Jeff Sargent	71 Bunker Hill Ave.	Christmas trees	13	No
John & Sheri Goodrich	11 Stratham Heights Rd.	hay	59	Yes
John Rice	13 River Rd.	vegetables, maple	1	No
Legacy Lane Farm	217 Portsmouth Ave.	goats	3	No
Majestic Meadows	30 Frying Pan Ln.	equine	32	No

Farm Operator	Address	Products	Acres*	Conserved?
Moriarty's Greenhouse	144 Winnicutt Rd.	greenhouse plants	2	No
Odds-n-Eggs Farm	3 Stratham Heights Rd.	eggs, vegetables, berries, honey	3	No
Rawson Farm	9 College Rd.	retail vegetables, eggs, specialty	2	No
	148 Portsmouth Ave.	vegetables	28	No
Sally Sanderson	45 Bunker Hill Ave.	hay	33	Yes
Salt Box Farm	321 Portsmouth Ave.	Pick-your-own fruits	36	Yes
Scamman Farm	69 Portsmouth Ave.	hay, pumpkins, agritourism	220	200
	6-20 Frying Pan Ln.	hay	66	No
Stuart Farm	73R College Rd.	dairy, hay, corn	270	170
	25 River Rd.	hay	10	No
	Off River Rd.	hay, corn	89	Yes
	90 Winnicutt Rd.	hay	53	No
	56 Winnicutt Rd.	hay, corn	26	Yes
	18 Winnicutt Rd.	hay	36	Yes
	118 Portsmouth Ave.	hay, corn	9	No
	16 French Ln.	hay, corn	101	No
	65 Squamscott Rd.	hay, corn	43	Yes
	66 Squamscott Rd.	hay, corn	37	Yes
Town of Stratham	Jackrabbit Ln.	hay, recreation	126	No
Michael McDonnell	67 Stratham Heights Rd.	hay	131	No
Helen Gallant	80 Winnicutt Rd.	hay	104	No
Wake Robin Farm	52 Union Rd.	vegetables, fruits, flowers	15	Yes
Winnicutt River Farm	3 Barker Ln.	hay, livestock, equine	63	Yes
TOTAL ACRES			1,980	
TOTAL ACRES CONSERVED			1,088	

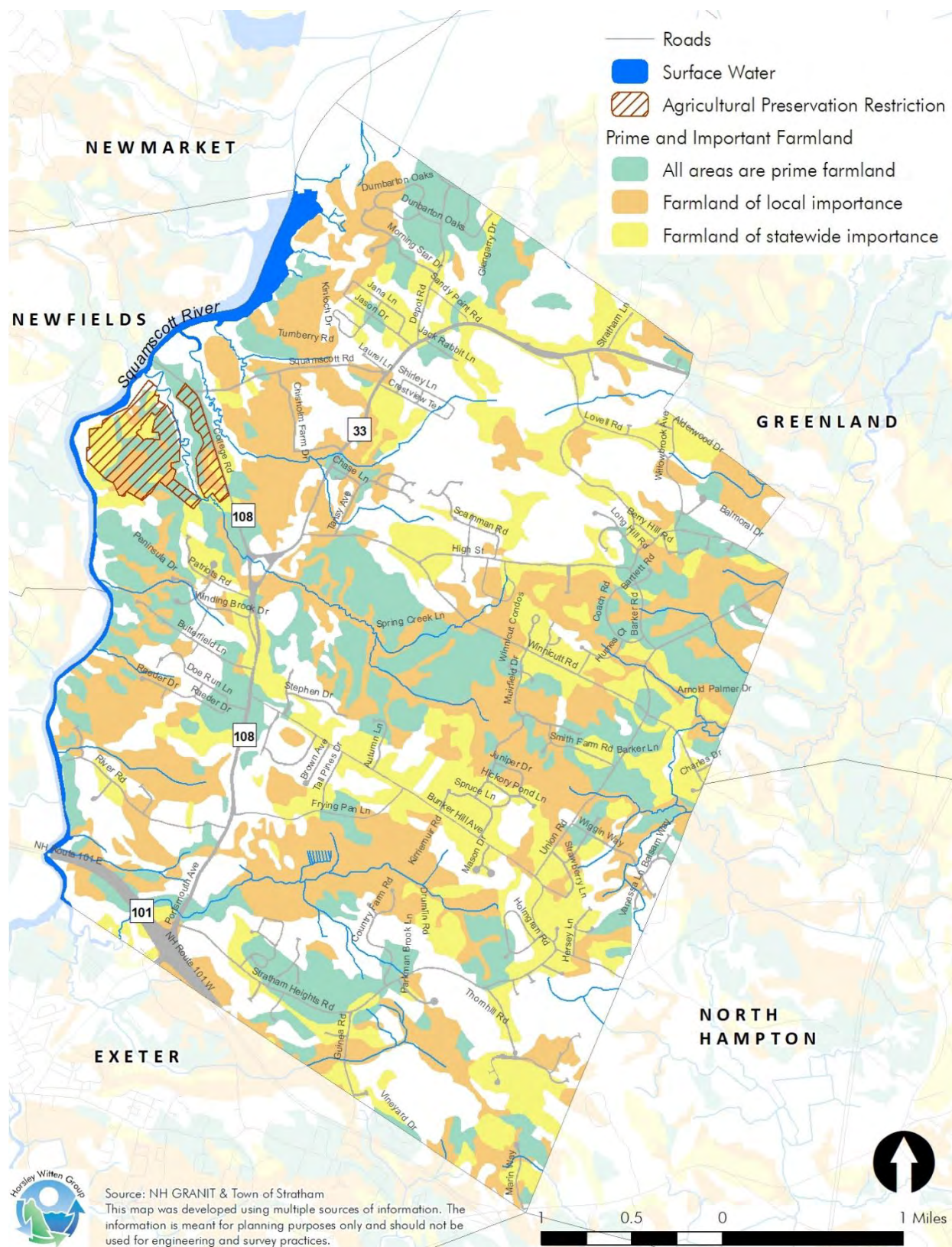
*Acres are approximate based on tax cards and include all land types that may not be used for active farming (e.g. agricultural fields, forests, wetlands, and farmstead areas).

Source: Tax Assessors Database, January 2019

Farmland and Soil Resources

Nearly 20% of the town's land is farm property, and it is estimated that approximately half of that land is used for active agricultural activities.⁴ Map 5 shows prime and important farmland in Stratham, as well as farmland of local and statewide importance. Nearly 60% of the soils in Stratham are suitable for agriculture. These areas are located along the banks of the Squamscott River, along both sides of Route 108, within the northwest corner of Town, and a large patch located in the center of Stratham. Within these broader areas of soils suitable for agriculture, over 2,600 acres are defined by the U.S. Department of Agriculture (USDA) as Prime Farmland Soils. These soils are most likely to produce the highest yields with minimal expenditure of energy and economic resources.

⁴ 2015 GRANIT land cover data



Map 5. Prime and Important Farmland in Stratham

Farms as Historic and Cultural Resources

The agricultural landscapes and events around agriculture have important historic and cultural significance in Stratham.

History as an Agricultural Community

Stratham has historically been an agricultural community. The Town attracted settlers in the mid-1660s because of the area's fertile soils and relatively level topography, which enabled them to grow successful fruit and vegetable crops as well as feed grains for cattle and hogs and hops for brewing beer. Stratham's population consisted of only four families at that time (Wiggin, Veasey, Scamman, and Waldron), and the Scamman family continues to farm its land today.

In the early 1700s, trades supporting the farming community were established. Later, saw mills and gristmills were built, and by the end of the century, the Town's population grew and other trades were established. By the mid-nineteenth century, Stratham was still primarily an agricultural community, renowned for fruit production. With its superior apples, cider was popular and potatoes and strawberries were cultivated extensively. Hay and rye were grown to feed dairy and beef stock (Ayrshires, Holsteins, and Herefords). With the 1870 construction of a train depot, Stratham farmers geared their agricultural products to a broader market economy and grew many varieties of fruits and vegetables. Expanded greenhouse operations enabled them to lengthen growing seasons and produce quality produce. In the early 1900s, 52 dairies existed and large quantities of milk were shipped throughout New Hampshire and to Boston markets daily. By the 1950s, the car dominated mobility, and Stratham residents could travel elsewhere for employment. It was around that time that the community started to move away from farming.

In recent decades, the Town and community as a whole have recognized the pressure many farm owners and operators face to develop their properties and support the preservation of local farmland and agricultural activities as important historic and cultural resources. Over the past 10 years or more, the local food movement has invigorated the community's desire to understand where their food comes from and support local farms.

Cultural Values

There is an agriculture lifestyle in Stratham. Residents have easy access to diverse local farms to buy fresh produce and other agricultural products. Many also grow their own food and raise animals.

The Stratham Fair is a significant annual event for the Town. It is held at Stratham Hill Park over a four-day weekend and attracts over 20,000 people to the area. The Fair serves as a major fundraising event for the Stratham Volunteer Fire Department and provides fundraising opportunities for other youth groups and social service organizations in Stratham. It is organized and run by volunteers. The Fair showcases traditional agricultural events, like horse and oxen pulls and 4-H exhibits and activities, mixed with carnival rides, vendors, demonstrations, and fireworks.

Economics of Agriculture in Stratham

Regional Agriculture

Data from the USDA Census of Agriculture are available every five years at the state and county levels, which provides us with a snapshot of agriculture in the region.

In the aggregate, the number of farms increased significantly in Rockingham County between 2007 and 2017, while neighboring counties and the state lost farms (Table 9). Impressively, while Rockingham County makes up only about 7.5% of the area of New Hampshire, it accounts for 15% of the state's farms. However, even with an increase in the number of farms, there has been a decrease in the total acres of actively farmed land (Table 10). Rockingham County's loss is less than 5%, while neighboring counties and the state experienced losses 10% or greater.

Table 9. Number of farms in NH and the region, 2007-2017

	2007	2012	2017	% Change, 2007-2017
Rockingham County	594	658	618	4.0%
Merrimack County	583	600	545	-6.5%
Hillsborough County	615	688	605	-1.6%
New Hampshire	4166	4391	4123	-1.0%

Source: USDA Census of Agriculture, 2007, 2012, and 2017

Table 10. Land in farms (acres) in NH and the region, 2007-2017

	2007	2012	2017	% Change, 2007-2017
Rockingham County	33,570	36,003	32,231	-4%
Merrimack County	64,642	64,950	54,293	-16%
Hillsborough County	50,238	47,707	44,216	-12%
New Hampshire	471,911	474,065	425,393	-10%

Source: USDA Census of Agriculture, 2007, 2012, and 2017

By contrast, farms in Rockingham County tend to be much smaller in area, but average size is decreasing overall. Although having smaller farms, Rockingham County did have higher total sales value in 2017 than Hillsborough County (Table 11 and Table 12). The vast majority of farms in the county have annual sales of less than \$25,000, and about half had annual sales of less than \$2,500 (Figure 5). This suggests that most people engaged in commercial farming in the county are not relying on farm revenues as their primary incomes.

Table 11. Average size of farm (acres), 2007-2017

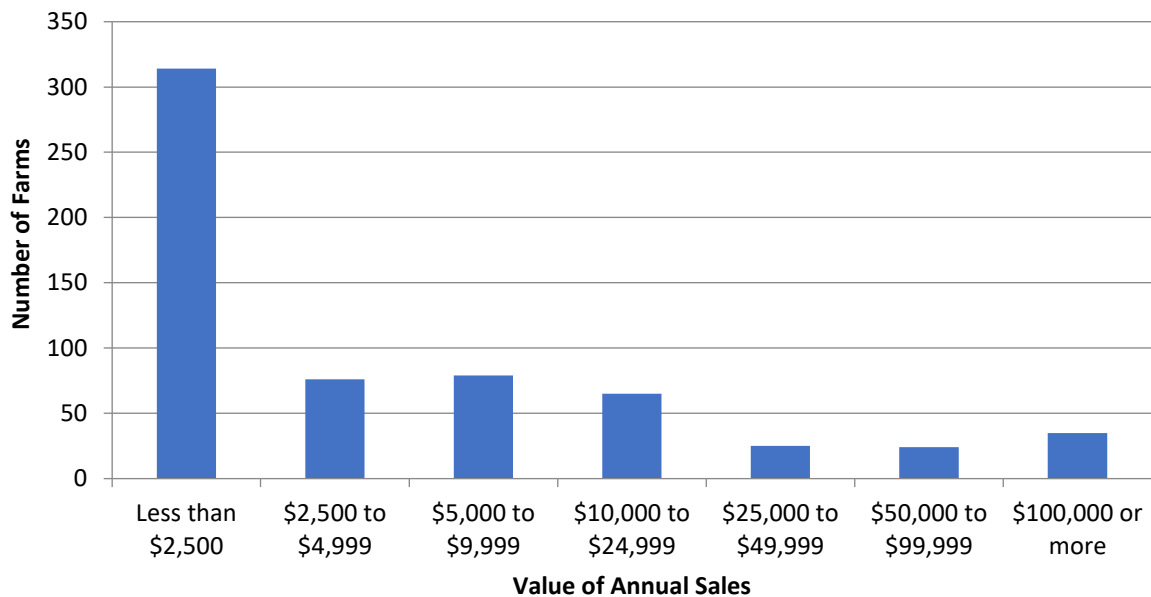
	2007	2012	2017	% Change, 2007-2017
Rockingham County	57	55	52	-9%
Merrimack County	111	108	100	-10%
Hillsborough County	82	69	73	-11%
New Hampshire	113	108	103	-9%

Source: USDA Census of Agriculture, 2007, 2012, and 2017

Table 12. Market value of agricultural products sold (\$1,000), 2017

	Value of crops including nursery and greenhouse	Value of livestock, poultry, and their products	Total value of agricultural products sold
Rockingham County	\$16,250	\$6,148	\$22,398
Merrimack County	\$36,550	\$12,795	\$49,344
Hillsborough County	\$14,489	\$4,284	\$18,773

Source: Census of Agriculture, 2012



Source: USDA Census of Agriculture, 2017

Figure 5: Number of farms by annual sales in Rockingham County, 2017

Agritourism

Agritourism is a significant economic opportunity that can help working farms sustain themselves. Operating farms have the opportunity to supplement their primary agricultural activities with accessory events and uses for the public. Larger farms in Stratham are doing this with seasonal events and activities that attract visitors from around the region.

Farmland and Farming Preservation Tools

The town uses several tools to maintain existing farmland and agricultural activities.

Local Zoning

The maintenance of active farmland in town is regulated by the Residential/Agricultural zoning district, which allows for open space conservation, agricultural use, and predominantly low-density residential development.

Barn Preservation Easements

Effective in 2002, NH RSA 79-D⁵ allows municipalities to grant property tax relief to barn owners who (a) can demonstrate the public benefit of preserving their barns or other historic farm buildings, and (b) agree to maintain their structures throughout a minimum 10-year preservation easement. The Stratham Board of Selectmen have approved preservation easements for more than 10 important barns that meet the statutory qualifications.

Conservation Easements

More than 1,000 acres of farmland are protected under conservation or agricultural easements (see Table 8), which are voluntary, legal agreements between the landowner and a conservation agency, for example the Town of Stratham Conservation Commission, that permanently limits the uses on the land in order to protect its conservation or agricultural values. Landowners retain many of their rights, including the right to own and use the land, sell it, and pass it on to their heirs.⁶ Because it is a legal document, all future owners of the property are required to abide by the easement stipulations.

National Register of Historic Places

Stratham has long history of agriculture and related farming operations. The Scamman and Emery Farms are currently listed on the National Register of Historic Places and the Stuart Farm is currently eligible. Two additional historic farms that are likely eligible, though the Town to date has not requested formal listing, are Saltbox Farm and Berry Hill Farm.



Photo courtesy of Nate Merrill

⁵ https://www.nh.gov/nhdhr/programs/barn_property_tax.html

⁶ <https://www.landtrustalliance.org/what-you-can-do/conserve-your-land/questions>

Natural Resources

Natural resources provide important environmental, social, and economic benefits, including habitat for plants and animals, flood protection, recreation, economic livelihood, and improved air and water quality. Protection and management of these areas is important for the long-term health of a community and its resilience in the face of a changing climate.

Natural Resources Inventory

In 2011, the Stratham Conservation Commission, in cooperation with the Rockingham County Conservation District, conducted a Natural Resources Inventory (NRI)⁷ to serve as a reference to identify areas of high ecological value. Its purpose was to:

- Map and describe significant natural resources in Stratham.
- Identify areas of high ecological value at the local, regional, and state level.
- Recommend options for the protection and management of natural resources in Stratham.
- Incorporate relevant reports and studies regarding natural resources in Stratham into one document.

This discussion of natural resources pulls from the 2011 NRI and provides a brief overview of the condition and state of natural resources in Stratham. The inventory was updated concurrently with the Master Plan in 2019. It should be consulted for further details.

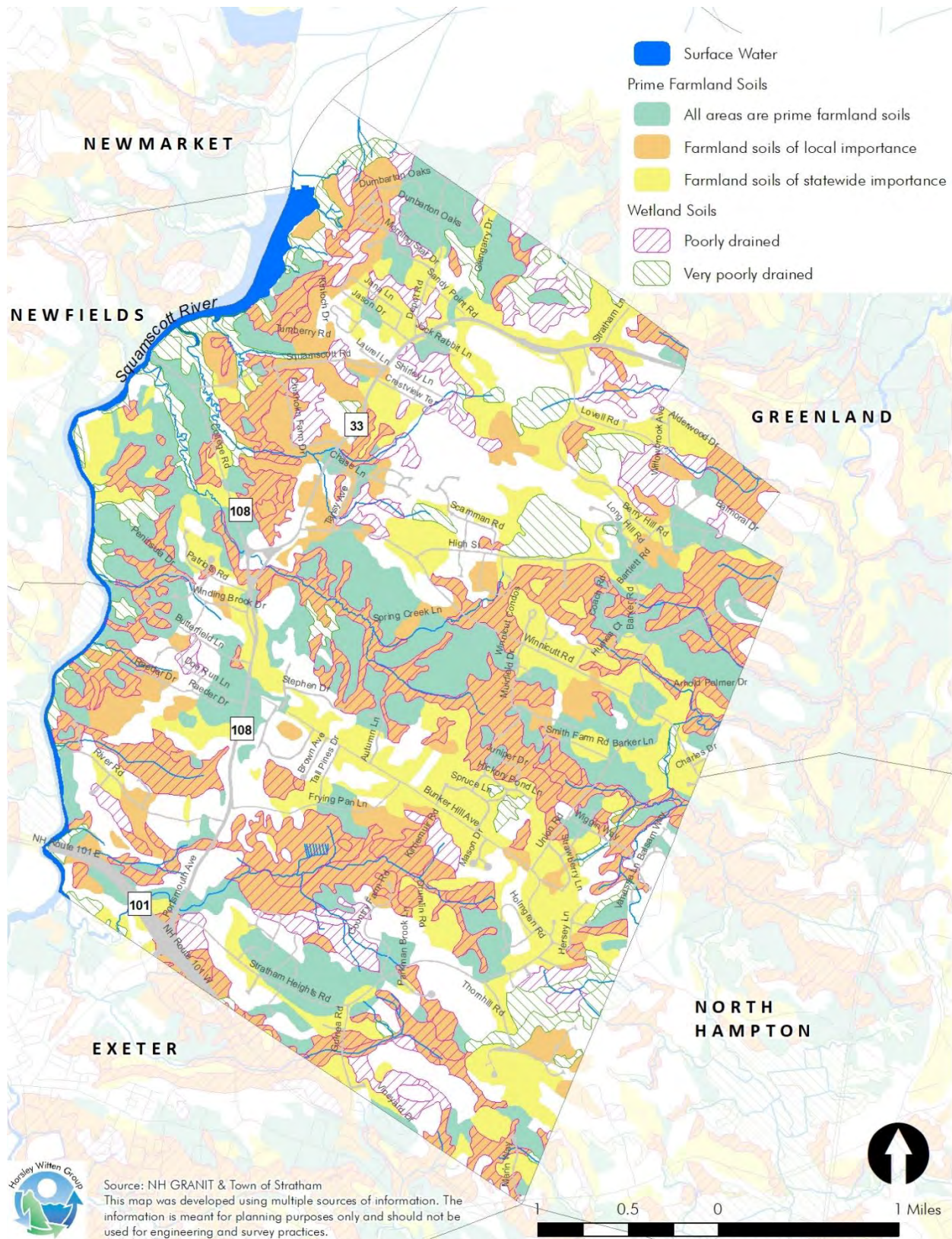
Soils

Understanding the nature and properties of soils is critical to managing and conserving our natural resources. The Natural Resources Conservation Service (NRCS) studies and inventories soil resources across the country. NRCS soil surveys help communities determine what soils are present, where they are located, and the best and most appropriate use of land based on soil conditions. NRCS predicts soil behavior for selected land uses and highlight limitations and hazards inherent in the soil and the impact of selected land uses on the environment. The latter is especially important in Stratham because all development relies on on-site wells and septic disposal.

Important soil types that impact development and natural resource protection in Stratham are prime farmland soils, soils of statewide importance, and wetland soils (Map 6).

- Prime Farmland Soils – These are soils are defined by the USDA as having the best combinations of physical and chemical characteristics for producing food, feed, forage, fiber and oilseed crops, and are also available for these uses (the land could be cropland, pastureland, forest land, or other land, but not urban built up land or water). Prime farmland produces the highest yields with minimal expenditure of energy and economic resources, and farming it results in the least damage to the environment. There are 2,671.7 acres of prime farmland in Stratham, 26% of the total acreage. Also see Agriculture.

⁷ https://www.strathamnh.gov/sites/strathamnh/files/uploads/stratham_nri_final.pdf



- Soils of Statewide Importance – This is land, in addition to prime farmland, is of statewide importance for the production of food, feed, fiber, forage, and oilseed crops. Criteria for defining and delineating this land are determined by the NH Department of Agriculture. Generally, these soils are nearly prime farmland that can economically produce high yields of crops when treated and managed according to acceptable farming methods. There are 1,903.3 acres of soils of statewide importance in Stratham, 19% of the total acreage.
- Wetlands Soils - These soils include Very Poorly (Hydric A) and Poorly Drained (Hydric B) soils. The areas are wet because water moves through the soil so slowly that the water table remains at or near the surface of the ground for the greater part of the year. The reference to “very poorly” and “poorly” refers in part, but not exclusively to, the amount of time water remains at or near the surface. Very poorly drained soils generally occupy level or depressed sites, are frequently ponded, and commonly have soils with a thick dark colored surface layer and gray subsoil. Poorly drained soils occupy nearly-level to sloping sites, are ponded for short periods, and have a dark colored surface layer with grayish, mottled subsoil. There are 636.6 acres (6%) of very poorly drained soils (Hydric A) soil, and 2,486.7 acres (25%) of poorly drained (Hydric B) soils in Stratham. Wetlands are also discussed below under Water Resources.

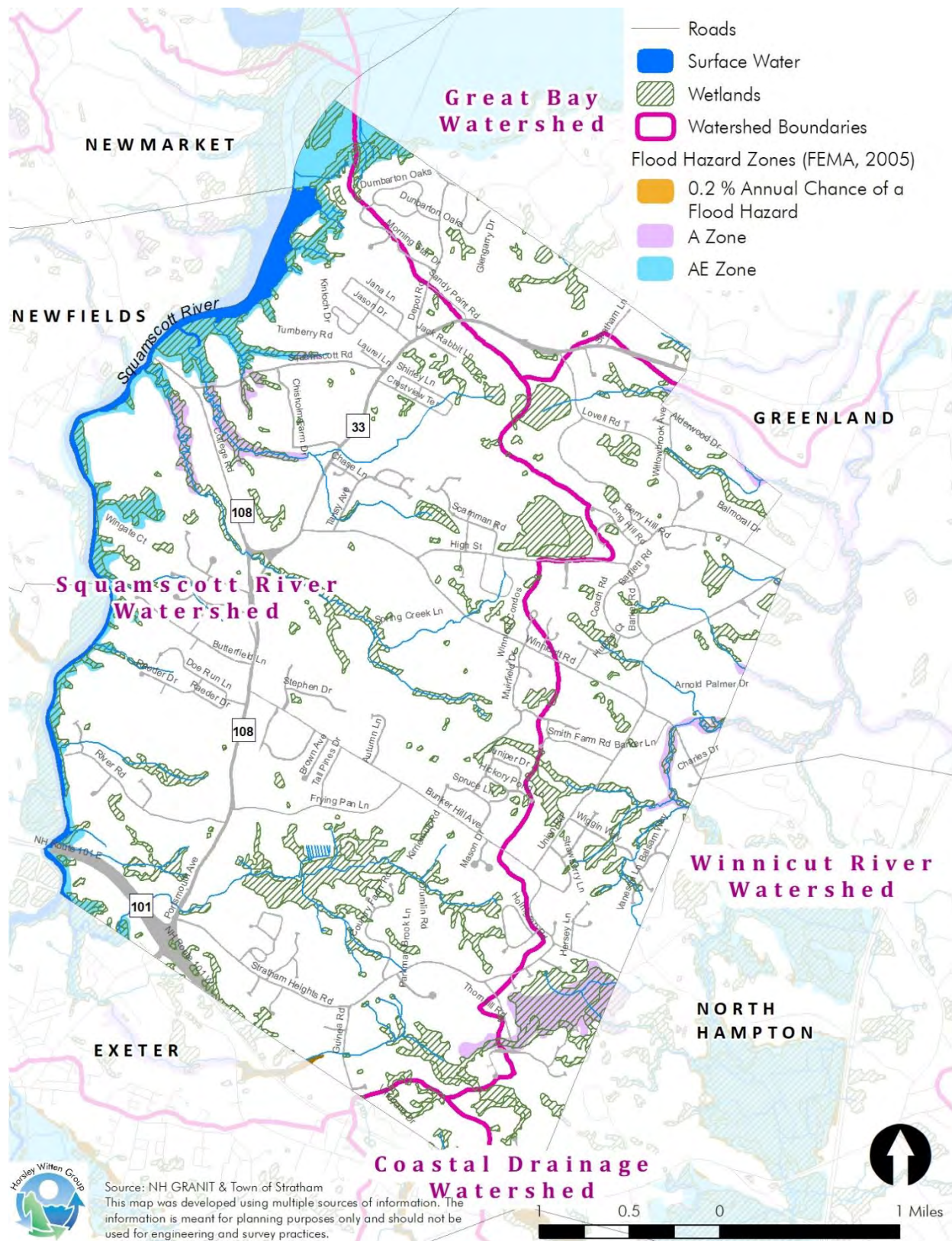
Water Resources

Water resources in Stratham include the Great Bay estuary, salt marsh areas, and local rivers (Map 7). The Great Bay Estuary and its surrounding salt marshes provide prime habitat for many wildlife species, including many migratory bird species. The Squamscott and Winnicut Rivers are important habitats for native species and are also stocked with fish each year by the New Hampshire Fish and Game Department.

Watersheds

Stratham is located within four watersheds: The tidal Squamscott River watershed, a small piece of the Great Bay watershed, the Winnicut River Watershed, and the Coastal Drainage watershed. Protecting Stratham’s water resources ensures that residents have access to clean source water for drinking and recreation. Residents depend primarily on groundwater from private wells for their potable water supply. Maintaining the health of the rivers and land throughout the watersheds optimizes Stratham’s water quality and quantity for current and future use.

Stratham also plays an important role in the ecological and economic health of Great Bay, the downstream receiving water for the majority of the town. Due to water quality issues in Great Bay and the Squamscott River, Stratham has worked closely with the surrounding communities, most notably through representation on the Exeter Squamscott River Local Advisory Committee (ESRLAC), to reduce its contribution of pollutants from nonpoint sources, including septic systems.



Map 7. Water Resources

Salt Water Resources

The Great Bay Estuary is Stratham's most significant salt water resource. Covering 17 square miles with nearly 150 miles of tidal shoreline, Great Bay is unusual because of its inland location, more than five miles up the Piscataqua River from the Atlantic Ocean. Oysters, clams, and lobsters are harvested from these waters, as well as striped bass, bluefish, herring, and smelt. Within the estuary, there are smaller sub-habitats, including mudflats and salt marshes. The two most notable salt marsh areas remaining within Stratham are the Stuart Farm Salt Marsh and the Wiggin Salt Marsh.

Freshwater Wetlands

Wetlands are areas inundated or saturated by surface or groundwater and can be identified based on three criteria:

- Hydric Soils - A soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part (see Map 6).
- Hydrophytic Vegetation - Vegetation typically adapted for life in saturated soil conditions.
- Hydrology - The area is inundated with water either permanently or periodically or the soil is saturated to the surface at some time during the growing season of the prevalent vegetation.

There is a diversity of wetland types in Stratham, including areas of open water with emergent vegetation such as cattails, forested wetlands, and scrub-shrub wetlands. Wetlands absorb flood waters, treat stormwater, recharge groundwater supplies, serve as fish and wildlife habitat, and provide for recreation and the aesthetic enjoyment. According to the NRI, over 1,400 acres of wetlands are located in Stratham. The Stratham Conservation Commission inventoried six additional priority wetland areas and recommended they be protected from development. These wetland areas are as follows:

- Parkman Brook, off Route 101 and Frying Pan Lane – 160 acres
- Jewell Hill Brook Corridor, northeast of Greenwood Cemetery – 150 acres
- Mid-Winnicut River Swamps, off Winnicut Road – 90 acres
- Mill Brook Corridor, Routes 108 and 33 – 180 acres
- Southern New England Seepage Forest, off High Street – 135 acres
- Dearborn Brook Headwaters, south of Rollins Hill – 120 acres

Flood Hazard Areas

While rivers and streams provide valuable water resources, they can also pose a threat to Stratham residents during rain events. Floodplains are low-lying areas along rivers and streams that collect overflow. When periodic flooding occurs in these areas sediments and nutrients are recycled, creating rich soil deposits that often supports unique plant habitats. Undeveloped floodplains are also important in controlling erosion, buffering against catastrophic flooding, and serving as significant habitat for wildlife. The major floodplains in Stratham are associated with the Squamscott River, Great Bay, and several small sections of stream feeding those two water bodies.

The Federal Emergency Management Agency (FEMA) maps an area's potential flood risk on Flood Insurance Rate Maps (FIRMs). As shown on Map 7, the primary risk classifications used in Stratham are A Zone (1% annual change of flooding), AE Zone (1% annual change of flooding and the base flood elevation is known), and .2% annual chance of a flood event. The current active FEMA FIRMs date back to 2005.

Groundwater Resources

Groundwater pumped from private wells is the primary source of drinking water in Stratham. As outlined in Map 8, there are five aquifers in Stratham:

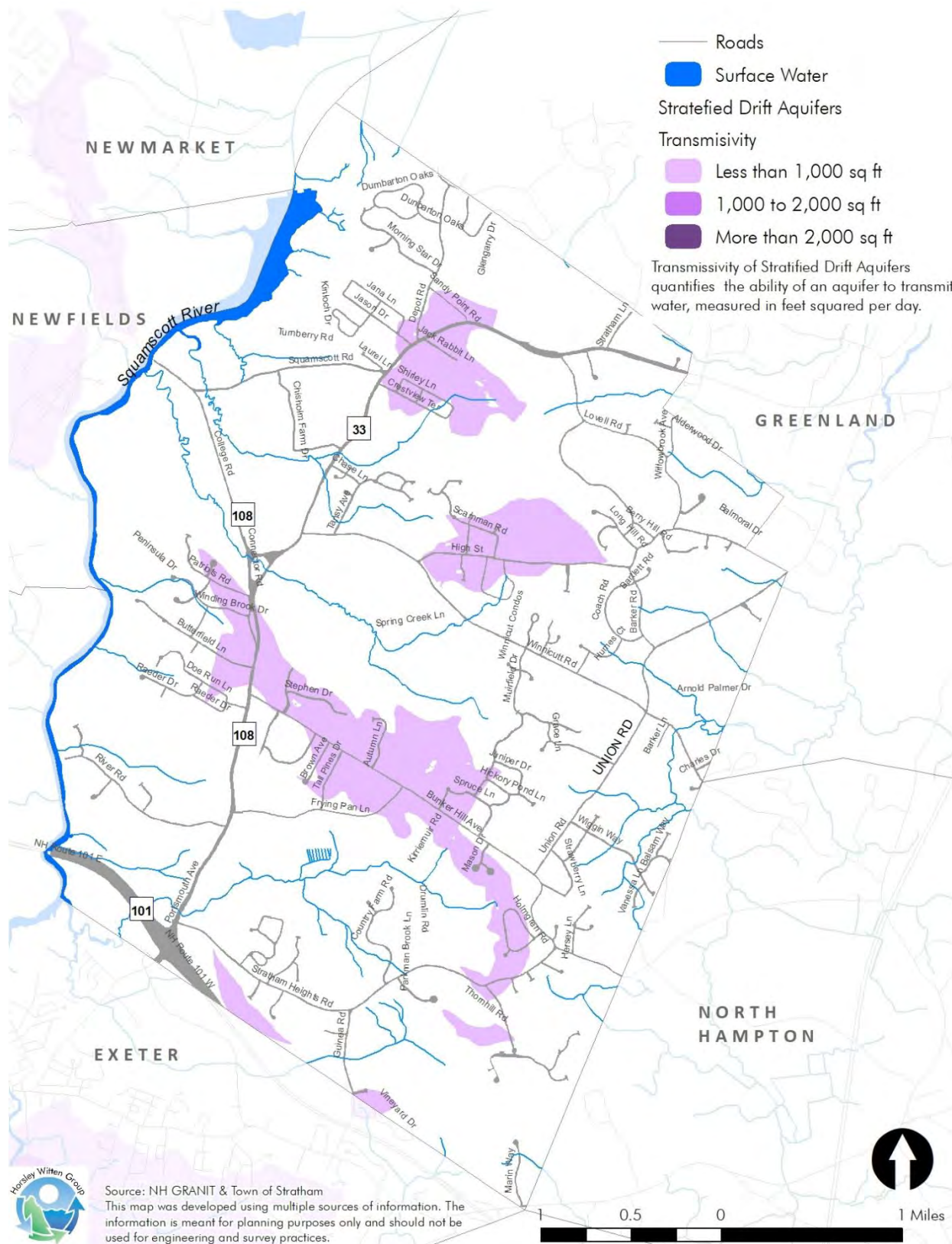
- **Stratham Hill Aquifer** is approximately 743 acres and is located in the northeastern end of Town between Stratham Lane and Winnicut Road. A small portion of the aquifer underlies Greenland. Aquifer recharge is via wetlands at the surface and precipitation.
- **Bunker Hill Aquifer** is approximately 873 acres and is located entirely in Stratham along Bunker Hill Avenue. Aquifer recharge is via wetlands at the surface and precipitation.
- **Winnicut River Aquifer** is approximately 397 acres and underlies Stratham, Greenland and North Hampton. Aquifer recharge is via wetlands at the surface, precipitation, and the Winnicut River.
- **Skinner Springs Aquifer** is approximately 40 acres and is located in Stratham and Exeter between Portsmouth Avenue and Stratham Heights Road. Aquifer recharge is via wetlands at the surface, precipitation, and Skinner Springs.
- **Guinea Road Aquifer** is less than 40 acres and is located in Stratham and Exeter, just southeast of Guinea Road. Aquifer recharge is via wetlands at the surface and precipitation.

Forest Lands

As of 2015, just over 30% of the land in Stratham was forested (Map 9). Forests in Stratham are made up of a wide variety of trees, including white pine, red pine, red oak, black oak, white oak, hemlock, beech, shagbark hickory, pignut hickory, red maple, sugar maple, white and black birch. One tree species growing in Stratham that is rare elsewhere in the state is the Atlantic White Cedar, which grows in a swamp area located on Gordon Barker Town Forest land and within Stratham Hill Park. Forest land provides both commodities, like wood products or maple syrup, and non-commodity benefits, like water resource protection, air quality maintenance, recreation and scenic quality.

Gordon Barker Town Forest

The Town Forest was established in 1994 and is located off Jack Rabbit Lane adjacent to Stratham Hill Park. The forest is nearly 85 acres and includes a diversity of soils and vegetation, including an Atlantic White Cedar swamp, as noted above, and an oak-white pine forest with large specimen trees. The forest is a popular recreation area for residents. A tree thinning was conducted in 2007 on 14.5 acres located in the south end of the forest. A Forest Management Plan for the property was completed in 2007, which highlights management objectives identified and ranked by the Conservation Commission in order of highest to lowest priority: wildlife habitat, recreation, water quality, timber production. The forest has a number of trails that are used throughout the year. The Stratham Memorial School also abuts the forest and teachers and others often use it as an outdoor classroom. The management plan notes the need for trail maintenance to protect water quality, stop soil erosion, and to reduce damage to tree roots from soil compaction caused by foot traffic.





Vulnerable Species

Healthy land, freshwater, and estuarine areas in Stratham provide habitat to endangered, threatened, and rare species. According to the New Hampshire Natural Heritage Bureau, Stratham is home to ten state-listed endangered plants and one reptile. Several others are listed as threatened or of special concern.

Table 13. Species classified as threatened, endangered, and of special concern observed in Stratham

Common Name	Species	Type	NH Classification
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Bird	Threatened
Common Moorhen	<i>Gallinula chloropus</i>	Bird	Special Concern
Least Bittern	<i>Ixobrychus exilis</i>	Bird	Special Concern
Nelson's Sparrow	<i>Ammodramus nelsoni</i>	Bird	Special Concern
Osprey	<i>Pandion haliaetus</i>)	Bird	Special Concern
Saltmarsh Sparrow	<i>Ammodramus caudacutus</i>	Bird	Special Concern
Sora	<i>Porzana carolina</i>	Bird	Special Concern
American eel	<i>Anguilla rostrata</i>	Fish	Special Concern
Engelmann's Quillwort	<i>Isoetes engelmannii</i>	Plant	Endangered
Great bur-reed	<i>Sparganium eurycarpum</i>	Plant	Threatened
Greater fringed-gentian	<i>Gentianopsis crinita</i>	Plant	Threatened
Horned-pondweed	<i>Zannichellia palustris</i>	Plant	Endangered
Ivy-leaved duckweed	<i>Lemna trisulca</i>	Plant	Endangered
Limestone-meadow sedge	<i>Carex granularis</i>	Plant	Endangered
Little-headed spikesedge	<i>Eleocharis parvula</i>	Plant	Threatened
Marsh Elder	<i>Iva frutescens</i>	Plant	Threatened
One-glumed spikesedge	<i>Eleocharis parvula</i>	Plant	Threatened
Peat moss	<i>Sphagnum contortum</i>	Plant	Threatened
Perennial saltmarsh American-aster	<i>Symphyotrichum tenuifolium</i>	Plant	Endangered
Prolific yellow-flowered knotweed	<i>Polygonum ramosissimum</i> spp. <i>Prolificum</i>	Plant	Endangered
Rich's herbaceous sea-blite	<i>Suaeda maritima</i> ssp. <i>Richii</i>	Plant	Endangered
Saltmarsh agalinis	<i>Agalinis maritima</i>	Plant	Endangered
Sharp-flowered manna grass	<i>Glyceria acutiflora</i>	Plant	Endangered
Tufted yellow-loosestrife	<i>Lysimachia thyrsiflora</i>	Plant	Threatened
Tundra Alkali	<i>Puccinellia pumila</i>	Plant	Endangered
Blanding's Turtle	<i>Emydoidea blandingii</i>	Reptiles	Endangered
Spotted Turtle	<i>Clemmys guttata</i>	Reptiles	Threatened

Source: New Hampshire Natural Heritage Bureau

The 2015 New Hampshire State Wildlife Action Plan (WAP) identifies species that are in greatest need of conservation and their associated habitats that are at greatest risk. Using biological data, landscape setting, and human influences, habitat was ranked based on its capacity to support species of greatest conservation need into three tiers. In general, the “Highest Ranked in the State” tier includes the top 15% of each habitat that support state-listed species. The “Highest Ranked in the Biological Region” includes the top 30% of each habitat unique to that biological region. The final tier, “Supporting Landscapes,” includes the remaining 50% of each habitat plus very large intact forested lands that would

not be otherwise top ranked.⁸ These high-ranking areas can be found in Stratham, many of which are within existing conservation lands (Map 10).

Preservation and Management Leaders

The following municipal and non-profit organizations are leading preservation and management efforts of local natural resources.

Conservation Commission

The Conservation Commission⁹ is a nine-member appointed municipal board that focuses on protecting the town's natural environment. Its mission is to "...preserve local natural resources through land acquisition, stewardship and education."

Southeast Land Trust

Established in 2013, the Southeast Land Trust¹⁰ works with 39 communities to protect lands, strategically focusing on farmland and water resources. Part of its mission is to build community ties around natural resource protection and instill environmental stewardship.

Rockingham County Conservation District

The Rockingham County Conservation District¹¹ was formed in 1946 as a public office, providing a voice for local farmers and others to the USDA Natural Resources Conservation Service (NRCS). The District works with landowners and users, local government agencies, and other local interests in addressing a broad spectrum of resource concerns. These concerns include, but are not limited to, surface and ground water quality and quantity, nonpoint source pollution, erosion and sedimentation, stormwater, flooding, wetlands, forestlands, wildlife habitats, and solid waste. Conservation Programs in Rockingham County are carried out through public education and the implementation of Best Management Practices (BMPs). Technical assistance and information for the implementation of BMPs are provided for various land uses in cooperation with the NRCS, other state and federal agencies and organizations, District staff and volunteers, and district consultants.

Tools for Natural Resource Protection

Current tools the Town uses to protect the health and quality of natural resources range from local regulations and policies to property acquisition and legal restrictions.

Local Zoning

The Stratham Zoning Ordinance is a regulatory tool the Town uses to manage development and its potential impacts on natural resources.

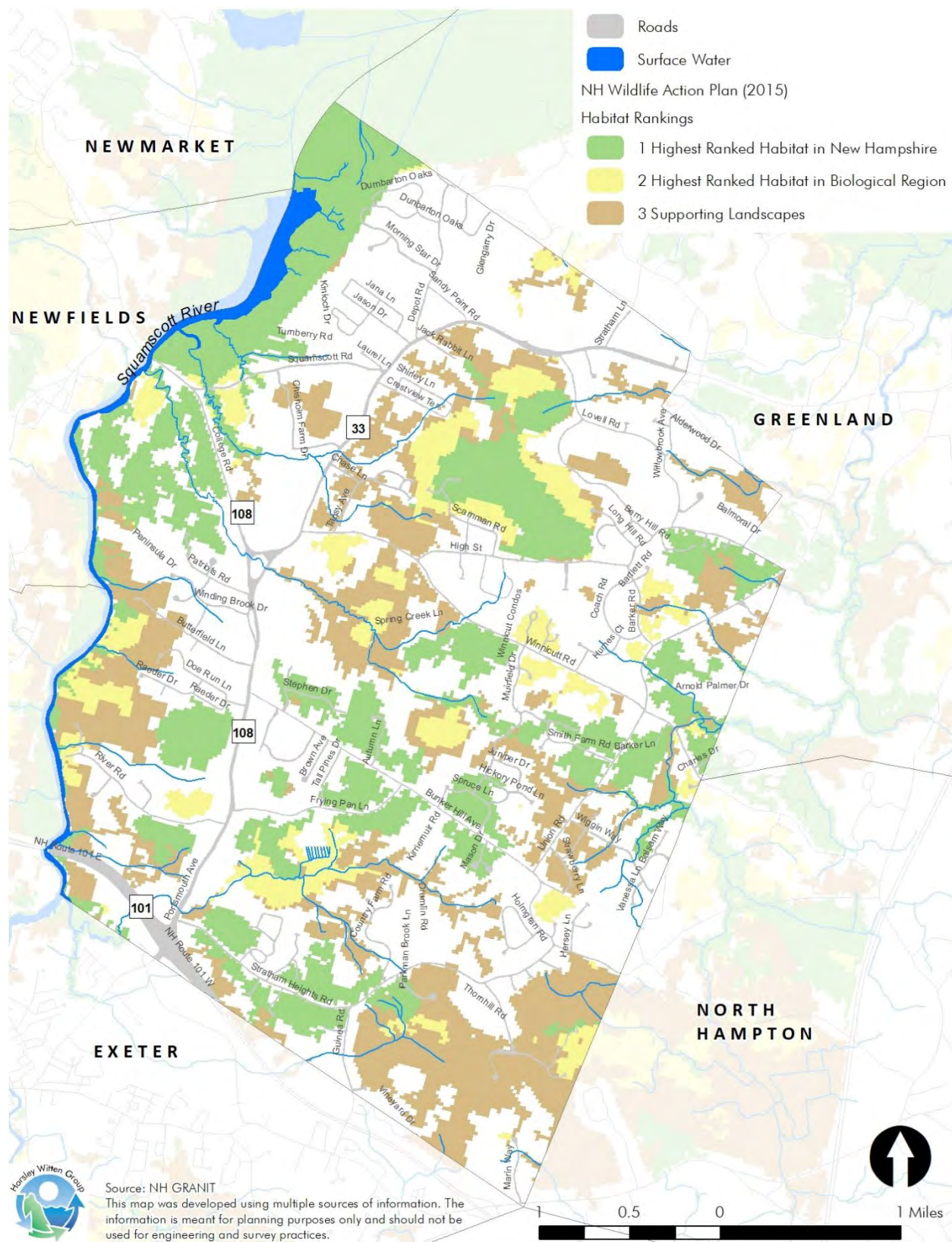
The **Aquifer Protection Overlay District** controls development and land uses within aquifers and their recharge areas to protect the available supply and quality of drinking water for the Town.

⁸ <http://www.wildlife.state.nh.us/wildlife/wap-high-rank.html>

⁹ <https://www.strathamnh.gov/conservation-commission/pages/useful-conservation-links>

¹⁰ <http://seltnh.org/>

¹¹ <http://www.rockinghamccd.org/>



Map 10. Map: Priority Habitat in Stratham

The **Shoreland Protection Overlay District** protects sensitive shorelands of its water resources by limiting the type and extent of development within 50 feet of tidal waters (estuaries such as the Great Bay) and within 100 feet of perennial streams is limited in this district.

Development within and adjacent to wetlands is controlled by the **Wetlands Conservation Overlay District**. Specifics include prohibiting activities within the 25-foot buffer of any wetland and the 50-foot buffer of any very poorly drained soils. Subsurface wastewater disposal systems are not allowed within 75 feet of very poorly drained soils or 50 feet of any poorly drained soils.

The town has a **Floodplain Ordinance** that enables it to participate in the Federal Emergency Management Agency (FEMA) National Flood Insurance Program, which in turn allows residents living in flood hazard areas to purchase flood insurance at low cost.

Conservation Easements and Restrictions

Conservation or agricultural easements or restrictions are voluntary, legal agreements between the landowner and a conservation agency, for example the Town of Stratham Conservation Commission, that permanently limits the uses on the land in order to protect its conservation or agricultural values. Landowners retain many of their rights, including the right to own and use the land, sell it, and pass it on to their heirs.¹² Because it is a legal document, all future owners of the property are required to abide by the easement stipulations. More discussion about current conservation easements and restrictions in Stratham are discussed under Open Space and Conservation Land.

Residential Open Space Cluster Development

The Residential Open Space Cluster Development ordinance encourages developers to conserve natural resources of a property. The ordinance allows for a more efficient use of land by grouping residences in areas most appropriate for development and dedicating important natural and cultural features of the site for conservation. The ordinance has led to many tracts of open space being protected, in perpetuity, especially along the Squamscott River. Public access to this land may or may not be permitted, depending on developer or homeowner permission. Cluster developments resulting in the most conserved space include the Crockett's Farm development and the Turnberry Condominiums.

Property Acquisition

As funds are available, the Town can purchase a property outright that has important value because of its natural resources. More discussion about land purchased by the Town for conservation purposes is discussed under Open Space and Conservation Land.

¹² <https://www.landtrustalliance.org/what-you-can-do/conserving-your-land/questions>

Open Space and Conservation Land

Open space and conservation land are properties with some level of protected from future development, either in perpetuity or specific time limitation (e.g., 50 years). Protection mechanisms include property acquisition by the government entities (federal, state, or local) or non-profit organizations (land trusts), or conservation easements on properties that remain under private ownership. Because conservation lands can be both public and private property, public access can vary.

Stratham Conservation Commission

The Stratham Conservation Commission¹³ is a nine-member appointed municipal board that focuses on protecting the town's natural environment. Its establishment is based on Chapter 36-A of the NH Revised Statutes Annotated.¹⁴ The Commission's mission is to "...preserve local natural resources through land acquisition, stewardship and education." The group manages town-owned conservation land, where public access and allowable uses can vary greatly. The Conservation Commission is responsible to ensure activities are appropriate for the resources being protected. In general, unless otherwise noted, passive recreational activities (hiking, cross-country skiing, snowshoeing, birding, nature or wildlife viewing, photography) are the most common activities permitted on town-owned conservation land.

Conservation and Public Land

A great deal of hard work took place in recent years to identify and protect critical natural resources in Stratham. With support from residents and elected officials, the Stratham Conservation Commission conserved hundreds of acres, often in partnership with regional, state and national organizations. In 1999, residents voted to set aside a portion of tax revenues resulting when a property is taken out of Current Use, and place that money into the Land Conservation Fund. Before this action was taken by residents in the form of a vote, this fund only received \$10,000 per year and had little impact. In addition to the Land Conservation Fund, residents voted in 2002 to create a \$5 million bond for the purpose of establishing conservation easements or outright purchase of undeveloped land. A sub-committee of the Conservation Commission was formed to develop criteria for selecting properties for conservation. With input from other town boards and commissions, it was decided that priority conservation land included parcels located in the Aquifer Protection District, parcels with important wildlife corridors and/or scenic viewsheds, farmland, and land abutting properties already protected from development.

Table 14 shows the ownership and management of approximately 2,800 acres of open space, conservation, and public lands in Stratham. Just over 1,200 acres have a dedicated conservation easement or restriction (see discussion of Tools for Natural Resource Protection for definitions of these terms). These properties are depicted on Map 11.

¹³ <https://www.strathamnh.gov/conservation-commission>

¹⁴ <http://www.gencourt.state.nh.us/rsa/html/NHTOC/NHTOC-III-36-A.htm>



Table 14. Open Space, Conservation, and Public Lands in Stratham

	Acres	% of Total
Agricultural Preservation Restriction	173.1	6%
Conservation Restriction/Easement	1,209.5	42%
Cemetery	15.0	1%
Common Land	986.8	34%
New Hampshire Fish & Game	106.5	4%
School	10.0	0%
Town Land	367.0	13%
TOTAL	2,867.9	-

Source: Town of Stratham

Town and State Land

Land held by the town or state, including some areas owned and managed by the New Hampshire Fish and Game Department, most often are accessible to the general public. The Town's most significant landholding is the Gordon Barker Town Forest. It spans over 84 acres and is managed by the Conservation Commission. The Town Forest has a wide diversity of soils and trees including: white pine, red pine, red oak, black oak, white oak, hemlock, beech, shagbark hickory, pignut hickory, red maple, sugar maple, white and black birch. The diversity of soils, the acorn producing oak trees, and nut producing beech and hickory provide food sources for nearly 80 different species of birds and mammals. The town determined the highest use of the forest is for wildlife habitat, followed by recreation, water quality protection, and timber production. Other properties of significance to note are the Zarnowski, Smyk, and Gifford parcels. Each brings their own unique qualities to the community.

Private Land

In addition to publicly owned land, many private property owners have sold or donated easements to their property to the Town, state agencies, non-profit land trusts, and in some cases the Rockingham County Conservation District, for conservation purposes. The largest parcels of conserved land under private ownership are the Scamman Farm and the Stuart Farm.

Cluster Development/Common Land

In 1983, the Town of Stratham adopted a cluster development provision in its Zoning Ordinance. The cluster ordinance led to many tracts of open space being protected, in perpetuity, especially along the Squamscott River. Public access to this land may or may not be permitted, depending on developer or homeowner permission. Cluster developments resulting in the most conserved space include the Crockett's Farm development and the Turnberry Condominiums.

Current Use

The Current Use Program (RSA 79-A) is a state tax program with the purpose to conserve and protect forests and agricultural lands. Enrolled landowners maintain their properties as undeveloped farm and forest lands and in return are taxed on the land's income-producing capability and not its real estate market value as potential houses. Current Use remains with the land, and if the property should be sold, the new owner qualifies for the tax-reducing program by maintaining its use as a farm or forest lands. However, these lands are not protected in perpetuity. A landowner has the option to change the use of the land to a non-qualifying use, at which time they are charged a land use change tax, which can be 10% of the "full and true value" of the land.

Housing

Providing diverse housing options and an adequate supply of homes that meet local needs are essential to the social and economic health of a community. A range of housing choices opens opportunities in Stratham for the local workforce, recent graduates, young families, retirees, and people who would like to move to Stratham. Many residents have grown up in Stratham, raised families here, and wish to spend their “empty-nest” years here as well. The ability to “downsize” and stay within their community is important for an aging population. Equally important, recent graduates, either from Exeter High School or college, may want to stay in Stratham and work in the region. Buying a home may not be an option at this time, which increases the need for rentals. Many factors influence why people choose to live in Stratham, and a spectrum of housing choices (size, cost, location, etc.) opens the doors to welcome new residents and ensure those transitioning from one life stage to another can stay here.

Housing Supply

Stratham has just over 2,900 housing units, an increase of 101 units from 2010 to 2016 (Table 15). The majority were single family homes (Table 16), and they dominated new construction in recent years. Multi-family homes were built, but only 10 units over the most recent six-year period. Table 16 compares Stratham with neighboring communities. Like Stratham, most have more than 75% of their housing as single-family units. The exceptions are Exeter (45.5%) and Newmarket (38%).

Table 15. Residential Construction Permits in Stratham, 2010-2016

Residential Permits, Units Constructed										
	Housing Units in								Total Estimated Housing Units 2016	Change 2010 to 2016
Housing Type	2010	2010	2011	2012	2013	2014	2015	2016		
Single Family	2,093	3	14	9	17	18	14	16	2,184	4%
Multi-Family	704	2	0	2	0	2	4	0	714	1%
Manufactured Housing	67	0	0	0	0	0	0	0	67	0%
Total Housing	2,864	5	14	11	17	20	18	16	2,965	4%

Source: State of New Hampshire Office of Energy and Planning State Data Center, “New Hampshire’s Housing Supply: Current Estimates and Trends” (December 2017)

Table 16. Percentage of Housing Types in Stratham and Neighboring Communities, 2016

	Stratham	Exeter	Greenland	Kensington	Newfields	Newmarket	N. Hampton
Total housing units	2,805	6,456	1,499	864	543	4,122	1,955
Single Family	77.7%	45.5%	76.3%	95.8%	87.7%	38.0%	79.2%
Condo/Townhouse	12.9%	5.7%	14.9%	1.4%	4.8%	10.0%	1.3%
2 units	1.6%	5.1%	4.3%	0.3%	6.4%	4.9%	3.1%
3 or 4 units	0.4%	9.1%	1.1%	0.2%	0.6%	8.6%	0.0%
5 to 9 units	2.6%	3.8%	1.2%	0.0%	0.6%	8.6%	0.5%
10 to 19 units	0.0%	3.7%	0.0%	0.0%	0.0%	10.4%	0.0%
20 or more units	1.6%	12.6%	0.0%	0.0%	0.0%	16.3%	0.0%
Mobile home	2.5%	14.6%	2.3%	2.2%	0.0%	3.3%	16.0%
Boat, RV, van, etc.	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

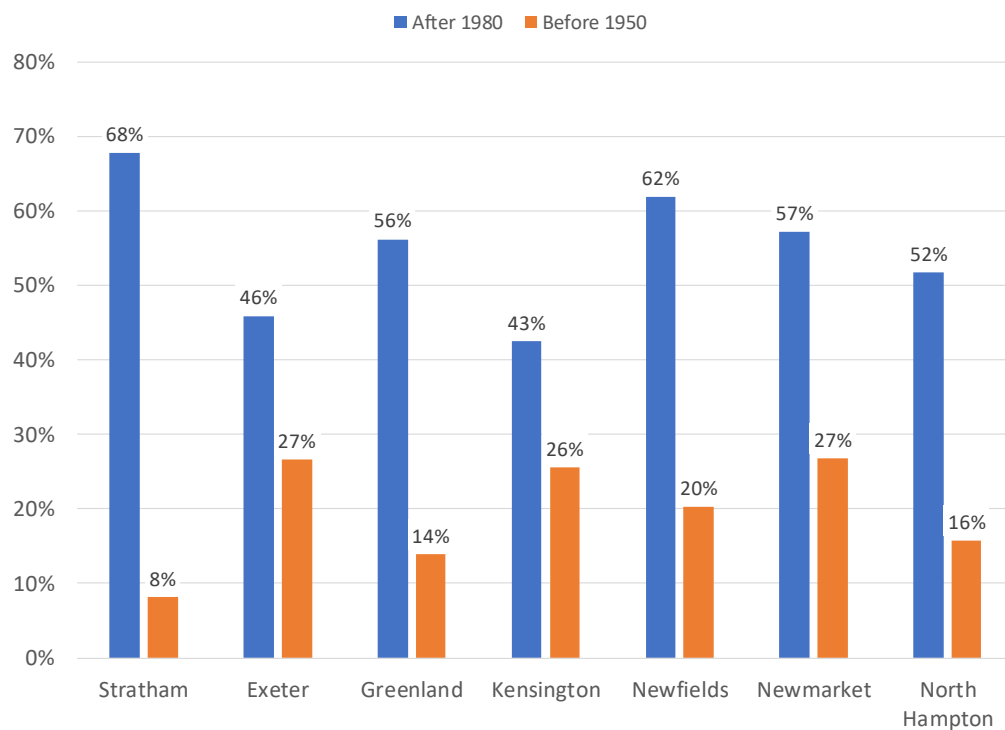
Source: 2016 American Community Survey 5-Year Estimates

The majority of Stratham's housing (82%) was built after 1970, and approximately 68% of homes were constructed after 1980. As shown in Table 17, this housing trend was also seen in Stratham's neighboring communities. With the exception of Exeter and Kensington, most had more than half of their housing built after 1980 (Figure 6). This is advantageous to the community because homes built within the last several decades will be more energy efficient, and exposure to hazards like lead and asbestos is virtually eliminated. Around one quarter of housing Exeter, Kensington, and Newmarket was built before 1950 and are more likely to have lead-based paint and/or asbestos.

Table 17. Year Housing Built in Stratham and Neighboring Communities, 2016

	Stratham	Exeter	Greenland	Kensington	Newfields	Newmarket	North Hampton
Total housing units	2,805	6,456	1,499	864	543	4,122	1,955
2010 or later	1.5%	3.3%	7.0%	1.4%	1.3%	1.5%	2.3%
2000 to 2009	18.5%	13.7%	13.8%	17.8%	19.5%	13.3%	15.4%
1990 to 1999	16.5%	11.8%	10.2%	11.1%	28.9%	13.7%	13.4%
1980 to 1989	31.3%	17.1%	25.2%	12.2%	12.2%	28.7%	20.6%
1970 to 1979	14.5%	12.5%	12.1%	17.1%	9.4%	9.7%	11.7%
1960 to 1969	4.2%	7.7%	8.3%	7.2%	1.8%	4.6%	14.5%
1950 to 1959	5.4%	7.3%	9.6%	7.6%	6.6%	1.7%	6.2%
1940 to 1949	0.5%	6.2%	1.1%	4.1%	0.0%	2.7%	1.9%
1939 or earlier	7.6%	20.4%	12.8%	21.5%	20.3%	24.1%	13.9%

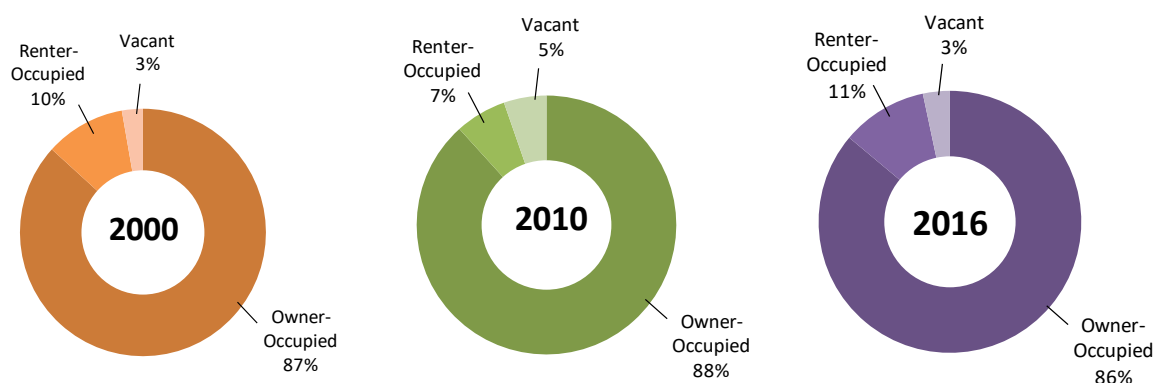
Source: 2016 American Community Survey 5-Year Estimates



Source: 2016 American Community Survey 5-Year Estimates

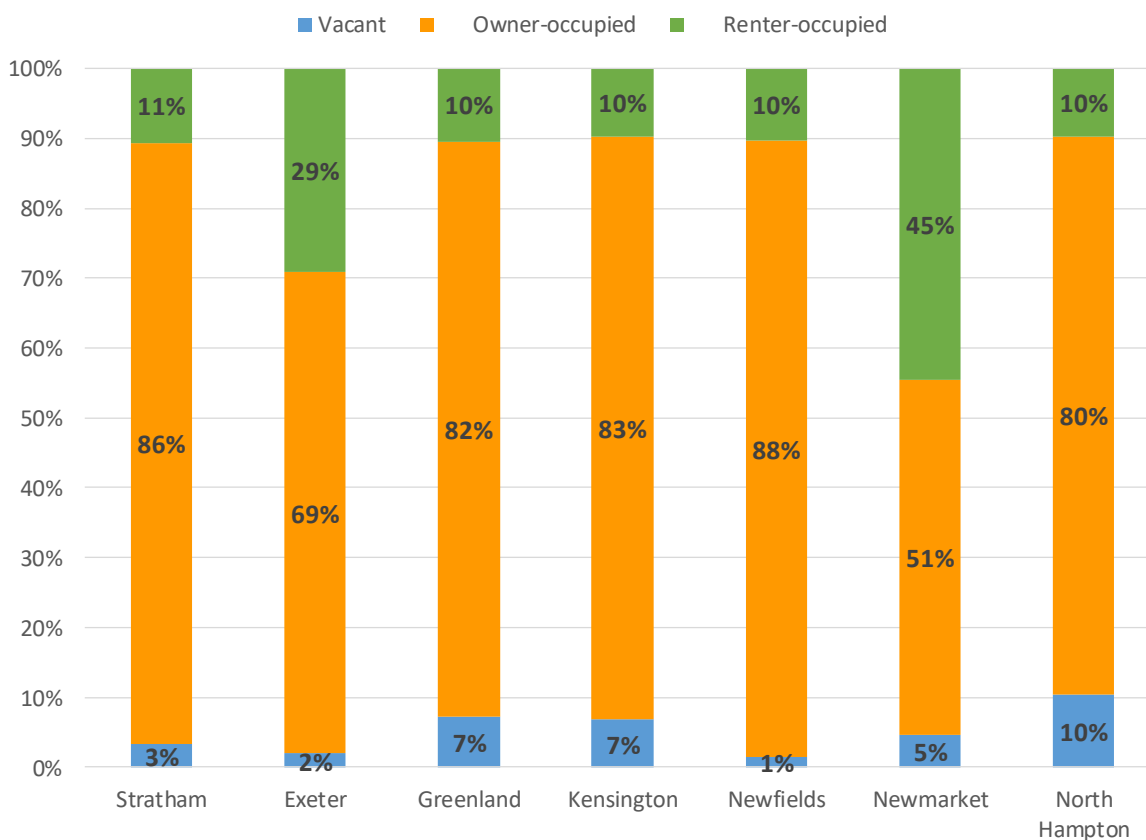
Figure 6. Percentage of Housing built after 1980 and before 1950 in Stratham and Neighboring Communities

Most of the housing in Stratham is owner-occupied (86%). Rental units comprise 11%, with the remaining 3% vacant. This has been consistent since 2000 (Figure 7). Compared to its neighbors (Figure 8), housing occupancy in Stratham closely resembles the composition in Newfields. Newmarket has significantly more rental units with 45%, with Exeter close behind at 29%. Greenland, Kensington, and North Hampton have more than double the percentage of vacant units.



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

Figure 7. Change in Housing Occupancy in Stratham, 2000-2016

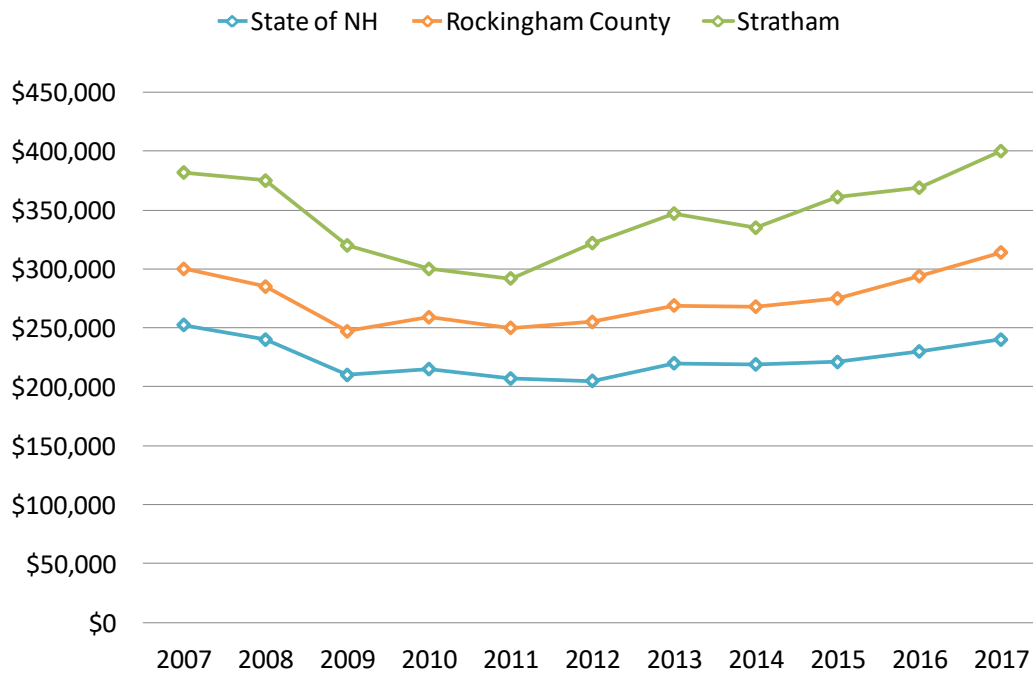


Source: 2016 American Community Survey 5-Year Estimates

Figure 8. Housing Occupancy in Stratham and Neighboring Communities, 2016

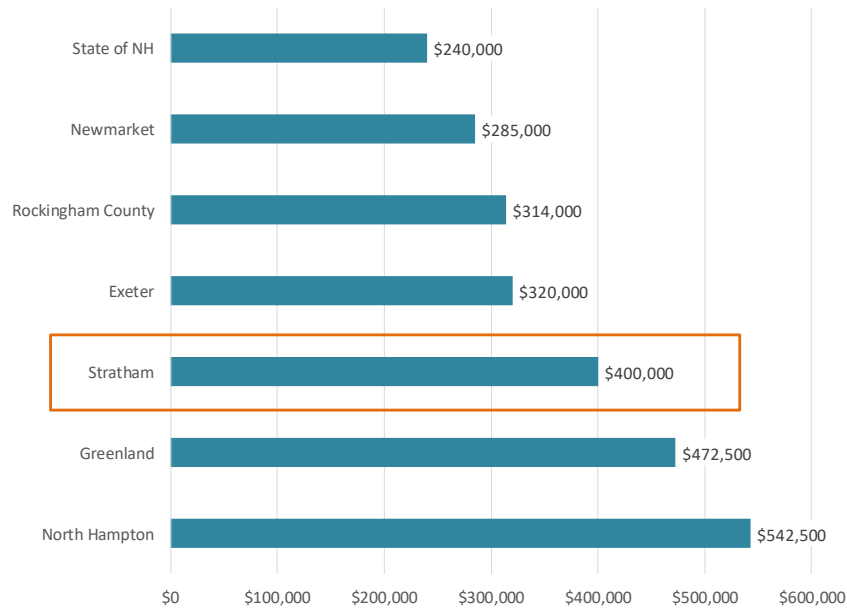
Housing Costs and Affordability

According to New Hampshire Housing Finance Authority (NHHFA), median home sales prices in Stratham have consistently been higher than those in Rockingham County and the State of New Hampshire. In 2017, the median sales price of a single-family home in Stratham was \$400,000. Overall, sales prices in the region and statewide are increasing, but more so locally (Figure 9). From 2014 to 2017, the median cost of a home increased 17% and 19% in Rockingham County and Stratham, respectively, while the median cost in the state increased 10%. While data are not available for Newfields and Kensington, compared to its immediate neighbors, Stratham's median home sale price was third highest out of five communities (Figure 10).



Source: NHHFA Purchase Price Database

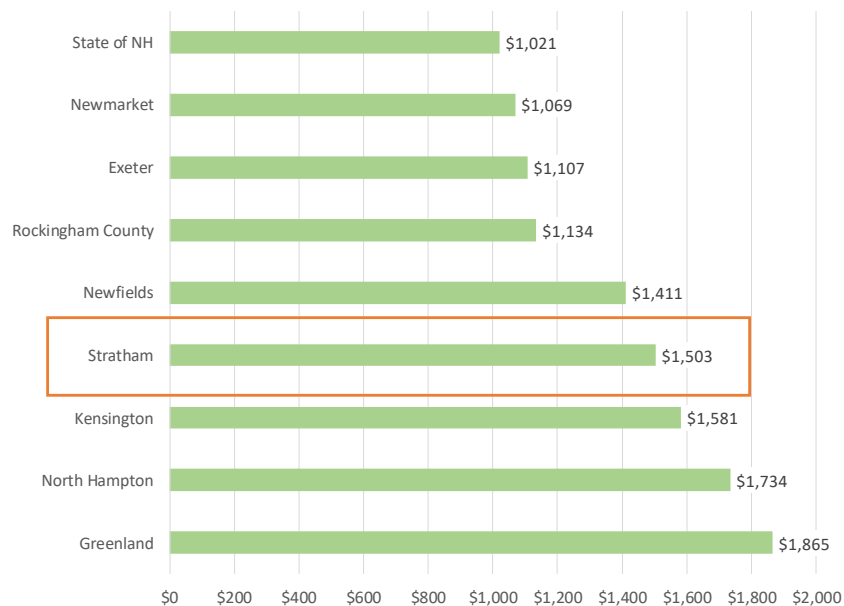
Figure 9. Median Home Sales Price: Stratham, Rockingham County, and State of New Hampshire, 2007-2017



* Median sales prices are not available for Kensington and Newfields. NHHAF notes that calculations based on a sample size of less than 50 are highly volatile and not considered valid. Source: NHHFA Purchase Price Database

Figure 10. 2017 Median Home Sales Price in Stratham, Neighboring Communities, Rockingham County, and State of NH

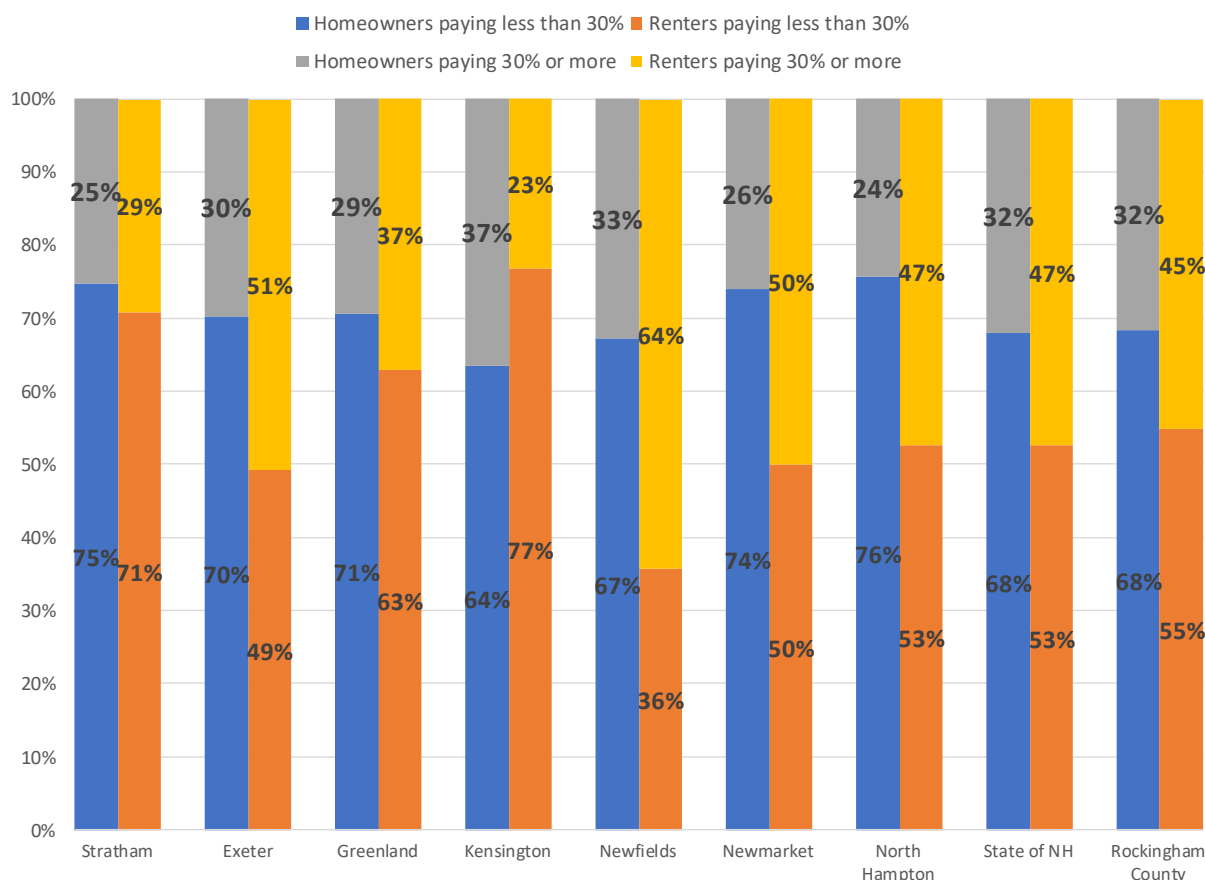
Gross rent in Stratham in 2016 was \$1,503, nearly \$500 higher than that of the state and \$370 higher than Rockingham County (Figure 11). Compared to its neighbors, Stratham ranked fourth highest out of seven, with cheaper rents than Greenland, North Hampton, and Kensington.



Source: 2016 American Community Survey 5-Year Estimates

Figure 11. 2016 Gross Rent for All Units in Stratham, Neighboring Communities, Rockingham County, and State of NH

One “rule of thumb” indicator of housing affordability measures the percent of income spent on housing. When aggregate housing costs (rent, mortgage, insurance, utilities, fees, real estate taxes, etc.) cost more than 30% of a household income, a household is considered to be “burdened.” In 2016, approximately one quarter of residents in Stratham with a mortgage and nearly 30% of renters were burdened with housing costs. The proportion of homeowners that are burdened with housing costs is similar in neighboring communities (Figure 12), between one quarter and one third. Higher proportions of renters are burdened, particularly in Exeter, Newfields, and Newmarket where more than 50% are paying more than 30% of household income on housing.



Source: 2016 American Community Survey 5-Year Estimates

Figure 12. Household Costs as a Percent of Household Income in Stratham, Neighboring Communities, Rockingham County, and State of NH

Workforce Housing

In 2010, the New Hampshire Workforce Housing law (RSA 674:58-61; Chapter 299, Laws of 2008 (SB 342)) went into effect. The law requires all municipalities to provide “reasonable and realistic opportunities” for the development of homes affordable to low- and moderate-income households. The New Hampshire Legislature recognized the shortage of affordable housing in the state and the negative impact on economic growth and the ability to expand the state’s labor workforce. Each community is required to develop strategies based on local conditions to meet the demand for workforce housing.

The Rockingham Planning Commission (RPC) evaluated the region-wide need for workforce housing in their 2015 Master Plan. According to their preliminary estimates, Stratham’s estimated fair share to meet the regional need in 2020 is approximately 130 units.¹⁵ This number is based on the needs of projected renters in Stratham with incomes lower than 80% of the area’s median income and homeowners with incomes 100% of the area’s median income, as determined by the NHHFA.¹⁶ Stratham is located in the Portsmouth-Rochester, NH US Department of Housing and Urban Development (HUD) Metro Fair Market Area (HFMA). 2019 income limits for eligible households are listed in Table 18. To date, workforce housing units have not been developed in Stratham.

Table 18. 2019 Area Income Limits for the Portsmouth-Rochester, NH Metro Fair Market Area (HFMA)

Income Limit	1-Person Household	2-Person Household	3-Person Household	4-Person Household
80% of AMFI* (moderate income)	\$52,850	\$60,400	\$67,950	\$75,450
50% of AMFI (low income)	\$33,050	\$37,750	\$42,450	\$47,150
30% of AMFI (very low income)	\$19,850	\$22,650	\$25,500	\$28,300

AMFI – Area Median Family Income

Source: NHHFA 2019 Area Income Limits

The basic requirements of RSA 674:58-61 essentially come down to:

- Provide reasonable and realistic opportunities for the development of workforce housing.
- Provide reasonable and realistic opportunities for multi-family housing (5+ dwelling units), including rental and ownership.
- Lot sizes and density requirements for workforce housing “shall be reasonable”
- Allow workforce housing on >50% of residentially zoned land area.

- *A Citizen’s Guide to Workforce Housing in Londonderry, NH*

¹⁵ 2015 Regional Master Plan for the Rockingham Planning Commission Region, Housing Chapter, Table HOU10 – Estimated proportionate fair share work force housing need in the RPC region (page 20). Available at http://www.rpc-nh.org/application/files/6014/6100/8417/6_RMPHousing.pdf.

¹⁶ 2019 Area Income Limits available at http://www.nhhfa.org/assets/pdf/hudincome_current.pdf; Stratham is within the Portsmouth-Rochester Metro Area.

Economic Development

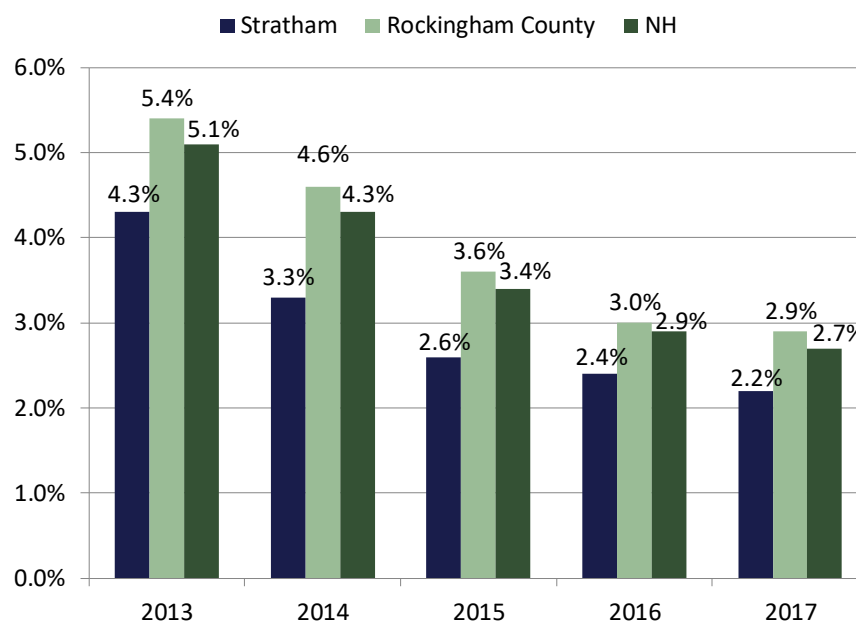
Economic development is how a community grows commerce and development in a way that supports business, adds jobs, and contributes to the fiscal health of local government. For small towns, it may focus more on local small businesses, entrepreneurs, and its unique assets, such as historic, cultural and natural resources, to be competitive. Business diversity can help understand if local businesses are serving the needs of residents and/or providing employment opportunities. Added to this, indicators such as the education attainment of residents, where they work, their annual pay, and the types of work they do can also be helpful in recognizing changes in needs, desired services, or other opportunities.

Supporting local economic development begins with identifying a community's assets, and requires continual investment in land development, workforce development, and infrastructure. An important component of a resilient local economy is a diverse business community with support for larger employers, small businesses, and entrepreneurs. Policies that support a clear path to establishing a business, identify which businesses are appropriate, and offer tools to help with complex development scenarios can be invaluable to both short and long-term success. Further, a community that invests in education and training, housing, infrastructure, and public services provides an environment that is conducive to private sector investment.

Stratham Labor Force

Employment

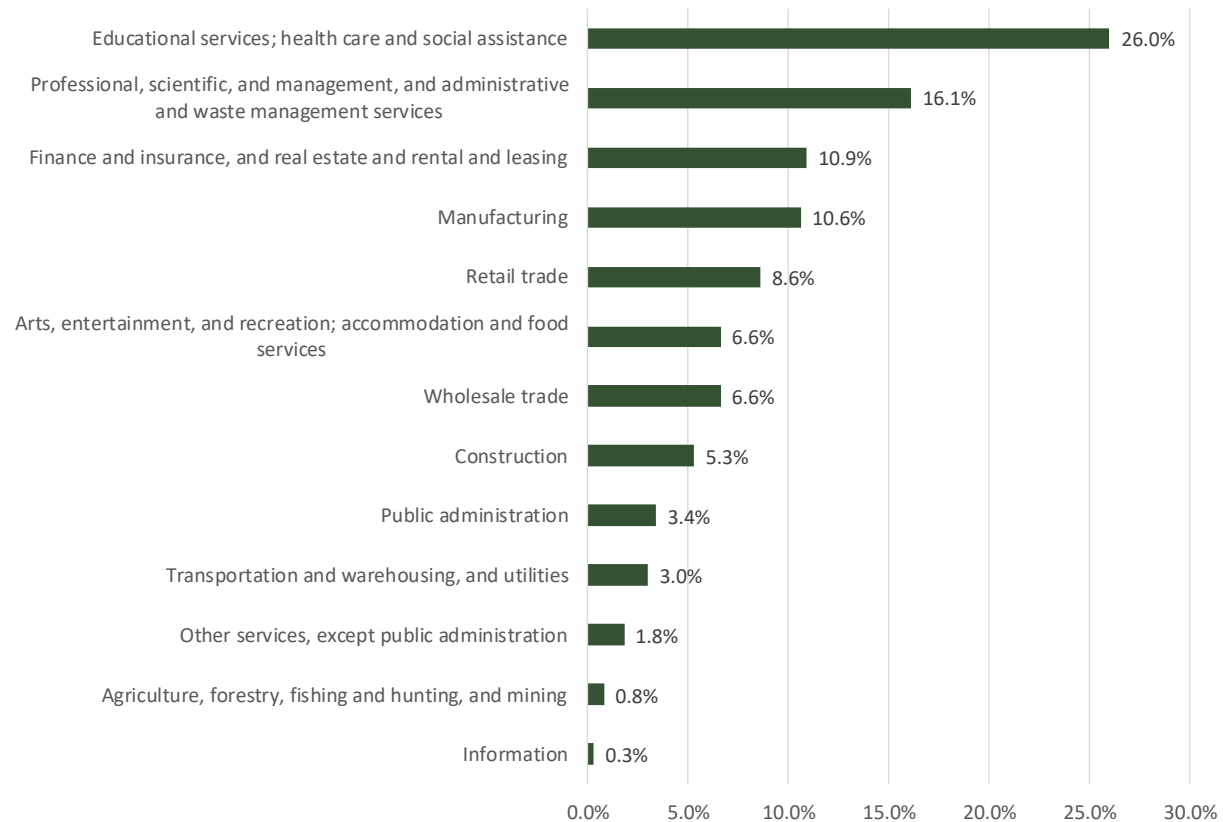
Over the past five years, Stratham residents have had steady employment. The unemployment rate in Stratham, Rockingham County, and the State of New Hampshire continues to decrease, with Stratham's rate, at 2.2% in 2017, consistently lower than the county and state (Figure 13).



Source: New Hampshire Employment Security, Economic & Labor Market Information Bureau

Figure 13. Local Area Unemployment Statistics (Not Seasonally Adjusted) for Stratham, Rockingham County, and State of NH, 2013 to 2017

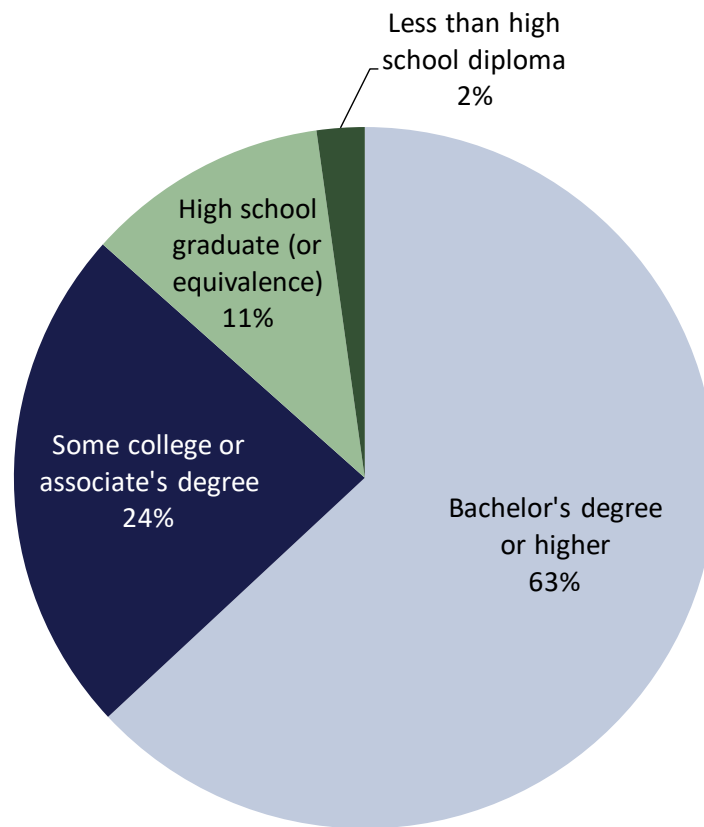
In 2016, one quarter of Stratham residents 25 years and older was employed in education or health care/social service professions (Figure 14). Other top professions and industries of residents were professional, scientific, and management/administrative; finance, insurance, and real estate; and manufacturing.



Source: 2016 American Community Survey 5-Year Estimates

Figure 14. Industries of Civilian Stratham Residents 25 Years and Older, 2016

Many of these professions require higher education, and Stratham residents are well educated. In 2016, nearly two thirds of residents 25 years and older had a bachelor's degree or higher (Figure 15) an increase of 13% since 2000 (Table 19).



Source: 2016 American Community Survey 5-Year Estimates

Figure 15. Education Attainment of Stratham Residents 25 Years and Older, 2016

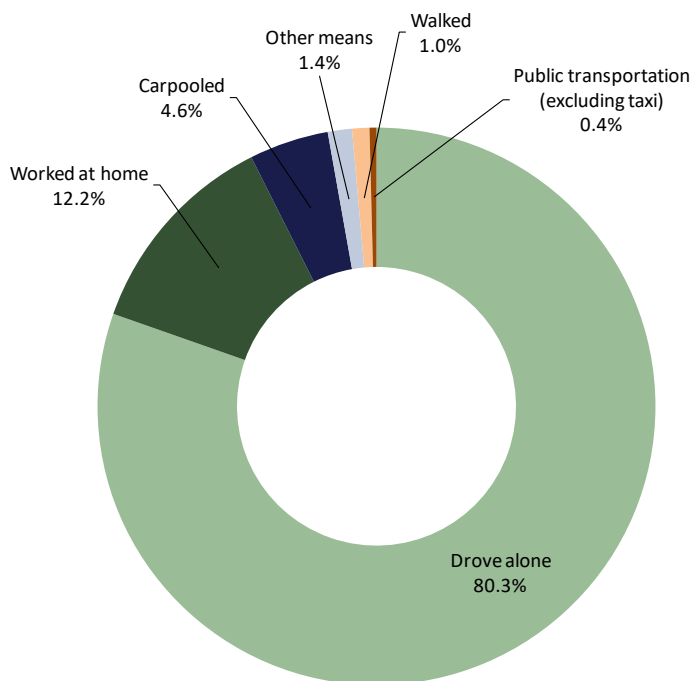
Table 19. Percentage of Stratham Residents 25 Years and Older Graduating from High School (or Equivalent) or Having a Bachelor's Degree or Higher, 2000-2016

	2000	2010	2016
Percent high school graduate or higher	96.1%	97.7%	97.8%
Percent bachelor's degree or higher	49.6%	57.8%	63.0%

Source: 2000 US Census, 2010 and 2016 American Community Survey 5-Year Estimates

Getting to Work

Most residents work outside of Stratham. In 2016, the median commute time was 30.1 minutes and most residents drove alone. Two thirds of residents worked within Rockingham County, 20% went out-of-state, and 12% commuted elsewhere in New Hampshire (Figure 16).



Source: 2016 American Community Survey 5-Year Estimates

Figure 16. Means of Getting to Work

Local Employers

According to the New Hampshire Employment Security, there were about 260 businesses in Stratham in 2016, employing over 4,300 people. The average weekly wage was just over \$1,000. Most of these businesses were in the service industry, specifically retail, administrative and waste services, and health care and social assistance.

Table 20. Annual Averages of Employment and Wages in Stratham, 2016

NAICS Code	Industry	Number of Businesses	Annual Average Employment	Average Weekly Wage
	Total, Private plus Government	266	4,354	\$1,067.34
	Total Private	260	3,934	\$1,076.56
101	Goods-Producing Industries	31	772	\$1,676.48
11	Agriculture/Forestry/Fishing	3	21	\$358.02
21	Mining	0	0	\$0.00
23	Construction	n	n	n
31	Manufacturing	n	n	n

NAICS Code	Industry	Number of Businesses	Annual Average Employment	Average Weekly Wage
102	Service-Providing Industries	229	3,162	\$930.20
22	Utilities	n	n	n
42	Wholesale Trade	25	85	\$1,404.14
44	Retail Trade	46	906	\$647.97
48	Transportation and Warehousing	3	17	\$672.58
51	Information	n	n	n
52	Finance and Insurance	13	42	\$1,311.54
53	Real Estate and Rental and Leasing	7	21	\$1,476.83
54	Professional and Technical Service	37	198	\$1,415.87
55	Management of Companies/ Enterprises	n	n	n
56	Administrative and Waste Services	32	683	\$501.16
61	Educational Services	n	n	n
62	Health Care and Social Assistance	24	360	\$657.73
71	Arts, Entertainment, and Recreation	3	46	\$537.84
72	Accommodation and Food Services	14	160	\$321.57
81	Other Services Except Public Admin	16	123	\$569.66
99	Unclassified Establishments	0	0	\$0.00
Total Government		6	420	\$980.95
	Federal Government	1	14	\$1,124.51
	State Government	1	8	\$742.23
	Local Government	4	398	\$980.68

n=data do not meet disclosure standards

Source: "Covered Employment and Wages" prepared by the Economic and Labor Market Information Bureau, NHES (<https://www.nhes.nh.gov/elmi/statistics/documents/citytown2016.pdf>)

Stratham has two international companies, Lindt Sprugli, Inc. and Bauer Performance Sports, which makes its global headquarters in Stratham. Lindt Sprugli, Inc. along with Timberland were the largest employers in town in 2016 (Table 21). All three of these companies are located in Stratham Industrial Park. Market Basket and Shaw's Supermarket are also large employers found on Portsmouth Avenue in the Gateway Business District.

Table 21. Largest Private Sector Employers in Stratham, 2016

Company	Product/Service	Number of Employees in Stratham	Year Established
Timberland	Clothing/sporting goods	650	1994
Lindt Sprugli, Inc.	Food/Beverage	250	1990
Market Basket	Supermarket	150	1981
Shaw's Supermarket	Supermarket	143	1975
Bauer Performance Sports	Clothing/sporting goods	50	1927

Source: Town of Stratham Economic Development Committee (<https://www.nhes.nh.gov/elmi/products/cp/profiles-pdf/stratham.pdf>)

Agriculture is also an important cultural and economic activity in Stratham. See Agriculture.

Municipal Finances

Compared to its neighboring communities, Stratham had the second-highest property values in 2017, with North Hampton just behind. Its total tax rate, \$20.30 per \$1,000 assessed valuation, fell in the middle of the group, with Exeter being the highest at \$26.77 and Greenland the lowest at \$16.64.

Table 5. 2017 Public Taxes for Stratham and Neighboring Communities

Municipality	Valuation	Valuation w/ Utils	Municipal	County	State Ed.	Local Ed.	Total Rate
Exeter	\$1,693,048,417	\$1,728,545,417	\$7.08	\$1.10	\$2.35	\$16.24	\$26.77
Greenland	\$712,820,780	\$736,572,080	\$3.38	\$1.06	\$2.31	\$9.89	\$16.64
Newfields	\$247,947,026	\$249,935,626	\$4.19	\$1.03	\$2.30	\$16.42	\$23.94
Newmarket	\$745,131,581	\$750,973,881	\$6.13	\$1.13	\$2.39	\$17.08	\$26.73
North Hampton	\$1,009,176,600	\$1,022,825,744	\$5.62	\$1.16	\$2.48	\$9.24	\$18.50
Stratham	\$1,236,421,059	\$1,262,710,059	\$3.83	\$1.03	\$2.34	\$13.10	\$20.30

Rates are per \$1,000 of assessed valuation.

Source: NH Department of Revenue Administration (<https://www.revenue.nh.gov/mun-prop/municipal/property-tax-rates.htm>)

Total municipal appropriates for 2017 were \$6,430,680, with actual expenditures of \$6,046,058. Proposed appropriates for 2018 were \$6,681,959.¹⁷ The Town has a five-year Capital Improvements Program, and in 2017 was approved at \$1,483,800.¹⁸

¹⁷ https://www.strathamnh.gov/sites/strathamnh/files/uploads/2018budget_0.pdf

¹⁸ <https://www.strathamnh.gov/board-selectmen/pages/capital-improvements-program>

Town Services

The Town of Stratham offers services to residents and businesses that protect the health, safety and welfare of the community. It also has facilities it owns and manages throughout town (Map 12). Non-profit and private entities also provide services to residents to meet social and economic needs.

Town Services

Highway Department

The Highway Department maintains the town's public infrastructure, including town-owned roads and cemeteries. This work includes repair and upkeep of road and street surfaces, street signs, sidewalks, surface and subsurface drainage systems, mowing and landscape maintenance, and winter maintenance (snow removal, salting, and sanding).

In 2016 and 2017, the department completed an inventory of road conditions and past maintenance and improvement activities.¹⁹ This inventory also assessed the state of guardrails, signs, culverts, and other infrastructure in the town. This report allows the department to evaluate and communicate present and future budgetary needs, and to effectively plan ongoing projects.

The Highway Department also provides construction and maintenance services, including masonry and carpentry, for all town departments.

Waste Management

Residential curbside pickup of trash and recycling is provided by a private contractor to the Town.

Residents are not required to sort recycling materials,²⁰ which enables paper, cardboard, plastic, glass, and metal to be collected together in one bin, eliminating the need to separate recyclables.

Residents can also purchase a permit to bring items directly to the Town's transfer station, which is also managed by the Highway Department. Acceptable items are:

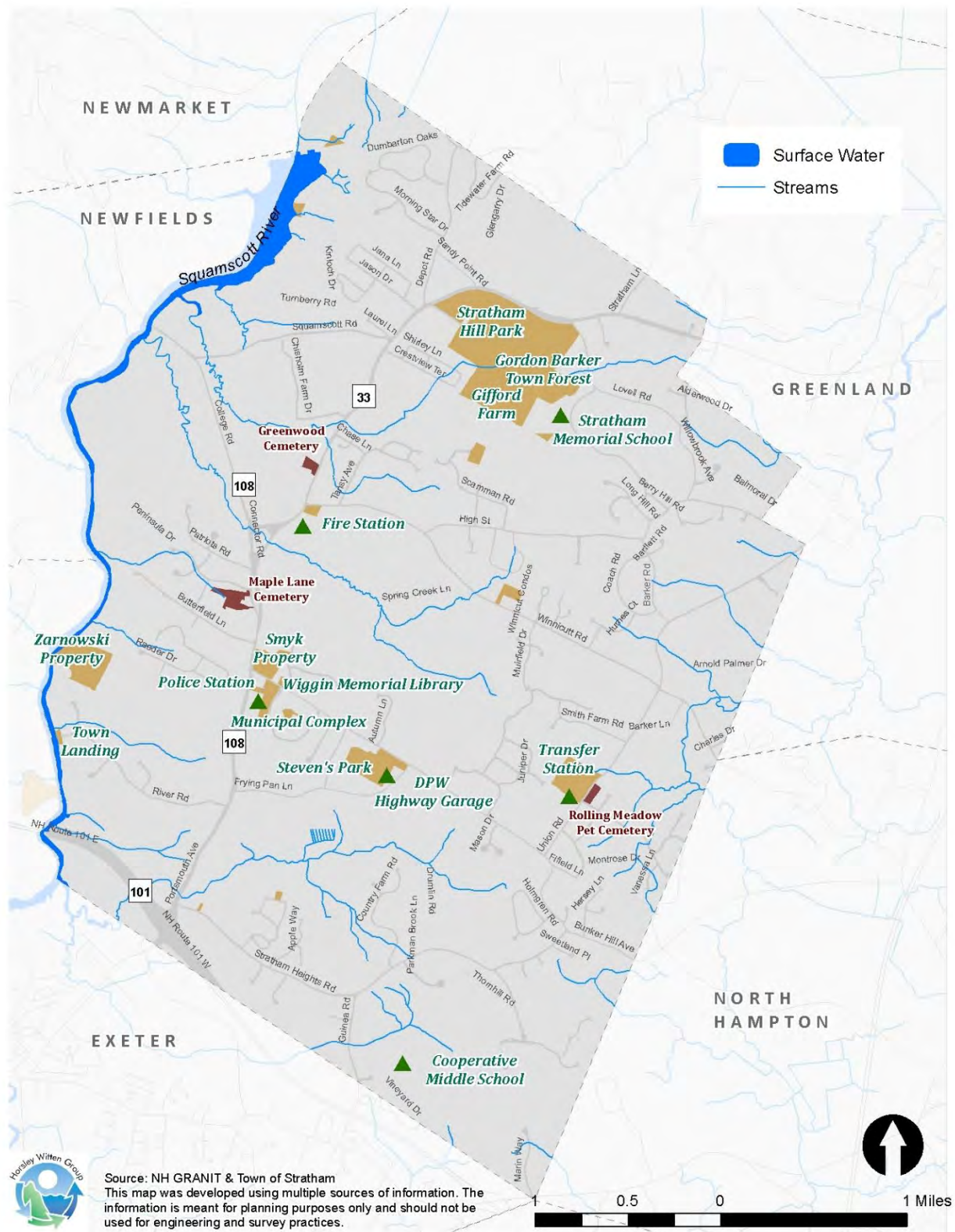
- Major appliances
- Electronics
- Metals
- Furniture
- Carpets
- Toilets
- Pick-up loads: based on bed size and material (wood, shingles, or sheetrock)
- Dump trailer loads, both single and tandem axles

Once a year, household hazardous waste is also accepted for free at the transfer station. The maximum amount of material collected is 20 pounds or 20 gallons. Acceptable waste includes:

- Anti-freeze
- Fuels

¹⁹ https://www.strathamnh.gov/sites/strathamnh/files/uploads/pavement_eval_full_report.pdf

²⁰ https://www.strathamnh.gov/sites/strathamnh/files/uploads/brochure-stratham-curbside_v03.pdf



Map 12. Town Facilities

- Oil-based paints, stains, varnishes
- Paint thinner & turpentine
- Wood preservatives
- Pesticides
- Household cleaning agents

Emergency Response

Emergency preparedness and response services in Stratham are provided by the Stratham Police Department, the Stratham Volunteer Fire Department, and the Town's Office of Emergency Management.

The Stratham Police Department currently employs 14 staff members, including one detective sergeant, five officers, and a school resource officer, among others. In addition to daily service, the Stratham Police Department also provides other important community services, such as educational services to students and assistance at events in town.

Fire protection in Stratham is provided by the Stratham Volunteer Fire Department. It was organized in 1951 and provides emergency care for Stratham and supports neighboring towns when the need arises.²¹ The department is made up of nine paid fire fighters, which staff the station during the day, and three EMS providers. Evenings and weekends are staffed by 100 volunteers. The department operates through public funds and annual fundraisers, like the Stratham Fair. In addition to fire-fighting services, the department also offers reflective address signs, burn permits, fire prevention tips, and other community services.

The Town's Office of Emergency Management is staffed by three town employees. This office is responsible for coordinating with regional and state level emergency response partners, as well as with other town departments in Stratham. The office maintains and updates a list of town residents that require assistance during emergency events and works with town employees and volunteers to provide this assistance. The office also supplies educational materials regarding emergency preparedness and response on their website.

Wiggin Memorial Library

The Wiggin Memorial Library was first established in 1912 and moved to its current location on Bunker Hill Avenue in 1989. Library cards are available at no fee to all residents, which allow access to the collections, online services, and museum passes. It offers diverse programming for all ages and interests from knitting classes for elementary school-aged children to computer classes for adults.

The Library has designated child and teen rooms and holds events for all age groups. Meeting rooms are also available and can be reserved with a library card or in coordination with library staff. Because the library is open in the evening hours, demand is high for these spaces by the many local volunteer and community groups as well as tutors.

In 2012, on its 100th anniversary, the Friends of the Library and town employees compiled its 2015-2020 Strategic Plan,²² outlining their goals for the future of the library, which included: increasing

²¹ https://www.strathamfire.org/inside_history.html

²² <https://www.library.strathamnh.gov/sites/strathamlibrary/files/uploads/strategicplan.pdf>

programming and collections, providing access to technology, and maintaining staff that can assist all users. This five-year plan reinforces the library's commitment to the Town of Stratham and its residents as a community focal point and resource. In 2018, they were recognized for this dedication. Wiggin Memorial Library was named one of 14 library finalists for the National Medal for Museum and Library Service, the highest honor given to museums and libraries for service in the community.²³ Highlights of the nomination included its dedication to building community through programs, involvement in town government and local organizations, and outreach to schools, special needs residents, veterans, and people of all ages.

Education

Public Schools

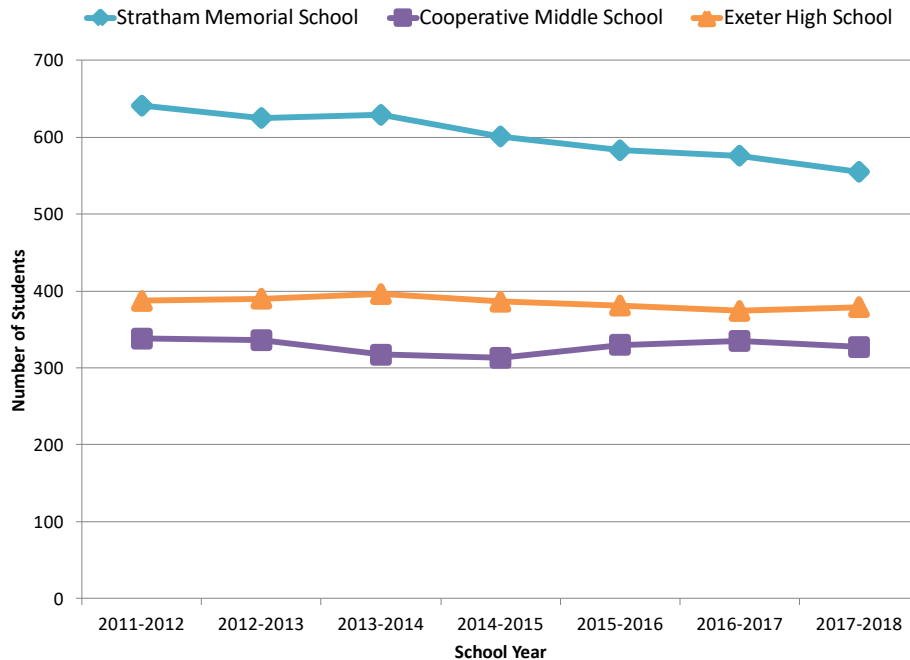
The Town of Stratham is part of New Hampshire School Administrative Unit 16 (SAU #16), which is made up of seven independent school districts: Brentwood, East Kingston, Exeter, Exeter Region Cooperative, Kensington, Stratham, and Newfields. Each town/district elects its own school board and that board is responsible for its elementary school district. The Stratham Elementary School District has one elementary school, Stratham Memorial School, which serves pre-school through grade 5 students. In April 2018, total enrollment was 537. This represents a decrease from earlier in the decade, with peak enrollment of 641 in the 2011-2012 school year (Figure 17). An additional eighteen children attend the pre-school program.²⁴

Students from Exeter, East Kingston, Kensington, Brentwood, Stratham, and Newfields attend the Exeter Region Cooperative School District (ERCSD), which includes the Cooperative Middle School (grades 6 to 8, located in Stratham), Exeter High School (grades 9 to 12), and the Seacoast School of Technology (SST). SST also serves Vocational Region #18, and has students from Epping, Exeter, Newmarket, Raymond, Sanborn Regional (Kingston), and Winnacunnet (Hampton) High Schools. Approximately 650 students from the region are enrolled in its programs. In April 2018, Stratham students represented roughly 25% of the middle and high school's total population with 327 and 379 students in attendance at each school, respectively (Figure 17). Attendance in upper grade schools has remained more level than enrollment at the elementary level.

In addition to the public schools part of SAU#16, Great Bay Charter School (grades 6 to 12) is supported by the ERCSD along with the Derry and district. It opened in January 2005, initially only serving 9th grade students from ERCSD. The first graduating class was in 2008, and since then has had 313 graduates. The charter school is located in the former Exeter Area High School building (Exeter High School Annex). It has a strong relationship with ERCSD, in that it participates in ERCSD food service, Powerschool student information system, and other ERCSD/SAU #16 programs, paying for its portion of program involvement based upon the charter school's use. Its students can also attend SST.

²³ <http://www.seacoastonline.com/news/20180305/wiggin-memorial-library-finalist-for-national-medal>

²⁴ http://www.sau16.org/content/AprEnrollReport_2018.pdf



Source: SAU16 Student Enrollment Reports, available at <http://www.sau16.org/index.php/home/sau-16-enrollment>

Figure 17: Stratham Student Population at Stratham Memorial School, Cooperative Middle School, and Exeter High School, 2012-2018

Private Schools

There are several private schools in Stratham serving diverse age groups and needs. These include the following:

- Acorn School: Pre-kindergarten, children must be at least 3 years old
- The Cornerstone School: Montessori school for toddlers through junior high
- Richie McFarland Children’s Center: Center providing early childhood education and therapeutic support for toddlers with developmental disabilities
- Stratham Community Learning Center: Before and after school care for pre-kindergarten through elementary

Adults

Also available through the ERCSD is the Exeter Adult Education Program. It offers a variety of courses to resident and non-resident adults 18 years and older, including free basic skills (reading, writing, and math), HiSET high school equivalency test preparation, personal and professional development courses, and English for Speakers of Other Languages classes.²⁵

²⁵ <http://www.sau16.org/index.php/school-boards/exeter-region-coop>

Civic Life

Social Services

Support for residents experiencing homelessness with children under the age of 18 is served by the Seacoast Interfaith Hospitality Network, which is headquartered in Exeter.

Shelter, meals, and transportation are provided by a variety of local places of worship, with the support of faith leaders and volunteers. Services are also available in the nearby towns of Exeter and Portsmouth.

The Stratham Seniors

The Stratham Seniors is a local social organization open to all seniors of Stratham and surrounding communities. Meetings are held the third Tuesday of each month from September to June at the Stratham Fire Station municipal room. A potluck lunch is provided by members followed by informational speakers or programs. Fun field trips are planned by the Stratham Parks and Recreation Department. Informative fliers with telephone numbers are available at the Stratham Wiggin Library.

New Hampshire SPCA

Founded in 1872, the New Hampshire Society to Prevent Cruelty to Animals (NHSPCA) in Stratham is the oldest animal welfare organization in the state. NHSPCA promotes the rescue, rehabilitation, and adoption of animals and advocates for investigations into animal cruelty and stronger policies that protect animals. It runs an adoption center, holds behavior training for pets and their owners, offers humane education and community programs, and organizes other activities and events that support its mission.

Stratham Volunteer Fire Department Association & Ladies Auxiliary

The Stratham Volunteer Fire Department Association and Ladies Auxiliary are two organizations that support the local volunteer fire department. The Association ensures members of the department have adequate equipment, supplies, and training to respond to emergencies. It does this through fundraising efforts.

The Ladies Auxiliary are volunteers and usually wives of firefighters. While not qualified to respond to emergency medical or fire calls, they provide support to the firefighters during large-scale emergencies, such as refreshments and other aid. They also assist in organizing fundraisers that support the purchase of equipment and cover expenses incurred during emergencies. They also run the 911 Reflective Sign Program, which promotes mounting reflective address signs at or near the roadside of each home in Stratham. These signs allow police and emergency vehicles to quickly identify properties at night from a distance.

Youth Groups

There are many diverse groups for Stratham youth of all ages and interests. Below is only a partial list:

- Seacoast VeloKids
- Youth programs organized by the Parks and Recreation Department, including the Coyote Club, summer camps, and ski programs
- SPCA Learning Center
- Youth sports organizations
- 4-H
- Boy and Girl Scouts

Recreation

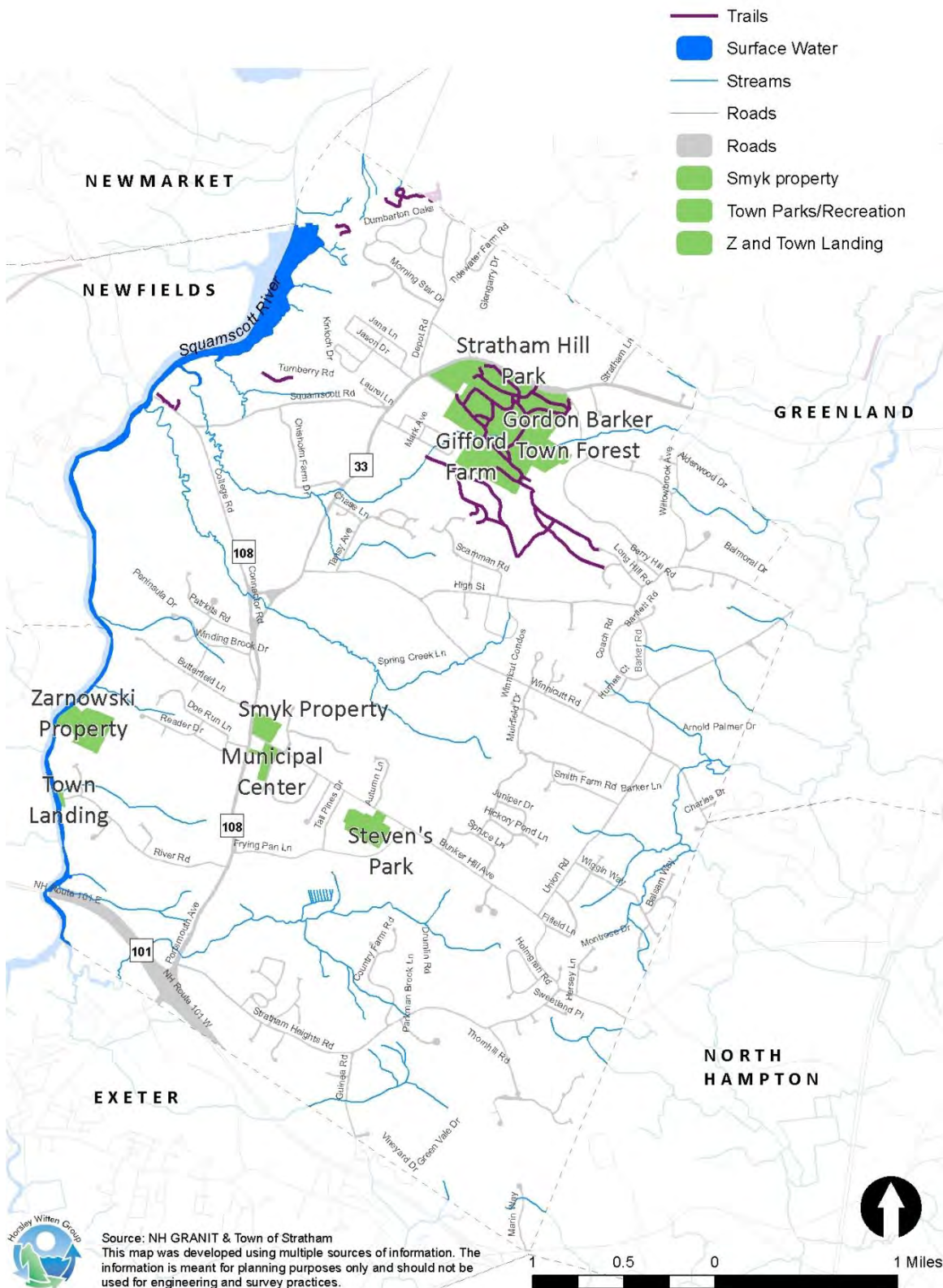
Recreation, as a municipal service, focuses on developed facilities such as playgrounds, baseball fields, and basketball courts as well as organized programming offered through the Stratham Parks and Recreation Department. These resources also include state facilities and those owned and managed by private businesses. Access to all these opportunities is important to quality of life in Stratham and draws visitors from neighboring communities and the region.

Recreational Resources

Stratham contains a variety of recreational resources maintained by the Town, State, school district, and other groups or businesses. The following are recreational resources available in Stratham:

- **Stratham Hill Park** is a major center for year-round recreation. The park contains trails for hiking, snowshoeing, and mountain biking as well as sports fields and courts, skating rink in the winter, picnic areas, and a scenic observation tower. It is the site of most of the town's youth and adult sports activities. Pavilions can be rented for events from May to October. The park is also the site of yearly community events like the Easter Egg Hunt, Memorial Day parade and ceremony, Family Fun Day, and trail running and biking series through the spring and summer months. It is also home of the Stratham Fair.
- The **Cooperative Middle School** sports fields and ropes course are available to the town's students and occasionally to adult members of the community for recreational purposes.
- The **Stratham Memorial Elementary School** has a playground, a basketball court, and a large open field for physical education classes, town sponsored recreation, and unstructured play.
- The **Squamscott River** is the site of significant recreational opportunity for the Town. Public access is available at the **Town Landing** and **Chapman's landings**. Chapman's Landing, located on College Road, is managed by the New Hampshire Fish and Game Department and features a universally accessible platform with viewing scope. Small and medium sized boats, including canoes, kayaks, and small motor boats can use this area to access the river. The Town Landing also has picnic areas and benches.
- The **Great Bay Discovery Center** is located on the border between Stratham and Greenland. The center provides family friendly recreational access to the Great Bay estuarine environment. The Center, located in Greenland, contains interpretive exhibits for adults and children about the animals and environment of Great Bay, including a hands-on estuarine discovery tank. Universally accessible trails and boardwalks wind through terrestrial forest and marshland environments. Visitors can see replicas of historic ways of life, explore gardens, and observe wildlife, including populations of wintering eagles.
- **Steven's Park** provides a variety of recreational opportunities for Stratham residents. The park's tennis courts and playground are available for public use, and fields are often used for town-sponsored recreational activities.

Table 22 lists the facilities available at town-managed and owned parks. These areas are also shown on Map 13.



Map 13. Town-Managed and Owned Recreation Facilities

Table 22. Facilities at Town Parks

Town Park	Facilities
Steven's Park	2 soccer fields Bath Ruth field Softball field 2 tennis courts Playground
Stratham Hill Park	2 ball field diamonds (60' base paths) Space for 1 large soccer fields when baseball outfield areas are included (or potentially 5 junior soccer fields for primary grade use) Paved basketball court Lighted, outdoor skating rink area and warming hut 3 pavilions with picnic tables, including one large pavilion with toilet facilities and a second pavilion 2 playgrounds 3 concession/storage buildings Horse pulling area/a natural amphitheater 2 garage/storage buildings (a one bay and a two bay structure) 3 4-H buildings (2 open-stall animal pavilions and 1 large enclosed exhibition hall) 2 fenced corrals near the middle of the 4-H buildings; Caretaker's residence David C. Noyes Concert Stage Seasonal handicap toilet facilities Large parking lot and 2 small parking areas
Gifford Farm Property	Trails Large farmhouse and barn (available for rent) Passive recreation Dog park Agricultural land leased for farming activities
Municipal Center	Indoor program and activity space Playground Softball field
Town Landing	Parking for cars and trailers Boat launch Picnic tables

Source: Parks and Recreation Department

Trails

The largest network of trails in Stratham is located in Stratham Hill Park and in abutting properties. Trails in this area are accessible on foot or bicycle. The Town Forest has a number of trails that are used daily in the warmer months by hikers and runners, and in winter by cross-country skiers and cyclists. A high priority was also placed on the elementary school's increased use of the property for educational use. The Conservation Commission would like to establish additional educational trails to help children and residents learn to identify tree species and understand their values.

Town-Organized Recreation Programs and Events

In addition to Stratham's recreational resources, residents have the opportunity to participate in a variety of organized events and activities. The following list of events is not all-inclusive but highlights the diversity of interests in Stratham.

- **Stratham Fair:** Perhaps the most notable yearly event in town is the Stratham Fair. It is held each July in Stratham Hill Park and attracts over 20,000 people each year.²⁶ The fair serves as the primary fundraiser for the Stratham Volunteer Fire Department and features agricultural and commercial exhibits, as well as a midway, musical events, and other features. See **Family Fun Day:** In October, the Stratham Parks and Recreation Department and the Stratham Memorial School Parent Teacher Organization hold Family Fun Day at Stratham Hill Park. The day includes sporting events, backyard games, face painting, hikes, music, and fireworks. See Agriculture.
- **Snowshoe Hikes:** As long as there is snow on the trails, the Parks and Recreation Department organizes evening snowshoe hikes for all ages throughout the winter during the full moon. After the hikes, there is a bonfire and hot chocolate.
- **Youth Programs:** The Parks and Recreation Department offer a variety of recreational opportunities to town youth. Programs include youth sports, like soccer, basketball, baseball, and softball. In the winter, the town offers a weekly ski program for middle school age residents. In the summer, a recreation day camp is offered, along with a variety of special interest camps.
- **Senior Programs:** The Parks and Recreation Department also offers several programs for the town's elderly population. Programs include the Bone Builders exercise program, nutrition programs, and social programs.
- **Adult Recreation:** Stratham offers several opportunities for organized adult recreation. Men's basketball is offered throughout the school year at Stratham Memorial School and tennis lessons are offered at Steven's Field. Trips to locations like Portland, Boston, and the New Hampshire Lakes Region occur throughout the year. Trips and most other activities are available at a discount to Stratham residents, and also to residents of surrounding towns.
- **Cycling Programs:** Stratham sponsors a variety of programs that promote mountain and road biking at Stratham Hill Park. These events include the Gordon Barker Bike Series, neighborhood bike rodeos, and introduction to mountain bike courses. Take a Kid Mountain Biking Day is an annual family event in May that includes group trail rides, biking skills stations, races, safety clinics, and bike demos for all ages.
- **Running Programs:** 5K and 10K road races are also organized at Stratham Hill Park. Races are held weekly in May.

²⁶ <https://www.strathamfair.com/about/>

Transportation

A community's transportation network (moving people and goods from one place to another) encompasses all modes: automobiles, public transit, walking, and biking. In a rural community, some modes are more available and used more frequently than others. Accessibility and the condition of infrastructure influence how well the network supports the town's connectivity goals. Equally, these factors impact the social and physical well-being of residents and reaching needed goods and services.

Typical in rural communities, residents are more reliant on personal cars to get where they need to be. Services may not be offered and they travel further to more suburban and urban areas for shopping and work. Stratham, while rural, has services for residents within town or in nearby Exeter. Albeit limited, there is regional public transportation and other services to help those who cannot drive, own a car, or have access to a car.

Roads and Traffic

NH 101 passes through the southern tip of Stratham, providing easy access to Interstate 95 to the east.

Portsmouth Avenue (NH 108), classified as a Primary Arterial roadway, has the highest traffic volumes in Stratham. According to the New Hampshire Department of Transportation (NHDOT), its annual average daily traffic grew incrementally between 2014 and 2016 but decreased in 2017.

Table 23. Annual Average Daily Traffic (AADT) on NH 108 (Portsmouth Avenue) South of Raeder Drive and NH 33 (Portsmouth Avenue) East of the Traffic Circle, 2007-2017

NH 108 (Portsmouth Avenue) South of Raeder Drive (Northbound and Southbound)			NH 33 (Portsmouth Avenue) East of Traffic Circle (Eastbound and Westbound)	
Year	AADT	Annual Growth*	AADT	Annual Growth*
2017	20,574	-7%	13,874	-6%
2016	22,063	2%	14,708	2%
2015	21,630	3%	14,420	3%
2014	21,000	-3%	14,000	-
2011	23,000	-	-	-
2010	-	-	14,000	0%
2008	23,000	-	-	-
2007	-	-	14,000	-

* If no AADT values were available, the average of all 24-hour volume counts that are not marked as abnormal for that year were used. Source: NHDOT Transportation Data Management System, Online Data viewer available at <http://nhdot.ms2soft.com/tcds/tsearch.asp?loc=Nhdot&mod=>

Walking and Biking

Stratham has minimal amenities for pedestrians and cyclists on its roadways, such as sidewalks and bike lanes. Roadways, including the right-of-way, are narrow and goods and services are spread out. Sidewalks are only found along Portsmouth Avenue in the Gateway District, Stratham's commercial center, but even there they are not contiguous or connected and, therefore, do not provide safety for walkers. There is only one pedestrian signal and crosswalk across Portsmouth Avenue in this area, however it is not clearly marked and expansive. Its location at Stratham Heights Road requires a pedestrian to cross ten lanes, including the pull-off lane for the NH 101 north onramp.

Trail networks offer hiking and mountain biking opportunities but are primarily designed and located for recreational use.

There are no designated bike lanes on Stratham streets. Shoulders along Portsmouth Avenue and College Avenue are wide, but traffic volumes and speeds, along with roadway configuration, make biking dangerous. Most other roadways in town are narrow and winding, also unsafe for cyclists.

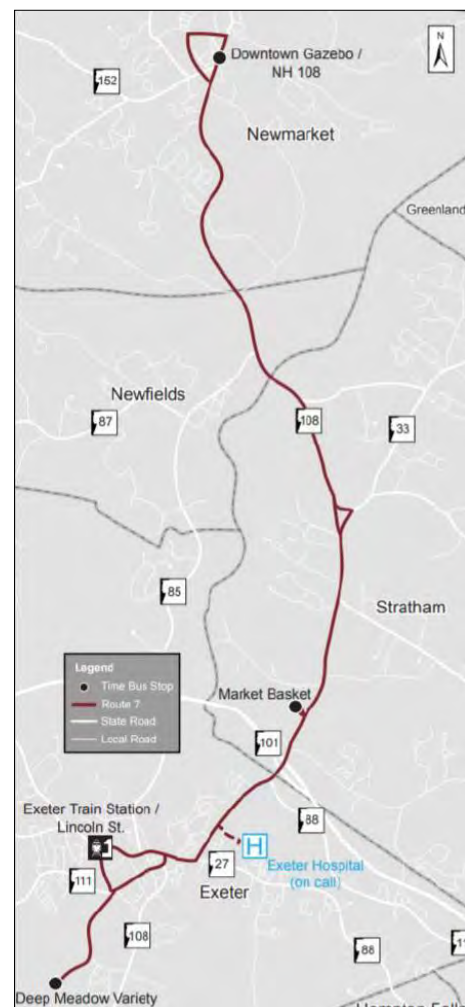
Regional Transportation

COAST Bus Service

Stratham is located along Route 7 of the COAST bus system, which travels along NH 108. Route 7 provides as-needed bus service to riders. Reservations are accepted up to two weeks before the ride; however, same day reservations are not allowed. Riders can be picked up in the Market Basket parking lot for a fee of \$1.50, or anywhere within a ¾ mile radius of the stop for \$3.00. The bus takes riders south to Exeter or north to Newmarket, where riders can transfer to the Wildcat Transit services run by the University of New Hampshire. Stops in Exeter include those at the train station, YMCA, Exeter Hospital, and the downtown area. COAST also offers paratransit services for people with disabilities.²⁷

TASC

Transportation Assistance for Seacoast Citizens (TASC)²⁸ provides transportation for individuals 55 years old and older or adults with a disability that prevents them from driving. Services are offered to residents in the communities of Exeter, Brentwood, Greenland, Hampton, Hampton Falls, Kensington, North Hampton, Rye, Seabrook, and Stratham. Drivers are volunteers.



Source: coastbus.org

²⁷<https://coastbus.org/sites/default/files/pdfs/Route%207%20Public%20Information%20Meeting%20Presentation.pdf>

²⁸ <https://www.tasc-rides.org/>

Tools for Improving Mobility

The Stratham Pedestrian and Cyclist Advocacy Committee promotes walking and biking as inexpensive and universal activities for residents of all ages to live healthy lifestyles, but also as an alternative way to commute to work and school. To meet these objectives, the Committee works with town departments to improve pedestrian and cyclist safety by advocating for needed infrastructure through town planning and local regulations.

The Gateway Design Guideline Manual promotes sidewalks as an important component of the local transportation network. It provides guidance on their use and design to connect residential and commercial areas as a way to promote walking and biking in a more compact development scenario.

Projects at New Hampshire DOT

NHDOT has three projects scheduled on state-owned roads in Stratham (Table 24).

Table 24. Projects in the Planning Stage at NHDOT

Main Route	Description	Status	Anticipated Year of Completion
NH108/Bunker Hill Avenue	Signalization, Turn Lanes and Intersection Realignment at the NH108/ Bunker Hill Intersection	Planning	2028
Winnicutt Road	Resurfacing various roadways in Districts 2 and 6	Planning	2019
NH 33 at Squamscott Road	Replace signal equipment damaged by motor vehicle crash	Planning	Unknown

Source: NHDOT GIS Planning Project View, obtained December 17, 2018; NHDOT Ten Year Transportation Improvement Plan, 2019-2028

Attachment A

The following lists of historic resources are partial lists provided during the early phases of the 2019 Master Plan Process. In the adopted Master Plan, Strategy 3.a under Historic Resource Preservation reads: “Complete a town-wide survey of historic resources and create an interactive online map of historical resources in our Town.” While the attached lists are not complete, they will serve as an important resource for pursuing this strategy.

NOTES FOR TABLE TO ACCOMPANY
THE HISTORIC SITES INVENTORY MAP

STRATHAM MASTER PLAN

NOTE: (1793) refers to Phinehas Merrill map of 1793

(SHS 1985) refers to the Stratham Historical Society map and list of 1985

(SHS 2001) refers to the Stratham Historical Society list of properties on the Phinehas Merrill map of 1793 still standing in 2001

(T.A.) refers to record of town assessor.

This list prepared by Rebecca Mitchell, Stratham Heritage Commission. Jan. 2008

1. 53 Depot Road. Ca 1767 (SHS 1985)
2. 38 Depot Road. 1726 (T.A.)
3. 21 Depot Road. On land from his father; house was moved to present site from 3A (SHS 1985).
4. 10 Sandy Point Road. J. Piper (SHS 2001)
5. 273 Portsmouth Avenue. Francis & Eleanor Durgin (SHS 1985)
6. 291 Portsmouth Avenue.
7. 321 Portsmouth Avenue. Presently Saltbox Farm.
8. 57 Lovell Road. 1830 (T.A.)
9. 81 Willowbrook Avenue. 1800 (T.A.)
10. 91 Willowbrook Avenue. Otis French – 1873 (SHS 1985). 1870 (T.A.) Site of N. Avery house (1793)? Barn across the street was built in 1865; at one time it contained a cider mill and a chair factory (SHS 1985).
11. 109 High Street.
12. 267 Portsmouth Avenue.
13. 249 Portsmouth Avenue. Widow S. Wiggin (SHS 2001).
14. 245 Portsmouth Avenue.
15. Stratham Hill School. Date? 240 Portsmouth Avenue. Also known as District 2 School. At, or near, the site of one of the town's original schools.
16. 17 Jack Rabbit Lane. Purchased by town in 1985 (?), known as Gifford Farm.
17. 219 Portsmouth Avenue.
18. 217 Portsmouth Avenue.
19. 228 Portsmouth Avenue. J. Weeks (SHS 2001).
20. 218 Portsmouth Avenue. Heirs of J. Jewett (SHS 2001).
21. 200 Portsmouth Avenue. Joshua Hill. Circa 1725. He bought 30 acres from Jonathan Wiggin. He was a carpenter and probably built his own house. W. Weeks (1793).
22. 66 Squamscot Rd. Andrew Wiggin. 1600s? Andrew Wiggin, son of Gov. Thomas Wiggin, built what became the rear ell, possibly dating back to the 1600s. The front portion of the house was built by Caleb Wiggin.
23. 85 College Rd. Jonathan Wiggin. Circa 1720. Jonathan Wiggin had a tavern here in 1721. L. Wiggin (1793)
24. 83 High Street. Gowen Farm. 1900 (T.A.) RPC map and table (1997) has this as site of N. Barker house (1793). SHS 1985 shows that site more to the N.E.

25. 28 Barker Rd. Barker Homestead. Ca. 1846. Ezra Barker (1793) home may remain in rear ell.
26. 18 Winnicutt Rd. A. Wiggin (1793) Ca. 1735 (T.A.)
27. 58 Winnicutt Rd. Nathaniel Wiggin (1793) Ca. 1740 (T.A.)
28. 7 High St. Capt. J. Wiggin (1793) Ca. 1700 (T.A.)
29. 160 Winnicutt Rd. Thomas Veasey Ca. 1720. Believed to have been a stop on the underground railroad.
30. 173 Winnicutt Rd. Capt. D. Jewell (1793) On 1793 map. Believed to have been a tavern at one time.
31. 3 Barker Lane. Deacon M. Clark (1793) Ca. 1750 (T.A.)
32. 73 College Avenue. S. Wiggin (1793) On Stuart Farm.
33. 156 Portsmouth Avenue. Rev. J. Miltmore (1793) Ca. 1783 (T.A.)
34. 154 Portsmouth Avenue. S & M Thurston (1793) Ca. 1790 (T.A.)
35. 80 R Winnicutt Road. E & L Hoag (1793) Date? Included in SHS 2001, but T.A. dates ca. 1820.
36. 1B Smith Farm Road. T. Smith (1793). 1731 (T.A.)
37. 139 R Portsmouth Avenue. Col. H. Rust (1793) 1786 (T.A.)
38. 132 Portsmouth Avenue. Jabez Lane 1807 When his father, Samuel Lane, died in 1806, Jabez Lane tore down his father's house and built the present structure in 1807 (Jerald E. Brown, The Years of the life of Samuel Lane, 1718-1806. Univ. Press of New England, 2000). On NHRP.
39. 129 Portsmouth Avenue. Andrew Lane. 1820 (T.A.) Son of Jabez Lane
40. 2 Emery's Lane. Hon. P. Wingate. 1800 (T.A.) According to SHS 2001 only the barn dates to 1700s.
41. 6 Emery's Lane. Stratham Community Church. 1837. This church dates from the time of the town charter. Its first house of worship being built in 1718. This was replaced by a new building in 1768 and by the present one in 1837. All occupied the same spot. A town cemetery is next to it. The Baptist Church (ca. 1840) was moved next to the Community Church in 1983. Its original site is at (enter #) (SHS 1985).
42. 16 Emery's Lane. David Hanniford. Circa 1738. Known as Chase's Tavern (Chace's Inn, 1793). First town meeting held here.
43. 100 Portsmouth Avenue. George Veasey (1793). Circa 1741-58 (SHS 1985)
44. Portsmouth Avenue. J. Wingate (1793) Site only?
45. 82 Portsmouth Avenue. Bartlett Homestead. 1805(T.A.) Benjamin Leavitt first had a house here -- ca. 1709-33. Present house was the Bartlett Homestead in 1850 (SHS 1985).
46. 45 Bunker Hill Avenue. Stockbridge (1793) 1894 (T.A.) On SHS 2001 list.
47. 47 Bunker Hill Avenue. Stockbridge (1793) 1770 (T.A.) On SHS 2001 list.
48. 51 Bunker Hill Avenue. Stockbridge (1793) 1960 (T.A.) SHS 2001 lists this as Stockbridge. This may not be correct. Name on map at this location looks like Foss.
49. 97 Bunker Hill Avenue. Bunker Hill Orchard. 1800 (T.A.) SHS 2001 lists as J. O'Del.

50. 114 Bunker Hill Avenue. Joshua Lane. 1800 (T.A.) RCP map and table (1997) identifies this as the Joshua Lane house from 1793 map with the note that present location is on opposite side of road from position on 1793 map. Not in SHS 2001.
51. 137 Bunker Hill Avenue. Wiggin Farm. 1740 (T.A.) Built by David Robinson after 1717. In 1769 his will gave "all my land and buildings in Stratham to my great grandson, David Wiggin (SHS 1985)". Ensign D. Wiggin (1793). National Bicentennial Farm (T.A.)
52. 11 Fifield Lane. Col. Fifield (1793) 1900 (T.A.) Included in SHS 2001, but not clear this is 18th c. house.
53. 69 Portsmouth Avenue. Scamman Farm. 1820 (T.A.) Col. E. Ladd owned a house at or near this location (1793). See also NHDHR Inventory #33-35-388+ (1998).
54. 25 River Road. Richard Scammon (ca.1836) 1812 (T.A.)
55. 72 River Road. Richard Sinclear. Circa 1728. Variant spelling is Sinkler. Built on land left to him by his father, James. R. Sinclear on 1793 map.
56. Site of Town Landing, past and present.
57. 11 Stratham Heights Road. Goodrich Farm. 1750 (T.A.) J. Clark lived here before 1793 (SHS 1985).
58. 25 Stratham Heights Road. B. Clark. (1793) 1705 (T.A.)
59. 83 Stratham Heights Road. Major J. Smith. Circa 1806. SHS 2001 lists Folsoms here (1892).
60. 94 Stratham Heights Road. Jo. Stevens. Circa 1783. 1879(T.A.) SHS 2001 lists as house dating to at least 1793.
61. 74 Bunker Hill Avenue. Ford Merrill (1793) 1800 (T.A.) Barn only remains from 1793 (SHS 2001).
62. 158 Portsmouth Avenue. George A. & Emma B. Wiggin Library. 1911. On NRHP. Currently home of Stratham Historical Society.
63. 193 Bunker Hill Avenue. A.Tilton (1793) Included in SHS 2001.
64. 159 Portsmouth Avenue. The Elms. Circa 1875. A resort hotel known for the reputedly curative properties of the local sulfur water.
65. Keep the same as former #73. Add note: A late 20th c. bridge at this site was known as the Singing Bridge.
66. Stratham Hill Park. Long a local landmark, the land was given to the town in 1905 by Edward Tuck in memory of his father, Amos, of Exeter. The tower was for many years an active fire look-out. In late 20th c. became site of the Stratham Fair, and in the early 21st c. a Veteran's Garden was dedicated here.
67. Portsmouth Avenue. R. Scammon (1793) Site only. In the early 20th c. this house was sold, dismantled, and moved to a location in Maine.
68. Winnicutt Road. Three grist mills are recorded at this site in 1793. In the 1930s measured drawings and photographs of a grist mill at this site were included in the Historic American Buildings Survey.
69. The 1793 map also shows a grist mill near this site.
70. No change to text
71. 78 Portsmouth Avenue. Ridge School. 1883 (T.A.) Also called District 1 School. 1793 map shows a school house across the road from this site.
72. 6 Barker Road. Winnicutt School. 1874 (T.A.)

73. 152 Stratham Heights Road. Plains School. 1850 (T.A.)
74. 151 Portsmouth Avenue. Old Town Hall. 1880 (T.A.) Built 1876-77 (SHS 1985).
75. 181 Portsmouth Avenue. Widow Mason (1793) 1800 (T.A.)
76. 4 Chestnut Way. Jos. Merrill (1793). 1720 (T.A.) Address formerly 103 Winnicutt Rd.
77. 16 French Lane. Maj. Barker. 1850 (T.A.) SHS 2001 has this as Maj. Barker's home (1793) at 14 French Lane.

Historically Significant Areas and Properties

All listed on National or NH Register of Historic Places (see List 1)

All eligible for listing (see List 1)

Town Center

Portsmouth Avenue corridor

Emery's Lane

Winnicutt Mills -- Winnicutt Rd. from the intersection with Union Rd., including Barker Lane and the properties on both sides of Winnicutt Rd. immediately SE of the river.

All structures that appeared on the 1793 Phineas Merrill map (see List 2)

All town owned structures more than 50 years old

Stratham Hill Park, including Fire Tower

All structures more than 50 years old previously owned by the town (see List 3)

Goodrich Farm – Stratham Heights Rd.

Other intact farms (list?) Gallant? Saltonstall-Robinson?

RR Depot (Greenland)

All cemeteries, including those on private land

River Rd.?

Archaeological sites – such as the Thomas Wiggin house/grave site (stress importance of archaeological review by state)

N.B. Historic Sites Inventory Map, 2008, prepared for Historical Resources chapter of Master Plan

LIST 1:

PROPERTIES LISTED ON THE NATIONAL REGISTER OF HISTORIC PROPERTIES OR ELIGIBLE FOR LISTING ON THE NATIONAL REGISTER

LISTED

NAME	ADDRESS	MAP/LOT
George A. and Emma B. Wiggin Memorial Library	158 Portsmouth Avenue	17/114
Samuel Lane/Jabez Lane (Collector's Eye)	132 Portsmouth Avenue	17/13
Kenniston Tavern/ Ephraim Crockett House	245 Portsmouth Avenue	22/1

Cornet Thomas Wiggin House/ the Tannery/ Widow Sarah Wiggin House	249 Portsmouth Avenue	22/6
Bartlett-Cushman House	82 Portsmouth Avenue	

ELIGIBLE

Stuart Farm	73 College Road	20/1 & 2
Bunker Hill Orchards	97 Bunker Hill Avenue	10/5
Georgiana Law	45 Frying Pan Lane	9/100
Scamman Farm	69 Portsmouth Avenue	9/2

5/3/10

LIST 2:

Existing structures listed on the 1793 Phineas Merrill map
List prepared by the Stratham Historical Society and Heritage Commission, 2001

NAME ON MAP	ADDRESS	MAP/LOT
Richard Wiggin	53 Depot Rd.	
Thomas Wiggin	38 Depot Rd.	
Thomas Foss	21 Depot Rd.	
J. Piper	10 Sandy Point Rd.	
G. Wiggin	273 Portsmouth Ave.	
Samuel Piper	291 Portsmouth Ave.	
Thomas Wiggin	321 Portsmouth Ave.	
Andrew Wiggin	267 Portsmouth Ave.	
Widow S. Wiggin	249 Portsmouth Ave.	
Kenniston's Inn	245 Portsmouth Ave.	
Heirs of J. Folsom	219 Portsmouth Ave.	
Josiah Brown	17 Jack Rabbit Ln.	
S. Lane	217 Portsmouth Ave.	
J. Weeks, Esq.	228 Portsmouth Ave.	
Heirs of J. Jewett	218 Portsmouth Ave.	
W. Weeks	200 Portsmouth Ave.	
Col. H. Rust	139R Portsmouth Ave.	
Rev. J. Miltmore	156 Portsmouth Ave.	
Geo. Veasey	100 Portsmouth Ave.	
Col. Fifield	11 Fifield Ln.	
S. Wiggin, Esq.	73 College Rd.	
L. Wiggin	85 College Rd.	
Maj. Barker	14 French Ln.	
Heirs of J. Clark	11 Stratham Heights Rd.	
B. Clark	25 Stratham Heights Rd.	
Jo Stevens	94 Stratham Heights Rd.	
A. Wiggin, Esq.	66 Squamscott Rd.	
J. O'Del	97 Bunker Hill Ave.	
Joshua Lane	114 Bunker Hill Ave. (moved from across street)	
Ens. D. Wiggin	137 Bunker Hill Ave.	
Ford Merrill	74 Bunker Hill Ave. (barn only)	
A. Tilton	193 Bunker Hill Ave.	
J. Lucy	57 Lovell Rd.	
R. Sinclear	72 River Rd.	
T Smith, Esq.	1R Smith Farm Rd.	
Hon. P. Wingate	2 Emery's Ln.	
Chace's Inn	16 Emery's Ln.	
Na Wiggin	58 Winnicutt Rd.	
E & L Hoag	80 Winnicutt Rd.	

Jos Merrill	103 Winnicutt Rd.
Capt. D. Jewell	173 Winnicutt Rd.
A. Wiggin	18 Winnicutt Rd.
E. Barker	28 Barker Rd. (ell only)
Capt. J. Avery	81 Willowbrook Ave.
Dea M. Clark	Barker Lane
B. Wiggin	109 High St.
Stockbridge	45 Bunker Hill Ave.
Stockbridge	47 Bunker Hill Ave.
Stockbridge	51 Bunker Hill Ave.
Widow Mason	181 Portsmouth Ave.
L. Clark	160 Portsmouth Ave.
Samuel Lane	Portsmouth Ave. at the Circle

LIST 3:

Structures more than 50 years old previously owned by the town:

Old Town Hall	151 Portsmouth Ave.
Ridge School	78 Portsmouth Ave.
Stratham Hill School	240 Portsmouth Ave.
Winnicutt School	6 Barker Rd.
Plains School	152 Stratham Heights Rd.

APPENDIX B

Public Engagement Documentation

Focus Group Notes

Bicycle/Pedestrian Advocacy Group

November 30, 2018

HW attended the November 30, 2018 meeting of the Bicycle and Pedestrian Advocacy Group in Stratham. This was arranged through direct communication with Master Plan Steering Committee member Pamela Hollasch. In advance of the meeting, HW provided a brief list of questions as “food for thought.”

1. What are the most important policy changes or day-to-day changes Stratham can make relative to walking and biking?
2. What are the biggest barriers to safe walking and biking in the community?
3. Are there specific groups we should focus on (e.g., children)?
4. Are there specific geographic places in Stratham where we should focus? Specific areas that should be connected?
5. Do you have ideas for pilot projects or “low hanging fruit” the Town could go after?
6. Are there other communities like Stratham in NH (or beyond) that are doing a good job with this issue?

The group had approximately 30 minutes to discuss these issues and some members of the group had more constrained schedules. Discussion was therefore not structured by the six questions, but more on schedule constraints. Comments are presented here primarily in the order they were provided.

- One of our highest priorities should be to establish a number of ways for pedestrians and bicyclists to cross 108 and 33.
- Connecting Town owned parcels should also be a priority. A pathway network could be used to do this.
- The Town should have a policy discouraging dead ends. New roads should be designed with through connections.
- It would be better to “connect the ends” of existing streets. Every time you improve a road, examine improvements for pedestrians/cyclists.
- Further examination of the Gateway as being walkable. 108 Committee is leading the planning around this area. Important to make walkability one of the guiding principles
- Walkability should be a guiding principle for the Town Center too.
- When we talk about walking and biking, we need to be sure there’s consideration for all ages and abilities.
- Adopt a complete street policy.
- Decrease distance to goods (shopping) by developing more pockets of commercial or mixed use areas. More options will decrease traffic.
- More money should be appropriated by the Town for physical improvements. Infrastructure should be used for protection through the use of design best practices. We cannot rely solely on police enforcement of speed limits and other traffic violations to keep bicyclists and pedestrians.

- The Master Plan should introduce Vision Zero as a philosophical approach to changing behavior around transportation, traffic, and mobility.
- Don't use observed motorist speed to determine speed limits. Set speed limits based on safety goals.
- A modest improvement that would make a real impact would be maintaining shoulders, cutting vegetation.
- School neighborhoods should be a priority. Eight years old + should be able to walk to school.
- Roads of Stratham Heights are all dead end. Between High Street and Winnicut. Could a trail network be developed that connects these dead ends through conservation land.
- A Master Trails Map is being drafted. Need to work with landowners to make this achievable. Could we make connections across agricultural lands. Edie Barker has a history of cooperation.
 - Most would be proposed trails.
 - Stratham Hill Park to Bunker Hill is the big picture of the Master Trails Map.
 - 10-15 years in the making. ArcGIS compatible.
- How would farmers benefit economically from trail access? How would this shape accessory uses? (see notes from Agricultural discussion)
- Rockingham Rail Trail just north of Chapman's Landing needs to be connected to the East Coast Greenway. This gives a true regional perspective.
- In the old Master Plan, they call for a transportation consultant to develop a Transportation Master Plan.
- Policy for subdivisions to show connections to other streets (even paper streets) as part of the review process.
- We need to check subdivision regulations.
- What other municipalities have done a good job with connectivity? Portsmouth has done a great job. Newmarket connection to Durham.
- Who else should we speak to: McFarland Children's Center? Library groups? Adults with Disabilities? Easter Seals? They reserve space at the library. Check with Karen.
- Aside: Area of Great Bay included in Stratham. Can we make this a recreational amenity near Great Bay Discovery Center?
- Should we see who else has done any planning on this area? Is UNH looking at this as a whole? Oysters, eel grass.

Stratham Master Plan Update

Agricultural Focus Group

November 30, 2018

Horsley Witten Group (HW) facilitated a meeting on November 30, 2018 with various agricultural stakeholders. This was arranged through direct communication with Master Plan Steering Committee members Nathan Merrill and Forrest Barker. Pizza was served. The meeting was arranged on short notice. Discussion lasted approximately 90 minutes. The following individuals attended:

Nate Merrill

Lorraine Stuart Merrill (former Commissioner of Agriculture)

Becky Mitchell (Heritage Commission)

Forrest Barker

Stella, Doug, Kirk, and Bruce Scamman

Nate Kelly from HW began the meeting by describing his assumptions about where agriculture, as an institution, stands in Stratham's history.

- The community is transitioning from "rural" to "suburban."
- There is tremendous market pressure to sell agricultural land to developers.
- Agriculture, as an industry, has changed dramatically over the last couple of decades and change is continuing at a rapid pace.
- Accessory uses used to increase revenues have become diverse and sometimes unexpected.
- Local and state governments are not always equipped to regulate the diversity of issues on active agricultural lands.

The content of the discussion was reorganized by Nate Kelly from HW into five categories: Interesting Facts; Economic and Financial Challenges; Regulatory Discussion; Education; Trails and Agriculture.

Interesting Facts

- Stratham was, in its early years, a true agricultural community. This explains why the typical New Hampshire "town center" or "Main Street" was never developed. The community's identity was agrarian.
- Farming was extremely diverse over the centuries with all manner of livestock (meat and dairy), orchards, hay, and market produce.
- While NH enables municipalities to establish local Agricultural Commissions, Stratham does not do this. The Heritage Commission has stepped into this role and has two farmers in its membership.

- People at Saltonstalls. Sophie is doing a lot of investment. Hybrid educational facility (farming), meeting space, active farm. Traditionally organic berry farm, incubator farm for new farmers, hay, orchard. Historic gentleman's farm.

Economic and Financial Challenges

- Farms are disproportionately impacted by taxes. There's some relief on the land, but buildings are taxed the same as other structures in the community...and there are many structures.
- If the Town's commercial tax base doesn't expand, then other existing properties, including farms, will bear the cost. This will hurt farmers far more than well-to-do home owners. Water/sewer infrastructure needs to be approved for the Gateway as soon as possible.
- A proposed municipal water agreement with Exeter was voted down by residents several years ago. The Route 108 Study Committee and Public Works Commission continue to investigate possible options for water and sewer infrastructure in the Gateway zone that would allow expanded development in that area.
- Local development applications can be very onerous. If a new structure is proposed on a farm, the site plan development requirements could be the same as they would be for a bank or similar use. Parking for special events like a corn maze could lead to acres of paved parking of farms are treated the same as non-farm commercial businesses.
- Stewardship of open farm land can be extremely expensive. Residents acknowledge the public good these vistas provide, but are often unaware of the costs of maintaining those vistas.
- Dairy farming requires a lot of land, which is expensive to maintain. The potential loss of Stratham's last dairy would leave a large amount of scenic land vulnerable.
- Farmers compete in a global market. Subsidies in other countries add to the competitive disadvantage.
- Farmers compete in a regional market. Subsidies in other states add to the competitive disadvantage. NH has only provided two "one-time" assistance packages for dairy farmers, whereas Maine, Massachusetts, and Connecticut all have state-level supplemental financial assistance programs to help their dairy industries remain viable.
- New/young farmers face significant "up front" costs when trying to get a farm going. Assistance should be available.
- Could there be a local property tax incentive for those who have a long term lease with a farmer to work/ steward the land? Probably would require a change to State law. A dedicated local fund may be possible.
- If dairy operations, for example, become non-viable and move west, who is poised to take over those lands and keep them as agricultural use?

Regulatory Discussion

- The Gateway District regulations (design and site plan development in particular) were not intended to apply to agricultural uses, but have been interpreted by town staff and land use boards to apply. This is an issue that needs to be fixed with zoning amendments.
- Design requirements from the Town have pressured the location of hoop houses. The location of farm buildings should be optimal to their function, not to the scenic vista.
- Large lots are just consuming too much land. Zoning changes were attempted in 2015-16. Row crops and animals would have been prohibited in gateway zoning, despite the fact that there are multiple large tracts of permanently conserved farmland in and around the Gateway District. There are different opinions in the community as to whether active agriculture is an asset to the Gateway.
- Local regulations on farm operations should be applied equally across the community. There may be different standards for different scales, intensities, or uses—but a district like the Gateway should not put more onerous standards on farms in that district.
- We don't know what the next opportunities will be for agricultural businesses, so we must leave room for flexibility in local regulation. Regulations must allow for diversification and "economic adaptability."
- Building and Fire Code requirements for temporary structures or accessory structures can simply be unreasonable. Tents or small wooden structures used for a seasonal farm stand or an event should not be held to the same fire suppression standards as a permanent retail store.
- State codes are not always enforced/interpreted uniformly by local enforcement officials.
- Lot line building setbacks should not apply to agricultural fencing. This takes a significant amount of land out of production.
- Wetlands issues. Farms should be exempt from local requirements (not state and federal obviously). Local residential and commercial wetland regulations should not apply. Follow USDA/NRCS standards and Best Management Practices.
- NH Dept of Agriculture has good resources to help with checking on individual situations. The Dept. can send inspectors.
- The federal and state oversight should suffice.

Education

- If farms don't make a profit, then they will close.
- Many other groups (e.g., Heritage Commission) support the Gateway and local farming.
- Farms are a business, farmers keep saying this. So why should they be treated differently than other businesses?
 - Landscape maintenance costs.
 - Savings on fiscal costs.
 - Contribution to heritage landscapes.
 - Connection to local and regional history.
 - Lower impact on municipal services than nonfarming commercial enterprises.

- Farms act as a regional draw. The large majority of visitors to an operation like Scamman Farm are from out of town/state during peak seasonal events. Hundreds of folks come to the community looking to spend money.
- Housing for new farmers is an issue. Nothing affordable.
- Can't find employees. Again, housing is an issue.

Trails and Agriculture

The discussion with the bicycle/pedestrian group brought forth the idea that agricultural lands might play a role in establishing trails. Folks at the table did not dismiss this in its entirety, however there were many concerns raised. There are very specific situations where this could work, but the conditions have to be just right.

- Potential conflicts (traps, pesticides)
- Liability
- Animal health, bio-security
- Dogs cannot be on the property for some types of crops: Food Safety Modernization Act (FSMA)
- ATVs are a serious nuisance issue.
- Can't shoot deer or other varmints within a 300-foot setback from a trail. Nuisance permits are used to deal with this issue, which means that hunting can occur at any time, not just during the normal limited-time seasons.
- Annual compensation would be required. Easement and MOA with the Town would be required. What would the compensation look like?
- A trail should not be part of a permanent easement on the whole farm. It would be a separate agreement with an expiration, due to the fact that farming uses and practices continually change.
- Fish and Game values farm land for hunting opportunity. Turkey, deer, geese.

Stratham Master Plan Update

Heritage and Historic Stakeholders Focus Group

January 14, 2019

Horsley Witten Group (HW) convened a focus group to discuss heritage and historic preservation issues in Stratham on January 14, 2019. Master Plan Steering Committee member Nathan Merrill (also member of the Stratham Heritage Commission) and Stratham Heritage Commission member Rebecca Mitchell helped coordinate members of the community. Pizza was served. Fourteen attended, representing property and business owners, Stratham Demolition Review Committee, Stratham Historical Society, and Stratham Heritage Commission.

Attendance:

Skip Stearns	Rebecca Mitchell	Florence Wiggin
Jenn Gunn	Megan and John O'Brien	Lucy Cushman
Fred Emanuel	Katie (and Matt) Bartel	Nathan Merrill
Stella and Doug Scamman	Greg Pruitt	Lorraine Merrill
		Lionel Loveless

Nate Kelly of HW gave a brief introduction that provided an overview of what the master plan is and how it is used, and where the Town is in its update process. He discussed what we have learned to date about Stratham.

The main question of the discussion was: *What do you think are the core issues related to heritage and historic preservation that need to be addressed in the updated Master Plan?* Responses fell into the following categories.

Gateway District

- The Gateway District lost most of its historically significant features, therefore establishing the District for new development was appropriate. While Scamman Farm is within the District, there is a conservation easement on the property that significantly limits future development.
- Installing water and sewer service in the Gateway District is critical to preserving the rural character of town. This infrastructure will allow for more commercial and residential development in the designated area, which will increase revenue into the town. New infrastructure will make the District more desirable to developers and put less pressure on the other areas.
- There are still concerns that the Gateway District will creep up Portsmouth Avenue if water and sewer are installed, and more public education is needed to quell these concerns.
- Without water and sewer, many commercial property owners in the District will not expand (e.g. Market Basket) or make investments in their properties. Many have trouble attracting tenants.
- Growth in the Gateway District will build the Town's tax base and reduce the tax burden on residents. Several factors in the near future will impact residential property taxes:

- Schools: For a third time, a bond will be requested to expand the Middle School. While the number of Stratham of students remains consistent, school operation costs continue to rise.
- Lindt is no longer expanding and will not be able to sustain the Town's tax base.
- In the future, a full-time fire department will be needed.

Route 33

- The group wants to protect Portsmouth Avenue beyond the Gateway District.
- Route 33 is still a concern, how to protect the historic homes while still making the corridor viable. Even if it remains zoned as Residential/Ag, traffic noise makes it undesirable for residences. Many homes were built in the 18th century but are under threat due to lack of maintenance. Is there an opportunity to allow more home-based businesses or accessory uses to make these homes economically viable/sustainable while maintaining historic properties, views, and vistas?
- Is there another mechanism to help encourage/incentivize preservation (similar to Barn Easement program, RSA 79E) on Route 33?
- Should we be focusing on landscapes, views and vistas? There is a connection between the buildings and the landscape, as well as between buildings.
- The design of new development needs to maintain the historic character of its surroundings.

Local Regulations

- The Town has tried to rezone the northern portion of Route 33 twice to Commercial, but this has been defeated.
- Local planning regulations are excessive. For example, the sign ordinance needs to be revisited.
- The Town Center zoning regulations need to be revisited. Issues of concern include setbacks, design review (if any). Several people are not happy with the most recently developed buildings under the new ordinance.
- The terms of property easements should be consistent.
- The Town should use easements more than purchasing land.

Government Communication and Transparency

- There needs to be more communication between town committees and boards to ensure that historic preservation is part of their check lists or discussions when reviewing proposals.
- The Town needs to do a better job of getting information out to the public and allowing for timely input and response. Information available needs to allow for more informed decisions.

Public Outreach and Education

- More are residents are active today in preserving historic resources than they were 30 years ago.
- However, many younger residents are not as concerned about preservation.
- The Heritage Commission would like to engage in more public education about local historic resources. Signage and placards are being considered.

Other Notes

- The vision statement in the 1998 Master Plan has been central to the Heritage Committee to support their preservation efforts.

Stratham Master Plan Update

Stratham Seniors Focus Group

March 11, 2019

Horsley Witten Group (HW) held a discussion with eight representatives of the “76ers” to discuss issues and needs facing seniors in Stratham.

Issues and Needs for Seniors

- The Council on Aging focuses on helping older residents “age in place,” which requires services and not necessarily facilities to meet needs.
- Transportation is a big need. There are limited services. Nothing is within walking distance. A regular transportation system is difficult because seniors live all over town.
- Some older residents have left town for a variety of reasons.
- They would prefer to be referred to as Stratham Seniors and not the 76ers. About 40 meet the third Tuesday of the month. Speaking programs are organized around a potluck. They take periodic field trips where the town sponsors a bus. Programs run through June, taking the summer off.
- There is no central meeting place for seniors. They currently meet in the firehouse, which needs to be scheduled in advance and there is limited space to do other activities. They appreciate the use of the firehouse and the staff will set up tables for them, but a dedicated space would allow them to gather any time of the day. Aspects of dedicated senior centers in other communities that they like are a place where you can have lunch (Exeter), food pantry (Newmarket), and a director that puts out a monthly communication/newsletter.
- One-story living is needed and recognize that it does make a larger footprint. There are few options in Stratham.

Issues and Needs for the Community as a Whole

- Traffic congestion is a big issue at certain times of the day.
- The cost of living is more than a young couple can afford.
- COAST is not frequent or reliable enough to provide public transportation services.
- Stratham needs a community center that includes all ages, but with a section dedicated for seniors. After school programming could be offered.
- Important aspects of Stratham are conservation lands and historic resources.
- High property taxes are a concern, but felt this is a state-wide issue.

The group felt they were a small representation of the of the larger senior community. As a follow up, HW should attend a monthly meeting.

Stratham Business group meeting
April 17, 2019

The following notes are from the business community stakeholder meeting held as part of the Master Plan Process in Stratham, NH. These notes are prepared in their “raw form” and may include typographical errors or misspellings as a result.

15 people in attendance, incl Nate and Ellie

Northwestern Mutual

Bruce Scamman

Coltin Gove – Gove group

Scott Gove – Gove Group

Colliers Intl – comm

Stella Scamman

Doug Scamman

John Nyan – Hampton Chamber Head, interested in strategic plan for economic devt

Kiersten Shultz – marketing, economic devt committee Hampton

Roger Gruw – Honda Barn owner, original Gateway Committee

Darren Cody – Exeter Subaru, 20 yr Stratham resident

Anthony Capone – Audi and Porsche

Richard Collins

Dick Swett – resident

Phil McDonough – insurance, chamber member

One new entry?

What do you think the most important trends are? Economic growth? Regional challenges to growth?

- Lack of work force, skills.
- Navy Yard has 600 open apprenticeships. Paver in town has older workers. Hard to find any skilled workers.
- Workforce housing – no multifamily housing allowed.
- Lack of water and sewer is a hinderance.
- All tied together. If you want the technicians here in workforce, you need affordable multifamily housing.
- Same issues in N Hampton. Housing, water and sewer.
- Lots of buildings for sale, lease and rent. Nobody is coming to town to buy, rent or lease. Reason? High rent, maybe. Seacoast is not getting attention from Concord, except Pease? Are spaces really that big that are rent?
- Virtually no industrial inventory for buildings, even in Stratham Industrial Park where they have sewer. Need another industrial park.
- Less than a 5% vacancy rate for seacoast area industrial park spaces. Not building it because the cost of construction is too high. Pent up demand for industrial space.

- What about office space demand? 9-10% vacancy. New building in muni center right now, Core Physicians going in. No cell service at the circle in Stratham. Pease has been a driver for this area.
- Auto - tradespeople are hard to come by. Drive from 30+ minutes away to work here. Finding people who want to work in the trades is tough. Parents are the key to the message, alternative to college. Kids can make a \$100k salary in 4 years, and get trained. Guidance counselors get rated on how many kids get to 4 year schools, so the message is for 4 years. More kids need to go to technology high school.
- Labor, labor, labor.
- And town sewer.
- Pro-Con construction company – doing a joint program with middle schools to get kids interested in alternatives to 4 year high schools.
- Recent trade school set up in Hampton – someone asked how it was going. It isn't really open yet, but radio ads on. Chamber has tried to introduce themselves but no response.
- "career readiness" versus college readiness – Chamber is interested in supporting this idea.
- Other challenges – regulations. Local, state, federal. Bruce Scamman. Change building heights, wetlands, etc to allow mixed use development.
- Town hasn't repeatedly said no to water/sewer. They had one vote to vote down the bond for sewer, water. How can the residents get guarantee that the sewer/water would bring development?
- Relax the wetlands regs – get rid of fingers of wetlands that cause huge problems. Eliminate all low quality wetlands in the Gateway District.
- 2 acre fire pond in one person's backyard – doesn't think he would be able to fill or alter even though it is manmade.

Other examples:

- Newmarket – TIF District. Went along with major redevelopment (mills), but could be a good idea.
- Permitting process should be streamlined – point to Dover. Fastest growing city of Seacoast. Planner has meeting with all dept heads. (TRC Process...?) Most projects get approved in one Planning Board meeting. Streamlining is amazing.
- Newington now has an economic devt committee to help. Stratham has a professional planner, which is a good start.
- If you don't make the process of devt more accessible, people will not come. The permitting approval process in Stratham is too cumbersome. Takes too long, too expensive. Needs streamlining.
- Tavis – surveys have indicated that residents are supportive of commercial devt as long as residents don't have to pay for the infrastructure. TIF district?
- Exeter proved a TIF District in Epping Rd successful. Should do it now, not when we go into recession.

- What incentives does the town have for sewer alternatives and energy alternatives? Innovative technologies for sewer are dependent on what the state will accept. NH is tight on allowing new technologies.
- In order to get the density needed, you must have water and sewer.
- 110 Grill is already replacing their leach field for the second time.
- \$2M for about 3000 ft expansion of Portsmouth sewer up in Rye to allow for a development. Business owners along the way ponied up to help pay for extension.
- Stratham geology is less bedrock than other places, so septic is not entirely tough.
- Market Basket might be the biggest sleeper. 1/3-1/2 of the lot is impeded by low quality wetlands. 10 years ago MB was willing to pay to extend sewer as long as others who hooked in would pay them back. How much does Exeter want for tie in fee? Suggested that \$6M is what they are asking.
- Question from participant: Do we have info on ROI to a community from extending sewer/water infrastructure? What taxes do they collect as a result of growing development?
- Hampton Beach renovation had a 10X ROI from associated development tax revenue.
- People need to understand that the development doesn't happen right away – takes up to 20 years.
- Nate – Stratham is at a tipping point in terms of the services it provides. Senior Services, police, fire, etc.
- Gateway zoning was written with the promise that water and sewer were coming. But they didn't come. There is a fork in the road for the Gateway District. Water/Sewer or rewrite vision and zoning for that district.
- Is Stratham becoming a bedroom community for the wealthy? Or is it going to be more integrated with housing, labor, Gateway?
- Reducing lot sizes to allow smaller houses on smaller lots, would provide more affordable housing for families and wider demographic.

Process – Public meeting evening of May 13, at Muni Offices. Open house setting with poster, info, staff, policy choices.

Key messages:

- Pro Gateway (but not consensus on the scale of devt)
- Pro-housing diversity
- Pro-Connectivity (neighborhoods to parks and neighborhoods)
- Pro-Industrial Park
- Pro-housing type diversity
- Pro-historical preservation (Stratham Hill Park)

Allow taller buildings, devt in back of lots that is outside of the commercial district, replace septic fields with development opp.

Plan available end of June.

Traffic: Portsmouth Avenue traffic, side streets getting out to Portsmouth Ave. Is there a tipping point at which people select alternative routes? What does this mean for businesses? 22,000 cars is not a lot.

Aging Population: Rye, visioning.
Rye overlay district

What does workforce housing look like in New England? Are there examples of cottages? Single family detached is tough for affordable housing.

Work Force Housing versus below market housing. DU housing? State law changed. No evidence that it has moved the needle.

Affordable housing law in NH, but no teeth to it.

Regionalization is important. Exeter, Stratham. Portsmouth, Rye. Stratham, Greenland, Exeter. We live in a region where regionalization is taboo.

North Hampton region wants to regionalize economic devt marketing efforts among 5 communities. Chamber wants to lead on the economic devt plan, and marketing services. Just kicking it off now. Many similarities with Stratham.

Darren in Exeter (Economic Devt) has been effective – maybe Stratham needs one too? Darren is a marketing person, on it every day, different than a planner. How does Stratham institutionalize the master plan so it doesn't sit on a shelf? Need someone to sell the Gateway with water/sewer if the water/sewer happens. Can help business owners to get stuff done.

Somersworth – quarterly meeting with business owners to discuss issues, and have speakers to address concerns. Need an ombudsman for business owners to interact with the town.

Public Forum Summaries



Introduction and Workshop Process

A public workshop for the Stratham Master Plan update was held on October 16, 2018 at the Municipal Building, 10 Bunker Hill Avenue, from 6:30 pm to 8:30 pm. The purpose of the workshop was to understand what the community feels makes Stratham a great place to live and work, and how people would like to see the town change (or not) in 10 to 20 years.

The evening was organized around small group discussions. After a brief introductory presentation about the Master Plan update process, groups focused on three questions:

1. What is something positive happening in Stratham and why is it positive?
2. What has potential in Stratham but needs improvement? What are some of those improvements?
3. How would you like to see Stratham in the future? What are the opportunities and challenges to making that happen?

Approximately 40 people attended the workshop and were divided into six small groups. Participants were given broad direction for their responses, and were encouraged to include programs, projects, areas of town, or local policies. Group discussions were recorded on flip charts. Large maps of the Town were provided at each table for participants to circle locations related to their ideas.

For Questions 2 and 3 above, prioritization techniques (dot voting) helped to focus the discussion and to highlight the most important issues for each group. Participants voted on the ideas listed on the flip chart from the discussion, identifying what they feel should be a priority and would have the largest benefit to the community as a whole. For the idea that received the most votes in Question 3, the top “big idea” for Stratham’s future, the groups brainstormed challenges and opportunities to achieving this vision.

Because it was anticipated that participants would not be able to talk about every single idea that night, they were encouraged to write comments and suggestions on Participant Worksheets that could be left behind. Worksheets were collected at the end of the evening and all ideas were taken into account when developing this summary. Attachment A lists all responses received on the Participant Worksheets.

In addition to the group discussions, the workshop included a gallery with informational posters and maps as well as “ice breaker” activities, intended to get attendees thinking about what they love about Stratham and about ideas for its future. A summary of the ice breaker responses is included at the end of this report.

Online Survey

To solicit input from as many people as possible, the Town posted an online version of the workshop questions on the [Stratham Master Plan Update website](#). As of October 31, 2018, the survey had eight responses, which were incorporated into this summary. The Town will leave the survey open and any comments submitted will be considered during the Master Plan Update process. Attachment A includes all responses to the online survey, as of October 31, 2018.

Workshop and Online Survey Outcomes

Themes

A wide range of topics and ideas were covered by participants during the workshop and in the online survey responses. For the purposes of this summary, they are organized under the following themes (presented in no particular order):

Historic Preservation: Comments that focused on the historic character of Stratham as an asset of the town, and the desire to preserve historic properties and buildings.

Schools: Ideas that focused on the school system, including how it is an asset to the town and how it could be improved.

Affordability/Housing: Ideas that focused on housing options, the cost of housing, and the general challenges related to affordability in Stratham.

Downtown/Town Center: Suggestions that focused on the concept of Stratham having and/or improving an identifiable town center, downtown or village, and what the community would want in this area.

Parks and Recreation: Ideas that focused on the Town's parks and recreational facilities, and their contribution to the quality of life in Stratham.

Farms and Agriculture: Comments related to the existing farms in Stratham and the desire to retain/promote agriculture and agritourism.

Conservation and Open Space: Comments about existing open space and conservation land in Stratham and ways in which to build upon those assets.

Gateway District (inc. water/sewer): Comments on the proposed Gateway District along Route 108, including needed infrastructure (i.e., water and sewer) and the types of businesses that should be included.

Economic Development: Ideas that focused on support and development of local businesses, including those related the Gateway District, a town center, agritourism, the industrial park, and the former vocational school.

Municipal Services: Ideas that focused on municipal services, other than the proposed Gateway District water and sewer, including general maintenance, library, police, fire, and town offices and facilities.

Town Government: Comments on overall town administration and operations, including taxes, transparency, communication, boards and commissions.

Land Use/Development: Thoughts on general land development approaches, including land uses, zoning, and development density.

Social Networks: Ideas that focused on community events, civic engagement, diversity, families, and making connections among people.

Mobility: Ideas that focused on town-wide issues associated with traffic, walking, biking, connectivity, and public transportation.

Energy: Comments and suggestions related to renewable energy and other energy-related issues.

Aesthetics: Suggestions for beautifying the town to make it more attractive for people from Stratham and for visitors.

Town Identity: Ideas about how people identify Stratham as a community in terms of its overall character, or how they would like Stratham to develop more of a town identity in the future.

It should be noted that these themes are not mutually exclusive and ideas often cross topics and encompass many different themes.

The summary below incorporates all suggestions and comments from the Participant Worksheets, notes from the group discussion sessions, and the online survey results. All responses will be considered as the Town updates the Master Plan. The full listing of Participant Worksheet and online survey responses (as of October 31, 2018) is provided in Attachment A.

Question 1: What is something positive happening in Stratham and why is it positive?

Participants saw the most positive aspects of Stratham in Social Networks, Conservation and Open Space, Parks and Recreation, and Farms and Agriculture, though many other positive features of the community were identified. Figure 1 provides a graph showing the frequency with which participants identified each theme in their responses about what is positive in Stratham.

Overall, participants loved the community events in town, such as the Stratham Fair, Family Fun Day, and the farmers market, and felt they were a great way to bring people together. Many participants felt that Stratham was family-friendly and that it had nice neighborhoods, great schools, and new restaurants that provided places to eat and meet up. People were very positive about Stratham Hill Park (where many community events are held), other parks in the town, and recreational opportunities. Workshop participants were also very supportive of the protected open space in their town and the opportunities for outdoor recreation and natural resource protection they afford. In addition, participants were positive about the Town's commitment to continued land conservation. Similarly,

they were supportive of the farms and agricultural land preservation in Stratham and the concept of promoting agritourism.

Question #1 Responses by Theme

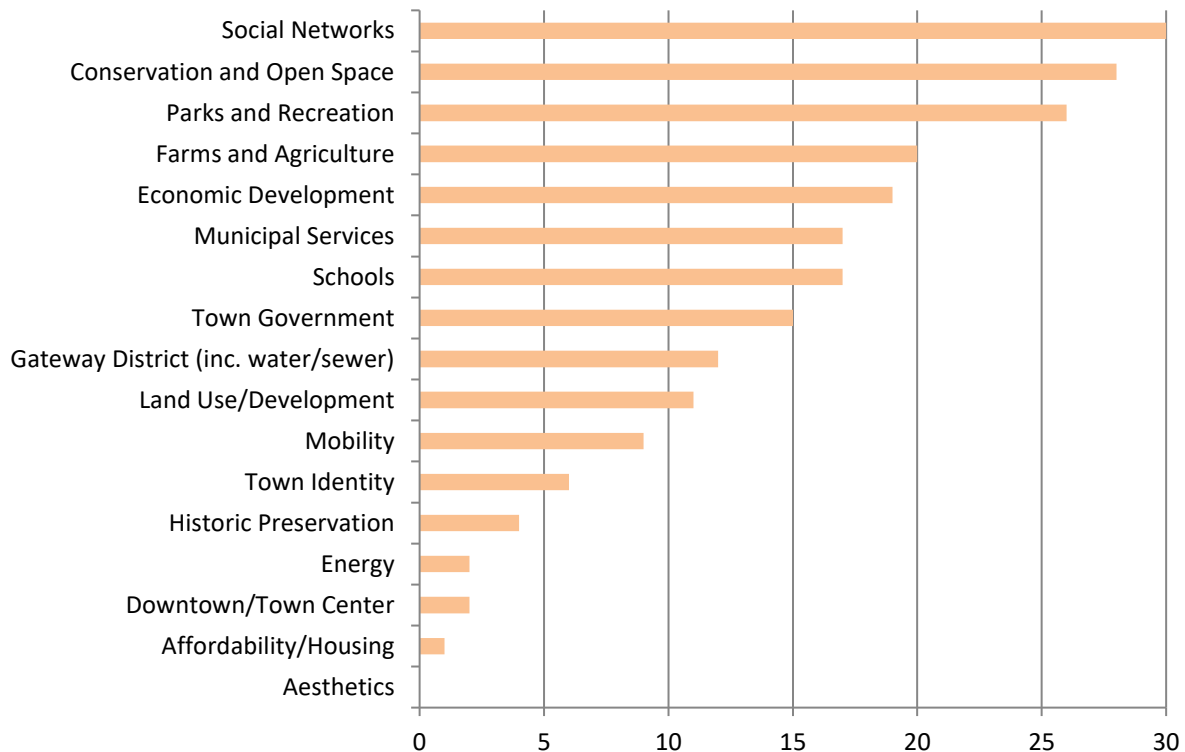


Figure 1: Frequency of themes identified by workshop and online survey participants when asked what they feel positive about in Stratham.

Some responses to... What is something positive happening in Stratham?

Community Green Space - promotes outdoor activities for families, events at Stratham Hill Park, hiking trails, Stevens Park

New families coming in and starting to drive positive change

New restaurants - always wanted somewhere to go locally

The way the town, members of the community, and landowners have worked together to protect farms and farmland in town. We have maintained diverse farms in this growing area - for future generations.

Conservation easements - saving open space, important for wildlife, preservation of natural resources

The excellent school system! My husband works in both Manchester and Dover and we ultimately settled in Stratham because we knew we wanted our children to attend public school and Stratham is simply the best in the area.

More recognition of biking and walking as an option for transportation in Stratham. It is positive because it will reduce car traffic, improve people's health, and improve safety.

Question 2: What has potential in Stratham but needs improvement? What are some of those improvements?

Workshop participants identified a variety of aspects of their Town that have potential but need improvement, with the most frequently identified themes being Mobility and the Gateway District (including water and sewer), followed by Economic Development, the Downtown/Town Center, and Affordability/Housing (see Figure 2).

Question #2 Responses by Theme

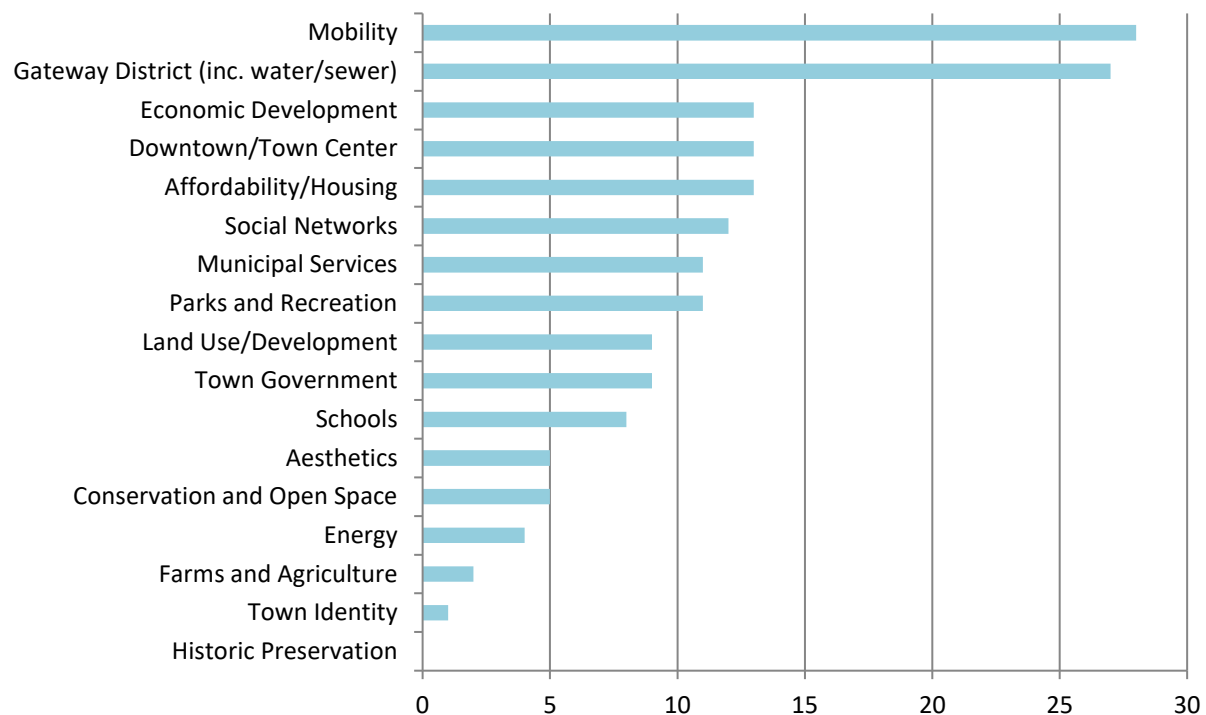


Figure 2: Frequency of themes identified by workshop and online survey participants when asked what has potential in Stratham but needs improvement.

In terms of Mobility, many people wanted the Town to be more walkable and bikable, with sidewalks, bike lanes, and safe school routes. They also identified some traffic issues, particularly along Route 33, such as the need for additional traffic lights (specifically near Stratham Hill Park), the need to have better connectivity of neighborhoods, and the desire to have trail connections within and between the various parks and open spaces. As part of the workshop's small group discussion, two of the six groups voted on mobility issues as their top choice for what needs improvement in Stratham.

The Gateway District, including proposed water and sewer, was another commonly identified theme when asked about what needs improvement in Stratham. Many participants were in favor of adding water and sewer to the Gateway District because it would allow for economic development of this area, promote the commercial tax base of the town, and allow for the construction of more affordable/ reasonably priced housing. However, some participants did not support water and sewer in the area, primarily because of the cost and the risk of too much development. Several participants singled out their desire to have fewer auto dealerships in the Gateway District and their wish to upgrade the aging Market Basket plaza. During the small group discussions, four of the six groups voted on the Gateway District and proposed water and sewer as their top choice for what needs improvement in Stratham.

Other common themes for what needs improvement in Stratham related to the Downtown/Town Center, Affordability/Housing, and Economic Development. Many participants expressed a desire for a distinct, “quaint,” and “village-like” town center or downtown, separate from the more commercial Gateway District, which is walkable, and has coffee shops, restaurants, retail shops, and gathering areas for the community. Participants also indicated that Stratham could improve by developing more affordable housing for all ages and income levels, particularly for the elderly and young people. Some felt that the Gateway District development may provide an opportunity to build more diverse housing options, such as apartments and elderly housing. Overall economic development was also cited as an area for improvement through increasing the variety of businesses, improving the shopping areas, and optimizing commercial development.

Some responses to... What has potential in Stratham but needs improvement?

Route 108 corridor needs water and sewer so we don't become a car lot to the region. High-value businesses and services need infrastructure.

We need to make it safe for adults and kids to be able to go to the library, grocery stores, etc. by either walking or riding bikes.

"Town Center" could grow to include restaurant/coffee shop/gathering areas for community.

The 108 corridor could contribute immeasurably to Stratham's civic life as well as financial sustainability over the long haul. Redevelopment of the corridor using low impact design and through denser development can make us better stewards of our water ways. In addition, the creation of housing for young workers and residents looking to downsize could contribute significantly to the region. Office/research space could also support the region's growth and help "lift every boat".

I love the sidewalks and street lamps in the town center. I look forward to seeing that grow.

Routes 108 and 33 are nice and wide with huge shoulders and the potential to easily add biking lanes or pedestrian pathways. There also needs to be a "complete streets" model or vision to bring us more up to date and marketable as a place to live. Pedestrian safety islands and crosswalks would allow people to get from one side of town to the other on foot, especially near Stratham Hill Park.

Question 3: How would you like to see Stratham in the Future?

Workshop participants described a variety of visions for the future of Stratham; the most frequently identified themes were related to Town Identity, Economic Development, Conservation and Open Space, Social Networks, and Land Use/Development (see Figure 3).

Many participants discussed the Town’s identity in their vision for its future. Participants wanted to retain its “small town feel” and used words such as “rural,” “charm,” and “quaint” to describe Stratham as they see it now and/or in the future. Some people expressed their desire to make Stratham a destination by developing the commercial district and/or a distinct town center.

Participants also emphasized their desire to see Stratham continue to promote community events and to develop good community spaces to meet up. People commented on their desire to have a diverse mix of ages and income levels in Stratham. Similarly, participants said they supported efforts to maintain a multigenerational community that provides opportunities for new families to make a start and the elderly to remain in town.

People were supportive of agritourism and diversified commercial opportunities for Stratham’s future, but wanted fewer car dealerships and strip malls. In addition, many people emphasized their desire to continue to conserve land as open space, and to concentrate commercial development in defined areas to retain the residential/rural feel of the rest of Stratham.

Question #3 Responses by Theme

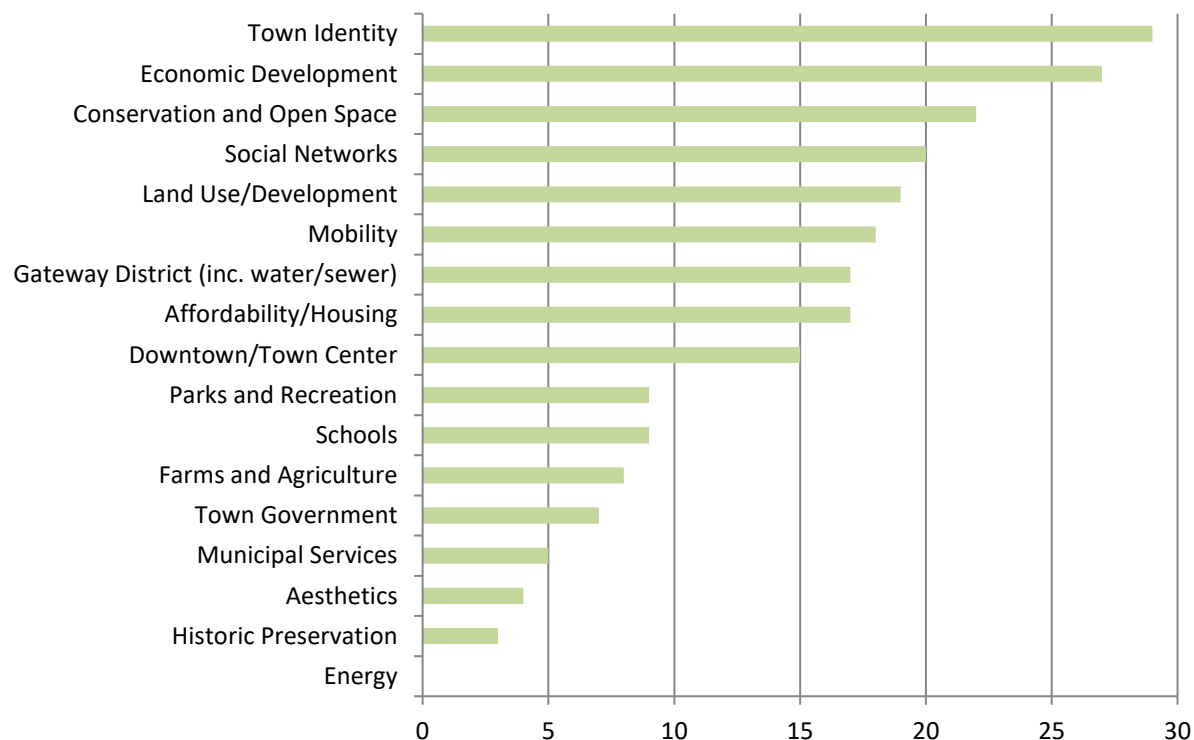


Figure 3: Frequency of themes identified by workshop and online survey participants when asked how they would like to see Stratham in the future.

Some responses to... How would you like to see Stratham in the future?

I would like to see a mix of residential and commercial space thoughtfully designed in the gateway district

I envision Stratham with wide walking/bike paths on RT 33/108 that allow pedestrians and bikers. We need to allow for different forms of transportation.

Diversity in housing = diversity in population

Maintain the small town community-feel while developing in a way that promotes community gatherings and activities. "Downtown" walkable area with more restaurants, stores, etc.

I've lived here for over 30 years - would like to see less commercial development on 33 and bring back the "charm" Stratham had.

Stratham continues to grow and thrive - while retaining its small town character and strong sense of community - supporting new economic opportunities while preserving its long time values of excellent schools, supporting local farms and agriculture, and conserving natural resources.

Bucolic, rural, quiet, limit building permits, limit density of building

A place with a civic spirit and community gathering places that are meaningful and contribution to lives of people at each stage of life. We need to ensure a reasonable tax burden for high quality services, but not develop into or be seen as "exclusive" and cloistered when it comes of the needs of the region and people from all walks of life.

Big Ideas

From the ideas generated in response to Question 3, workshop participants were asked to vote on which one they felt should be a priority and would have the largest benefit to the community as a whole. The top selections from each group are referred to herein as “big ideas.” The small group discussions dove deep and discussed the challenges and opportunities to move their big idea forward. The following summary lists each group’s “big idea” and the challenges and opportunities that were discussed in the available time.

Centralized, walkable downtown/commercial gateway, with a small town feel, that gives businesses a place to go, while keeping open space open, with housing options that help new families make a start

Opportunities to Making this Happen	Challenges to Making this Happen
<ul style="list-style-type: none">▪ There are already businesses that want to come in▪ Obvious place for a downtown▪ Attractive demographic for businesses▪ Potential for small, local businesses to open in storefronts or upstairs in a downtown area▪ Commercial properties represent a net positive in tax revenue - pay a lot but don't use services (e.g., schools)	<ul style="list-style-type: none">▪ Cost/money▪ People who don't want to see change▪ Infrastructure (water/sewer)▪ Feelings that there is a conflict between business interest and tax payer/community interest▪ People are afraid it will grow too big▪ Personal issues - getting hung up on who is making a buck▪ Helping people understand how commercial tax payers help the town

Creating a downtown with nicer basic shops and diverse housing options

Opportunities to Making this Happen	Challenges to Making this Happen
<ul style="list-style-type: none">▪ None listed	<ul style="list-style-type: none">▪ Water/sewer/costs▪ Population growth▪ Zoning (to allow density/preserve rural feel, promote conservation)▪ Costs (other factors - commuter community)

Concentrating development in specific areas to preserve rural areas, destination (retail, housing, entertainment), e.g., Newmarket

Opportunities to Making this Happen	Challenges to Making this Happen
<ul style="list-style-type: none">▪ Becomes a destination for those on 101▪ Reduces tax burden if can generate taxes▪ Smaller housing concerned about money, younger, downsizing▪ Provide safer access with new back roads taking traffic off 108	<ul style="list-style-type: none">▪ Financing sewer/water▪ Redesign▪ Have to drive there

Defining a location identity for Stratham that reflects its unique history and character

Opportunities to Making this Happen	Challenges to Making this Happen
<ul style="list-style-type: none">▪ Citizen involvement - go to meetings!▪ Continue to improve outreach to the people of Stratham (bring back weekly summary of selectman's meetings)▪ Improve Facebook page	<ul style="list-style-type: none">▪ Diverse set of priorities▪ Citizen involvement▪ Water and sewer▪ Holding developers accountable to plans - making sure zoning regulations are reflective of Master Plan goals

Maintain size/acquire conservation land

Opportunities to Making this Happen	Challenges to Making this Happen
<ul style="list-style-type: none">▪ Donation from land owners▪ Seek grants▪ Commercial development contributes to tax base, demand offsite improvements▪ Put conditions on new development to conserve land▪ Doesn't cost town money▪ Maintain classroom size▪ Better protect water resources	<ul style="list-style-type: none">▪ Money to acquire land▪ Hire grant administrator▪ More taxes for the people of Stratham▪ Keeping/increasing minimum lot size, doesn't cost town money

Water/sewer implementation

Opportunities to Making this Happen

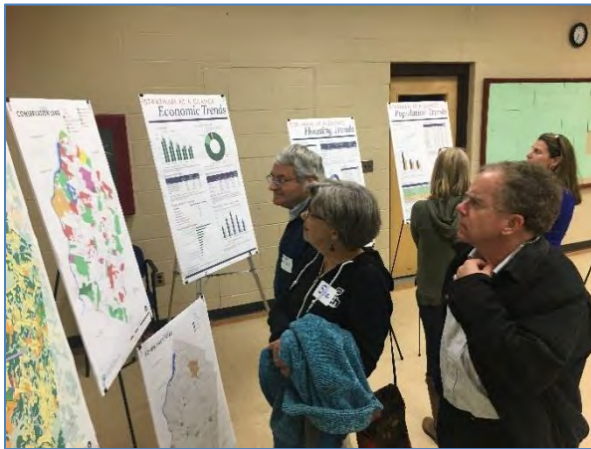
- Open space as a start
- Education on land use

Challenges to Making this Happen

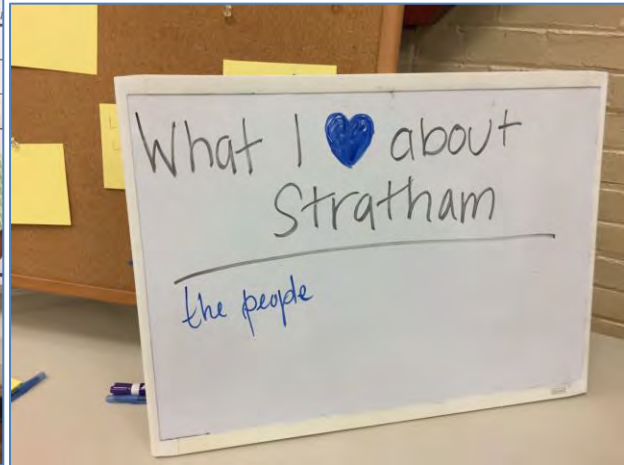
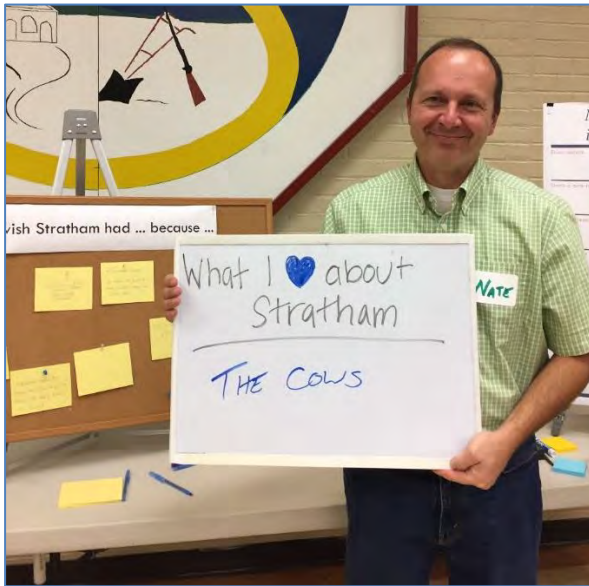
- Some people aren't "here" as much, e.g., work in Boston
- Not as many volunteers
- Teaching civics?
- Social media - become social media savvy, controlling the message
- Many families plan to move out

Evening Ice Breakers

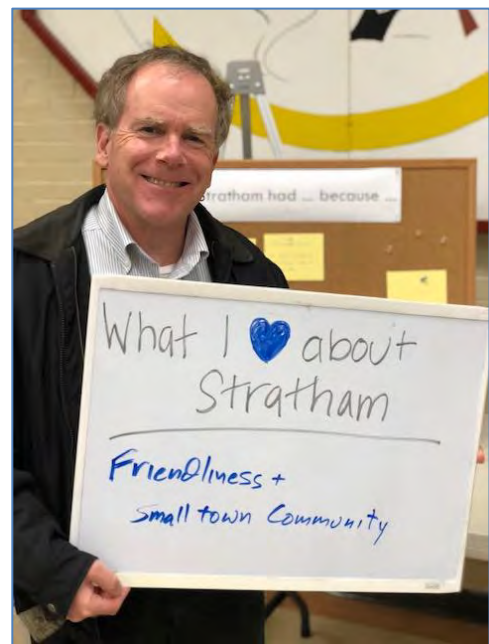
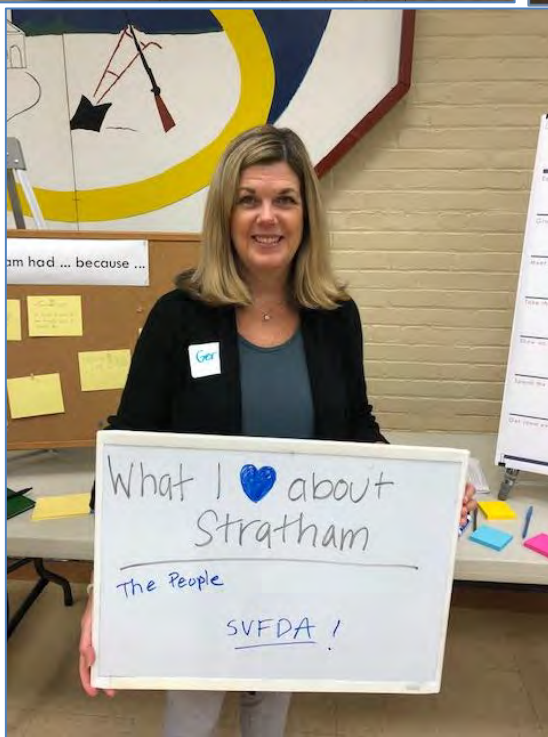
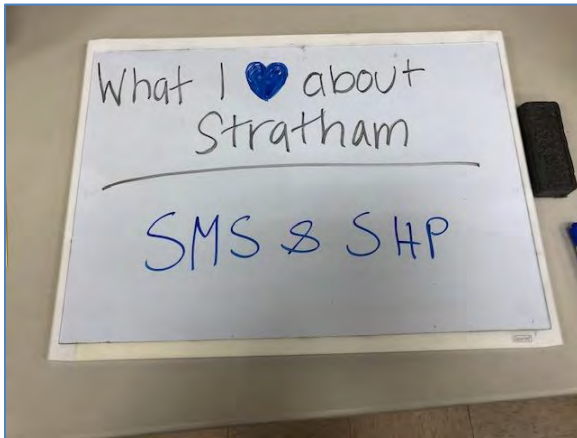
As people arrived, a gallery was set up with informational posters and maps as well as “ice breaker” questions. These activities were intended to get attendees thinking about what they love about Stratham and about ideas for its future. The following section provides photos of the gallery and summaries of participant responses to the ice breakers.



What I love about Stratham!



What I love about Stratham!



My Favorite Place in Stratham to...



....Enjoy nature

my backyard (5)
Stratham Hill Park (3)
my land (1)
my neighborhood (1)
The Farm (1)

....Get some exercise

Stratham Hill Park (3)
Stevens Park (1)
Our Farm (1)

....Spend the afternoon

Stratham Hill Park (1)
The Farm (1)

....Take the kids

Stratham Hill Park (2)
Great Bay Discovery Center (2)
Library (1)

....Grab a bite to eat

110 Grill (3)
Jade Palace (1)

....Meet a friend

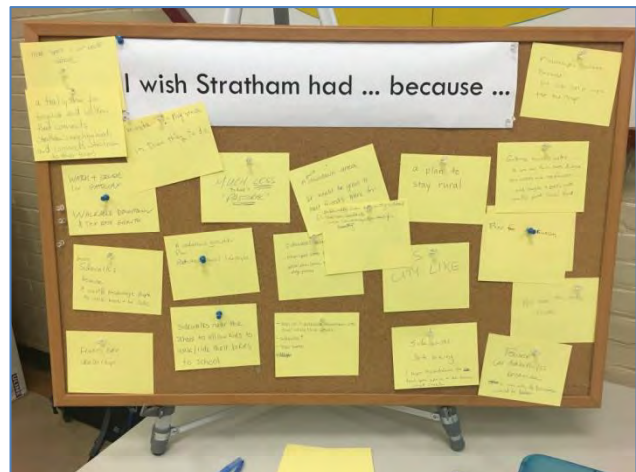
Stratham Hill Park (3)
in my neighborhood (2)
110 Grill (1)

....Show an out-of-towner

Stratham Hill Park (3)
fire tower (1)

I wish Stratham had ... because...

- Gateway sewer and water so we can have more diverse businesses and residences and maybe a café with really good local food
- Municipal water because it would help with the tax base
- Fewer car dealerships because of a variety of businesses would be better
- Full time fire and rescue
- Plan for agritourism
- Less city like
- A plan to stay rural
- Sidewalks
- Safe biking
- I hope it continues to shave open space and be somewhat rural
- No more drive, park, shop, drive, park, shop...Let's put in the infrastructure we need so we can get the businesses close enough together to walk
- More of a walkable downtown with food/coffee/shop options
- More sidewalks
- Town water
- Sidewalks around neighborhoods
- Municipal water for restaurants, etc.
- Splash pad/more toddler-friendly playgrounds
- Sidewalks near elementary school
- Less car dealerships
- More landscaped areas for beauty
- A quaint downtown area....it would be great to meet friends there for coffee, etc.
- Much less to keep it "pastoral"
- Movie theater, play venue...in town thing to do
- Controlled growth plan...protected rural lifestyle
- Sidewalks near the school to allow kids to walk/ride their bikes to school
- Fewer car dealerships
- More sidewalks because it would encourage people to walk more and be safe
- Water and sewer in gateway...walkable downtown and tax base growth
- A trail system for bicyclist and walkers that connects Stratham's neighborhoods and connects Stratham to other towns
- More space in our middle school



Attachment A: Responses from Participant Worksheets and Online Survey Results

Attachment A
Stratham Master Plan Update Public Workshop #1 Summary
Responses from Participant Worksheets and Online Surveys

WS #	Table #	1. What is something positive happening in Stratham? Why is it positive?	2. What has potential but needs improvement? What are some of those improvements?	3. How would you like to see Stratham in the future?	3a. Big Idea	3b. What are the opportunities and challenges to making this Big Idea/vision for the future happen?
1	1	1. The excellent school system! My husband works in both Manchester and Dover and we ultimately settled in Stratham because we knew we wanted our children to attend public school and Stratham is simply the best in the area. 2. The small town feel of Stratham - the community events such as the pancake breakfast, pizza in the park 3. Community Green Space - promotes outdoor activities for families, events at SHP, hiking trails, Stevens Park	1. Parks - safe play areas/equipment for younger kids (toddlers) 2. Hiking trails and walkways - connecting existing trails between SHP and neighborhoods 3. "Town Center" could grown to include restaurant/coffee shop/gathering areas for community	1. Maintain the small town community feel while developing in a way that promotes community gatherings and activities. "Downtown" walkable area with more restaurants, stores, etc.	n/a	Challenges: funding and resistance to change
2	1	1. Scamman Farm - corn maze, farmers market 2. New restaurants- 110 Grill 3. Stratham Hill Park activities - Wayne from Maine	1. Connectivity - safe walking spaces on long roads, trails, biking 2. "Town Center" - Where is it? What should it look like? 3. Gateway District - YES to town water and sewer, allow for low income housing (apartment buildings, elderly housing) 4. Conserve open space - NOT every piece of land needs a home - 2 acre lot to build should remain 5. Recreation center, town pool	1. Quaint, walkable, open space	n/a	n/a
3	1	1. Education - benefits future/current generations, many people want to move into town 2. "Feels good" - since moving here all town (offices, police, etc.) have been welcoming and promote modern yet old town feel 3. Stratham Hill Park (brings community together) 4. Conserving green space and natural resources - Smyk property, Scamman Farm, Stevens Park	1. Downtown area (more walkable sidewalks/options), places to meet but continue to keep it quaint 2. Stratham Hill Park playgrounds (could be larger/updated) 3. More "developed" shopping off exit 4. Many of these things would be improved with town water 5. Continue to conserve green space 6. Connecting trails for bikes/hikes 7. Old tech school - turn into something (pool/rec center, fields)	1. "Same but different/better" - highlight and improve what we already have, continue to conserve what we have while "polishing" and updating shopping/parks, etc.	n/a	Challenges: money and people who don't want change
4	1	1. Actively developing open space - beauty of greenery, fresh air, etc. 2. Stratham Fair - brings the town together 3. Community friendliness - we know our leaders	1. Could be more walking and bike friendly - sidewalks on busy roads, bike path? 2. SHP leash friendly area	n/a	n/a	n/a
5	1	1. Use of SHP increasing - good for health 2. Conservation easements - saving open space, important for wildlife, preservation of natural resources	1. Biking safely on roads 2. Walking safely on roads	1. Lots of open space with a walkable downtown area and good community space (place to meet up with others) 2. Diversity in housing = diversity in population	n/a	n/a
6	1	1. New families coming in and starting to drive positive change. 2. Increasing interest in town planning to allow development of new businesses and services to come into town in a controlled way. 3. Strong investment in open space	1. You have to drive-park-shop-drive-park-shop everywhere. Nothing is "walkable." A lot of this is due to low density development because everything needs an acre of leach field. 2. Route 108 corridor needs water and sewer so we don't become a car lot to the region. High-value businesses and services need infrastructure. 3. CMS - the expansion is much needed!	1. Centralized and walkable downtown/commercial district with a small-town feel, that gives businesses a place to go, while keeping our open space open, with housing options that help new families make a start here	n/a	n/a
7	2	1. Stratham Hill Park 2. Fair 3. Agriculture/farm stand 4. Possible water and sewer 5. Dense commercial district 6. Industrial park (taxes) 7. Conservation land 8. Schools	1. Commercial district density 2. Water and sewer 3. More conservation developments - clusters! 4. Town offices - future new facilities 5. Invasive species	1. New town office (with rec center), possibly at park 2. Work with other municipalities to reduce costs (County Government): sewer, water, fire, police, schools 3. Much denser Gateway with mixed use	n/a	n/a

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8	2	1. Library - teen room, late bus, A positive, safe place for middle schoolers to congregate after school. Lucia welcomes kids with open arms. Snacks are provided. 2. Stratham Hill Park - snowshoe hikes, pizza nights, Stratham Fair	1. Invasive species control 2. Poison ivy control	1. Keep its rural nature 2. Rec Center with pool	n/a	n/a
9	2	1. Stratham Fair 2. Stratham Hill Park 3. Conservation land acquisition and enforcement 4. Rural lands 5. Agriculture support - LSP, local food 6. Zoning enforcement 7. Lot sizes (over development protection)	1. Gateway District 2. Agritourism	1. Stay small!!! While managing growth, "Small Town America" 2. New Town Center incorporating offices, recreation center (pool?) 3. "Down Town" area with coffee shops, restaurants (walkable, etc), movies	n/a	n/a
10	2	1. New locals/tax base expanse 2. Participations 3. New ambulance	1. Commercial tax base/corridor/town sharing	1. More inclusive to reduce need to go outside the community for resources	n/a	n/a
11	2	1. More interaction between the generations 2. Master Plan 3. New ambulance 4. 110 Grill	1. Sidewalks 2. Bike pathways	1. Market Basket redone (which they can't due to sewer/water issue now), i.e., improvements for the quality of the business district 2. Equitable housing opp. 3. Use of the old school across from Stratham Hill Park	n/a	n/a
12	2	1. The town is increasing conservation land 2. The town has made its first investment in renewable energy (i.e., Police Station) 3. 40 homes and businesses have invested in solar in 2017	1. Expand renewable energy projects within Stratham. Create TIF for capital projects for renewable energy	1. Diverse housing for all income levels	n/a	n/a
13	3	1. Rural focus 2. Interest in history 3. Ag focus 4. Conservation easements	1. Center - community	n/a	n/a	n/a
14	3	1. New restaurants, meeting places for people to go 2. New fire house	1. Water and sewer - sewer is more important	n/a	n/a	n/a
15	3	1. Commercial district with sewer - keep high density development centralized 2. Stratham Hill Park - vibrant, outdoorsy, central 3. Town Center - quaint/restaurants	1. Need sewer along commercial district to get density 2. Connector roads vs. cul-de-sacs 3. Town Center needs to get critical mass	1. Attractive walkable "downtown" with shops and restaurants and high density living and green space 2. Connected, safe walkable/bikable roads 3. Preserve ag, conservation, rural areas	n/a	n/a
16	3	1. Conservation easements 2. Parks	1. Town government transparency and communication 2. Plan to proactively manage property taxes	1. Rural 2. Concentrated business district	n/a	n/a
17	3	n/a	n/a	1. Check school growth	n/a	n/a
18	4	1. Lots of open space for many activities - biking, walking, sports 2. Route 108 committee working on adding water and sewer to Gateway - much needed to move town forward	1. Getting more people involved in decision making/committees 2. Increase variety of businesses	1. Maintain agricultural entities as the center of the town	Somehow link all committees to allow a single stream of information to be disseminated weekly through newspaper, Facebook, website for consistency	n/a
19	4	1. Public discussion of Master Plan 2. Raising awareness about transportation issues on Route 33 and town roads 3. SMS CMS 4. Conservation of land	1. Stratham Hill Park gets a little bit crowded (dog, bikes, walkers) 2. Roads need safe spaces for bikes/walking 3. More art displays and display of fun and beautiful things 4. CMS needs to be expanded 5. Add additional commercial districts	1. Multigenerational 2. Walkable, bikable access to public transportation 3. More than one commercial district town center (all connected by bike trails) 4. More housing options, affordable housing 5. CMS being expanded and outside classroom added	Connectivity, walkability, bikability	Opportunities: Smart

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20	4	1. New restaurants in town 2. Stratham Hill Park has new programs (biking/running, etc), pizza nights 3. People seem interested in improving the schools (CMS)	1. Fire and rescue services - full time! 2. CMS - pods that fit the population 3. Safety related to increase activities/population, traffic lights	1. Preservation of the land with improvements for increase business opportunities and community activities. 2. A safe place to raise families and educate our children but also a place to support our needs as the population grows and ages. 3. Regulations such as Bedford, NH has where you can only use certain colors and build certain structures, etc.	Define a Stratham identify for a nice looking center (no more auto dealers)	n/a
21	4	n/a	n/a	1. Well preserved historic buildings 2. Diverse mix of residents - ages and income levels	Showcase farms, weekly updates	n/a
22	4	1. New restaurants - always wanted somewhere to go locally 2. Great elementary school 3. Community events - bring people together - fair, Family Fun Day 4. Farms - farmers markets, keeps us locally	1. Middle school - space issue 2. Route 33 traffic - not sure answer is 3. Full time fire and rescue	1. Not very commercial, parks, land, farms, not a lot of traffic, residential space, don't want it to turn into a highly developed area, keep old school charm	n/a	n/a
23	4	1. More restaurants - closer to home 2. Activities at Stratham Hill Park 3. Our farms 4. Small neighborhoods	1. Businesses need more charm - instead of the strip mall feel 2. Auto alley takes away from charm 3. Need more beautification	1. I've lived here for over 30 years - would like to see less commercial development on 33 and bring back the "charm" Stratham had. Auto alley really is our town center and what people see - possibility of Gateway might help if it comes to fruition 2. Not a strip mall feel	Better communication on what is going on in Stratham	n/a
24	4	1. Updating the Master Plan (old one is dated/good to look to the future as town decisions are made) 2. Town library - IMLS finalist - important resource for the community 3. New restaurants 4. Local farms	1. Filling empty space near Market Basket 2. Enlarging part of the middle school	1. Good school systems 2. Access to local produce and farms 3. More inclusive town center around library and town hall 4. Fewer car dealerships 5. Beautification of town 6. Restaurants	n/a	n/a
25	4	1. Farm and tourism - Barkers, Scamman - interesting, varied, brings in people 2. New business Gateway, Town Ctr - money, fullness, richness of experience 3. Library, schools - highly rated, innovated 4. Pedestrian committee	1. Gateway - ped access - water and sewer 2. Networks (off road?) to connect neighborhoods, quaint and accessible 3. Safe passage on busy roads	1. Neighborhoods connected 2. Safe to be pedestrian/cyclist 3. Vibrant, varied Gateway businesses, including commercial and retail 4. Open space more open to public	n/a	n/a
26	4	n/a	n/a	n/a	Define Stratham Identity (Town Center)	Challenges: more citizen involvement Opportunities: showcase farms and food services
27	5	1. The maintenance of open spaces and keeping of the farm land 2. The town efforts to keep the "rural" or "village" feel of the town 3. Stratham Hill Park, good place to walk 4. Depot Road - Discovery Center 5. No town sewerage, positive because (\$\$) increase taxes follow installation always	1. Clearer notification to townspeople of "Master Plan" progress NOT on Facebook or Twitter! Need better website 2. Need currency of information 3. Filling pot holes in a timely manner	1. Bucolic, rural, quiet 2. Limit building permits, limit density of building 3. Maintain population stability 2. Keep ANY development away from neighborhoods	Maintain size/acquire conservation land	Challenges: money to acquire conservation land Opportunities: soliciting gifts of land
28	5	1. Stop building more residential developments 2. Keep Stratham "pastoral" and "bucolic" 3. No Gateway water/sewer	1. New Market Basket, water tank for sprinklers	1. MORE bucolic and pastoral 2. Keep population stable, limit growth	Maintain size and nature (bucolic/pastoral)	Challenges: how to limit population growth Opportunities: Keep desired nature of town
29	5	1. People move here for school system 2. Open spaces, farm lands 3. The park offers much for residents of all ages 4. Great Bay Discovery Center	1. Shopping areas are convenient but unattractive. They do not draw people to our town. 2. Communication, currency	1. I'd like to see more of a village. 2. Keep our population at present numbers. 3. Acquire more conservation land to help control population. 4. Controlling population will prevent a need for more/larger schools.	n/a	n/a

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30	5	1. In the last 5 years, Stratham Hill Park has become a vital part of the community 2. Programs - rec department 3. Thursday night pizza 4. Bike races 5. Ice skating	1. Downtown area 2. Traffic lights	1. More sidewalk 2. More traffic lights	Progress has been made in Stratham the last 5 years with Public Works, Library, Police, Parks and Rec and continue forward progress.	n/a
31	5	1. Stratham's open spaces 2. Limit building permits 3. Stratham Hill Park - keep in good condition	1. Traffic lights at Stratham Hill Park	1. Maintain its character	n/a	n/a
32	5	1. Scammon Farm - living/working farm with public activities 2. Stratham Hill Park 3. Proximity to commercial but still rural 4. Firehouse for much larger city 5. Restaurants without expensive infrastructure	1. Firehouse emergency services - specifically EMS and fire	1. Static - Stratham is a beautiful town 2. Little Italy Restaurant (closed for 20 years) near traffic circle	More conservation easements.	n/a
33	6	1. Excellent schools - It is why young families come here, maintains property values	n/a	1. Like it is now 2. Balance of rural/suburban	n/a	n/a
34	6	1. Stable well run services 2. Reasonable taxes 3. Land use balance	1. Commercial district needs to be stabilized - town water in Gateway, town water in commercial district	1. The same as it is today but with a more developed commercial sector 2. Better attendance at town meetings through communication, ZBA example 3. A moving of the bell curve a bit more left on financial and demographics	n/a	n/a
35	6	1. The way the town, members of the community, and landowners have worked together to protect farms and farmland in town. We have maintained diverse farms in this growing area - for future generations.	1. More diversity of housing and businesses so that suitable, affordable housing for all ages, types of workers 2. Town water and sewer needed to support these goals	1. Stratham continues to grow and thrive - while retaining its small town character and strong sense of community - supporting new economic opportunities while preserving its long time values of excellent schools, supporting local farms and agriculture, and conserving natural resources	n/a	n/a
36	6	1. There is still time to have direction for what we want 2. Historic preservation for our town 3. Work with Exeter/towns	1. Water and sewer to bring businesses 2. Recruit businesses, housing to recruit younger people to NH	1. Town meetings - more input for better understanding, people realize the economics of community 2. Not in my backyard 3. Teach civics in HS 4. Social media and develop it 5. Some now want change 6. Business positive tax 7. Town identity 8. Communications 9. Vibrant town center 10. Manage the message - social media savvy 11. Make Stratham a destination	n/a	n/a
37	6	1. Convenient to major highways 2. Shops 3. Pumpkins	1. Energy - tap the pipeline 2. Wastewater	1. Commercial district expanded to accommodate multi-family, retail, business, zone for small business/tradesmen	n/a	n/a
38	6	1. Town government run well 2. Good schools 3. Open space	1. Housing affordability, no density 2. Town center - viable? 3. Optimize commercial development	1. Mix of ages 2. Preservation of open space 3. Employment IN town 4. Density where infrastructure	n/a	n/a
39	6	1. Great library service 2. Good school system 3. Stratham Fair 4. Town should have public sewage in commercial area if they want to expand tax base and keep take rate from growing	n/a	1. To have people from all walks of life, physical workers, office workers, Netherlands	n/a	n/a

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40	Online	We have more restaurants to eat lunch	n/a	n/a	Not asked online	<p>Opportunities: We need public water supply to help grow business district</p> <p>Challenges: Are taxes are too high and we must get more land into business districts</p>
41	Online	Having a large amount of open space and community land	Stratham needs more sidewalks and bicycle paths. Mater plan needs to allow for other forms of transportation other than cars. Linking up a bicycle commuter path with Portsmouth, Greenland and Exeter would help alleviate congestion on rt 33 and encourage more people to leave their cars at home. It makes me sad that my kids and other kids in the town cannot ride their bikes around town safely (like most of us did when we were young) due to all the traffic on 33. We need to make it safe for adults and kids to be able to go to the library, grocery stores, etc. by either walking or riding bikes. I can't count the number of time I have seen people walking to the grocery stores on the side of the road putting themselves in danger because there is no place to walk safely. Sidewalks are great for walking but not so much for bikes and people need wide paths to encompass both.	I envision Stratham with wide walking/bike paths on RT 33/108 that allow pedestrians and bikers. We need to allow for different forms of transportation. Regular bikes, electric bikes, electric scooters, are all now available and much better on the environment than cars. I would also like to see a community pool at Stratham hill park.	Not asked online	<p>Opportunities: Is there state funding we can tap into to help pay for bike/walk paths? I am willing to pay more in taxes to help subsidize this. Can we have community solar farms on land that is set aside for conservation? Residents that are willing to pay for a share could contribute to pay for solar power without having to put solar panels on their houses. This is a much more efficient and cheaper way of providing solar power, also many peoples houses cannot have solar power due to trees and location.</p> <p>Challenges: Getting funding for bike paths would be a challenge but could be offset by state funding and additional taxes. This could be done over a period of time to help spread out the cost. Also would need permission from land owners to allow for multi-use paths. Having community solar would require approvals to use conservation land in this way.</p>
42	Online	A new cell phone tower? It would be nice to have cell service in Stratham.	It would be nice to see "downtown" development.	Low taxes	Not asked online	Opportunities: Strong private partnerships with development
43	Online	The Gateway project—we need to allow businesses to operate in Stratham. It will help to offset residents tax burden	I love the sidewalks and street lamps in the town center. I look forward to seeing that grow	I would like to see a mix of residential and commercial space thoughtfully designed in the gateway district	Not asked online	<p>Opportunities: The committee is reviewing and gaining input from residents</p> <p>Challenges: Educate those who fear this will erode Stratham</p>
44	Online	There is a great deal of thinking about the future, conserving open lands, assembling parcels for future bike/ped connections, controlling important parcels on the 108 corridor. We are fortunate to have forward thinking volunteers, activists, and elected officials on the same page.	<p>The 108 corridor could contribute immeasurably to Stratham's civic life as well as financial sustainability love the long haul.</p> <p>Redevelopment of the corridor using low impact design and through denser development can make us better stewards of our water ways. In addition, the creation of housing for young workers and residents looking to downsize could contribute significantly to the region. Office/research space could also support the region's growth and help "lift every boat".</p>	A place with a civic spirit and community gathering places that are meaningful and contribution to lives of people at each stage of life. We need to ensure a reasonable tax burden for high quality services, but not develop into or be seen as "exclusive" and cloistered when it comes of the needs of the region and people form all walks of life.	Not asked online	<p>Opportunities: Invest in infrastructure improvements that will allow proper and orderly development of the 108 corridor over time.</p> <p>Challenges: We need to communicate about the broad benefits of development, which includes environmental benefits (redeveloped parcels with improved stormwater management) as well as community vitality (through mixed-use development to include housing, office, and civic uses) - in addition to an expanded tax base. We should not only focus on the benefits as financial in nature. We need to reframe the benefits discussion so the "scarier" and arguable "payoffs" don't focus so much scrutiny.</p>
45	Online	active use of stratham hill park - for example pizza night in summer	sidewalks	I wish it could be more of a walking, biking town	Not asked online	<p>Opportunity: I don't know</p> <p>Challenges: challenge is that town does not see this as a priority</p>

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Responses from Participant Worksheets and Online Surveys

WS #	Table #	1. What is something positive happening in Stratham? Why is it positive?	2. What has potential but needs improvement? What are some of those improvements?	3. How would you like to see Stratham in the future?	3a. Big Idea	3b. What are the opportunities and challenges to making this Big Idea/vision for the future happen?
46	Online	more recognition of biking and walking as an option for transportation in Stratham. It is positive because it will reduce car traffic, improve people's health, and improve safety	Routes 108 and 33 are nice and wide with huge shoulders and the potential to easily add biking lanes or pedestrian pathways. There also needs to be a "complete streets" model or vision to bring us more up to date and marketable as a place to live. Pedestrian safety islands and crosswalks would allow people to get from one side of town to the other on foot, especially near Stratham Hill Park.	Diverse with more affordable housing to attract young people who are just starting out. Connected neighborhoods rather than mostly dead end developments and cut-de-sacs. A movie/theater would be nice.	Not asked online	<p>Opportunities: Join the PCAC, talk to town planners, be part of Master Planning, but then later advocate for following it rather than just doing what is profitable and easy for developers</p> <p>Challenges: Many roads are too narrow and cars travel too quickly for folks to feel comfortable walking or biking. Travel lanes could be made narrower to calm traffic and painted fog line made to delineate a place for walkers/bikers to travel.</p> <p>Our limited infrastructure would be extremely costly to upgrade and modernize with sidewalks for pedestrians. However the town owns multiple disconnected parcels of lands that could/should be connected with off road pathways perhaps utilizing power line easements. When developments, roadways, changes are put into effect, it would be helpful and efficient to widen the planning lens across the town to see how things connect and traffic flows. The current town planning model only focuses on small areas at a time rather than expanding the view of how a development influences the entire town. For example, Stratham Heights Road has become a main artery because every road that spills onto it is a disconnected dead end development. This has created tremendous volume and speed on a country road that was not built to be a large thoroughfare, resulting in a road that is unsafe and impractical.</p>
47	Online	Community events for families and children with life threatening or debilitating diseases. It has brought the community together including families of all ages who may not know each other. Events (SKs, fundraisers, etc) bring awareness to the families as well as provide a social environment for residents to fellowship.	There seems to be a gap between older residents and younger families. I feel the town meeting could help bring residents together if it was held on another day/time of the week.	I would like to see Stratham help more families in need right here in Stratham. The elementary school used to provide an opportunity for families to reach out to other families but it no longer provides this opportunity.	Not asked online	<p>Opportunities: I would like to see more green space kept. No community looks back and wishes they had built up land, rather than keep it green. We live in a congested area of NH and we need to keep open space.</p> <p>Challenges: n/a</p>

Stratham Master Plan – Public Forum #2
May 13, 2019
Summary of Polling Boards

Accessory Uses on Route 33

Place a dot next to the types of uses that are appropriate as accessory uses or home occupations on Route 33. Use a sticky note to provide other examples you support.

Types of uses	Number of dots
"Maker Space"	14
Office	18
Art Studio/Gallery	19
Small Food Business	19
Dance Studio	12
Music Studio/Instructor	21
Personal Training/Exercise Studio	11
Hair Stylist/Barber	14

Walking & Biking

Use a dot to vote on these strategies. Use a sticky note to tell us how to improve it.

Strategy	Agree	Disagree	Needs Improvement
	<i>Number of dots</i>		
1. Adopt a Complete Streets policy that will commit the Town to seriously considering all possibilities for incorporating walking and biking infrastructure in new roads and re-design.	17	1	1
2. Develop a Trails Master Plan that maps out existing resources and focuses on making connections between neighborhoods, parks, and mixed-use centers.	16	0	3
3. Support the PCAC by including their work in the Capital Improvement Program planning, the development of any park/forest management plan, and discussions with NHDOT.	11	0	0
4. Develop an expanded menu of road design standards to be used at the local level that include different configurations for pedestrian and bicycle elements.	13	0	3

Housing Types

Place a dot next to the types of housing you could envision in Stratham.

Housing Types	Number of dots
Multi-family Community	10
Large Home Conversion	9
Duplex	11
Bungalow	14
Cottage Community	17
Townhouse	15
Top-of-the-Shop Apartments	18
Small Multi-family	11

Appropriate Accessory Uses on Farms?

Place a dot next to each use:

Red dot = "I don't think so."

Yellow dot = "Maybe. I need to think about it."

Green dot = "I'm fine with this."

Types of uses	Number of Dots		
	Green dot = "I'm fine with this."	Yellow dot = "Maybe. I need to think about it."	Red dot = "I don't think so."
Festivals	5	6	0
Hosting Private Events	18	0	0
Fitness Classes	20	0	0
Bed & Breakfast/Inn	16	2	0
Instructional/Education Classes	19	3	0
Food Service	17	1	0

Comments:

- Festival- Yellow- w/ limited number of people for safety, sewerage and environmental impact
- Instructional/education classes- Yellow- What kinds of classes?

Managing Open Spaces

Use sticky notes to identify parks and conservation lands where the proposed strategies can be used. Provide other strategies that are not listed and where they can be best applied. Use a dot to show you agree with proposed ideas. Use a comment card to provide more information.

Strategy	Which sites? What specifics should be addressed at these sites with this strategy?
Perform trail maintenance (blazing, litter clean up, maintaining trail markers, etc.).	8
Develop a master plan that outlines existing and future uses of a site and proposes recommendations to address needed improvements.	9
Install amenities to support usage and upkeep (trash receptacles, signage, etc.)	4
Manage invasive species.	9

Strategy	Which sites? What specifics should be addressed at these sites with this strategy?
Manage conflicts among different types of users.	8
Pursue something else (and where)	Solar farms Evaluate buildings at SHP and usage and determine needed ones

Comments:

- try to link up open space and conservation land for off-road cross-town travel (people and animals)
- Steven's park needs restrooms, drinking fountain, and snack shack area

What's missing?

Use a sticky note to tell us what we missed.

- Electric vehicle plus in Gateway
- Planning and preserving historic buildings and views
- Rush hour traffic from
 - o Dartmouth medical center as an example of public transit
- Public transportation
 - o Buses not accessible
 - o Regional like Dartmouth medical center
- How about a farmer's market at Stratham Hill park?
- Has there been any discussion about access to public transportation? Maybe that could be a cheap way to help alleviate traffic and provide for senior citizens and young adults
- Public transportation (108/33 corridor) especially for elderly
- Rules to calm traffic, i.e. narrow travel lanes/create side lines for bikers and walker
- Discussion of round about vs extra traffic light on 108
- Acknowledgment, variances for historic buildings that cannot effectively meet all the modern building codes.

Comments on Notecards

- Managing open space- increase park staff to cover current and growing needs
- Walking and biking- all conservation land should be accessible via trails. Otherwise don't buy it
- Hosting private parties- limit # to avoid issues w/ neighbors. Must have proper parking (not street)
- Context is important- size type of farm, location, and type of activities
 - o Is it really a farm? Accessory use should relate to and support the existing farm
- Festival- depends what type and where. I think low is fine in commercial area. What about residential?
- Festivals- yes- commercial district, no- residential

Stratham Safe Routes to School Action Plan



ACKNOWLEDGMENTS

Safe Routes to School Committee

Bettina Kersten, SRTS Committee Co-Chair

Melissa Gahr, SRTS Committee Co-Chair

Tavis Austin, Stratham Town Planner

Colin Laverty, Stratham Public Works Director, Town of Stratham

Seth Hickey, Stratham Parks & Recreation Director

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Stratham Safe Routes to School Action Plan

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Acronyms

AADT	Average Annual Daily Traffic
AASHTO	American Association of State Highway Transportation Officers
ADA	Americans with Disabilities Act
BWANH	Bike-Walk Alliance of New Hampshire
CIP	Capital improvement Program
CMS	Cooperative Middle School
FHWA	Federal Highway Administration
GIS	Geographic Information Systems
HAWK	High-intensity Activated Crosswalk Beacon
MUTCD	Manual of Uniform Traffic Control Devices
NHDOT	New Hampshire Department of Transportation
PCAC	Stratham Pedestrian Cyclist Advisory Committee
PTO	Parent Teacher Organization
RPC	Rockingham Planning Commission
RRFP	Rectangular Rapid Flashing Beacon
RSA	NH Revised Statutes Annotated (state laws)
RTP	Recreational Trails Program
SABR	Seacoast Area Bicycle Riders
SAU	School Administrative Unit
SMS	Stratham Memorial School
SWOC	Strengths, Weaknesses, Opportunities & Challenges analysis
TAP	Transportation Alternatives Program
TEC	The Engineering Corp

This plan has been prepared by the Rockingham Planning Commission and the Stratham Safe Routes to School Committee in cooperation with the U.S. Department of Transportation – Federal Highway Administration and the New Hampshire Department of Transportation. The contents of the report reflect the views of the authors who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the Federal Highway Administration or the New Hampshire Department of Transportation. This report does not constitute a standard, specification, or regulation.

I. Stratham Safe Routes to School Overview

1.1 INTRODUCTION

Fifty years ago, the sight of children walking or biking to school was common. In 1969 about 48 percent of children 5 to 14 years old walked or rode a bicycle to school regularly (USDOT). Over the past several decades this number has dropped dramatically, with only about 13% of children age 5 to 14 walking or bicycling to school in 2011. (National Center for SRTS)

This change hasn't happened overnight, and it has multiple causes. Traffic volumes and speeds have increased in most communities. New schools have been built on the outskirts of communities, further from residential neighborhoods. Roads may have been widened or new roads built to move traffic quickly and efficiently, but with limited consideration of safety for people walking or bicycling. Some parents see these changes and decide it is safest to drive their children to school, adding more traffic to the roadway.

This change has broad implications, ranging from increased school zone traffic congestion and auto emissions, to reduced child health outcomes as less physical activity contributes to increased rates of childhood obesity, anxiety and depression. This increases the risk for long term health problems such as heart disease and diabetes. It also means a generation of children coming of age accustomed to being driven for all trips, making future efforts to encourage active transportation more difficult.

The purpose of Stratham's Safe Routes to School (SRTS) program is to enable and encourage kids, including those with disabilities, to walk and bicycle to school and to make walking and bicycling to school safer and more appealing. The SRTS program is also designed to facilitate the planning, development and implementation of projects that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools.

The Safe Routes to School approach encourages students to bike or walk to school through activities and incentives that remind kids how much fun biking and walking can be. The program also addresses the safety concerns of parents by supporting enforcement of traffic laws, identifying needs for road safety improvements, and educating the public about safe biking, walking and driving practices. This integrated approach is summarized as "the 5Es" – Education, Encouragement, Enforcement, Engineering, and Evaluation. These categories provide the framework for the recommendations of the plan.

This *Safe Routes to School Action Plan* for Stratham Memorial School (SMS) and the Cooperative Middle School (CMS) is funded through a planning grant from NH Department of Transportation. It summarizes the work to date of Stratham's Pedestrian/Cyclist Advisory Committee (PCAC) and Safe Routes to School Committee to develop the Town's SRTS program. It analyzes data on current levels of riding and walking, and parent concerns about allowing their children to ride and walk. It assesses the safety of routes currently used by students to access the two schools. It offers a series of recommendations for engineering and non-infrastructure strategies to encourage more Stratham kids in grades K-8 to walk or bike to school and better ensure that they can do so safely. It concludes with a series of recommendations for implementing these strategies and sustaining the Safe Routes to School effort.

1.2 THE SAFE ROUTES TO SCHOOL MODEL AND THE “5 Es”

The national Safe Routes to School initiative got its start in 2000 when the National Highway Traffic Safety Administration (NHTSA) funded pilot programs in Marin County, CA, and Brookline, MA, with a goal of developing a national model for encouraging active transportation to school. The initiative in Marin County involved nine pilot schools in four locations. Each of the schools developed plans for improving safety through sidewalk improvements and other engineering solutions. Each school also held periodic Bike/Walk to School Days and participated in a Frequent Rider Miles contest that rewarded kids who came to school walking, cycling, by carpool or by bus. By the end of the year-long pilot program the schools saw a 57% increase in the number of kids walking and biking to school, and a 29% decrease in the number of children arriving by car (other than in a carpool).

One of the key findings of the Marin and Brookline pilot programs is that getting more kids to ride and walk to school involves more than simply building more sidewalks and bike paths - though this is important. The pilot programs developed the integrated approach known as the “5Es”. These are summarized below.

1. Education – The education component of SRTS includes initiatives targeting students, such as bike safety rodeos, in class presentations on pedestrian and bicycle safety, and information on exercise and health. It also includes initiatives targeting the rest of the community, such as yard signs, public service announcements (PSAs) or on-street warning signage.
2. Encouragement – The encouragement component of SRTS involves anything that makes biking and walking to school fun and appealing. Things Rye has done to date include logo contests and walk/bike to school days. Other schools have developed contests or awards to see who can walk or bike most frequently or the most miles.
3. Enforcement – Ensuring enforcement of traffic laws, especially in schools zones and on routes used by children to get to school, is critical to ensuring child safety and parent peace of mind. Examples of enforcement measures include speed monitoring and enforcement, police presence at school arrival and let-out times, and use of crossing guards.
4. Engineering – Engineering improvements can include building and ensuring proper maintenance of sidewalks and bicycle routes, striping crosswalks, installing traffic calming devices, and improving safety signage in school zones.
5. Evaluation – The final key to the success of SRTS programs is an effective evaluation component. Central to all SRTS programs are surveys of classrooms and parents to track the numbers and percentages of kids riding and walking to school, develop a clearer understanding of parents’ concerns about their children’s safety and why they are or aren’t allowed to ride or walk to school, and identify new ideas for improving the program.

The success of the Marin and Brookline pilot programs lead to funding for a national Safe Routes to School initiative being included in the 2005 federal transportation bill known as SAFETEA-LU (the Safe, Accountable, Flexible, Efficient Transportation Equity Act – Legacy for Users). The Federal Safe Routes to School Program was folded into the Transportation Alternatives Program (TAP) in 2012, and school zone

safety improvements continue to be one of the most common types of TAP projects funded in New Hampshire and nationally.

In New Hampshire 62 communities have developed Safe Routes to School while nationally more than 11,370 (youth.gov) schools have developed SRTS programs. The Safe Routes to School program has proven nationally to be an effective model. Between 2001-2010 pedestrian injury rates in New York during school travel hours in school zones with SRTS programs dropped 33 percent while the pedestrian injury rate in school zones without SRTS interventions remained unchanged. (DiMaggio 2013). Nationally schools participating in SRTS programs saw an increase in the percentage of students walking to school from 7 percent to 15 percent.

1.3 DEVELOPMENT OF STRATHAM'S SRTS EFFORT

Stratham's Safe Routes to School initiative has developed out of the Stratham Pedestrian and Cyclist Advisory Committee (PCAC). The PCAC was established in 2017 to assist in developing a new version of the town's master plan and updating the town's planning regulations by working with town officers and committees with the goal of improving the safety of pedestrians and cyclists as well as connecting existing trails and public lands in Stratham. The PCAC has established a series of core principles to guide their work. These include:

- Walking and cycling are inexpensive and universal activities for the preservation of health for people of all ages, including children and seniors, and should be easily accessible to the entire community.
- Everyone has a right to walk, run and cycle safely in his/her own neighborhood and town.
- Cycling and walking are the most environmentally sustainable forms of transportation, and include commuting to work and school.
- As a form of transportation, cycling and walking requires infrastructure which should be addressed in town planning and regulations.
- Walkers and cyclists are experts of their own streets and neighborhoods and must be included in Stratham's planning process.

The PCAC has worked to promote a range of education and encouragement activities such as annual activities for bike to school day in May and a weekly Walking Wednesdays event during the spring and fall where SMS students meet at Stratham Hill Park and walk a mile to school as a group along park trails.

In late 2017 members of the PCAC approached Rockingham Planning Commission for assistance in applying for Safe Routes to School grant funding from the New Hampshire Department of Transportation. The Town of Stratham applied for and received funding for this SRTS Travel Plan, as well as an SRTS Start-Up/Non-Infrastructure funding which can be used to implement a number of the education, encouragement, enforcement and evaluation strategies outlined on the following pages.

1.4 PLAN STRUCTURE & PROCESS

The broad purpose of this Safe Routes to School Action Plan is to set for a vision for how Stratham will develop its Safe Routes to School program to achieve the following program goals:

- Encourage students in grades K-8 to walk and bicycle to school
- Ensure that students are able to walk and bicycle to school safely
- Encourage students to participate in healthy physical activity – whether in getting to school or in other aspects of their lives
- Encourage Stratham families to consider alternatives to driving for a range of short trips, in order to reduce traffic congestion and improve air quality.

The development of a Travel Plan will also be an aid to the Town in pursuing Federal funding for pedestrian and bicycle infrastructure project through the Transportation Alternatives Program. This grant program, managed by the New Hampshire Department of Transportation (NHDOT), is the primary source of Federal funding for local sidewalk, trail and bicycle route projects. Priority has historically been given to projects that improve safe access to K-12 schools. More information on TAP and other funding sources can be found in Section 3.2 – Opportunities.

The study area for this Travel Plan includes a two mile radius around each school and is shown in Map 1. The two schools are about 3.8 miles apart, so two-mile zones overlap slightly.

Information Sources

The Travel Plan development process has been overseen by the Stratham Safe Routes to School Committee, made up of staff from the two schools, multiple Town departments (Planning, Public Works, Police, Parks & Recreation), parents of school age children and other community members. Figure 1 shows a roster of Safe Routes to School Committee members on the following page.

The Travel Plan draws on a broad range of data sources and community input. These include:

- A survey of parents of SMS and CMS students administered in April 2018
- School zone traffic and speed studies conducted in April 2018
- An initial parent forum held in early June 2018
- Tabling at three “Pizza in the Park” events Stratham Hill Park during July 2019
- Interviews with administrators and other staff at SMS and CMS in August 2018
- Site walks at SMS and CMS to observe AM arrival and PM departure in September 2018
- A second parent forum held in February 2019
- The diverse expertise brought by members of the SRTS Committee identified above.

Findings from the classroom and parent surveys are introduced in Section 5 – Public Input and Other Data, and summarized in Section 6 – Key Issues, Challenges and Opportunities.

Map 1: Travel Plan Study Area

School Zone Study Area

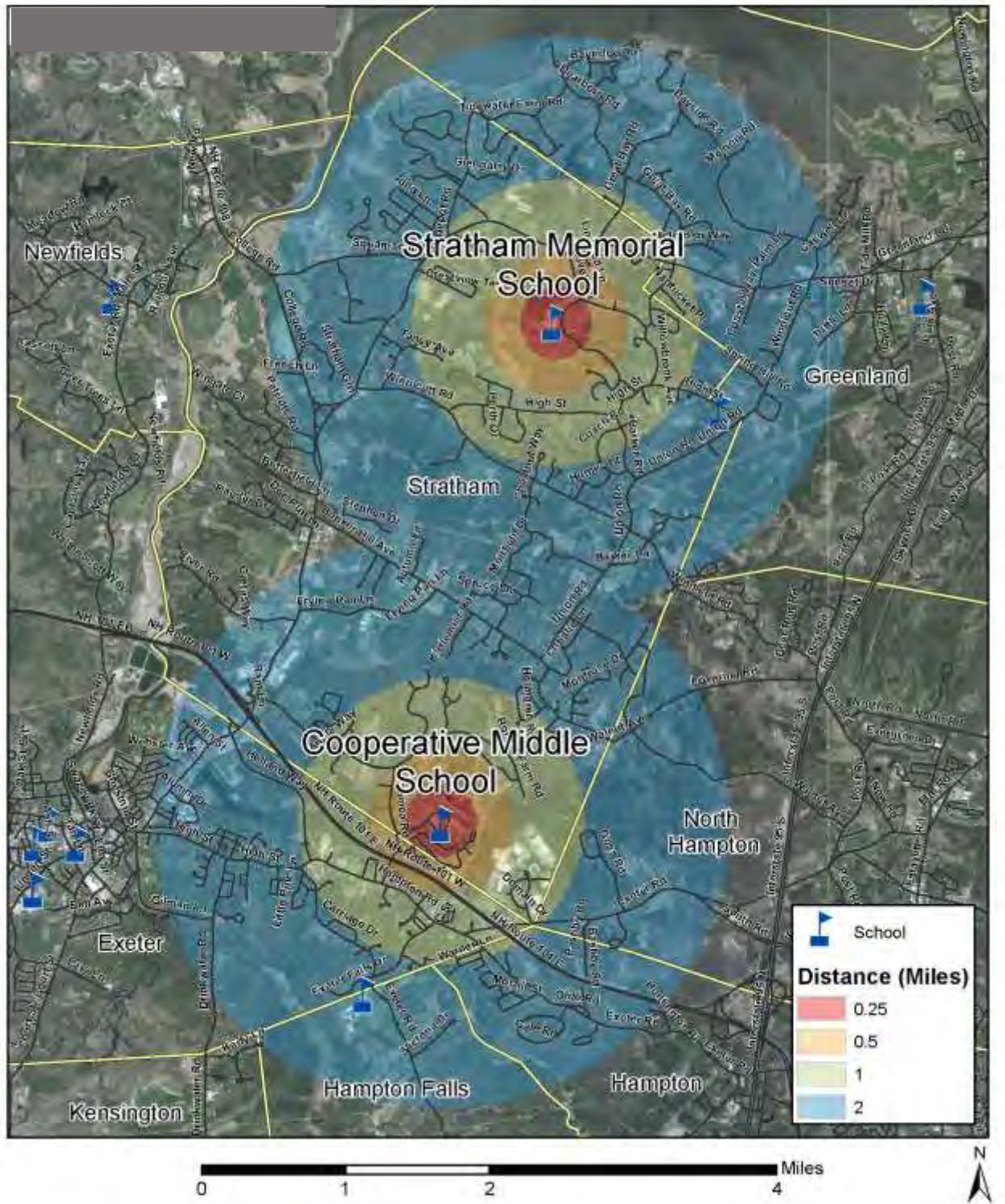


Figure 1: Stratham Safe Routes to School Committee

Name	Affiliation
Bettina Kersten	SRTS Committee & PCAC Co-Chair, SMS Parent
Melissa Gahr	SRTS Committee & PCAC Co-Chair, CMS parent
Tavis Austin	Town Planner, Town of Stratham
Colin Lavery	Public Works Director, Town of Stratham
Seth Hickey	Parks & Recreation Director, Town of Stratham, PCAC
John Scippa	Chief, Stratham Police Department
Katelyn Belanger	Assistant Principal, Stratham Memorial School (SMS)
Tiffany Locke	SMS PE Teacher
Pamela Hollasch	PCAC, SMS Parent
Jennifer Antonakakis	SMS parent, PCAC
Sue Garneau	CMS Teacher
Stephanie Frigon	CMS Experiential Education Director
Lindsay Pope	CMS Teacher
Hayley Hitchmoth	SMS Parent
Andrea Benson	SMS PTO President, PCAC, CMS Parent

II. Existing Conditions

The SRTS Committee and the consultant team drew on a range of input sources to develop the findings and recommendations for this Travel Plan as described in the introduction, including a survey of parents of SMS and CMS students, interviews with administrators and other staff at the two schools, input from parent forums and tabling at community events, site visits to the two schools, and traffic data collected by the Stratham Police Department and Rockingham Planning Commission. Findings are summarized in the following pages.

2.1 COMMUNITY PROFILE

Stratham is a growing New Hampshire Seacoast town bordered to the north by Great Bay, and by adjacent communities of Newfields, Exeter, North Hampton and Greenland. The town was settled in 1631 and incorporated in 1716, and its history as a rural agricultural community is carried through in its transportation infrastructure even as agricultural land has been subdivided into residential developments over the last forty years. The 2010 Census population count for the town was 7,255, while the Census Bureau's most recent 2016 population estimate is 7,403.

Land Use in the community can be largely described as a mix of rural residential and suburban subdivision development amid working agricultural land and conservation land. The town is bisected by two major highways: Route 108 running north-south which joins at the Stratham traffic circle with Route 33 running northeast-southwest toward Portsmouth. Much of Route 108 is lined with highway oriented commercial development, which increases in density as it heads south toward the interchange with Route 101 at the Exeter Town Line. Route 33 between Stratham Circle and Portsmouth has limited commercial development east of the town center, though carries high traffic volume at high speeds. The other significant pocket of commercial development in town is Stratham Industrial located off Route 111 in the southeast corner of the town and is accessed from Exeter. The industrial park is home to three of the town's top five employers.

The Stratham Master Plan was last updated comprehensively in 1998. The Plan's transportation chapter notes that up to that point the Town had not encouraged construction of sidewalks in new residential development due to the lack of sufficient population density to warrant the construction and maintenance expense. The Master Plan does however call for the Town in the future to add sidewalks in three locations, including the roads close to Stratham Memorial School, on Guinea Road serving the Cooperative Middle School, and in the shopping district along Portsmouth Avenue. Stratham's subdivision regulations stipulate that the Planning Board may require installation of concrete sidewalks of a minimum width of six (6) feet along subdivision roads, though this is not commonly done. There are few sidewalks in the community today. These include short stretches along Route 108/Portsmouth Avenue from the Exeter town line north to the entrances to Shaws Supermarket and the Staples Plaza; in the town center district along Route 33, and on the grounds of the two schools.

In 2008 the Town developed a Master Plan for its Gateway Commercial District along NH Route 108 which called for major redevelopment of the current commercial strip into a mixed use commercial/residential district with sidewalks and walking paths, well-marked crosswalks, and a range of streetscape

enhancements. As of the writing of this SRTS Action Plan in early 2019 the Town is engaged in a full update to the Master Plan. Data collected to date for the Master Plan points to increased community interest in bicycle and pedestrian accommodation.

Stratham has two public schools within its town boundaries. Students in grades Pre-K through five attend Stratham Memorial School, grades six through eight attend the Cooperative Middle School (CMS), and grades nine through twelve attend Exeter High School. The town is a member of School Administrative Unit 16 (SAU16), a regional school district including Stratham, Exeter, East Kingston, Kensington, Newfields, and Brentwood. Both CMS and Exeter High School are regional schools serving all six communities.

2.2 STRATHAM MEMORIAL SCHOOL

Stratham Memorial School is located at 39 Gifford Farm Road, a relatively low traffic volume town road amid residential development and conservation land. To the west the school backs onto the Stratham Town Forest, that in turn abuts Stratham Hill Park and an extensive trail system that is widely used by residents as well as visitors from outside. The Park's trail system provides a traffic separated access route to SMS from some neighborhoods.



Stratham Memorial School

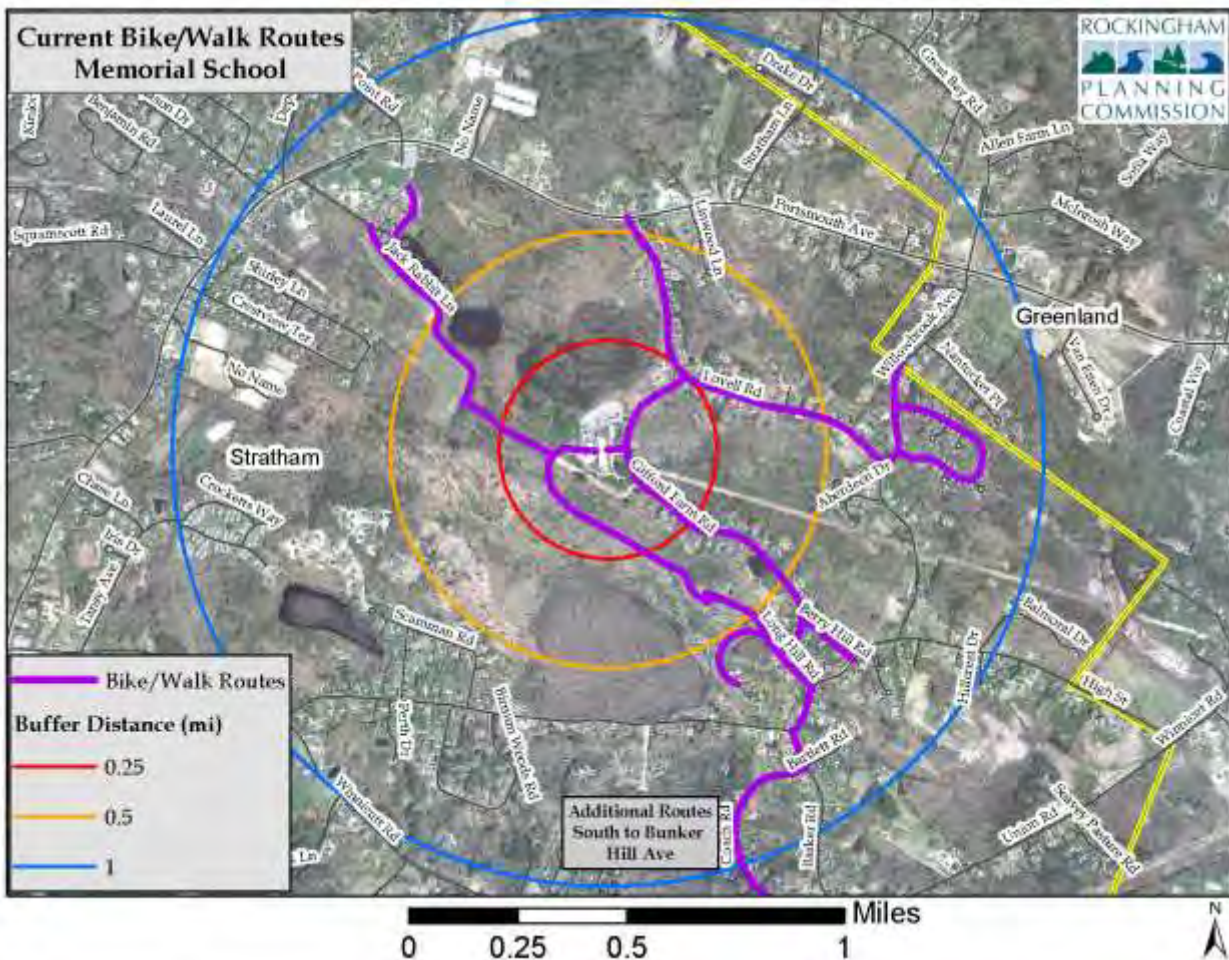
For the 2018-2019 school year there are 555 students enrolled at Stratham Memorial School in grades Pre-K through five. Approximately 89% of students ride the bus on a regular basis, while 9% arrive in family vehicles and 2% walk to school.

Map 3 shows SMS student home locations relative to school. For the 2018-2019 school year 20 students live within a half mile, 123 live within a mile and 335 within two miles. Several neighborhoods are in easy walking distance of the school by road (Easton Hill/Long Hill, Berry Hill, Alderwood), and Gifford Farm Road and Lovell Road are themselves residential roads. Other neighborhoods within a half mile of the school as the crow flies but not by road have the potential for connection via trails through Stratham Hill Park (Crestview Terrace, Scamman Road).

Map 2 shows known walking and bicycling routes used by students and their families to get from home to SMS. None of the roads used have sidewalks, and most have limited shoulder width. In most cases students who currently walk or bicycle to school are accompanied by parents.

Stratham Memorial School has already implemented several effective Education and Encouragement strategies used in SRTS efforts around the country. The school holds a popular annual Bike to School Day in May, invites presenters from the Bike/Walk Alliance of New Hampshire (BWANH) to give in-class presentations on pedestrian and safety, organizes an annual Wellness Walk in the spring.

Map 2: Stratham Memorial School Known Walking/Bicycling Routes



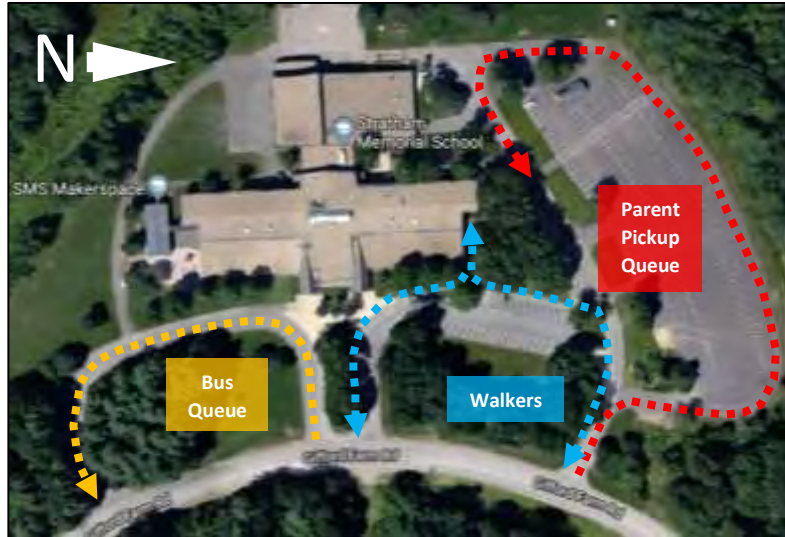
School Zone Site Visits

SMS School Zone Site Walk Observations

The project team visited Stratham Memorial School on Friday September 14th, 2018 and observed afternoon school dismissal. Comments below are summarized from full TEC field observation notes included in Appendix E, and are keyed to the school zone aerial photo.

- A good network of sidewalks exists on the school grounds, though not on connecting roads.
- A crosswalk is present directly in front of the school with a crosswalk marking sign facing each direction and single continuous LED flashing beacon. A police cruiser was stationed at the crosswalk during release.
- Crosswalks are painted in some but not all crossing areas over school driveways, and would benefit from a higher visibility paint pattern and more durable material.
- Crosswalks do not appear to provide compliant wheelchair ramps (too steep, no tactile surface, or missing ramp).

- Parents start to line up very early to pick up students and queue up along the outside of the parking area. Thirty-four cars lined up, and generally kept to the traffic pattern. Many cars were idling. A no idling sign is posted at the front of the line though not spaced out through the area where cars typically line up.
- Students boarding buses exit the front doors of the school and staff group them by bus. Buses arrived, filled and departed in an orderly fashion.



- Walkers were released from the north side of the building and most departed using the sidewalks and crosswalk directly in front of the school. Some headed north on Gifford Farm Road walked along the edge of the driveway to the parking lot where there is no sidewalk to make the most direct line.
- There are no shoulder lines on Gifford Farm Road. The road is excessively wide near the school driveways
- High visibility yellow school zone and 20 mph speed limit signs and flashers present to the north and south on Gifford Farm Road. Older yellow school zone and 20mph speed limit signs are present on Lovell Road approaching Gifford Farm Road from the both north and south.
- The intersection of Gifford Farm Road and Lovell Road is a three way stop, though lacks advance stop control signage. Lovell Road is quite wide near this intersection, which encourages high speeds even with the stop controls.

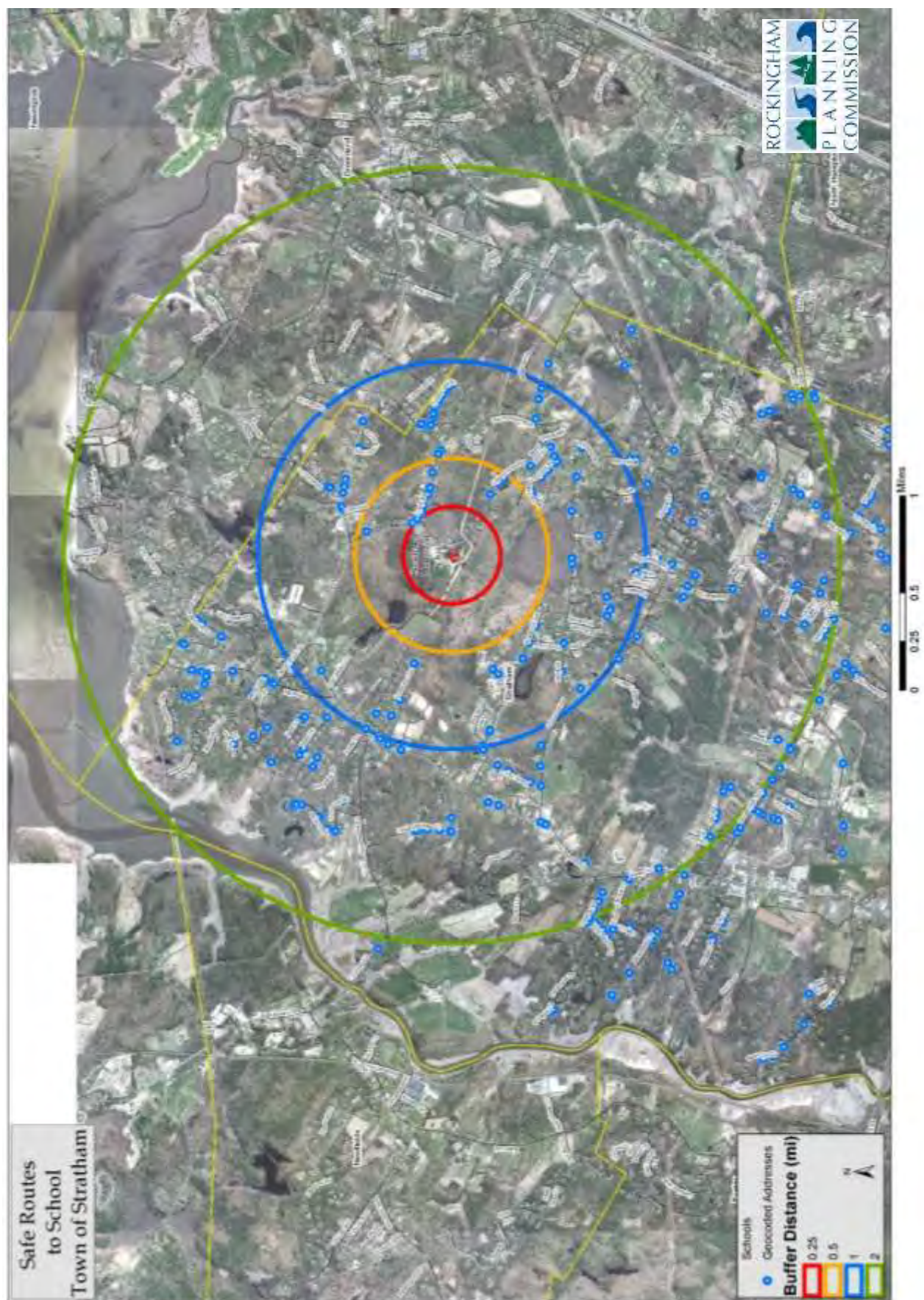
2.3 COOPERATIVE MIDDLE SCHOOL

The Cooperative Middle School is located at 100 Academic Way, an access road to the school complex off of Guinea Road. For the 2018-2019 school year there are 840 students from Stratham enrolled at the Cooperative Middle School, out of a total student population of 1265 from the six towns in SAU 16. The school is located near the town line with Exeter, and Exeter Farms, the nearest residential neighborhood, is across the town line.

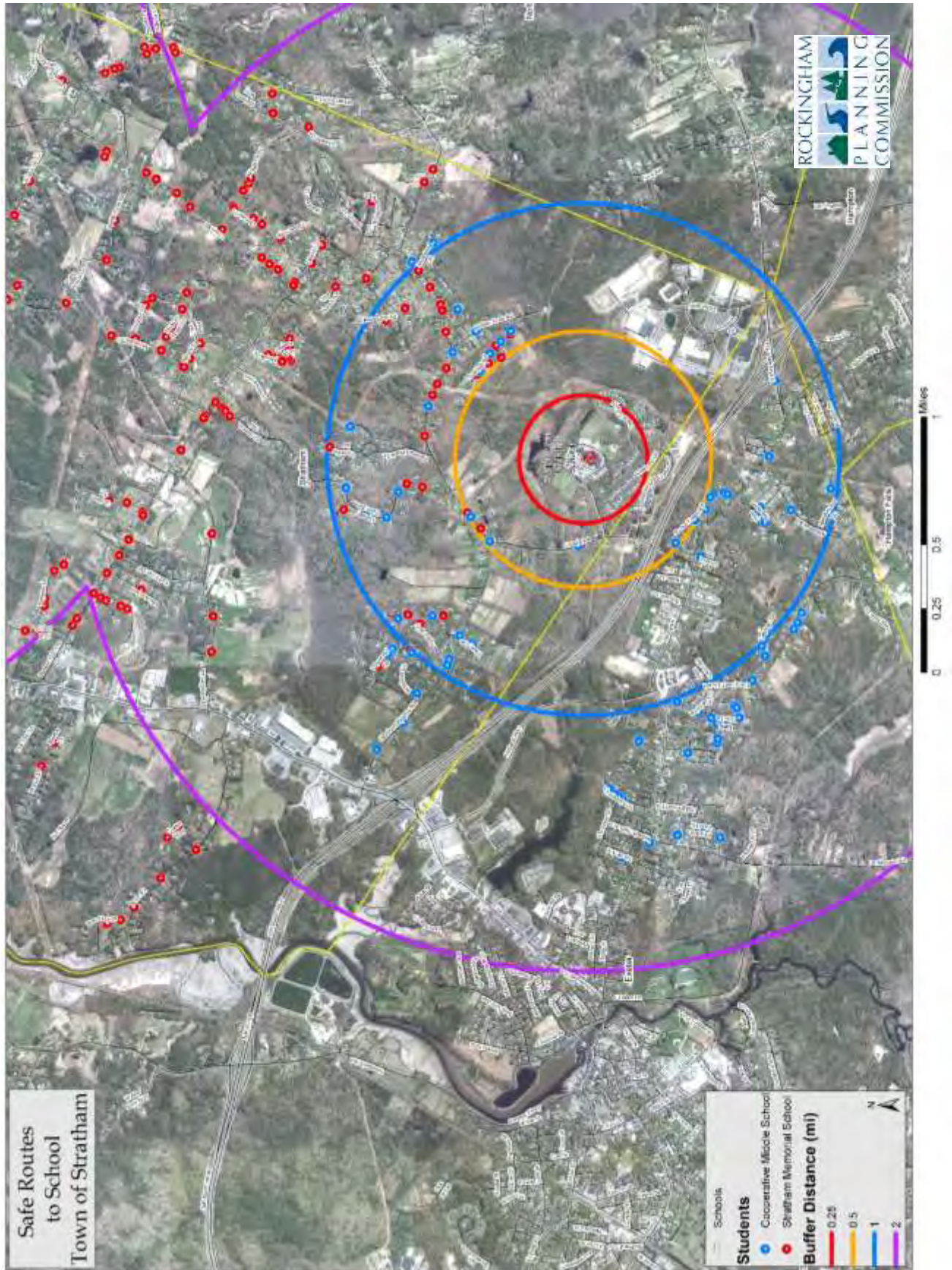


Cooperative Middle School

Map 3 – Stratham Memorial School Student Home Locations



Map 4 – Cooperative Middle School Student Home Locations



Few students walk or bicycle to school currently. Approximately 79% of students arrive at school via bus on a regular basis, 20% are driven by parents or in a carpool, and <1% walk or bike. There is a widely held belief that walking or bicycle to school is not allowed, or at least not encouraged. While there is no formal policy against walking or bicycling, none of the surrounding roadways are currently well suited for these modes. Guinea Road, Stratham Heights Road and Hampton Road/Route 27 lack sidewalks and feature limited shoulder width and relatively fast traffic.

CMS hosts a popular annual Bike to School Day event in May managed by teachers and parent volunteers with assistance from the police department. CMS also has a bicycling instructional unit as part of its alternative physical education program.

Map 4 shows CMS student home locations relative to school. No students live within a quarter mile of school and only two students live within a half mile. Fifty-six students live within one mile and 175 students within two miles. These numbers along with comparable numbers for SMS are summarized in Figure 3 below for the 2018-2019 school year.

Figure 3 – Enrolled Students and Distances from School

Distance from Home to School	Enrolled SMS Students	% of SMS Enrollment	Enrolled CMS Students	% of CMS Enrollment
Within 1/2 mile	20	4%	2	0.2%
Within 1 mile	123	22%	56	4%
Within 2 miles	335	60%	175	14%
Total Enrollment	555		1265	

CMS School Zone Site Walk Observations

The project team including SRTS Committee members and staff from RPC and TEC Engineers visited the Cooperative Middle School on Monday September 10th, 2018 and observed morning student arrival. Comments below are summarized from full TEC field observation notes included in Appendix E, and are keyed to the school zone aerial photo.

- Sidewalks exist immediately in front of the school and connect parking lots to the school.
- Parents drop-off students along the sidewalk in front of the school and continue out following the traffic pattern. Buses drop students behind the school.
- Long queues of cars are present for about 15 minutes during peak drop-off period, extending well back toward Guinea Road on Academic Way. While a very high volume of vehicles flows through for drop-off, the process seems to run smoothly.
- Some parents were observed using the bus/faculty lane to skip the line.
- No students were observed arriving at school by bicycle or on foot. No bike racks are present.
- Several locations lack ADA accessible wheelchair ramps. A crosswalk is missing at the southerly entrance to the parking lot in front of school.

- No idling signs along the school driveway are faded or set back.
- Entrance lanes along driveway after Academic Way are wide and could be narrowed to limit speed.
- Travel lanes along Academic Way are excessively wide and could be narrowed, making room for bike lanes, a landscaped median or sidewalks. Excessive width promotes excessive speed.
- A side path along Academic Way separated from the roadway by a grass strip would avoid the cost of drainage infrastructure that comes with curbed sidewalk. If designed to adequate width as a multi-use path this would accommodate people walking and riding bicycles.

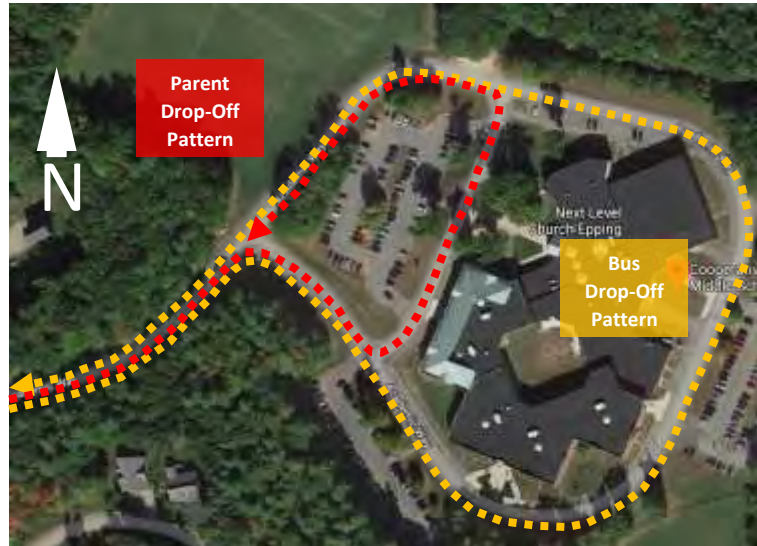


Figure 4: Cooperative Middle School Traffic Pattern

- The intersection of Guinea Road and Academic Way is very wide, encouraging excessively speed.
- Guinea Road has no sidewalks and narrow shoulders. The bridge at the bottom of the hill may be a pinch point for widening shoulders or adding a sidewalk. The Guinea Road bridge over Route 101 is 36 feet curb to curb, so offers adequate width for a protected walkway. Adding elevated curbed sidewalk is likely not possible due to weight, though a separation could be achieved with bollards.
- School zone signs and flashers are present in both directions along Guinea Road
- Guinea Road is signed at 25 mph in the school zone. Speed count data by Stratham PD showed significantly higher average speeds

2.4 PARENT TAKE-HOME SURVEY

Stratham Memorial School and the Cooperative Middle School each fielded a survey of parent attitudes toward walking and bicycling to school in April and May 2018. Both schools used the standard format developed by the National Center for Safe Routes to School. The SMS survey was sent to the families of all 555 enrolled students in grades Pre-K through Five. The CMS survey was sent to families of students living in Stratham and Exeter, making up 840 of the school's 1265 enrollees. Students in Stratham and Exeter were the focus as these communities are the only ones in School Administrative Unit 16 (SAU16) with residential areas in close enough proximity for walking and bicycling to school to be practical. A total of 63 responses were received from SMS and 136 responses from CMS, representing response rates of 11.3 percent and 16.2 percent respectively. Parent responses are summarized on the following pages. These data provide a baseline from which to measure change in future years as SRTS measures are implemented by the schools and the Town.

Travel Distance from Home to School

Figure 5: Distance from Home to School

Distance from Home to School	SMS	CMS
	Respondents	Respondents
Less than 1/4 mile	0 (0%)	3 (2%)
1/4 mile up to 1/2 mile	10 (16%)	4 (3%)
1/2 mile up to 1 mile	6 (10%)	13 (10%)
1 mile up to 2 miles	12 (19%)	34 (25%)
More than 2 miles	34 (54%)	74 (54%)
No Response	1 (2%)	8 (6%)
Total Survey Responses	63	136

Figure 5 shows the distance from home to school for SMS and CMS students. These distances generally reflect the distribution of all students as shown in Maps 1 and 2 on pages 4 and 5. Approximately 45 percent of respondents for SMS live within two miles of school, as did approximately 40 percent of Stratham and Exeter respondents from the Cooperative Middle School.

Mode of Travel to/from School

Figure 6 shows parent responses to the question “On most days how does your child arrive at school and leave for home after school?” The numbers identify the school bus as the most common mode of travel to and from school, followed by driving in a family vehicle. No parents at either school indicated that their students rode their bicycles to school on a regular basis, though parents of seven SMS students (11 percent) and four CMS students (3 percent) reported that their kids walked on a regular basis.

Figure 6: Mode of Travel to and from School

	Walk	Bike	School Bus	Family Vehicle	Carpool	Sample
Stratham Memorial School						
AM Arrival	10%	0%	76%	15%	0%	62
PM Departure	11%	0%	68%	21%	0.0%	62
Cooperative Middle School						
AM Arrival	2%	0%	79%	18%	2%	129
PM Departure	3%	0%	92%	5%	0%	131

The relatively high number of respondents reporting children are driven to school in a family vehicle is consistent with the significant traffic backups at dropoff and release times reported as a challenge by multiple parents and the SWOC (Strengths, Weaknesses, Opportunities, Challenges) conducted by the SRTS Committee.

Student Interest in Walking/Biking to School

Figure 7: Students Asking for Permission to Walk/Bike to/from School

Distance from Home to School	% of SMS Sample	% of CMS Sample
Within 1/2 mile	80%	100%
1/2 mile up to 1 mile	100%	46%
1 mile up to 2 miles	50%	52%
More than 2 miles	42%	18%
Total for All Distances	56%	33%

Figure 7 shows parent responses to the question “Has your child asked for permission to walk or bike to/from school in the past year?” Results are shown for both the elementary school (SMS) and middle school (CMS) samples and are divided out by distance from home to school. Overall, 56 percent of parents of SMS students had received requests from their children to walk or bike to school, as had 33 percent of parents of CMS students from Stratham and Exeter. For students living within a two-mile radius of school these numbers increased to 71 percent of SMS students requesting to walk or bike to school, and 56 percent of CMS students.

Perception of Appropriate Age for Walking/Biking to School Unaccompanied

Figure 8 shows responses from SMS and CMS parents regarding the grade level at which they would allow their child to walk or bike to school unaccompanied.

Figure 8’’: Grade Parents Would Allow Children to Ride/Walk Unaccompanied

	1st	2nd	3rd	4th	5th	6th	7th	8th	9 th +	Never	Unk/NA
CMS Parents	2%	0%	4%	13%	15%	22%	10%	1%	6%	18%	7%
Cumulative %	2%	2%	6%	19%	35%	57%	67%	68%	74%	93%	100%
SMS Parents	0%	2%	6%	11%	14%	11%	11%	2%	10%	30%	3%
Cumulative %	0%	2%	8%	19%	33%	44%	56%	57%	67%	97%	100%

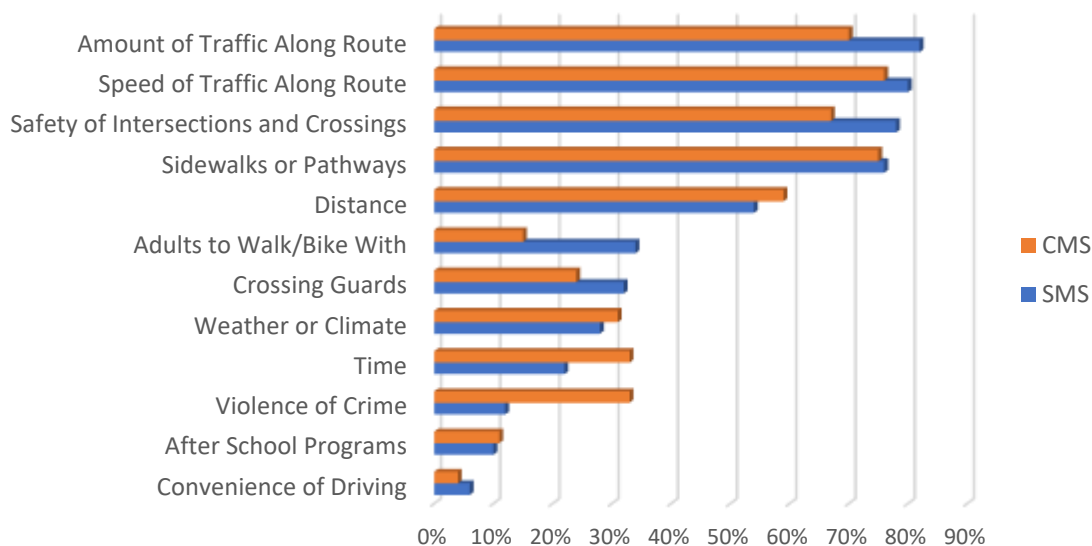
Looking at the cumulative percentage of parents indicating comfort with their children riding or walking unaccompanied, a majority of parents at SMS indicated that by seventh grade they would be comfortable with their children walking or riding unaccompanied. A majority of CMS parent respondents felt that by sixth grade they would be comfortable with their children walking or riding to school unaccompanied. Approximately a third of respondents at both schools expressed similar comfort at the 5th grade level. Interestingly close to a third of parents at SMS indicated that they would not be comfortable with their children walking or biking unaccompanied at any grade in elementary or middle school, while 18 percent of CMS parents gave this response. This points to the need for parental or other volunteer accompaniment as part of efforts to get more elementary school students walking and biking.

Issues Affecting Parent Decisions Regarding Walking & Biking to School

Figure 9 shows responses to the question “What issues affect your decision to allow your child to walk or bike to school?” from parents who currently do not allow their kids to walk or bicycle to school.

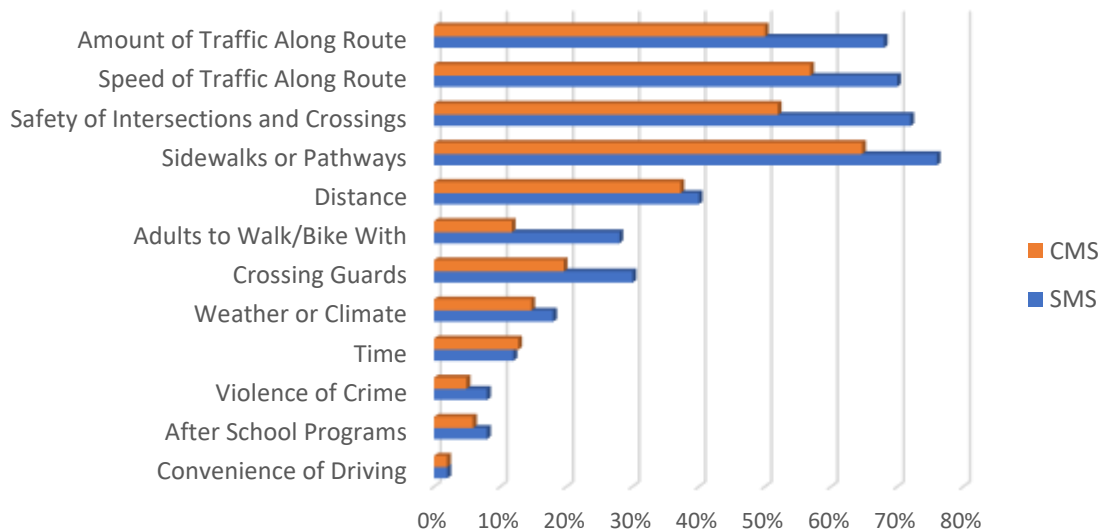
The most common concerns cited by parents included the amount of traffic along the route to school (82 percent of SMS respondents and 70 percent for CMS), the speed of traffic along the route to school (80 percent of SMS responses and 76 percent for CMS), the lack of sidewalks or pathways (76 percent of SMS responses and 75 percent for CMS), and the lack of safety at intersections and crossings (78 percent for SMS and 67 percent for CMS). The one other factor cited by a majority of parents at either school was distance from home to school, noted by 54 percent of SMS respondents and 59 percent of CMS respondents.

Figure 9: Issues Affecting Parent Decisions to Allow Kids to Walk or Ride



Parents were also asked whether actions to address these concerns would change their decision to allow their children to walk or ride to school. These responses are shown in Table 8. Actions identified by parents as most likely to change their decision included expanding sidewalks/bikeways (76 percent of SMS parents and 65 percent for CMS), improving safety at intersections and crossings (72 percent of SMS parents and 52 percent for CMS), addressing traffic speeds on routes traveled by children between home and school (70 percent of SMS parents and 57 percent for CMS), reducing traffic volumes (68 percent for SMS and 50% for CMS), and expanded use of crossing guards (30 percent for SMS and 20% for CMS).

Figure 10: System Changes that would Impact Decision to Allow Walking/Riding



Parent Perception of Walking/Biking as Fun, Healthy, and Supported by School

Figure 11 shows parent perceptions of how fun walking or biking to school is for their child. Among elementary school parents, 78 percent thought walking/biking was *fun* or *very fun* for their child. These numbers were slightly higher than for parents of middle school students, where 65 percent thought walking/biking was *fun* or *very fun*.

Figure 11: Perception of Walking/Biking as Fun for Children

	Very Fun	Fun	Neutral	Boring	Very Boring
Stratham Memorial School	37%	41%	22%	0%	0%
Cooperative Middle School	30%	35%	30%	2%	2%

Figure 12 shows parent perceptions of the healthfulness of walking or biking to school. Fully 98 percent of elementary school parents thought walking/biking was *healthy* or *very healthy* for their child; while 92 percent of middle school parents thought similarly.

Figure 12: Perception of Walking/Biking as Healthy for Children

	Very Healthy	Healthy	Neutral	Unhealthy	Very Unhealthy
Stratham Memorial School	82%	16%	2%	0%	0%
Cooperative Middle School	76%	16%	8%	1%	0%

Finally, Figure 13 shows parent perception of the extent to which their child’s school supports walking and bicycling to school. Thirteen percent of elementary school parents felt that Stratham Memorial School either *encouraged* or *strongly encouraged* walking and bicycling to school. A large majority (76 percent) saw the elementary school as neutral on the issue. In contrast the Cooperative Middle School is broadly seen as discouraging bicycling and walking, with 54 percent of middle school parents responding that CMS either *discouraged* or *strongly discouraged* walking and bicycling. Only four percent of parents thought CMS *encouraged* or *strongly encouraged* walking and bicycling. This is consistent with prior policy at CMS prohibiting walking and bicycling, though that policy has since changed.

Figure 13: Perception of Walking/Biking as Supported by School

	Strongly Encourage	Encourage	Neutral	Discourage	Strongly Discourage
Stratham Memorial School	2%	11%	76%	8%	3%
Cooperative Middle School	2%	2%	43%	16%	38%

III. Key Issues, Challenges & Opportunities

3.1 KEY ISSUES & CHALLENGES

Based on survey responses, school interviews, community feedback and input from the SRTS Committee and other stakeholders, a number of key issues emerge that shape parents perceptions of the safety of allowing their children to walk or ride to school. These include:

- Traffic speed, volume, and distracted drivers – Traffic speed and volume were the concerns most frequently cited by parents as impacting their decision to allow or not allow their children to walk or bike to school, identified by 79% of SMS survey respondents and 75% of CMS respondents. Coupled with the narrow shoulder concern above, 63% of parents indicated concern regarding high traffic volumes on roads in the school zone, and 65% indicated concern regarding excessive speed. A speed study conducted by Stratham Police Department found that 95% of vehicles on Guinea Road exceeded the speed limit, and 43 percent exceeded the limit by more than 10 mph. Similarly for Lovell Road north of Gifford Farm Road, 74% of traffic exceeded the speed limit while 18% exceeded the limit by more than 10 mph.

The difference between 25mph and 35mph seems quite small when behind the wheel of a car, but it has major implications if a car hits a pedestrian. According to the National Highway Traffic Safety Administration (NHTSA) a pedestrian hit by a car traveling 2 mph has a 5% chance of being killed, at 65% change of injury and a 30 percent change of emerging uninjured. At 30 mph there is a 45% chance of being killed, a 50% chance of injury and a 5% chance of avoiding injury. At 40 mph the chance of being killed jumps to 85% with a 15% chance of just being injured. Many police departments use an enforcement tolerance of 10mph over the speed limit, meaning motorists are only ticketed if caught exceeding the speed limit by more than 10mph. With better understanding of the consequences of these speed differences in a school zone where young pedestrians are likely to be present, a growing number of communities with Safe Routes to School programs have adopted a zero tolerance policy for speeding in or near school zones. Stratham should consider narrowing its enforcement tolerance on roads within the two mile walking/bicycling commute shed for CMS and SMS, or on specific targeted roads. This could be a reduction to a 5 mph overage or even a zero tolerance policy.

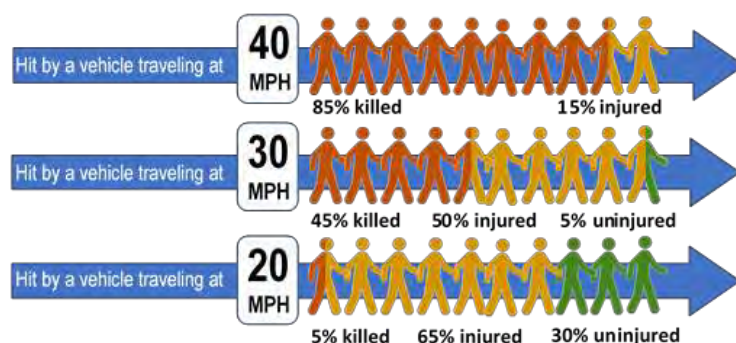


Figure 14: Relationship Between Auto Speed and severity of Pedestrian Injury (NHTSA)

Driver distraction is a significant factor in automobile crashes, contributing to an estimated 25% of crashes nationally. Crashes attributable to driver distraction have gone up nationally as more distractions are present in automobiles – whether hand-held devices or integrated car

entertainment systems. New Hampshire banned the use of hand-held devices such as smart phones in 2015 (RSA 265:79-c), though simple observation of passing automobiles shows that use of such devices while driving remains common. Even if drivers switch to hands-free devices, these are four times more distracting than talking to a passenger (Strayer 2006).

- Narrow roads and lack of shoulders or sidewalks – Lack of sidewalks and pathways was another top concern registered by respondents to the parent survey. Seventy four percent of CMS parents and 76 percent of SMS parents indicated this as a reason they do not let their kids walk or bike to school. Correspondingly 76% percent of SMS parent respondents indicated that if sidewalks or pathways were improved it could impact their decision on allowing walking or riding to school. Sixty four percent of CMS respondents felt similarly. Once off the immediate school grounds there are no sidewalks in the school zones for either SMS or CMS. The primary roads connecting the schools to adjacent residential areas – Gifford Farm Road and Lovell Road at SMS and Guinea Road for CMS – lack shoulders wide enough to be designated as walking or bicycling routes.
- Low density development pattern – Stratham’s pattern of residential development featuring small pocket neighborhoods, often cul-de-sacs, amid larger parcels of open land poses a challenge for creating a network of pedestrian and bicycle routes.
- Intersection safety – Seventy eight percent of SMS parents and 67% of CMS parents identified intersection safety as a concern that led them to not allow their child to ride or walk to school. Several intersections specifically identified through the parent survey, school site walk and SWOT analysis conducted with the SRTS Committee. These included the intersections of Gifford Farm/Lovell Road, Lovell Road and Willowbrook, and getting across Route 33 for students from neighborhoods north of that state highway.
- Uncertainty among parents regarding school support for walking and bicycling – Survey responses indicated a sense that Stratham Memorial School policies were largely neutral on the subject of walking and biking to school (76 percent), while 13 percent of respondents thought the school either Encouraged or Strongly Encouraged walking and biking. The perception of CMS parents was quite different with 54 percent perceiving that CMS Discouraged or Strongly Discouraged walking or biking to school. While there is not school policy at CMS prohibiting walking or bicycling, there is an understandable concern on the part of CMS administration about explicitly encouraging walking and biking until key infrastructure safety improvements can be made on Academic Way, Guinea Road and/or off-road connector paths. Consistent messaging to parents will be important.

3.2 OPPORTUNITIES

Balancing the issues and challenges identified above, the parent surveys, school interviews and community outreach at Stratham Hill Park found much interest and receptiveness to the SRTS concept. Opportunities for the SRTS Committee, the Town and SAU16 to pursue include the following:

- Stratham’s trail network – Stratham has an excellent trail network at Stratham Hill park and on adjacent town forest and private conservation land. This trail system already provides a link to SMS from the Long Hill Road, Scamman Road, Crestview Terrace and Tansy Avenue/Crocketts Way neighborhoods and Stratham Hill Park itself. The Walking Wednesdays weekly group walk to school at SMS uses these trails. A safe crossing over Route 33 could open up access from Jason Drive, Sandy

Point Road and Depot Road neighborhoods north of Route 33, enabling them to cross the highway and use the trail system to reach SMS. Off road trails may also be a solution for access to CMS. SRTS Committee members have begun meeting with owners of land across which paths could create safe traffic-separated connections between CMS and residential areas off Stratham Heights Road.

A key question with municipal trails is who will be responsible for maintenance. In many communities this is handled by municipal public works or parks and recreation departments. Elsewhere local or regional volunteer groups organize to share the burden of trail maintenance. In Windham New Hampshire the town's four-mile rail trail is largely maintained with about 250 volunteer hours per year, minimizing the expense to the town. Similarly the non-profit Coastal Trails Coalition organizes volunteers to handle much of the maintenance of the regional trail system that connects Newbury, Newburyport, Amesbury and Salisbury Massachusetts.

- Stratham kids' interest in walking or biking to school – While school data show only about 2% of students at SMS and fewer than 1% at CMS currently walk or bike to school, 39% of students in families surveyed indicated a desire to do so. Thirty-three percent of Junior High students had requested permission from their parents to bike or walk, as had 56% of elementary school students. These percentages were higher for students within a one-mile radius of school, where 75% of families surveyed indicated their kids had requested to walk or bike to school. The analysis of student locations relative to school found 123 SMS students living within one mile of school, and 56 CMS students living within one mile of school. The participation of over half of SMS students in annual Bike to School Day activities in May underscores this desire.
- Stratham parents' willingness to reassess allowing their kids to bike or walk – While high percentages of parents indicated concerns that have led them to not allow their children to walk or bike to school, most also indicated that improvements in these areas would lead them to reassess their positions. In addition, 98% of SMS parents and 92% of CMS parents responding to the survey saw walking and biking to school as *healthy* or *very healthy*. Seventy eight percent of SMS parents and 65 percent of CMS parents surveyed saw walking and biking as *fun* or *very fun*.
- Sources of funding – One of the most common sources of funding for bicycle and pedestrian facilities is the federal Transportation Alternatives Program (TAP). TAP provides 80% federal funding to communities for bicycle and pedestrian improvement projects. These funds are highly competitive and are selected biennially in New Hampshire. Typically \$5.0-\$5.5 million are allocated statewide in each biennial funding round. Among the program priorities is improving safety in school zones where towns or school districts have established SRTS programs and completed SRTS Action Plans. The minimum project size for a TAP grant is \$400,000 federal share) and the maximum size is \$1,000,000. There is a significant administrative component to these grants, which make them impractical for smaller projects. Stratham has a successful history of managing TAP grants.

A source of local revenue for transportation projects, enabled under RSA 261:153, is the "Local Option" supplemental vehicle registration fee. State law allows municipalities to charge a supplemental registration fee of up to \$5.00 per vehicle annually to generate funding for local transportation needs, whether sidewalks, public transportation, intersection improvements, or basic road maintenance. The fee provides a modest but consistent revenue stream aside from the property tax, which has been used by several communities around the state to generate the local matching share for projects funded through TAP, or to fund projects directly.

Given Stratham's excellent trail system and the numerous opportunities to connect neighborhoods to schools with trails, another funding opportunity is the federal Recreational Trails Program (RTP). The RTP is managed through the NH Trails Bureau and distributes approximately \$900,000 annually. About a third of this is set aside for non-motorized trails. Recreational Trails Program grants have the added benefit of allowing volunteer labor, donated materials and machinery or other in-kind services to meet the required 20 percent matching commitment.

- Volunteer resources – The Walking Wednesdays school commute walking group launched in 2018 and chaperoned by parent volunteers points to the level of volunteer effort that can be mobilized in Stratham for the right cause. Parent participation will be important in implementing many of the non-infrastructure strategies described in the next chapter, and potentially some of the infrastructure strategies. Volunteers may also be part of a local trail maintenance strategy.

IV. Implementation Strategies

4.1 PORTFOLIO OF ROAD SAFETY DESIGN STRATEGIES

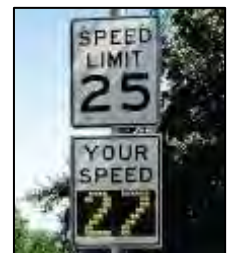
The pedestrian and bicycle facility types described on the following pages are drawn from standard design guidance from the American Association of State Highway and Transportation Officials' (AASHTO) *Guide to the Development of Bicycle Facilities* and the *Guide for the Planning, Design and Operation of Pedestrian Facilities*. *Signage and pavement markings are in most cases drawn from the Manual of Uniform Traffic Control Devices for Streets and Highways (MUTCD). The MUTCD defines the standards used by State DOTs and local public works departments around the country to install and maintain traffic control devices on public streets, highways and bikeways. Each of the design strategies described has potential application in Stratham as described in the recommendations section.*

Signage & Pavement Markings

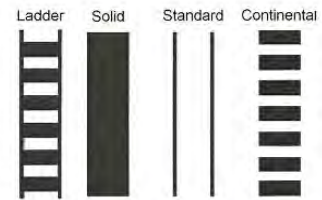
School Zone Speed Limit Signage – School speed limit signs alert drivers that they are entering a school zone and they need to slow down given the likelihood of children walking along or crossing the road. School speed limits vary by state law and typically range from 15mph to 25mph. Both CMS and SMS have flashing school speed limit signs on streets approaching the schools.



Speed Feedback Signage – Speed feedback signs show the posted speed limit but also feature a radar unit which displays the speed of oncoming vehicles to alert drivers to their actual speed and the posted speed limit. These work best if they flash or provide a SLOW DOWN message if drivers exceed a preset speed threshold. An example of such signs can be found on High Street/Route 27 in Exeter. Most speed feedback signs can also record traffic and speed counts and can be a useful tool in tracking success of speed reduction efforts through a combination of road redesign, signage and enforcement.



High Visibility Crosswalks – How a crosswalk is painted makes a big difference in how visible it is to oncoming vehicles. Crosswalks can be marked with paint or a longer lasting thermoplastic or epoxy material embedded with reflective glass beads. While the latter material is more expensive initially it needs less maintenance and provides better value over time. Essentially the wider the painted area of the crosswalk the greater the visibility to approaching drivers. There are multiple marking schemes provided for in the MUTCD, including the *ladder*, *solid*, *standard* and *continental*. The *ladder* and *continental* design are recommended by the Federal Highway Administration because research indicates they are most visible to approaching drivers. *Solid* crosswalks are high visibility but more costly from a labor, materials and maintenance standpoint. The *standard* design with just two transverse lanes has limited visibility to oncoming vehicles. It is important that crosswalks be repainted regularly to ensure visibility.



Crosswalk Signage – The MUTCD designates special signs for school zone crosswalks, distinct from general crosswalk signs. These are placed immediately at the crosswalk location facing in each direction and feature the of fluorescent yellow-green house shaped MUTCD S1-1 sign with a down arrow (W16-7P). These often feature pedestrian-activated flashing beacons as described on the following page. In-Street crosswalk signs (MUTCD R1-6) are additional marking option. These are placed on the center of the road on the crosswalk. They feature a heavy rubber base with flexible post. Stratham’s SRTS non-infrastructure grant provides for purchase of several of these portable signs.



Advance Crosswalk Signs – The MUTCD designates that advance warning signs be used in advance of school crossings. These alert drivers of an upcoming crosswalk so they will be prepared to stop if needed. These must be installed on both approaches at least 150 feet in advance and not more than 700 feet in advance. These use the same house shaped MUTCD S1-1 sign with a rectangular “Ahead” (W16-9P) sign.



Advance Stop Signs – As with advance crosswalk signs, advance stop signs (MUTCD W#-1) alert drivers to an upcoming stop controlled intersection such as the three way intersection of Lovell Road with Gifford Farm Road.



School Route Marking Stencils – While not described in the MUTCD, some SRTS programs have developed pavement stencil designs to mark common walking routes to school. These serve as wayfinding as well as a reminder to drivers that they are approaching a school zone and children are likely to be walking in the area. (Photo credit Baltimore Sun)



Rectangular Rapid Flashing Beacons (RRFBs) – RRFBs are a standard MUTCD W11-2 pedestrian warning sign and arrow in high visibility yellow green, coupled with a pedestrian-activated LED beacon employing a rapid stutter flash pattern similar to that used on emergency vehicles. They are installed on both the right and left side of the roadway facing in each direction. Research by FHWA has found that RRFBs significantly improve the rate of drivers yielding to pedestrians in marked crosswalks. (photo credit FHWA)



Pedestrian Hybrid (HAWK) Beacons – These are a special type of hybrid beacon used to warn and control traffic at an un-signalized location to assist pedestrians in crossing a street or highway at a marked crosswalk. HAWK beacons are used at locations where warrants are not met for a full traffic signal with pedestrian phase, but pedestrians need to be able to cross and traffic speed, volume and roadway width are too great for a Rectangular Rapid Flashing Beacon described above. Such a beacon is likely appropriate to facilitate pedestrian crossing of Route 33 at the entrance to Stratham Hill Park. (photo credit FHWA)



State Law: 3 Feet Minimum to Pass Bicycles – This sign has been approved by the State of New Hampshire to inform road users of the requirements of New Hampshire RSA 265:143a (New Hampshire’s 3-foot safe passing distance law). It is not currently listed in the MUTCD but is consistent with MUTCD standards for sign design. Installation of this sign shall be prioritized for routes on the New Hampshire Bicycle Route System map.



Bikes May Use Full Lane (R4-11) This sign is for use where no bicycle lanes or usable shoulders are present and where travel lanes are too narrow for bicyclists and motor vehicles to operate side by side, per the requirements of New Hampshire RSA 265:143a (New Hampshire’s 3-foot safe passing distance law). This sign is becoming popular as a replacement for “Share the Road” signs. Recent research has found those have limited impact on driver behavior, and are not as effective as the “Bikes May Use Full Lane” sign in conveying that people on bicycles have a legal right to be on the road, including occupying the travel lane where their safety warrants it. This may be used in tandem with shared use lane markings (“sharrows”).



Sidewalks & Paths

Curbed sidewalks – Curbed sidewalks are standard safety accommodation for people walking in suburban school zones. The vertical separation from the road level provided by an elevated curb offers protection against cars veering into the pedestrian way. Curbing in New Hampshire is typically granite for durability, while the sidewalk itself may be either concrete or asphalt. The recommended minimum width for sidewalk is five feet, which allows two people to pass comfortably or walk side by side. Sidewalks are typically wider in school zones where there is a likelihood of larger numbers of people walking together. Sidewalks should ideally be continuous on both sides of a roadway to minimize the need for crossing the street, and should be fully accessible to all pedestrians, including people in wheelchairs.



Set Back Sidewalks – Another sidewalk design omits curbs and sets the walkway back from the shoulder, typically with a grass or landscaped strip in between. The planted strip serves as a visual and functional barrier between traffic and pedestrians. An advantage of this design is that with no curb to channel stormwater these set back sidewalks may be constructed without need for storm drains which may be needed for long stretches of curbed sidewalk. The expense of granite curbing can also be avoided. With the added width of the grass strip this design does require greater right of way width.



Widened Shoulders- On rural roads where right of way is not adequate for set back sidewalks, and the appearance and/or expense of curbed sidewalks is not acceptable to the community, a second best alternative can be widened shoulders that can support both bicycling and walking. Shoulders should always be widened on both sides of the roadway so people walking or bicycling may do so in the proper direction. This means riding with traffic but walking against traffic.



Walking paths – Walking paths outside of the road right of way can be an excellent solution for creating connectivity in communities with low density development. Such paths can cut through park land or connect the bulb ends of cul de sacs, allowing safe routes completely separated from traffic. Given Stratham’s already extensive trail system at Stratham Hill Park and elsewhere, walking paths have terrific potential for connecting neighborhoods to both SMS and CMS. Surface can be natural earth or stone dust. Recommended minimum width for a walking path is five feet. For a multi-use path intended to support two-way bicycling and walking the recommended minimum is eight feet.



Universal Design – A key goal of the Americans with Disabilities Act (ADA) and universal design is to provide a walking environment that is equally safe and comfortable for pedestrians of all ages and abilities. In particular this includes wheelchair users and individuals with sight impairments. Sidewalks need to incorporate curb ramps with a slope of no more than 1:12 (1:16 or 1:20 preferred) and meeting other design requirements of the ADA. Curb ramps should also be fitted with truncated dome warning strips as a tactile cue for individuals with vision impairment that they are stepping off the sidewalk onto a roadway. (photo credit Peter Lagerwey, National Safe Routes to School Partnership)



Crossing Guards – Crossing guards, whether paid or volunteer, can be an important part of improving safety for kids crossing busy streets. These adults take responsibility for stopping traffic to let walkers cross during school arrival and departure periods. Stratham has received pilot funding to establish a volunteer crossing guard program as part of its SRTS Non-Infrastructure grant. Primex provides training for such programs



Bicycle Accommodation

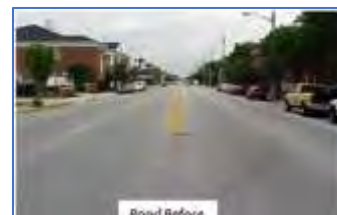
Bicycle Lanes – The National standard for design of bicycle facilities is the American Association of State Highway and Transportation Officials’ (AASHTO) *Guide to the Development of Bicycle Facilities*. The AASHTO guide recommends a minimum four-foot shoulder on both sides of the roadway for designation as a shoulder bicycle route, or a minimum of five-foot shoulders when next to a curb or guardrail.



Sharrows – Shared lane marking arrows, or “sharrows” are road markings used to indicate a travel lane where inadequate space exists to the right of traffic for people on bicycles to ride. The sharrow puts motorists on notice to expect bicyclists in the lane. Sharrows are not appropriate for roads with speeds over 30mph, and should not be considered a substitute for bike lanes unless there is inadequate space for a designated bike lane.



Traffic Calming – This refers to a range of strategies designed to slow automobile speeds and thereby make it safer for people walking, riding bicycles or driving automobiles. On suburban or rural roads such as most in Stratham an effective traffic calming strategy is visually narrowing the road by striping narrower travel lanes. Per the Institute of Traffic Engineers (ITE), depending on volume of truck traffic, roads with speeds below 35 mph are usually suitable for ten (10) foot travel lanes. Removable speed bumps may be suitable for school driveways. These can be unbolted to avoid damage by snowplows during winter months. In more urban environments with sidewalks, traffic calming can be achieved with bulb-outs or chicanes, where curbing is used to physically narrow the roadway, particularly at crossing points. This has the double benefit of shortening the crossing distance for pedestrians at crosswalks. Removeable planter boxes and bollards can be used to achieve the same effect at lower cost. Tightening the turning radius of a corner is an effective strategy to slow the speed at which drivers take that corner, and is applicable in urban, suburban or rural settings. (photo credit FHWA)



Bicycle Parking – It is important to have a secure place to park bicycles at school as part of encouraging students and staff to commute by bicycle. The ribbon style racks installed in front of SMS are one good design. Another sound design is the Inverted U rack which provides two points of support for a bicycle reducing the likelihood of tipping over. Racks should be placed prominently near the front entrance of school. A covered bicycle parking area is preferred.



4.2 INFRASTRUCTURE PROJECT RECOMMENDATIONS

Recommended infrastructure improvement projects for the Stratham Memorial School and Cooperative Middle School Zone and connecting neighborhoods are summarized in the matrix on the following pages, keyed to Map 5 for SMS and Map 6 for CMS. Rough estimates of cost for each project are summarized in the table based on the categories below. The timeline category identified projects that are low cost and easily implemented as Short Term (1-2 years), while project that are more costly or complicated are identified as Mid-Term (3-5 years) or Long Term (5+ years).

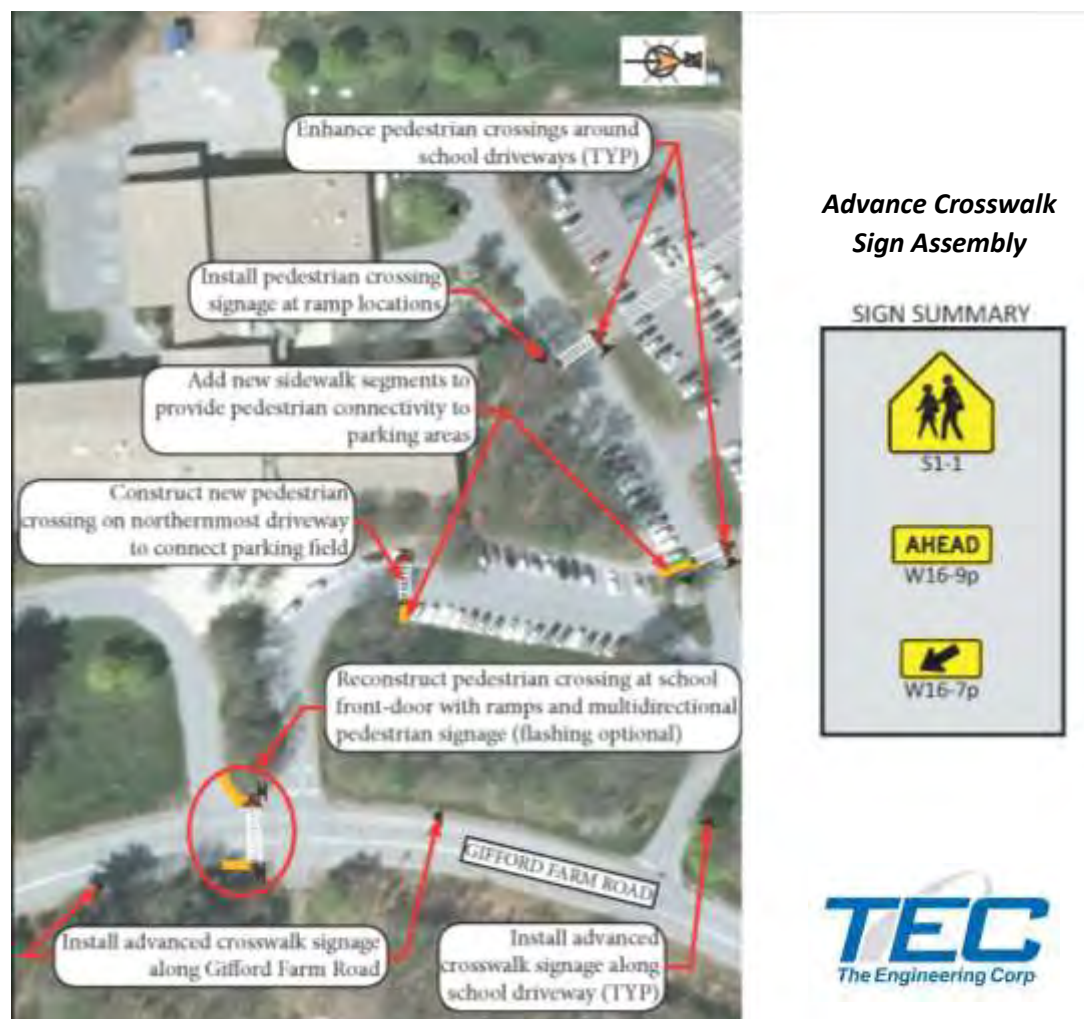
Cost Key:	\$	= \$0 to \$10,000	\$\$\$	= \$50,000 to \$100,000
	\$\$	= \$10,000 to \$50,000	\$\$\$\$	= Over \$100,000

More complete first order cost estimates for key prioritized projects were prepared by the TEC consultant team and are included as Appendix A. The project prioritization process used by the SRTS Committee to select projects for conceptual design is explained in Appendix A.

Stratham Memorial School Infrastructure Recommendations

SMS-1	CAP COST	O&M COST	TIMELINE
School Front-Door Crossing Upgrades	\$\$	\$ / YR	Short-Term
<p>Challenge: There is currently only one existing formalized pedestrian crossing along Gifford Farm Road between the school driveways. This existing location does not provide ADA-compliant ramps, pedestrian receiving areas, or appropriate signage.</p>			
<p>Opportunity: Reconstruct the crossing across Gifford Farm Road between the school driveways to provide ADA compliance; including new accessible ramps, tactile warning devices, a new receiving ramp and sidewalk area, and enhanced crossing signage. Enhanced crossing signage should include both signage at the crosswalk location and in advance of the crossing.</p>			

Figure 15: SMS School Property and Front Door Pedestrian Accommodation Recommendations



Map 5: Infrastructure Improvement Recommendations for SMS School Zone



SMS-2	CAP COST	O&M COST	TIMELINE
Enhanced School Crossing Locations	\$	\$ / YR	Short-Term
<p>Challenge: Along the school driveways and parking areas, several crossing locations are defined; however, do not provide full ADA accessibility in terms of ramps, tactile warning devices, pedestrian signage, and/or ability to meet an opposing ramp. Two (2) crosswalks are currently striped around the northerly side of the school building and no crosswalks provide direct connection to angled parking along the northern school driveway.</p>			
<p>Opportunity: Reconstruct each crossing to provide ADA compliance, including corrected ramp transition slopes, level landings, tactile warning devices, and enhanced crossing signage. For the two crossings of the parking drive aisle north of the school that lack receiving ramps, construct ramps and short sidewalk sections where currently no defined area for the crossing refuge is provided. Install associated pedestrian crossing signage to current design standards, as needed. A new crossing should also be provided to access the angled parking along the northern school driveway.</p>			

SMS-3	CAP COST	O&M COST	TIMELINE
No Idling Signage	\$	\$ / YR	Short-Term
<p>Challenge: Although some 'No Idling' signage is present along the school property, the limited signage does not command full respect.</p>			
<p>Opportunity: Install additional 'No Idling' signage along the edge of the parking lot where parents typically queue for student pick-up. Strategically locate additional signage along the two front-door driveways to the school.</p>			



SMS-4	CAP COST	O&M COST	TIMELINE
Pavement Marking Enhancements	\$	\$ / YR	Short-Term
<p>Challenge: Pavement markings that delineate parent and faculty movements along the school driveways, drive aisles, parking areas are faded, and no associated signage is present.</p>			
<p>Opportunity: Reapply pavement markings with longer-term materials (such as thermoplastic) to better delineate movements along the school driveways. Supplement parking markings with lane configuration signage.</p>			

SMS-5	CAP COST	O&M COST	TIMELINE
Enhanced Gifford Farm Road School Crossing	\$\$\$\$	\$ / YR	Mid-Term
<p>Challenge: There is currently only one existing formalized pedestrian crossing along Gifford Farm Road between the school driveways. Walking students have been observed to use other locations to cross or exit the school where no amenities are provided.</p>			

SMS-5 Continued	CAP COST	O&M COST	TIMELINE
<p><u>Opportunity:</u> Traditionally, the easterly side of Gifford Farm Road is utilized as the walkable surface, although no sidewalk is provided. There should be consideration to the installation of more enhanced crossing opportunities along Gifford Farm Road, which may include new crosswalks and ramps with associated Rectangular Rapid Flashing Beacons (RRFB). RRFBs provide a visual cue for a pedestrian crossing as the LEDs flash only when a push button is pressed.</p> <p>A series of flashers at multiple crossing locations along the school frontage would provide opportunity for concurrent traffic calming. Any new crossing location at the school frontage to move students to the “walkable surface” should include reciprocal ramps and sidewalk sections to formally receive pedestrians. Additional sidewalk improvements are listed under a separate item.</p> <p>As part of this improvement, the school should consider the construction of additional crosswalks, ramps, and flashers at the northerly and southerly ends of the school driveway loops. Thereby having three marked crossings at the school. The additional crossing would promote slower speeds and more effective compliance to the crossing locations.</p> <p>SUPPLEMENT – Should the Town consider additional crossings at the school frontage; additional consideration should be given to forming the three crossings as raised crosswalks / speed humps.</p>			

SMS-6	CAP COST	O&M COST	TIMELINE
Gifford Farm Road Open Pavement Area	\$ to \$\$\$	\$ / YR	Short to Mid-Term
<p><u>Challenge:</u> Between the ends of the Stratham Memorial School northerly driveway, the pavement width along Gifford Farm Road expands excessively. This area may be used for bus queueing; however is rarely utilized in this fashion outside of school arrival and dismissal periods. The open area of pavement encourages higher travel speeds along the school’s frontage.</p>			
<p><u>Opportunity:</u></p> <p>6A - Alter the open asphalt area along Gifford Farm Road to include a raised apron (brick, ribbed concrete, etc.) to better define the area along the widened pavement that still allows for bus queues if needed. (\$\$\$)</p> <p>6B - At a minimum, consider applying an area of gore pavement markings to visually separate the travel way and the excessive pavement. (\$)</p>			

SMS-7	CAP COST	O&M COST	TIMELINE
Gifford Farm Road Pedestrian Accommodations	\$\$ to \$\$\$\$	\$\$ / YR	Short to Long-Term
<p><u>Challenge:</u> There are currently no formal pedestrian accommodations along Gifford Farm Road. Additional gravel is provided along the roadway edge to supplement pedestrian travel along the roadway.</p>			
<p><u>Opportunity:</u> Provide new pedestrian accommodations along Gifford Farm Road. This can be achieved in multiple ways:</p> <p>7A - Enhance the existing “side path” or “goat path” along the easterly edge of Gifford Farm Road; including widening the level area of gravel. (\$\$)</p>			

SMS-7 Continued	CAP COST	O&M COST	TIMELINE
<p>7B - Utilized the excessive roadway width along Gifford Farm Road to provide a defined pedestrian (potentially shared with bicycles) path along the asphalt. This alternative would require installation of physical separation between vehicles and pedestrians. (\$\$\$)</p> <p>7C - Construct a standard sidewalk along Gifford Farm Road with vertical separation between vehicles and pedestrians. This alternative will require enhancements to continue the current stormwater drainage scheme. (\$\$\$\$)</p> <p>7 SUPPLEMENT – Consider installation of new roadway lightings on utility poles along Gifford Farm Road in addition to pedestrian enhancements to promote pedestrian travel to/from school during winter months where arrival and/or dismissal times may occur during periods of increased darkness.</p>			

SMS-8	CAP COST	O&M COST	TIMELINE
Formalize Traffic Signage Along Gifford Farm Road	\$	\$ / YR	Short-Term
<p><u>Challenge:</u> Traffic signage related to speed, pedestrian crossings, and school zones are provided along the Gifford Farm Road corridor approaching SMS. This signage is not consistent in terms of height or positioning. In addition, the flashing LEDs within the signage is constantly turned on, which loses effectiveness to alert drivers of potential obstructions.</p>			
<p><u>Opportunity:</u> Reinstall signage along the corridor to heights compliant to design standards. Provide advanced warning signage as necessary for pedestrian crossings and consider modifying the current flashing pattern of the signage to allow for activation only as needed to improve vehicle compliance. Relocate signage along the corridor at consistent locations. For instance, the school crossing sign and school zone speed sign on Gifford Farm Road northbound are located 2,400-feet and 1,500-feet south of the school driveway respectively, reducing credibility and compliance. This approach signage should be relocated within 300-feet of the school driveway or the associated crossing opportunity.</p>			

SMS-9	CAP COST	O&M COST	TIMELINE
Advanced intersection Signage at Lovell Road	\$	\$ / YR	Short-Term
<p><u>Challenge:</u> There is currently no advance stop-control signage along Lovell Road or Gifford Farm Road approaching their intersection. In addition, the school crossing signs at the intersection are not compliant.</p>			
<p><u>Opportunity:</u></p> <p>9A – Install advance stop-control warning signage along both Lovell Road approaches and the Gifford Farm Road approach to the intersection.</p> <p>9B – Remove the non-compliant school crossing signs across Lovell Road at the intersection with Gifford Farm Road. These signs are not warranted at a stop-controlled approach.</p>			

SMS-10	CAP COST	O&M COST	TIMELINE
Lovell Road at Gifford Farm Road Formalized Crossing	\$\$	\$ / YR	Mid-Term
<p><u>Challenge:</u> There is currently a formalized pedestrian crossing across Lovell Road at Gifford Farm Road. This existing location does not provide ramps, pedestrian receiving areas.</p>			

SMS-10 Continued	CAP COST	O&M COST	TIMELINE
<u>Opportunity:</u> Reconstruct the crossing across Lovell Road at Gifford Farm Road to provide ADA compliance; including new accessible ramps, tactile warning devices, and a new receiving ramp and sidewalk area along both sides of the crossing.			

SMS-11	CAP COST	O&M COST	TIMELINE
Lovell Road at Willowbrook Avenue Pedestrian Path	\$\$	\$ / YR	Short-Term
<u>Challenge:</u> The intersection of Lovell Road at Willowbrook Avenue is challenging for pedestrians and bicycles to maneuver due to the narrow roadway cross-section, the grading along the roadway edge, and the horizontal curvature of Willowbrook Avenue approaching the intersection.			
<u>Opportunity:</u> Consider the establishment of an off-road pathway behind the adjacent pond (along private property) to “cut the corner” of the intersection. Establishment of this path would require easements or other acquisitions of land as the potential path location would be located along private property.			

SMS-12	CAP COST	O&M COST	TIMELINE
Lovell Road at Willowbrook Avenue Signage	\$	\$ / YR	Short-Term
<u>Challenge:</u> There is no horizontal curvature warning signage on Willowbrook Avenue approaching Lovell Road.			
<u>Opportunity:</u> Install appropriate warning signage in advance of the intersection to help notify drivers of the upcoming intersection.			

SMS-13	CAP COST	O&M COST	TIMELINE
Crestview Terrace Trail Path	\$\$\$\$	\$ / YR	Short-Term
<u>Challenge:</u> There is a lack of defined walking opportunities for students who currently reside south of the Stratham Memorial School along Portsmouth Avenue and points west.			
<u>Opportunity:</u> Investigate opportunities to establish formal walking trails / paths with appropriate wayfinding signage, from the SMS property to Portsmouth Avenue to the west, via a connection with Crestview Terrace. The defined path will be in conjunction with the power line access roadway adjacent to the school grounds. Existing recreational? trails are in place within this area and therefore school-related? trails would need to be redefined to create a straighter path of travel.			

SMS-14	CAP COST	O&M COST	TIMELINE
Scamman Road Trail Path	\$\$\$\$	\$ / YR	Short-Term
<u>Challenge:</u> There is a lack of defined walking opportunities for students who currently reside west of the Stratham Memorial School along High Street and points south.			
<u>Opportunity:</u> Investigate opportunities to establish formal walking trails / paths with appropriate wayfinding signage, from the SMS property to High Street to the south, via a connection with Scamman Road. Existing recreational? trails are in place within this area and therefore school-related? trails would need to be redefined to create a straighter path of travel.			

SMS-15	CAP COST	O&M COST	TIMELINE
Route 33 HAWK Signal	\$\$\$\$	\$\$\$ / YR	Long-Term
<p><u>Challenge:</u> Pedestrian crossing opportunities to go from north to south across NH Route 33 are non-existent north of SMS. This is not only a challenge for SMS students, but other pedestrians that may be accessing other amenities in the area. The higher speed and extensive cross-section of the arterial approaches for NH Route 33 make crossing maneuvers dangerous for all pedestrians.</p>			
<p><u>Opportunity:</u> Consider installation of an enhanced pedestrian crossing, such as a High-Intensity Activated Crosswalk (HAWK) traffic signal, at Sandy Point Way. A HAWK signal, now becoming more prevalent across New England, stays dark unless needed for a pedestrian crossing and activated by a traditional push button. Once activated, the signal turns on and utilizes only yellow and red indications. The enhanced pedestrian accommodations will not only assist SMS students, but patrons to Stratham Hill Park and the nearby trail system. The nearest HAWK was recently constructed in Epping, NH.</p>			



SMS-16	CAP COST	O&M COST	TIMELINE
Gifford Farm Road Cross-Section	\$	\$ / YR	Mid-Term
<p><u>Challenge:</u> Gifford Farm Road between Lovell Road and Long Hill Road currently consists of a ranging cross-sectional width that provides opportunities to enhance multi-modal accommodations. Currently, no formal multi-modal accommodations exist along this segment of Gifford Farm Road.</p>			
<p><u>Opportunity:</u> Provide new multi-modal accommodations along Gifford Farm Road; which may include:</p> <ul style="list-style-type: none"> 16A - Consider restriping Gifford Farm Road to provide formal bicycle accommodations in the form of shared-use lane markings (sharrows) and associated signage. (\$) 16B - For a segment of Gifford Farm Road just south of SMS to Lovell Road, the roadway may provide enough width for formal bicycle lanes / shoulders. (\$) <p>See Improvement #7 for pedestrian related accommodation improvements.</p>			

SMS-17	CAP COST	O&M COST	TIMELINE
Lovell Road Multi-modal Accommodations	\$ to \$\$\$\$	\$ / YR	Short to Long-Term
<p><u>Challenge:</u> There are currently no formalized pedestrian or bicycle accommodations along Lovell Road.</p>			
<p><u>Opportunity:</u> Provide new multi-modal accommodations along Lovell Road; which may include:</p> <ul style="list-style-type: none"> 17A - Consider restriping Lovell Road to provide formal bicycle accommodations in the form of shared-use lane markings (sharrows) and associated signage. (\$) 17B - Enhance the existing "side path" or "goat path" along Lovell Road; including widening the level area of gravel. (\$) 			

SMS-17 Continued	CAP COST	O&M COST	TIMELINE
<p>17C - Construct a traditional sidewalk along Lovell Road between Gifford Farm Road and Willowbrook Avenue with vertical separation between vehicles and pedestrians. This alternative will require enhancements to continue the current stormwater drainage accommodations and potential relocation of other utilities, such as utility poles. (\$\$\$\$)</p> <p>17 SUPPLEMENT – Consider installation of new roadway lightings along utility poles along Lovell Road in addition to pedestrian enhancements to promote pedestrian travel to/from school during winter months where arrival and dismissal times, and after-school times, may occur during periods of increased darkness.</p>			

SMS-18	CAP COST	O&M COST	TIMELINE
Strategic Dynamic Speed Radar Signage	\$	\$ / YR	Short-Term
<p><u>Challenge:</u> Speeds are notably high on roadways near the school; including Lovell Road.</p> <p><u>Opportunity:</u> Consider the installation of dynamic speed radar signage on the assemblies to reinforce the speed regulation and lower vehicular speeds on roadways near the school.</p>			

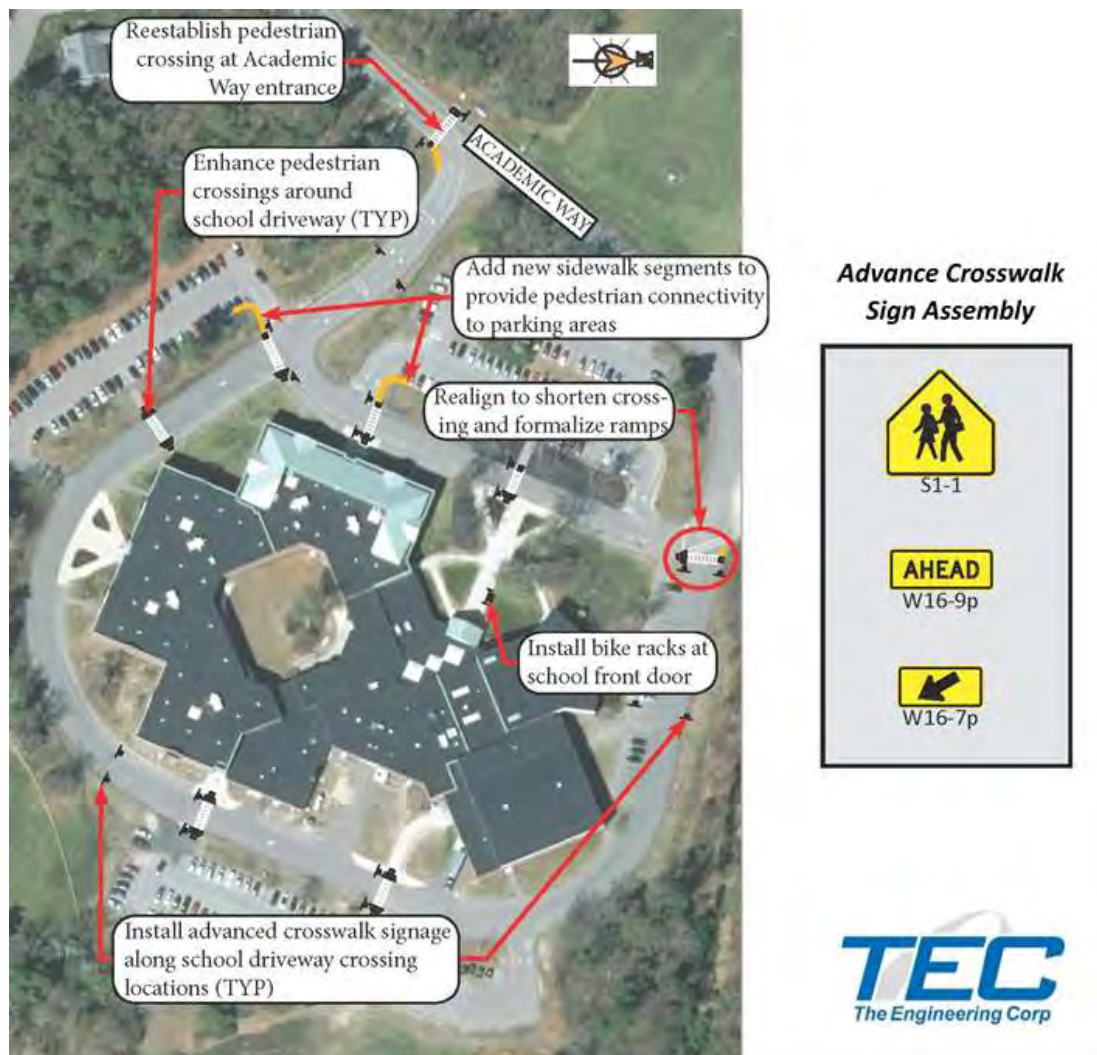


SMS-19	CAP COST	O&M COST	TIMELINE
Willowbrook Multi-modal Accommodations	\$ to \$\$\$\$	\$ to \$ / YR	Short to Long-Term
<p><u>Challenge:</u> There are currently no formalized pedestrian or bicycle accommodations along Willowbrook Avenue</p> <p><u>Opportunity:</u> Implement safety measures and new multi-modal accommodations along Willowbrook Avenue; which may include:</p> <p>17A – Trim vegetation back from edge road to improve sight lines and allow space for pedestrians to walk within the right of way but off the pavement. (\$)</p> <p>17B - Restripe Willowbrook Ave to provide some improvement to bicycle accommodation with shared-use lane markings (sharrows) and associated signage. (\$)</p> <p>17C - Construct a traditional sidewalk along Willowbrook Ave between High Street and Lovell Road with vertical separation between vehicles and pedestrians. This alternative will require enhancements to address stormwater drainage and potential relocation of other utilities, such as utility poles. (\$\$\$\$)</p> <p>17D – Construct off road path connecting Willowbrook Ave and Jacqueline Way to SMS following the power line corridor or conservation land just to the south of the utility corridor (\$).</p>			

Cooperative Middle School Infrastructure Recommendations

CMS-1	CAP COST	O&M COST	TIMELINE
School Front-Door Crossing Upgrades	\$\$	\$ / YR	Short-Term
<p>Challenge: There is currently only one existing formalized pedestrian crossing along the Cooperative Middle School frontage driveway. This existing location does not provide full ADA accessibility in terms of ramp grade, tactile warning devices, or level landings. In addition, while a crossing is provided adjacent to the main doorway from the faculty parking area, no crossing is provided at the southernmost doorway from the faculty parking area.</p>			
<p>Opportunity: Reconstruct the crossing adjacent to the main doorway to provide ADA compliance; including corrected ramp transition slopes, level landings, tactile warning devices, and enhanced crossing signage. Similar amenities should be constructed for a new crossing at the southernmost doorway from the faculty parking area.</p>			

Figure 16: CMS School Property and Front Door Bicycle & Pedestrian Accommodation Recommendations



Map 6: Infrastructure Improvement Recommendations for CMS School Zone



CMS-2	CAP COST	O&M COST	TIMELINE
Bicycle Racks	\$	\$ / YR	Short-Term
<u>Challenge:</u> There are currently no bicycle racks available on the Cooperative Middle School grounds.			
<u>Opportunity:</u> New bicycle racks on the school property should be evaluated; including placement along the school frontage. The bicycle racks should be on a hard surface and within 50-feet of a school entry doorway. Weather protection can be provided to encourage bicycling in rainy weather.			

CMS-3	CAP COST	O&M COST	TIMELINE
Enhanced School Crossing Locations	\$\$	\$ / YR	Short-Term
<u>Challenge:</u> Along Academic Way, circling the school building, several crossing locations are defined. However, they do not provide full ADA accessibility in terms of ramps, tactile warning devices, short-crossing distances, pedestrian signage, and/or ability to meet an opposing ramps. Five (5) crosswalks are currently striped around the Cooperative Middle School building.			
<u>Opportunity:</u> Reconstruct each crossing to provide ADA compliance, including corrected ramp transition slopes, level landings, tactile warning devices, and enhanced crossing signage. For the three (3) crossing across Academic Way that do not have receiving ramps, construct ramps and short sidewalk sections where currently no defined area for the crossing refuge is provided today. For the diagonal ramp on the northerly end of the one-way driveway segment, the crosswalk can be realigned to create a perpendicular crossing to shorten the distance. In addition, add appropriate signage to newly constructed accessible ramps. Where needed, raise the height of existing crossing signage to current MUTCD standards.			

CMS-4	CAP COST	O&M COST	TIMELINE
Academic Way Open Pavement Area	\$\$\$	\$ / YR	Mid-Term
<u>Challenge:</u> Academic Way splits into a one-way circumferential roadway at the school frontage. The apex point of the roadway split consists of a large area of open asphalt that is currently striped with a series of gore (angled) pavement markings. This open area encourages higher speeds on the turning movements entering the main school grounds.			
<u>Opportunity:</u> Alter the open asphalt area along Academic Way to include a potential raised apron (brick, ribbed concrete, etc.) to better define the “NO GO” area at the apex to calm traffic around the driveway curve; but still allow for emergency vehicle and/or bus U-turn movements.			

CMS-5	CAP COST	O&M COST	TIMELINE
Academic Way Pedestrian Accommodations	\$\$ to \$\$\$\$	\$\$ / YR	Short to Long-Term
<u>Challenge:</u> There are currently no formalized pedestrian accommodations along Academic Way. Additional gravel is provided along the roadway edge to supplement pedestrian travel along the roadway, outside of the asphalt surface.			

CMS-5 Continued	CAP COST	O&M COST	TIMELINE
<p><u>Opportunity:</u> Provide new pedestrian accommodation on Academic Way. This can be done through:</p> <p>5A - Enhance the existing “side path” or “goat path” along the northerly edge of Academic Way; including widening the level area of gravel. (\$\$)</p> <p>5B - Utilize the excessive roadway width along Academic Way to provide a defined pedestrian (potentially shared with bicycles) path along the asphalt. This alternative would require installation of physical separation between vehicles and pedestrians. (\$\$\$)</p> <p>5C - Construct a standard sidewalk along Academic Way with vertical separation between vehicles and pedestrians. This alternative will require enhancements to continue the current stormwater drainage accommodations. (\$\$\$\$)</p>			

CMS-6	CAP COST	O&M COST	TIMELINE
Academic Way Cross-Section	\$ to \$\$\$	\$ / YR	Short to Mid-Term
<p><u>Challenge:</u> Academic Way currently consists of a wide cross-section, providing approximately 13-feet or more per travel lane. This wide cross-section of asphalt encourages higher travel speeds along the straight roadway.</p>			
<p><u>Opportunity:</u> Reduce the cross-sectional width of Academic Way. This can be done in multiple ways:</p> <p>6A - Utilizing pavement markings, expand the shoulders and narrow the travel lanes along Academic Way. (\$)</p> <p>6B - Eradicate asphalt pavement along the roadway edges to physically narrow the width of open pavement. (\$\$\$)</p> <p>6C – Install multiple locations of ‘removable’ speed bumps along Academic Way to reduce travel speeds along the driveway. These features are bolt-down and can be removed in the winter months for plowing operations. (\$\$)</p>			

CMS-7	CAP COST	O&M COST	TIMELINE
School Zone Flashers	\$\$ to \$\$\$	\$ / YR	Short-Term
<p><u>Challenge:</u> There are currently school zone flashing assemblies provided along Guinea Road approaching the intersection with Academic Way. The assemblies currently include one flashing amber light and are partially blocked by vegetation along the roadway edge.</p>			
<p><u>Opportunity:</u></p> <p>7A - Reinstall new school zone flashing assemblies, positioned in highly visible locations within 300-feet of Academic Way. The flashing assemblies should include at a minimum retro-reflective speed signage, multiple amber indications, and enhanced signage legends to include time of day limits. The day clock should be consistently monitored by the appropriate towns, as one flasher is located in Exeter.</p> <p>7B - Consider the installation of dynamic speed radar signage on the assemblies to reinforce the speed regulation and lower vehicular speeds approaching Academic Way.</p>			



CMS-8	CAP COST	O&M COST	TIMELINE
Guinea Road Bridge Area Cross-Section	\$ \$ to \$ \$ \$ \$	\$ \$ / YR	Short to Long-Term
<p>Challenge: Guinea Road between Academic Way and Route 27 (Exeter) currently consists of a ranging cross-sectional width that provides opportunities to enhance multi-modal accommodations. Currently, no formal multi-modal accommodations exist along this segment of Guinea Road.</p>			
<p>Opportunity: Provide new multi-modal accommodations along Guinea Road; which may include:</p> <p>8A - Consider restriping Guinea Road, including the area along the Guinea Road Bridge over Route 101, to provide formal bicycle accommodations in the form of shared-use lane markings (sharrows) and associated signage. (\$\$)</p> <p>8B - For a segment of Guinea Road between Academic Way and Exeter Farms Road, the roadway may provide enough width for formal bicycle lanes / shoulders. (\$\$)</p> <p>8C - If roadway width is available along Guinea Road between Academic Way and Exeter Farms Road to provide a defined pedestrian (potentially shared with bicycles) path along the asphalt. This alternative may require installation of physical separation between vehicles and pedestrians. (\$\$\$)</p> <p>8D - Construct a traditional sidewalk along Guinea Road between Academic Way and Route 27 with vertical separation between vehicles and pedestrians. This alternative will require enhancements to continue the current stormwater drainage accommodations. (\$\$\$\$)</p>			

CMS-9	CAP COST	O&M COST	TIMELINE
Guinea Road Multi-Modal Accommodations	\$ \$ to \$ \$ \$ \$	\$ \$ \$ / YR	Short to Long-Term
<p>Challenge: Guinea Road between Academic Way and Stratham Heights Road currently consists of a ranging cross-sectional width that provides potential opportunities to enhance multi-modal accommodations. Currently, no formal multi-modal accommodations exist along this segment of Guinea Road.</p>			
<p>Opportunity: Provide new multi-modal accommodations along Guinea Road; which may include:</p> <p>9A - Consider restriping Guinea Road to provide formal bicycle accommodations in the form of shared-use lane markings (sharrows) and associated signage. (\$\$)</p> <p>9B - If roadway width is available along Guinea Road between Academic Way and Stratham Heights Road to provide a defined pedestrian (potentially shared with bicycles) path along the asphalt. This alternative may require installation of physical separation between vehicles and pedestrians. (\$\$\$)</p> <p>9C - Construct a traditional sidewalk along Guinea Road between Academic Way and Stratham Heights Road with vertical separation between vehicles and pedestrians. This alternative will require enhancements to continue the current stormwater drainage accommodations and potential relocation of other utilities, such as utility poles. (\$\$\$\$)</p> <p>9 SUPPLEMENT – Consider installation of new roadway lightings along utility poles along Guinea Road in addition to pedestrian enhancements to promote pedestrian travel to/from school during winter months where arrival and dismissal times, and after-school times, may occur during periods of increased darkness.</p>			

CMS-10	CAP COST	O&M COST	TIMELINE
Stratham Heights Road Trail Path	\$\$\$\$	\$ / YR	Short-Term
Challenge: There is a lack of defined walking opportunities for students who currently reside west of the Cooperative Middle School along Stratham Heights Road and points west.			
Opportunity: Investigate opportunities to establish formal walking trails / paths, with appropriate wayfinding signage, from the CMS property to Stratham Heights Road to the north. The defined path will be in conjunction with the power line access roadway adjacent to the school grounds.			

CMS-11	CAP COST	O&M COST	TIMELINE
Elton Avenue & Apple Way Trail Path	\$\$\$\$	\$ / YR	Short-Term
Challenge: There is a lack of defined walking opportunities for students who currently reside north of the Cooperative Middle School along Stratham Heights Road and points north.			
Opportunity: Investigate opportunities to establish formal walking trails / paths, with appropriate wayfinding signage, from the CMS property to Stratham Heights Road to the west, via connections with Elton Avenue and Apple Way. The defined path will be adjacent to the Route 101 corridor starting near the terminus of Academic Way. Upon construction, short sidewalk segments, accessible ramps, and pedestrian crossing signage should be constructed at the end of Academic Way to formalize the crossing over Guinea Road.			

CMS-12	CAP COST	O&M COST	TIMELINE
Increased Speed Enforcement	N/A	\$\$ / YR	Ongoing
Challenge: Speeds approaching Academic Way along Guinea Road appear to be in excess of regulated speeds based on multiple field observations.			
Opportunity: Provide increased speed enforcement in coordination with the Exeter and Stratham Police Departments. Enforcement periods could be defined around school arrival and dismissal.			

4.2 NON-INFRASTRUCTURE RECOMMENDATIONS

The following matrix of non-infrastructure strategies implementing Stratham's Safe Routes to School program is intended to increase safety for students on their journey to and from school, and where appropriate, encourage more students to walk and bike. Rough estimates of cost for each project are summarized in the table based on the categories below. The timeline category identified projects that are low cost and easily implemented as Short Term (1-2 years), while project that are more costly or complicated are identified as Mid-Term (3-5 years) or Long Term (5+ years).

Cost Legend:

Low = Minimal up to \$1000	Volunteer effort with limited cash funding required
Medium = \$1,000-\$10,000	Moderate funding required
High = >\$10,000	Higher level of funding required

ENCOURAGEMENT					
#	Strategy	Partners	Timeframe	Cost	Notes
ENC1	National Bike to School Day – Continue existing activities at SMS and CMS for National Bike to School Day, typically the 2 nd Wednesday in May.	School Faculty, PTO, PCAC, Stratham PD	Current & Ongoing	Low	Funds in current NHDOT grant
ENC2	International Walk to School Day – Continue activities at SMS and begin at CMS for International Walk to School Day, typically the first Wednesday in October.	School Faculty, PTO, PCAC, Stratham PD	Current & Ongoing	Low	Funds in current NHDOT grant
ENC3	Bike/Walk Interschool Challenge - Consider challenging other SAU16 elementary schools or other area middle schools to have the most students per capita biking or walking to school for a day or a week. Oyster River, Rye, Seabrook and Portsmouth middle schools have participated in such challenges.	School Faculty, PTO, PCAC, Stratham PD	Short Term	Low	commuteSMART-Seacoast and Seacoast Area Bicycle Riders (SABR) have organized such challenges for Seacoast Bike Month
ENC4	Walking Wednesdays – Continue weekly event piloted in spring 2018 with students gathering in Stratham Hill Park to walk together to SMS.	School Faculty, PTO, PCAC, Stratham PD, Stratham Parks & Recreation	Current & Ongoing	Low	
ENC5	Walking School Bus/Group Commutes – Develop regular walking/bicycling groups from individual neighborhoods. At K-5 level walk/bike with parent escort(s). At CMS level groups can be student led.	SRTS Committee	Short Term	Low	The Walking Wednesdays initiative is one example of this. Encourage neighborhoods to form others.

ENCOURAGEMENT - Continued					
#	Strategy	Partners	Timeframe	Cost	Notes
ENC6	Walk Across New Hampshire – Individual students or class groups can track miles walked during the school year. Those completing 70 miles (the E-W width of NH) receive an award. Class groups target 190 mile length of the state N-S. Track individual miles through the year.	SRTS Committee, Walk NH, School Faculty	Short Term	Low	Program developed by Walk New Hampshire
ENC7	Golden Sneaker Award – Create a pair of rotating golden sneaker trophies awarded to the individual and class with the most walking miles each month.	SRTS Committee, School Faculty	Short Term	Low	Modeled after program initiated in Marin County, California
ENC8	Art Projects – Incorporate a bicycle safe community message into student art projects for younger grades. Use as a design contest for annual Bike to School Day events.	SMS Faculty, SRTS Committee	Short Term	Low	
ENC9	Other(s) as identified by SRTS Committee	SRTS Committee	Various		

EDUCATION					
#	Strategy	Partners	Timeframe	Cost	Notes
EDU1	SMS In-Class Instruction - Continue bicycle and pedestrian safety education presentations by BWANH at SMS	SMS and CMS Faculty, PTO, PCAC	Current & Ongoing	Low	
EDU2	CMS In-Class Instruction - Continue bicycling instruction as part of the Alternative PE class at CMS	CMS Faculty, BWANH	Current & Ongoing	Low	
EDU3	Bike Rodeos - Continue bicycle rodeos/safety skills workshops offered by Stratham Parks & Recreation	Stratham Parks & Recreation, Stratham PD	Current & Ongoing	Low-Medium	

EDUCATION - Continued					
#	Strategy	Partners	Timeframe	Cost	Notes
EDU4	Public Outreach Yard Sign Campaign – Print and distribute a large run of <i>Watch Out for Each Other</i> yard signs. Publicity strategy tested and found effective in Seattle.	PCAC, SRTS Committee	Short Term	Low-Medium	Funds in current NHDOT grant. Designs borrowed with permission from City of Seattle’s Vision Zero program.
EDU5	Safety Campaign – Design local Share the Road/Watch Out for Each Other campaign targeting all residents with materials to be disseminated via town website, town hall, library, schools, and traffic stops. Integrate distracted driving message.	PCAC, SRTS Committee, Stratham PD	Short Term	Medium	Pilot funds in current NHDOT grant. Draw on Vision Zero campaigns in multiple US communities.
EDU6	Suggested Route to School Maps – Such a map could be produced in the near term for SMS – especially using SHP trails. A map for CMS should follow further improvements.	SRTS Committee, Stratham Parks & Recreation, Stratham PD	Short and Medium	Low-Medium	Show most direct routes through SHP trail system. Ideally support wayfinding with trail signage
EDU7	Drivers Education – Ensure NH traffic laws related to bicycling are thoroughly covered in area drivers education programs.	Area Drivers Ed Instructors, SRTS Committee, Stratham PD	Short and Medium	Low-Medium	This is part of state curriculum
EDU8	Advanced road riding skills course for older riders. The Bike/Walk Alliance of NH has developed a				
EDU9	Other(s) as identified by SRTS Committee	SRTS Committee	Various		

ENFORCEMENT					
#	Strategy	Partners	Timeframe	Cost	Notes
ENF1	Install dynamic speed radar signage on school zone speed limit assemblies on Gifford Farm Road and Guinea Road approaching the two schools from either direction (4 units total).	Stratham Police Department, SRTS Committee	Medium Term	High	Similar to that installed by Exeter on High Street/NH27
ENF2	Volunteer Crossing Guard Program – Develop volunteer crossing guard program based on Primex training.	Stratham Police Department, PCAC, SRTS Committee, Volunteers	Short Term	Medium -High	Pilot funds in current NHDOT grant
ENF3	Targeted Speed Enforcement – Based on spring 2018 speed studies target Guinea and Lovell Roads. Consider reducing enforcement tolerance to 5mph or a zero tolerance policy for speeding in school zones, and/or doubled fines in school zones as implemented in other states.	Stratham Police Department, SRTS Committee	Short Term	Medium	Pilot funds in current NHDOT grant
ENF4	Yield to Pedestrians in Crosswalk Signs – Purchase and deploy flexible base, portable.	Stratham Police Department, SRTS Committee	Short Term	Medium	Funds in current NHDOT grant
ENF5	Encourage Helmet Use – Establish pool of bike helmets that Stratham PD can distribute to kids riding without a helmet.	Stratham Police Department, SRTS Committee	Short Term	Low	Pilot funds in current NHDOT grant
ENF6	Enforce prohibition on hand held device use while driving (RSA 265:79c) and NH's 3-Foot Passing Distance law (RSA 265:143a). Integrate hands-free message with safety campaign.	Stratham Police Department, SRTS Committee	Short Term	Medium	
ENF7	Other(s) as identified by SRTS Committee	SRTS Committee	Various		

EVALUATION					
#	Strategy	Partners	Timeframe	Cost	Notes
EVL1	Student In-Class Tallies – Each year in September and May conduct a tally for each classroom of how each student arrived and plans to depart school over a 2-3 day period. Track changes in commute mode over time.	School Administration, School Faculty, SRTS Committee, National Center for SRTS	Short Term	Low	The National Center for SRTS provides forms, data collection guidelines, and online tracking.
EVL2	Parent Surveys – An initial parent survey was conducted in April 2018. Repeat every other year to track results from program implementation.	School Administration, School Faculty, SRTS Committee, National Center for SRTS	Short Term	Low	The National Center for SRTS provides online survey tool and trend data analysis.
EVL3	School Zone Speed Studies – Baseline speed studies were conducted for four school zone roads (Guinea, Gifford Farm, Lovell, High) in spring 2018. Repeat every 1-2 years to track trends, and before and after significant infrastructure improvements.	Stratham PD, SRTS Committee,	Current and ongoing	Low-Medium	Stratham PD has access to a data logging speed trailer to conduct these studies.
EVL4	Public Opinion Survey – Consider conducting a baseline town-wide survey of public opinion and understanding regarding traffic safety. Repeat after implementing community safety campaign.	SRTS Committee, Stratham PD	Short Term	Low	This can be conducted using free online surveying tools.
EVL5	Maintain Stratham SRTS Committee – Implementation of this Travel Plan will rely on an active Committee.	SRTS Committee including all current stakeholder groups	Current and ongoing	Low	
EVL6	Develop annual report on implementation of Action Plan recommendations to Town and SAU to keep program in public eye.	SRTS Committee, PCAC, Town Departments, SMS, CMS	Current and ongoing	Low	
EVL7	Others as identified by SRTS Committee	SRTS Committee	Various		

V. Next Steps

The strategies identified in this Plan can combine to create a system of policies, programs and physical improvements that will increase walking and bicycling among students at SMS and CMS and help ensure that they can do so safely. Through the work of the Stratham Pedestrian/Cyclist Advisory Committee, school staff, the Stratham Parks and Recreation Department and other partners some of the strategies identified here are already in place, and good momentum has been developed to assist in implementing others. This final section of the SRTS Action Plan identifies several key next steps to build on the work already done and continue to grow Stratham's Safe Routes to School initiative.

Plan Adoption by Town

Once the plan is accepted by SRTS Committee, key next steps will be to present it to the Stratham Planning Board for their endorsement, and then to the Stratham Select Board. Adoption of the Action Plan by the Select Board will be important for all future implementation efforts, from endorsement of future warrant articles for infrastructure improvements to potential traffic enforcement initiatives to public awareness campaigns on road safety.

Incorporation into Master Plan & Capital Improvement Program

The timing of the SRTS planning effort dovetails well with the town's concurrent work to update the Stratham Master Plan. Clear inclusion of Safe Routes to School program recommendations in the Master Plan is an important statement that the Town is committed to supporting active transportation, and a key step toward getting more costly infrastructure projects listed in the town's Capital Improvement Program. This will help down the road in seeking federal Transportation Alternatives Program (TAP) or other grant funding for infrastructure improvements and securing developer support for road safety improvements within and adjacent to new subdivisions other development projects.

Incorporation into School District Planning

Funding for safety improvements on the grounds at either Stratham Memorial School or the Cooperative Middle School will need to be approved by SAU 16. The elementary school serves only Stratham students, so infrastructure improvements at SMS will in effect be funded by the Town via the SAU. Infrastructure improvements at the Middle School will also serve many Exeter students if not the other towns in the district. The SRTS Committee and Stratham town staff will need to work with counterparts in Exeter to build regional support for improvements at CMS. The major Renewal project approved for CMS provides a natural opportunity to incorporate new pedestrian and bicycle safety features and to ensure compliance with the ADA.

Maintain and Expand SRTS Committee

It will be important to maintain the Safe Routes to School Committee as an active body working to implement the strategies described here. Over the long term the SRTS Committee could be a stand-alone entity or function as a sub-committee of the PCAC. Continued active participation by town department staff (Planning, Parks & Recreation, Public Works and Police) will help ensure a collaborative approach to implementation. Representatives from Exeter should be added, looking toward eventual

implementation of infrastructure improvements at CMS that will serve the Exeter Farms neighborhood and potentially other Exeter students.

Optimize Use of SRTS Non-Infrastructure Grant

The Town has already secured pilot funding for several of the non-infrastructure strategies identified here. In 2018 the Town also applied for and received \$19,995 in SRTS Non-Infrastructure funding from NHDOT. This grant includes funding for supplemental speed enforcement, a volunteer crossing guard program, continuation of the bike safety skills workshops piloted by the Parks & Recreation and Police Departments, continuation of annual Bike to School and Walk to School Day activities, crosswalk signage and a community awareness campaign to ensure drivers safely share the road with people walking and bicycling. The SRTS Committee will have an important role in directing the use of these grant funds.



Figure 17: Sample yard sign for proposed public education/outreach program.
Design modified with permission from the Seattle Vision Zero Initiative.



Stratham Safe Routes to School Action Plan

APPENDIX A Conceptual Designs for Prioritized School Zone Infrastructure Improvements



Appendix A – Prioritized Conceptual Designs

A.1 PRIORITIZATION PROCESS

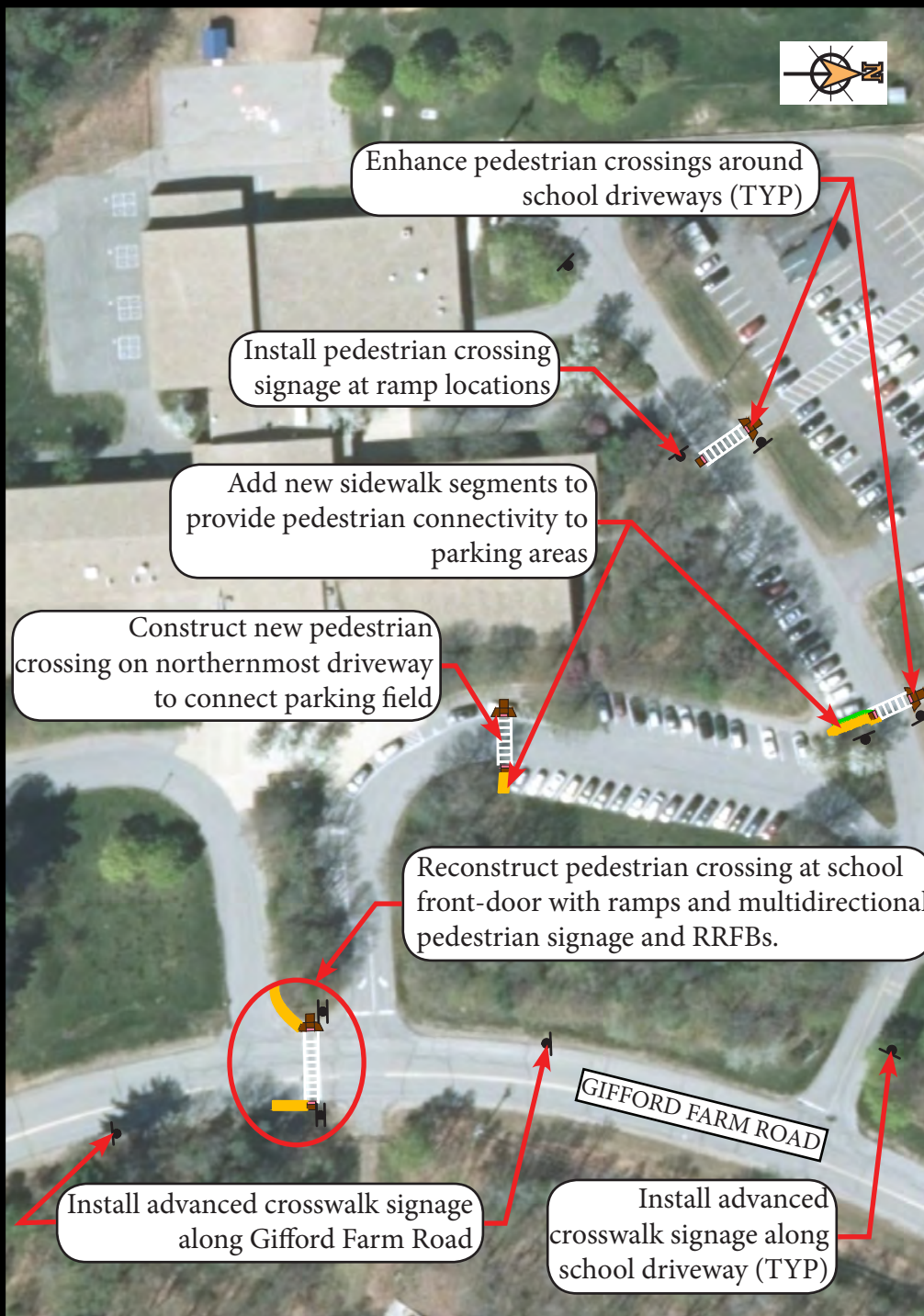
Drawing on data from the parent survey, school staff interviews, public outreach and the school zone site walks, the SRTS Committee and staff from TEC and Rockingham Planning Commission identified a list of over 19 infrastructure improvements to improve safe access at Stratham Memorial School (SMS) and 12 infrastructure improvements for the Cooperative Middle School (CMS). Including alternative treatments this included 48 variants all told. This list is presented in the main report in Section 4.2 – Infrastructure Project Recommendations (pages 27-40).

As the terms of SRTS Planning Grant from the NH Department of Transportation limited how much grant funding could be spent on conceptual design, not every infrastructure project identified could be further developed. A subset of these projects was selected by the SRTS Committee for further work by TEC to develop conceptual designs and first order cost estimates. The prioritization process was based on a set of seven criteria listed below:

1. Improves pedestrian-bicycle safety (weight = 3; maximum possible score = 9)
2. Estimated level of latent demand (weight = 3; maximum possible score = 9)
3. Provides direct access to at least one school (weight = 2; maximum possible score = 6)
4. Improves access to non-school destinations (weight = 2; maximum possible score = 6)
5. Impact on traffic circulation (weight = 2; maximum possible score = 6)
6. Ease of implementation (weight = 2; maximum possible score = 6)
7. Perceived public support (weight = 2; maximum possible score = 6)

Scores of 1 (low) to 3 (high) were assigned for each criterion for each project. The seven criteria were also weighted. The first two criteria (safety and latent demand/likely use) were assigned a weight factor of 3, and the remaining five factors were assigned a weight of two. Multiplying the raw score of 1-3 by the weighting, the maximum point value a project could receive for criterion 1 or 2 was nine (9). The maximum value available for the other five criteria was six (6). Totaling point values across the seven criteria the maximum score for a project was 48. Averaging scores from committee members, the following nine projects described on the following pages received the highest ranking and were selected for TEC to develop conceptual designs and first order cost estimates.

Also rated highly at each school were potential trail connections allowing students to travel between neighborhoods and school with minimal use of roadways. Such connections already exist through Stratham Hill Park to SMS. Additional connections were identified for CMS. Since Stratham Parks & Recreation Department already has significant expertise in trail easements, design and construction these trails were not prioritized for design work by TEC, though were identified by the SRTS Committee as highly promising and cost effective strategies to improve school connections.



SIGN SUMMARY



RECOMMENDED SCOPE OF WORK AND CONCEPTUAL COST ESTIMATE:

INFRASTRUCTURE = \$15,700
 LANDSCAPING = \$500
 SIGNS & STRIPING = \$6,000
 TEMP TRAFFIC CONTROL = \$5,000
TOTAL = \$28,200

SAFE ROUTES TO SCHOOL - STRATHAM, NH

Figure 1: Recommendation 1 - School Property and Front-Door Pedestrian Accommodations



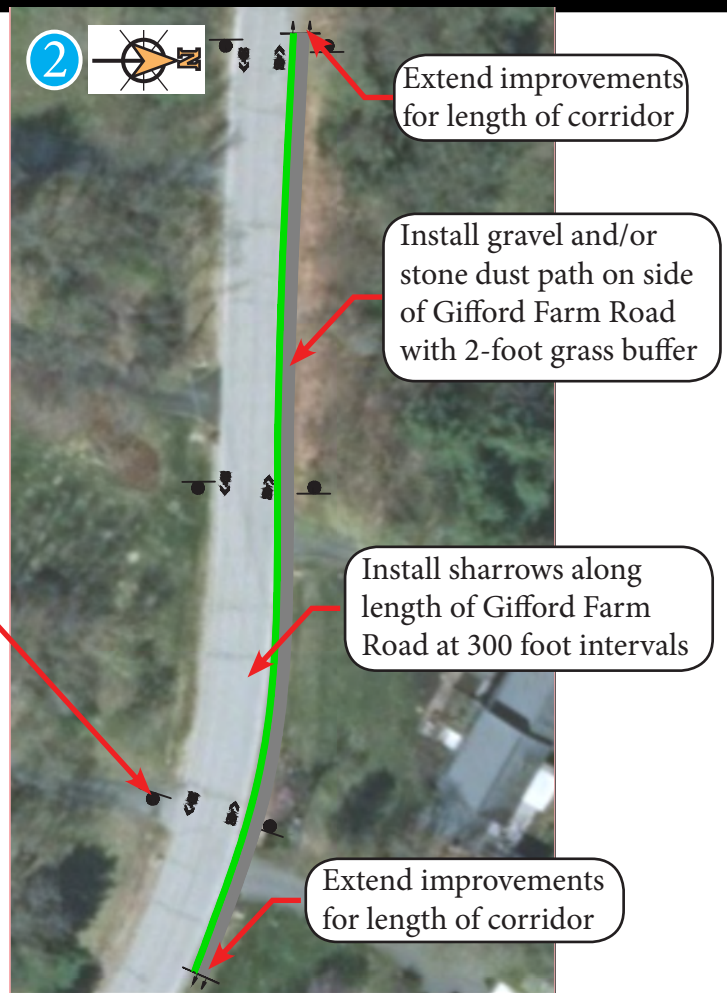
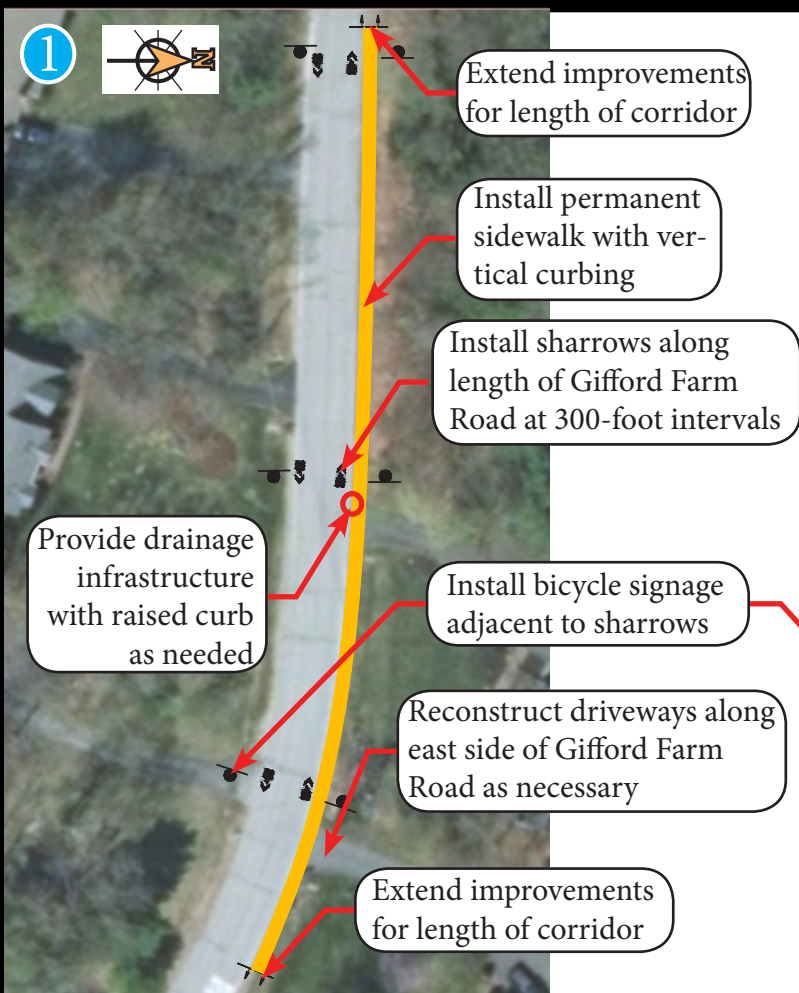
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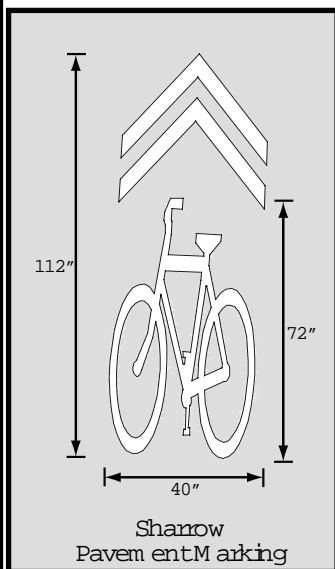
Stratham Memorial School

Location: 39 Gifford Farm Rd
 Stratham, NH 03885

Prepared For: Town of Stratham
 10 Bunker Hill Ave
 Stratham, NH 03885



SIGN SUMMARY



1 RECOMMENDED SCOPE OF WORK AND CONCEPTUAL COST ESTIMATE:

INFRASTRUCTURE = \$499,400
 DRIVEWAY RECONSTRUCTION = \$15,000
 LANDSCAPING = \$28,000
 DRAINAGE MODIFICATION = \$120,000
 SIGNS & STRIPING = \$15,000
 TEMP TRAFFIC CONTROL = \$11,000
 +/- 20% CONTINGENCY = \$138,000
TOTAL = \$826,400

2 RECOMMENDED SCOPE OF WORK AND CONCEPTUAL COST ESTIMATE:

INFRASTRUCTURE = \$90,900
 LANDSCAPING = \$39,000
 SIGNS & STRIPING = \$15,000
 TEMP TRAFFIC CONTROL = \$2,000
 +/- 20% CONTINGENCY = \$29,500
TOTAL = \$176,400

SAFE ROUTES TO SCHOOL - STRATHAM, NH

Figure 2: Recommendation 2 - Pedestrian & Bicycle Accommodations along Gifford Farm Road



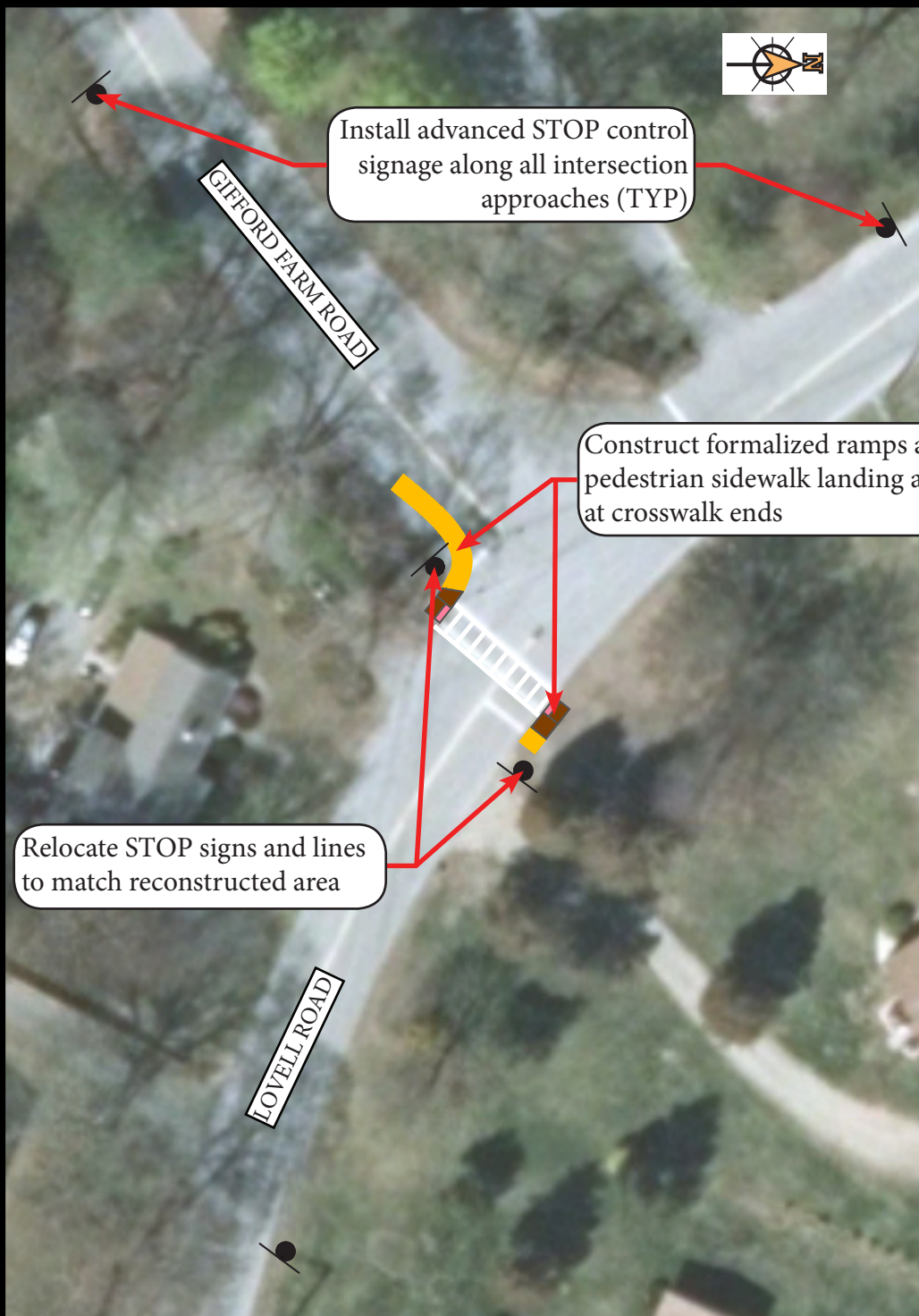
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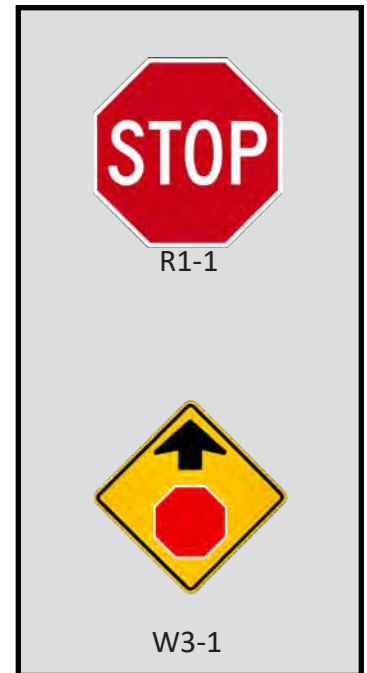
Stratham Memorial School

Location: 39 Gifford Farm Rd
 Stratham, NH 03885

Prepared For: Town of Stratham
 10 Bunker Hill Ave
 Stratham, NH 03885



SIGN SUMMARY



RECOMMENDED SCOPE OF WORK AND CONCEPTUAL COST ESTIMATE:

INFRASTRUCTURE =	\$9,650
LANDSCAPING =	\$500
SIGNS & STRIPING =	\$2,500
TEMP TRAFFIC CONTROL =	\$2,000
+/- 20% CONTINGENCY =	\$3,000
TOTAL =	\$17,650

SAFE ROUTES TO SCHOOL - STRATHAM, NH

Figure 3: Recommendation 3 - Enhance Crossing at Gifford Farm Road/Lovell Intersection



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Stratham Memorial School

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Stratham, NH 03885

Prepared For: Town of Stratham
10 Bunker Hill Ave
Stratham, NH 03885



SIGN SUMMARY



W1-5a



W1-5b

RECOMMENDED SCOPE OF WORK AND CONCEPTUAL COST ESTIMATE:

PATHWAY CONSTRUCTION = \$6,500

LANDSCAPING = \$4,000

SIGNS & STRIPING = \$2,000

TEMP TRAFFIC CONTROL = \$2,000

+/- 20% CONTINGENCY = \$3,000

TOTAL = \$17,500

NOTES:

Wayfinding signage should be coordinated with Town for other alternative pathways to/from recreational areas.

SAFE ROUTES TO SCHOOL - STRATHAM, NH

Figure 4: Recommendation 4 - Path Between Lovell Road & Willowbrook Avenue



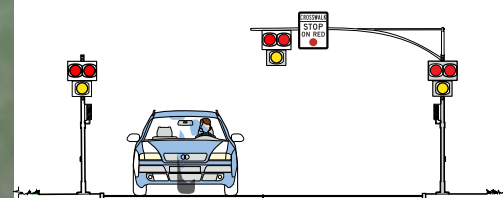
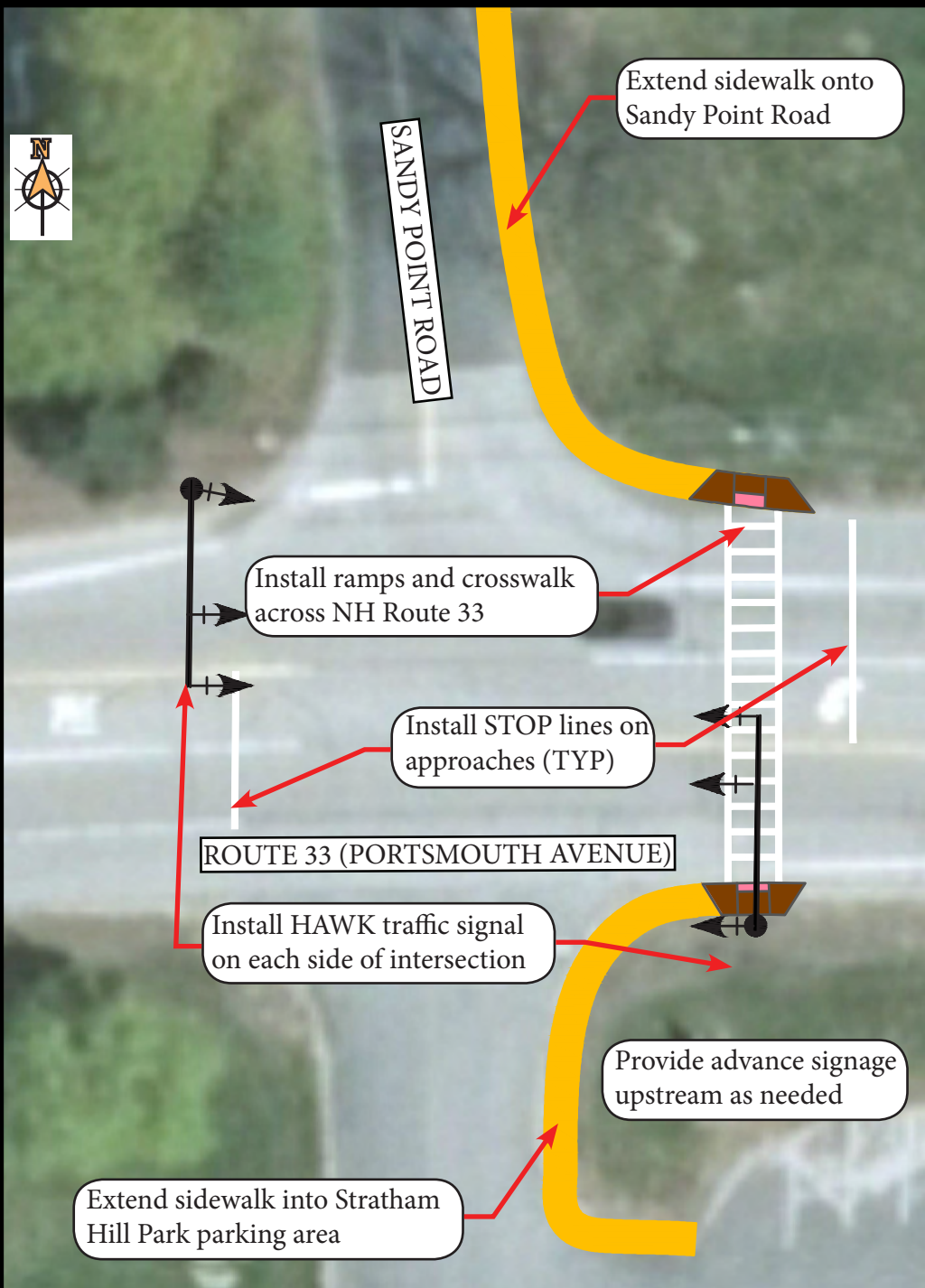
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Stratham Memorial School

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Stratham, NH 03885

Prepared For: Town of Stratham
10 Bunker Hill Ave
Stratham, NH 03885



Sample Section HAWK Signal

DRIVERS...		PEDESTRIANS...	
...will see this	...will do this	...will see this	...will do this
	Proceed with Caution		Push the Button to Cross
	Slow Down (Pedestrians have activated the push button)		Wait
	Prepare to Stop		Continue to Wait
	STOP! (Pedestrians in Crosswalk)		Start Crossing
	STOP! Proceed with Caution if Clear		Continue Crossing
	Proceed if Clear		Push the Button to Cross

RECOMMENDED SCOPE OF WORK AND CONCEPTUAL COST ESTIMATE:

INFRASTRUCTURE =	\$32,400
LANDSCAPING =	\$1,500
SIGNS & STRIPING =	\$2,000
TRAFFIC SIGNAL =	\$200,000
TEMP TRAFFIC CONTROL =	\$20,000
+/- 20% CONTINGENCY =	\$51,500
TOTAL =	\$307,400

SAFE ROUTES TO SCHOOL - STRATHAM, NH

Figure 5: Recommendation 5 - Installation of HAWK Signal at Portsmouth Avenue/Sandy Point Road Intersection



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Stratham Memorial School

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Stratham, NH 03885

Prepared For: Town of Stratham
10 Bunker Hill Ave
Stratham, NH 03885



SIGN SUMMARY



S1-1



W16-9p



W16-7p

RECOMMENDED SCOPE OF WORK AND CONCEPTUAL COST ESTIMATE:

INFRASTRUCTURE = \$49,100

LANDSCAPING = \$1,200

SIGNS & STRIPING = \$11,000

BIKE RACK = \$5,000

TEMP TRAFFIC CONTROL = \$1,000

+/- 20% CONTINGENCY = \$13,500

TOTAL = \$80,800

SAFE ROUTES TO SCHOOL - STRATHAM, NH

Figure 1: Recommendation 1 - School Property and Front-Door Pedestrian & Bicycle Accommodations



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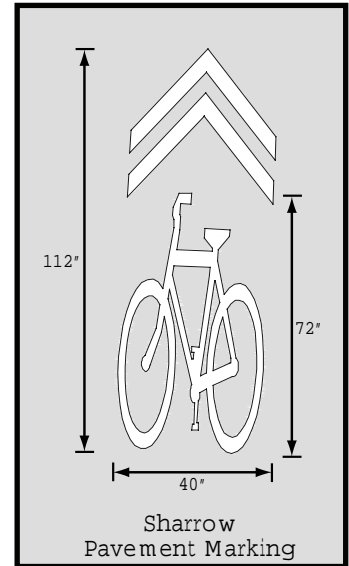
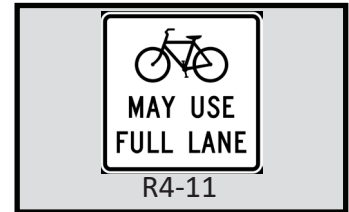
Cooperative Middle School

Location: 39 Gifford Farm Rd
Stratham, NH 03885

Prepared For: Town of Stratham
10 Bunker Hill Ave
Stratham, NH 03885



SIGN SUMMARY



RECOMMENDED SCOPE OF WORK AND CONCEPTUAL COST ESTIMATE:

INFRASTRUCTURE	= \$22,500
LANDSCAPING	= \$9,500
SIGNS & STRIPING	= \$4,000
TEMP TRAFFIC CONTROL	= \$1,000
+/- 20% CONTINGENCY	= \$7,500
TOTAL	= \$44,500

SAFE ROUTES TO SCHOOL - STRATHAM, NH

Figure 2.1: Recommendation 2A - Academic Way Pedestrian Accommodations (Pathway)



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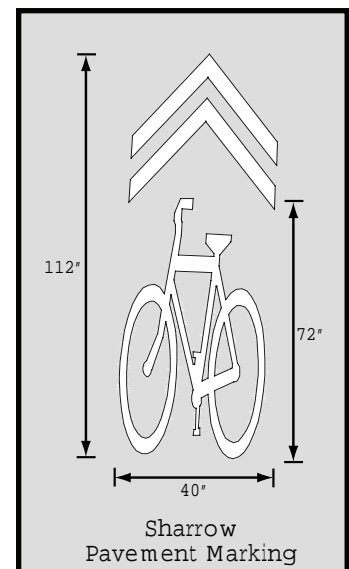
Cooperative Middle School

Location: 39 Gifford Farm Rd
Stratham, NH 03885

Prepared For: Town of Stratham
10 Bunker Hill Ave
Stratham, NH 03885



SIGN SUMMARY



RECOMMENDED SCOPE OF WORK AND CONCEPTUAL COST ESTIMATE:

INFRASTRUCTURE = \$125,400

LANDSCAPING = \$7,000

DRAINAGE MODIFICATIONS = \$60,000 *

SIGNS & STRIPING = \$4,000

TEMP TRAFFIC CONTROL = \$8,000

+/- 20% CONTINGENCY = \$41,000

TOTAL = \$245,400

*Drainage modifications assume
direct outlet from stormwater basins

SAFE ROUTES TO SCHOOL - STRATHAM, NH

Figure 2.2: Recommendation 2B - Academic Way Pedestrian Accommodations (Sidewalk)



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Prepared For: Town of Stratham
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Stratham, NH 03885



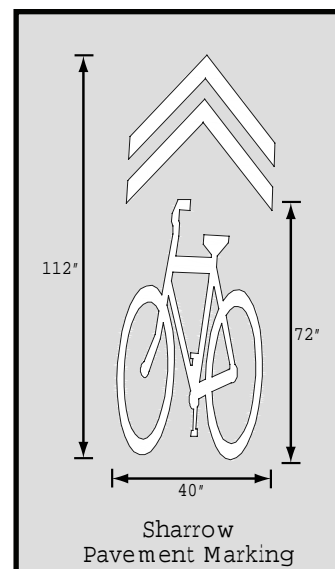
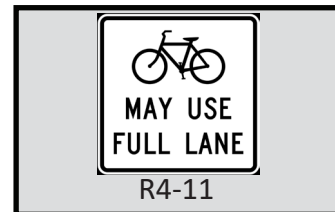
RECOMMENDED SCOPE OF WORK AND CONCEPTUAL COST ESTIMATE:

SIGNS & STRIPING = \$12,500
 TEMP TRAFFIC CONTROL = \$1,000
 +/- 20% CONTINGENCY = \$3,000
TOTAL = \$16,500

SAFE ROUTES TO SCHOOL - STRATHAM, NH

Figure 3: Recommendation 3 - Bicycle Accommodations Along Guinea Road

SIGN SUMMARY



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Cooperative Middle School

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Prepared For: Town of Stratham
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 Stratham, NH 03885

APPENDIX B

STRATHAM SAFE ROUTES TO SCHOOL TRAVEL PLAN

Parent Take Home Survey – Full Text of Written Comments

Comments from SMS Respondents

- 33 is just too busy of a road even for me as an adult to walk or ride a bike
- Bike paths like Exeter would be wonderful.
- Cars speed way too much on Willowbrook and High Street (and Lovell) in Stratham. These are the entry streets to SMS and something would need to be done to curb the speeding and amount of traffic in these areas. Many cars off 33 cut through Willowbrook to avoid the traffic on 33 going towards Peace Airforce base.
- Gifford Farm Road between SMS and Lovell Road absolutely needs a sidewalk. The speed and amount of traffic are both too high and there is no place to walk except the road. In the winter there are snowbanks and in the warmer months the entire side of the road is poison ivy- so there is no place for children to go to get off the road.
- I would greatly appreciate sidewalks in this town. If this town could at least put them on one side of the street. Bunker Hill is a very busy road. We ride often on this road although in not comfortable letting my children ride without me since there are no sidewalks. Drivers are not aware of us riding on the side or the road not to mention its dangerous. Its almost impossible to cross union road as that road is also busy. Everyone is always in a rush. I would love to see my boys ride there bikes to school as they do ask almost daily. They say the bus is loud with all the kids on it. I would be willing to help with anything i can to get sidewalks in the route to school. Thank you
- I would love for my child to be able to bike or walk to school but the distance is a big factor for SMS but for CMS we would absolutely allow it and encourage it if there were bike paths or sidewalks. Right now Stratham Heights road and Guinea are not safe for children to walk or ride on.
- I would love to see at least one side of the street have a side walk in all of Stratham's main streets. Union Bunker Hill Rd Winnicut Stratham Heights Guinea Rd!
- I'd love to let my daughter ride to school. I'm on the fence as to at what grade it would be safe - Narrow/busy roads (Willowbrook Ave) are my primary concern and the unknown safety issues (mostly those posed by humans) are secondary. I love the idea and would encourage her biking to school - as well as joining her for the ride for my own health.
- It is too dangerous. Apart from the major road crossings the roads do not have sidewalks and the speed limit is 35mph on approach roads to the school which is quite ridiculous compared to other roads with lesser speed limits. The Town has zero interest until there is either an accident or a strong movement. Perhaps it should be a voteable issues like it was in Hampton to have sidewalks. I volunteer to help with this movement.
- My child can't ride a bike plus it would take too long to get there from where we live.
- My child loves bike to school day and has enjoyed walking to school but we are probably too far and have to cross Portsmouth Avenue to make it a regular event.
- Our location is too far for walking/biking. If we lived closer then with safe pathways/sidewalks I would consider it on nice days. But cold weather also prohibits walking/biking for most of the school year.

- People drive way too fast on Willowbrook Ave and there are too many blind curves on the narrow street to be safe.
- Residences close to both CMS n SMS make sense. Other than that major roads which most would have to ride to get to those respected schools are too busy and dangerous. There are no bike paths trails etc. It would cost too much money to make this a safe reality.
- Rte 108/33 is just too dangerous for a child to ride their bike.
- Side walks and/or bike paths with speed bumps needed on school streets. We are asking for accidents with drivers going too fast and on cell phones.
- side walks on at least on side of the street would be great for all walkers runners bikers walkers and their dogs!
- Sidewalks on bunker hill please. Sidewalks before skatepark.
- Sidewalks on the streets would be ideal or a biking path/lane.
- These answers apply to SMS - we look very too far away from CMS and EHS to walk or bike.
- These answers apply to SMS - we look very too far away from CMS and EHS to walk or bike.
- We bike to/from school on occasion and walk through the trails to/from school on occasion. Its fun. Bus is most convenient but we like to do it sometimes. The appeal is spending quality time together and the exercise.
- We have trails from our neighborhood that meet up with the SHP trails and access SMS. Would like better markings along the trails so that I could be sure the kids didn't get confused or turned around.
- We let our older children bike on Coach Rnand Humes Court because they are quieter roads. We would LOVE for our kids to be able to bike to school but are unwilling to send them as Barker Road gets very busy during peak school traffic times and has some curves with visibility issues. Additionally where Barker meets High St and Long Hill Rd is a very troublesome spot for motorists.
- We walk to school together often. It is relatively safe but in a high traffic area due to the number of cars and busses taking kids to/from school. I will feel more comfortable letting her and eventually her brother walk to school by themselves once they are more mature.
- Would be great to see a system of bike paths throughout Stratham that we're safely separated from car traffic and could go to SMS and CMS. That is something I would gladly increase my taxes for.
- Would very much support biking to school if there was a safe route (slower traffic/crossing guards) and enough kids participating so my children would one of many. Living on the other side of 33 makes biking to school without an adult a true challenge.

Comments from CMS Respondents

- A bike/runners lane on major streets would greatly enhance the ability for kids to bike and walk to school safely. Not to mention be used by all residents in Stratham and surrounding areas.
- Both the middle school and high school are located outside of town and do not have bike/walk accessibility. There are no paths sidewalks or even trails that go to the schools.
- Cms has refused to allow biking or walking of any students even with parents' permission stating there is no sidewalk and that it is prohibited. My child has been told that he will be given a lunch detention if he is seen leaving on foot or with his bike to the point other kids hide the bike in the woods and sneak. Changing the policy would be the clear first step.
- CMS is in a tough location for biking from most parts of Stratham. Stratham Heights in the am would be VERY dangerous in its current setup
- CMS is not conveniently located to walk or ride bikes for most of the students. However I feel the traffic pattern for dropping our children off should be rerouted! It is horrible!
- CMS is not in an area that would promote children safely walking or biking to school. The road the school is on is extremely dangerous for anyone to walk much less a child walking to school or biking. I happen to live on a very busy street and would NEVER let my child be put in such a dangerous situation. This survey is a waste of time due to the logistics of where CMS is located. Please allocate time and resources to other more important issues.
- CMS location is a not that pedestrian or bike friendly. With kids coming from 6 different towns only people that live within a reasonable distance can participate
- Continuous sidewalks and street crossings that have stoplights are needed.
- Great initiative. I hope eventually all students have the choice between taking the bus walking or biking to school and will be able to do it safely. Discourage parents drop off/ pick up. The amount of traffic to school is terrible.
- he has only biked on the one day allowed a year for a child to bike to school. Lack of sidewalks and safe intersections make regular use too unsafe
- High Street/Hampton Rd needs continuous sidewalks and street crossings that have stoplights.
- I biked to school in JR high and High school through the center of town in Derry NH I was encouraged to learn the rules of the road for cyclists. My children already know these and have helmets which we did noOt have to wear in the 1980s. I would feel confident letting my child ride his bike to school.
- i can't imagine any child walking to school with no sidewalks at all on the road. how was this even constructed without sidewalks.. poor planning on town's part
- I don't think that any kid should be walking along Stratham Heights Rd or Guinea Rd as they have no sidewalks poor visibility due to hills and lots of speeding traffic. The lack of sidewalks alone coupled with the narrow dirt shoulders is enough for me not to want my child to bike to school.
- I feel many more kids would walk or ride bikes to CMS from Exeter if the sidewalks were extended to the school or a designated path were formed.
- I will not allow my daughter to bike to school. We live off of Brentwood Road which is narrow twisty and hilly. It has no bike path and no sidewalks and visibility is limited due to curves and hills. I do not think it's safe for either bikers of any age or drivers to have bikes on this road.
- I wish it was possible for them to bike to school they would like it very much. Unfortunately Stratham Planning has not encouraged connectivity electing to urbanize in cul de sacs or dead end

streets. That means that the few connecting streets carry an inordinate amount of traffic since they are the only ones (Stratham Heights Bunker Hill Union Winnicutt Portsmouth Ave) that allow you to go to and from your destinations. To add insult to injury those roads are narrow no shoulders so biking or even walking beside traffic is a death wish in the making. There's still time to fix that and require connection between roads for the new developments and retrofit the existing ones.

- I worry about what is going to happen when my child gets to the high school and the access to a late bus is no longer available. We live close to the high school but it is not safe for biking. I do not drive and my child will no longer be able to participate in afternoon activities sports or evening events with peers. Transportation is a large concern for a number of parents who do not drive in the SAU 16 community.
- I would have loved for my daughter to have had the chance to ride her bike to school. There are no sidewalks the traffic is too fast there are no crossing guards and I worry about predators. If the town made biking/walking to school more user friendly and safe I would have made my child ride her bike to school every day in good weather. She would have loved it and it would have given her an excellent opportunity to experience both independence and responsibility.
- I would love my kids to bike to school. They did while attending LINCOLN street however once they went to CMS and EHS it is far too dangerous due to traffic streets without bike paths and distance
- I'm afraid we live too far from CMS. We are about 4 miles and there are busy roads in between. But they did bike on the Bike To School day. They enjoyed that.
- If there was a bike lane or sidewalks I'd likely bike/walk with my kids to school sometimes.
- If we coordinated commute groups that might help as well. "Bunker Hill Meetup and bike to school leaving at 7". Safety in numbers. Additionally the distance graphs are not accurate to estimate distance. The visual shows us about 2 miles away as the crow flies but it is a 4 mile bike ride.
- If you live I. The neighborhood close to SMS it's fine. I would never let my son ride along Route 33 alone.
- It would be good to know when they arrive if it occurs. Streets don't seem safe to do it since there are no sidewalks or crosswalks.
- It would be nice if my child felt allowed to walk to her grandmother's condo which is within 1/2 mile of school. She feels that CMS does not allow any walkers.
- It's the lack of sidewalks that is the primary reason. Exeter is not a very pedestrian friendly town. It has improved but only for the business district
- My biggest concern is crossing Hampton road onto Guinea Rd. My son would love the independence of riding and the exercise if it could be more safe.
- My child lives too far from school to walk or ride his bike. We live off a very busy Route 11 without sidewalks or breakdown lanes. It would be too dangerous.
- My child was very disappointed when there was not an option to bike to school. I know if given the option would be very valuable.
- My child who is currently at CMS walked or biked with a group of neighborhood kids to and from his elementary school 3rd-5th grade and I walked or biked with him in grades K-2 so it has been disappointing that he can no longer do this at the middle school. My daughter currently walks to and from her school and I am sure she will be disappointed that once she gets to CMS this will no longer be allowed.

- My child wishes to ride his bike to school. He was very disappointed CMS didn't allow biking to school
- My son does not ride his bike to school specifically because the school does not allow it.
- need sidewalks in this town for school and outside school safety ...and to promote health.
- Number one issue is lack of side walks and traffic controls. I would only allow my daughter to go this way If she was in a group
- Our son walks to Lincoln Street School. He loves it! We moved into this neighborhood last year and walking to and from school is a very happy part of his life. The crossing guards are great! I'm sad that this is his last year of being able to walk.
- She walked or biked to MSS and LSS every day. She hates the bus to CMS. Wish biking there seemed like a real option but the pathways there from downtown are a little sketchy.
- She walked or biked to MSS and LSS every day. She hates the bus to CMS. Wish biking there seemed like a real option but the pathways there from downtown are a little sketchy.
- Thank you for getting the grant. I would LOVE for my daughters to be able to bike to school.
- The distance from my house to CMS is the problem - even if my son were allowed to walk to CMS it's not practical- it would take him an hour to get there.
- The elementary school allows children to walk and bike to/from school. Love that. We are grateful that Exeter provides crossing guards. The middle school says walking/biking to and from school is not allowed so we don't allow our kids to do that. Plus no crossing guards or appropriate sidewalks. We would be greatly in favor of CMS being a "safe route" school. Let's make it happen! Thank you.
- The most concerning part for us is that the corner we live around has no sidewalks no crosswalk and people speed around so fast it's difficult for even a car to get out of Ernest Ave. Also High St. has so many pot holes and bumps that the people driving are all over the road to avoid them it is unsafe to be walking along high st especially once you get past Drinkwater rd. It's nerve racking enough just driving you never know who's going to come over the yellow line a bit too much to avoid the hole on their side.
- There are no alternative means of transportation for students at CMS or the High School except the late bus at CMS. Location of these schools is a huge concern. Students are not safe to walk/bike and must try to arrange rides to participate in activities. This is problematic for single parent homes and homes where parents don't drive. Transportation is very difficult.
- This is not a priority effort for us/Stratham because of the narrow roads along Stratham Heights Road. If sidewalks were added to Guinea they would lead to nowhere because we still could not install sidewalks in Stratham along Stratham Heights.
- We live near CMS but there is a policy against biking to school due to lack of bike lane or sidewalk on Guinea Rd. My older son took the bus for three years when he could have biked.
- We live 6 miles away but if there were sidewalks or better paths away from the road I would let my child ride his bike.
- We live extremely close to the school and it would be very nice if she could walk home at times. Especially is she needs to come home for some reason during the day. (I work almost an hour away.)
- We live too far away for her to walk or bike
- We walked/biked to school in elementary but the school is too far away now.
- We walked/biked to school in elementary but the school is too far away now.

- We were told that kids cannot be walk to school because there is no sidewalk. Also there is no bike rack. Would love to be able to do it since we live so close.
- When my daughter went to SMS we walked through the woods to school fairly often in the spring and sometimes in the fall. Never in winter. We take the paths behind Crestview across the field into the back of SMS. It was wonderful. I don't see a way for us to do that at CMS or Exeter High School because of distance and time involved. But for those families who live closer having sidewalks to help make it possible would be wonderful. Or perhaps there is a way to get to CMS through a network of trails or yet-to-be-built trails which would be wonderful.
- While my child doesn't walk or bike to school- she does have walk home from the bus 1/2 mile each day as the bus does not go down our road.
- With no shoulders on the roads in Stratham biking can be dangerous at any age.
- Would walk if sidewalks were available. We are only 2 miles from school.

APPENDIX C
SWOT Analysis - Strengths, Weaknesses, Opportunities and Threats

Stratham Safe Routes to School Committee Meeting
November 6, 2017

Baseline Information for SRTS Program Development

- 1. What infrastructure, policies and programs do SMS, CMS, and the Town of Stratham currently have in place (or are planning) that support safe walking or biking to school as well as other healthy physical activity?**
 - Bike to School Day events (CMS & SMS) (30%-50% of SMS student body);
 - Stratham Hill Park (SHP) bike trail connection to school;
 - Bike rodeo program (4 Wednesdays in August);
 - Bike unit as part of CMS Alternative PE;
 - Take a Kid Mountain Biking Day (Seacoast Velo Kids partnership w/Stratham Parks & Rec);
 - Organizing network – Good partnerships in town between PTO, SMS administration, Stratham PD, Parks & Rec Department;
 - Recent safety improvements on Gifford Farm and Lovell Roads (crosswalks, flashing beacons); and
 - SMS plans to add Walk to School Day in October next year.
- 2. What concerns do you have about kids walking or biking to school? If your concerns relate to safety improvement on roadways or intersections please be as specific as possible about the location.**
 - Route 108 and Route 33 act as barriers for kids to the north and west of those highways to be able to walk or bike to SMS;
 - Traffic volume, speed and narrowness on Gifford Farm and Lovell Roads to access SMS;
 - Walking and bicycling to CMS is specifically prohibited;
 - No sidewalks at CMS;
 - Narrowness of Guinea Road and bridge over NH101 limit bike/ped access, or sidewalk potential from the south, to CMS;
 - 35 mph speed limit on Lovell Road;
 - Number of state highways (NH108, NH33, NH27);
 - Increasing percentage of parents driving kids to school rather than bus or walking/biking;
 - No direct communication with drivers on safety;
 - Lack of sidewalks on Gifford Farm and Lovell;
 - Lack of width on other local roads beyond Gifford Farm and Lovell;
 - Narrow bottleneck bridge on Willowbrook Avenue, high speed traffic and no shoulder ;
 - Confusing intersection on Lovell/ Gifford Fam Rd. leads Pedestrian onto the dangerous side of road;
 - Seasonality of trails (not plowed in the winter); and
 - Limited snow removal capacity if sidewalks were built.
- 3. Keeping in mind the 5Es of the SRTS program (Engineering, Education, Encouragement, Enforcement, Evaluation), what can Stratham do as a community to encourage kids to walk or bicycle to school and ensure that they can do so safely?**
 - Use trails at Stratham Hill Park for access (Encouragement);
 - Parent chaperoned walking groups meet at Stratham Hill Park and walk to SMS – organizing parents to do this can start immediately. Any trail potential near CMS? (Encouragement);

- New development going in on Lovell and Stratham Heights Roads – more families in proximity to school, potentially helping justify safety improvements;
- Additional anti-idling signage at schools – single signs there now, but now largely ignored (Education);
- Evaluate low-cost visual cues as low hanging fruit (Engineering);
- Stripe 10' lanes on Gifford Farm, double yellow center line, would allow for 2'-4' shoulders. Test striping on base coat of asphalt – 2-4 years. Incorporate final striping with top coat following test. (Engineering);
- Agree on terms “sidewalk”, “side path”, “bike path”, “bike route”, etc. ;
- Work on communications plan to build public support (Education);
- Continue bike safety skills outreach through Stratham PD and Parks & Rec (Education)
- Crossing guard program (Enforcement);
- Temporary pop-up demonstration projects to test crosswalk/traffic-calming modifications. (Engineering);
- Walking group through Stratham Hill Park could even run in winter with snow-shoes (Encouragement);
- Develop a trail from the Long Hill trail on Barker's Farm conservation land directly to SMS property to offer an alternative route to Gifford Farm Road;
- Add "End School Zone" signage to Gifford Farm Road, Lovell Road and Guinea Road;
- Add cross walks on strategic important places to guide pedestrian and walkers safely across road (Willowbrook Avenue, Lovell Road, Gifford Farm, Guinea Road, Winnicut Road, High Street; and
- Assign town neighborhoods on masterplan (CMS, SMS, Great Bay) and develop standards for traffic calming and connectivity.

4. What challenges will need to be addressed to implement these ideas?

- Lack of local resources for construction and maintenance;
- Subdivision regulations don't account for sidewalks;
- Cul de sacs are the typical development pattern – not good for connectivity;
- NIMBYism regarding trails;
- New development = more traffic; and
- Lack of clarity of terms --- > sidewalk, path, lanes, bike route, etc.



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MEETING NOTES

ATTENDEES:**DATE:** Sept 14, 2018**LOCATION:** Stratham Memorial School
39 Gifford Farm Road
Stratham, NH 03885**PROJECT NO.:** T0802**NOTES BY:** S. Gregorio**PROJECT NAME:** Stratham, New Hampshire – Safe Routes to School**RE:** Stratham Memorial School Field Observation Notes

Parent Pick-Up Area

- Parents queue along back of faculty parking area. This drive aisle has a yellow centerline and parents generally keep to the correct traffic pattern. A faded pavement **marking at the start of the driveway denotes "Parent Pick-up"; however the marking is very faded.**
- Students being picked-up exit through the side door on the northerly side of the school building.
- Parents start to line-up very early to pick-up students. Many vehicles idle. It was noted that at its peak, 34 cars were lined-up in the parent pick-up area. There is a need for more No Idling signs.
- After pick-up, parents exit the same driveway on the northern most property line. There appears to be little conflict exiting.
- Crosswalks in pick-up/drop-off area and around school grounds do not provide compliant wheelchair ramps (too steep, no tactile, or just no ramp).
- Many locations ON the school grounds do not have crosswalks at crossing locations.
- At end of school driveways, there appears to be no real conflict to exit as there is generally little traffic along Gifford Farm Road.

Bus Pick-Off Area

- Southernmost turn-a-round driveway utilized for bus pick-up and drop-off while northernmost turn-a-round driveway utilized for handicap access pick-up and drop-off.
- Students exit via the two front entrances of the school to access / egress buses.
- A Stratham Police officer parks outside between the two turn-a-round driveways at the school frontage. The police officer did not exit his vehicle during the pick-up period.
- Buses arrive sporadically; enter the driveway and most as far down the driveway as possible. The first buses to arrive are numbered in the 20s. The second round of buses is numbered in the 30s.

[Plan](#) | [Permit](#) | [Design](#) | [Construct](#)

- School dismissal is at 3:00pm with all Bus #20-#29 students walking outside with various staff members. Students are grouped outside by bus. Once bus has arrived and the number is declared, a staff member uses radio to announce bus number to other staff. Staff responsible for that bus gathers students, holds up bus number on paper to all students, and walks down sidewalk to bus with students. This is continuous until all buses in the #20s leave. Then the same process is repeated for the buses in the #30s.
- Once bus has students on it, they depart.
- When students first leave building there is somewhat of a chaos factor; however, student will quickly group to their bus group location outside the main entrance.
- One bus and multiple vehicles use the handicap access area to pick-up students. Vehicles were seen creating one line of traffic in such a way that vehicles could not pass. All vehicles in this area appeared to leave at same time following the bus leaving.

Other Drop-Off Procedure Notes

- All students have opportunity to be bused to school; however many parents still pick-up / drop off child.
- No bikers observed; but two bike racks are provided at school front entrance.
- Several walkers were observed leaving the school. Travelling to the south, walkers were observed using the sidewalk on school property all the way to the southern edge of the property before getting onto Gifford Farm Road. This completely avoided the striped crosswalk provided between the two turn-a-round driveways. There is no crosswalk at the end of the far turn-a-round driveway.
- One representative noted that sometimes there is a school official to assist walkers and sometimes not. What if nobody showed up to assist?
- All walkers are typically out by 3:05pm.
- The school is currently compiling a plan/record for which walks, buses, get picked-up.

Driveways and Gifford Farm Road

- Small school crossing flashers are present between the two turn-a-round driveways at the school frontage. Only one sign and flasher face each direction. Flasher seems to be continuous which may result in drivers ignoring. There is no advance warning signage. It was also noted that the flasher may not be programmed for the correct school related times. At a minimum, these signs should be two per direction with advance warning signs to reinforce the condition.
- School zone 20 mph speed limit signs and flashers are present further down Gifford Farm Road, north of the school. A 25mph sign is located on Gifford Farm Road closer to Lovell Road.
- There are no shoulder lines on Gifford Farm Road. The roadway is excessively wide; especially near **the school's driveways. Between the driveways it appears that the** southbound travel lane is wide enough for two lanes of traffic which may be related to bus queuing; however, there is no delineation of travel lanes. The roadway can be

significantly narrowed to slow speeds and still provided sufficient space for two-way traffic. Could be prime area for a raised traversable apron so buses can mount while vehicles stay in formal lane.

- Appears to be significant solar glare along Gifford Farm Road at the time of student pick-up. The amount of vegetation and the changes from sunlight to shadow that often occur along the roadway is a deterrent for parents allowing their kids to walk.
- Pedestrians in area are told to walk on the easterly side of the road, regardless of direction of travel, as it is safer with a shelf off the edge of pavement and an easier crossing at the end of Gifford Farm Road. Poison ivy and other low vegetation build-up on both sides of Gifford Farm Road typically force pedestrians into the pavement to walk.

Gifford Farm Road at Lovell Road

- Intersection recently changed to an all-way stop controlled intersection, where Lovell Road use to be a free-flowing approach.
- Sight lines exiting Gifford Farm Road are very challenging looking north.
- There is no advance stop control signage on any of the three approaches. There is however school crossing signage in advance of the intersection which may not be acceptable this far from the school property. This signage should not be present at a stop-controlled intersection.
- At the intersection, Lovell Road is very wide and encourages high speeds; even with the newly installed stop control.
- There is a pedestrian crossing across the Lovell Road northbound approach that does not connect to any ramps or sidewalk.
- The STOP sign along the Gifford Farm approach is set back from the painted stop line. The STOP sign on the Lovell Street southbound approach is partially blocked by vegetation.

Other Considerations

- School and Towns should look to provide targeted enforcement of speeds at driveway location when available. It is understood that there is very limited resources for targeted enforcement. Police officer on-site left immediately after buses stop coming to school.
- Town and RPC is currently working on developing a detailed trail map through GIS that will assist in developing better walking opportunities for students and other residents of this section of Town.



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MEETING NOTES

ATTENDEES:**DATE:** Sept 10, 2018**LOCATION:** Cooperative Middle School
100 Academy Way
Stratham, NH 03885**PROJECT NO.:** T0802**NOTES BY:** S. Gregorio
E. Paquette**PROJECT NAME:** Stratham, New Hampshire – Safe Routes to School**RE:** Cooperative Middle School Field Observation Notes

Parent Drop-Off Area

- Parents queue along “No Parking” fire lane up to the crosswalk at main entrance. A CMS staff member at that location is waving parents on to move more forward to drop-off so to not cause excessive queuing. This same staff member directs crossing movements at the crosswalk where/when faculty are crossing. Generally, parent drop-off, although excessive, runs smoothly.
- Parents are not supposed to drop-off students until 7:00am; however students are frequently dropped-off before starting at approximately at 6:45am. For those students who are dropped off before, they are directed to the café to sit.
- Some parents are known to pull into faculty lot at front of school to drop-off and skip line. Then exit past the queue line.
- A CMS staff member is located to driveway split to direct parents to the drop-off area to make sure they do not end up in the faculty lot.
- Crosswalk in drop-off area, which doubles as crosswalk for main entrance / visitors, and faculty does not provide compliant wheelchair ramps (too steep, no tactile).
- No crosswalk is provided at the southerly front entrance to faculty / visitor parking area.
- A noticeable amount of parent drop-offs occur area school has officially started.
- Time Stamp: 7:10am – Significant volume build-up with drop-off queue backing up well onto Academy Way.
- Time Stamp: 7:15am – Drop-off exhibiting long queues, volume remains heavy through 7:20am
- Time Stamp: 7:25am – Queue for parent drop-off has cleared.

Bus Drop-Off Area

- Buses and faculty only pavement markings apparent on school driveway before split in traffic. Parents are seen utilizing both lanes or not abiding by lane markings at entrance. Pavement markings are done in paint and are slightly faded.
- Buses loop behind building for drop-off. Upon final drop-off the bus advances to the side of the school and then stops for driver to inspect bus and seats.
- First bus arrived at 7:05am and traversed around back of building to bus drop-off location.
- Buses empty with door on far side from building requiring crossing. Less of a concern as no conflicting vehicular travel on driveway during bus drop-off.
- Students are left in large groups on the far side of the buses and hold there. Once a build-up of students is large enough, they cross all at once in front of or between buses to limit the crossing conflict.
- Buses appear to be half full.

Other Drop-Off Procedure Notes

- All students have opportunity to be bused to school; however many parents still drop off child. This is most likely due to population for the school where the school services multiple communities. Anecdotal information provided by one representative indicates that some students will spend up to 45 minutes on a bus to/from school and therefore it is more practical for the parent to drive.
- No walkers or bikers observed.
- Students use the side door at the end of the day to exit the school. There are three doors for exiting the school.

Driveways and Academy Way

- Most locations at school lack ADA accessible wheelchair ramps. Locations that do have ramps appear to be non-compliant at first glance.
- There is a lack of crosswalks at the southerly front entrance to the school or the athletic fields to the west. Where crosswalks do exist, there are some locations that do not have receiving sidewalks or ramps.
- No Idling signs along the school driveway are faded or set-back.
- Entrance driveway and Academy Way intersection appears to be much wider than needed on the internal corner. This area is striped today in case of need for bus turn-around or fire vehicle. Area could be downsized in order to remove open pavement (slower speeds) or could be reconstructed to have mountable apron made of brick or pavers to allow larger vehicles to cross if needed.
- Entrance lanes along driveway after Academy Way are wide and could be narrowed to limit speed.

- Travel lanes along Academy Way are 20-feet wide which are very excessive and could be narrowed. In addition, the excess area could be used for a landscaped median, bike lanes, or sidewalks without any additional cross-sectional impacts.
- Do Not Block Intersection area along Academy Way should be painted in white and should be supplemented by signage to reinforce.
- Consider providing bolt-down speed tables / humps along Academy Way to slow speeds. These bolt-down versions can be easily removed during winter months to not obstruct plowing. These bolt-down locations can be customized to be length of bus wheel-wells **so to only cause "bump" for normal vehicles.**
- Consider providing a sidewalk along Academy Way. This was also mentioned by two older gentleman walking Academy Way during the field visit. There may be a preference for a side-path as opposed to a curbed-sidewalk.

Guinea Road

- **Guinea Road is a "limiting factor" in terms of walking safety as many parents would not** allow their child to walk along this roadway on way to school as a result of travel speeds and limited sight lines.
- Intersection Sight Distance (ISD) along Guinea Road, from Academy Way, looking north appears to be limited.
- Guinea Road in this area is signed as 25 MPH; however observations show drivers travelling at higher rates of speed.
- School zone flashers are provided along Guinea Road in both directions. The flasher south of the school for northbound traffic appears to be somewhat blocked during summer months due to vegetation. Although not directly blocked, the vegetation around the flasher is dense.
- The Guinea Road Bridge over Route 101 is 36-feet curb-to-curb. Pavement markings could be proportioned to better utilize the cross-section for potential sidewalks and bike lanes.
- Down the hill along Guinea Road is a guardrail that may limit ability to widen out the narrow section of the roadway for multi-modal use.
- Utility poles along Guinea Road are within four feet of the edge of pavement which may limit the widening of the roadway (lateral clearance requirements) without moving utility poles.

Other Considerations

- An Exeter Town official should be added to the SRTS committee due to the location of the Town line adjacent to the school.
- School and Towns should look to provide targeted enforcement of speeds at driveway location when available. It is understood that there is very limited resources for targeted enforcement.

- The Town should contact NHDOT to see if any improvements are needed or in the works on the Guinea Road Bridge over Route 101. Any future design should incorporate space for up to two sidewalks and two bike lanes for potential future use; pending off-site design considerations for CMS. This information would need to be in NHDOT prior to any design.