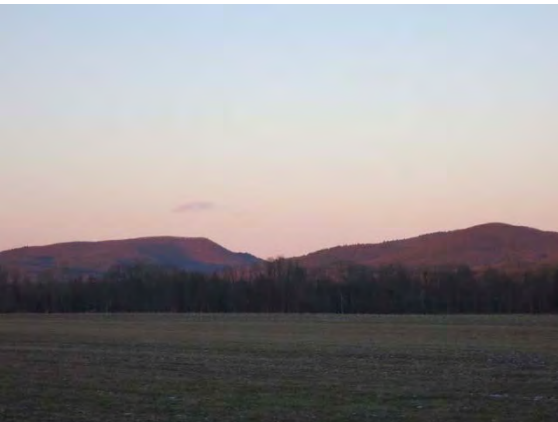




A MASTER PLAN
FOR
NORTHFIELD
APPENDIX B: INVENTORY
Northfield, Massachusetts
2014



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INVENTORY OF EXISTING RESOURCES

Appendix B of the 2014 Master Plan for Northfield contains the complete inventory and assessment of existing conditions, organized around seven Master Plan elements:

- Historic and Cultural Resources
- Natural Resources, Open Space and Recreation
- Land Use and Zoning
- Population, Housing and Neighborhoods
- Economic Development
- Transportation and Circulation
- Community Facilities and Services

A set of one-page summary sheets, prepared for each of the elements and used throughout the Plan's public participation and outreach efforts, precedes the inventory.

1

Northfield's Historic & Cultural Resources

A CENTURIES-LONG HISTORY MANY EXTANT HISTORIC RESOURCES

- Humans have inhabited Northfield for centuries, drawn to the river and its rich, alluvial floodplains. The Squakeags occupied the area into the 17th century. Colonists settled the area twice beginning in the 1670s and before establishing a permanent settlement in ca. 1713.
- Agriculture has always been part of the Northfield economy, first as a means of subsistence, and later as a larger-scale producer of crops.
- Historically, the town has contained five distinct villages, the Farms, the Mountain, Main Street, East Northfield, and West Northfield.
- Northfield holds an unparalleled collection of houses designed and built by the Stearns family, as well as buildings designed by world-renowned architects on the Northfield School campus.
- For much of the 20th century, two large institutions – the Northfield School for Girls/Northfield Mount Hermon and The Northfield (inn).
- Many of the town's historic buildings and landscape remain intact, giving Northfield's Main Street an authentic, early 19th century appearance. The town's setting, beneath the broad slopes of Northfield Mountain and overlooking the Connecticut River, furthers this visual appeal.

HISTORIC RESOURCES AT THE CENTER OF TOWN PLANNING

- Historic and cultural resources have played a central and significant role in many past town-wide planning efforts, from 1977 to the present. Many of these efforts, including establishing the National Register Historic District on Main Street, have been spear-headed by the Northfield Historical Commission.
- Efforts to influence the future of the Northfield campus have been undertaken in a collaborative, cooperative manner.

FORWARD-THINKING HISTORIC & CULTURAL ORGANIZATIONS

- The Northfield Historical Commission has taken an active role in interpreting, preserving, and advocating for the town's historic resources.
- The Dickinson Memorial Library serves, in part, as a cultural "hub" for the town.
- Northfield's Local Cultural Council has both imported programs, and arranged for residents to attend programs in other towns.
- Northfield has demonstrated flexibility in the face of change for forming new organizations and committees in response to economic, social and cultural shifts.

WHAT DOES IT MEAN?

- Opportunity exists to bring heritage tourism to Northfield centered on the legacy of the Squakeags, D. L. Moody, the Schell Bridge, and neighboring institutions that share this history, including Historic Deerfield.
- The Connecticut River provides additional opportunity for eco-tourism and recreation-based tourism.
- The older homes in Northfield, particularly the Stearns houses, provide primary source material for the study of early American architecture.
- By making Northfield a destination for tourism, business development along Main Street is likely to occur.
- Traffic-calming measures on Main Street, including creative parking and crosswalk design will help preserve the historic buildings and provide better access to businesses.
- Historically-sensitive approaches to infill development along Main Street are needed to help insure the long-term protection of Northfield's character.



2

Northfield's Natural Resources, Open Space & Recreation

NATURAL RESOURCES

- Twenty one point five percent of Northfield's 22,633 acres is steep with slopes of more than 25% and extremely sensitive to erosion; these steep slopes add visual drama and have potential, although limited, for recreation and education use.
- Several soils constrain development due to flooding and high water table for most of the year, or shallow depth to bedrock and the presence of hardpan in places. Ledge and steep slopes can also be present.
- Prime soils produce the highest yields with the fewest inputs, and farming in these areas results in the least damage to the environment.
- The Connecticut River is a major feature of Northfield but it is impaired by pollution.
- Northfield, with more than 16,300 acres of woodlands, has large areas of mixed hardwood and pine forest that produce clean air, reduce run off and flooding, and moderate climate. Wetland and upland plant communities provide rich wildlife habitat, enhance passive recreation experiences, and add visual interest to the landscape.
- In the Town of Northfield, there are several BioMap 2 Core Habitat areas that are protected or partly are protected from future development and several that remain unprotected.

OPEN SPACE

- Northfield has beautiful views, a rich architectural heritage and large areas of forest that provide the scenic infrastructure of the town. Without protection and careful planning these attractive features could be lost to development.
- **Northfield has more than 4,005.6 acres of permanently protected open space and recreation land.** Forty-one percent of Northfield (9,336.5 acres) is some form of protected open space.

RECREATION

- Northfield has a variety of recreation resources, some managed by the Recreation Commission, the School Department, Conservation Commission, the State Forest, and private recreation resources like Northfield Mountain and the golf course.
- Surveys and meeting in 2011 revealed the desire for recreational swimming facilities, ice skating facilities, and playing fields for school-age baseball, softball and soccer teams.
- Though Northfield has extensive frontage on both sides of the Connecticut River, there currently are no riverbank trails. There is considerable interest in developing such trails, and should that happen these would be convenient for almost all residents of the town.

WHAT DOES IT MEAN?

- Development or recreational activities on steep slopes should be carefully controlled to prevent soil erosion.
- Care should be taken to avoid development that would promote soil erosion or detract from the visual appeal of the ridges.
- While some soils present few limitations for construction they represent a small percentage of the town's total available area. Development is therefore likely to occur on soils that are less conducive.
- Protecting water resources will become a more important priority as development occurs on soils that are less conducive to construction.
- Protecting the town's BioMap 2 resources should be a priority for conservation.
- Maintaining the biodiversity of Northfield over the long term will likely require the protection of both unique habitats for specific species and networks of habitat across the landscape.
- Maintaining the character of Northfield will increasingly depend on preserving the town's agricultural land and scenic resources.
- The creation of a "community park" with space for fields, swimming, ice skating, tennis, and gathering should be a priority for the future.



3

Northfield's Land Use & Zoning

EXISTING LAND USE

- 78.7% of Northfield is open land, agriculture, wetlands, or forest.
- Of the remaining 4,821 developed acres, 58.8% is agricultural, 24.0% is residential, 0.9% is commercial, 0.4% is industrial, and 2.5 is recreation and golf course. Other recreation land and activity is associated with schools (institutional). Other developed land (institutional, waste disposal, junkyards, and mining) makes up the remaining 15.4%.

EXISTING ZONING

- The Town of Northfield currently has two principal zoning districts: Residential-Agricultural (RA) and Residential-Agricultural-Forested (RAF) and three overlay districts: the Floodplain District, the Water Supply Protection District, and the Solar Photovoltaic Overlay District
- The town has a flexible development measure that includes provisions for multiple family dwellings and by-right Open Space Residential Design which allows smaller lot sizes in exchange for at least 50% of the land being set aside for open space
- The uses allowed by special permit in the two districts include both small commercial uses, such as a gift shop or professional office, and large industrial uses, such as manufacturing or a transportation facility
- Both districts allow single-family homes and two-family dwellings by right and allow, by special permit, for the conversion of a single-family or two-family dwelling to a three to four-family dwelling.

WHAT DOES IT MEAN?

- Much of Northfield is undeveloped and unprotected from future development.
- Controlling future development will become an increasingly important priority.
- Existing zoning has several provisions that can foster “good” development, such as the Open Space Residential Design provision.
- The Town may want to be more proactive in defining incentives for open space in the Open Space Residential Design regulation – like defining connections between existing open spaces and expanding trail networks.
- Creating a commercial district might encourage some kinds of development that is hindered by the process of going through obtaining a special permit.



4

Northfield's Population, Households and Housing Resources

Population

- The population has grown very slowly (less than 0.5% per year). Continued slow growth is expected.
- The population is aging and is expected to continue to age. By 2030 21% of the population is expected to be 65 years of age or older (up from 14% in 2010).
- The population is relatively well educated. More than 70% of those over age 25 have some college education.
- 97% of the population is white.

Households

- Households are decreasing in size (a 3.2% decline from 2000 to 2010).
- The largest growth is in non-family households (8.7% from 2000 to 2010).
- Households headed by persons age 65 or over increased by 6.7% from 2000 to 2010.
- 100 to 200 more households are expected by 2030, resulting in a need for 100 to 200 more housing units.
- Decreasing household size will lead to the larger number of housing units needed (200).
- It is likely that households will continue to decrease, given current demographic trends.

Housing

- Northfield's housing stock is overwhelmingly single-family detached units.
- Housing production is very slow, reflecting slow population and household growth. A yearly average of 5.1 single-family building permits were issued from 2003 to 2012.
- Larger older homes are quite common. 26% of homes have 4 bedrooms or more.
- 45% of Northfield's homes were built before 1939.
- Modest 3 bedroom homes cost an average of about \$150,000
- Larger 4+ bedroom homes cost about \$300,000.
- Houses are strung out along Northfield roadways.
- There is almost no interior residential development in subdivisions.

WHAT DOES IT MEAN?

- All of the population, household and housing analyses will become irrelevant if a substantial institution with a large adult population moves into the Northfield campus.
- If an institution with a moderate size non-adult population moves in to the Northfield campus and houses the population on campus, Northfield population and housing will continue to grow at a slow pace.
- There is very little racial diversity.
- Smaller 1 and 2 bedroom housing units will be needed to accommodate the growing elderly population and smaller households.
- Subdivision regulations and open space cluster housing zoning provisions are likely to remain unused with continued slow growth, since virtually all new housing is created through the "approval not required" (ANR) process (up to 3 lots at a time).
- Because of relatively low housing prices for smaller units Northfield has some housing that can be considered affordable. However the State certifies that only 2.1% (27 units) of the town's housing is affordable. 20 of these units are in Squakeag Village, housing for the elderly, developed in part by the HRA, a regional housing authority.



5

Northfield's Economic Development Resources

Employment

- Employment in Northfield has slowly declined over the last decade.
- Northfield's employment base is dominated by educational services, even with the sale and shut down of the Northfield campus.
- Other categories of employment show some diversity, but they are very small.
- Many of Northfield's businesses are conducted at home.
- Building and construction and agriculture are important in the town's economic activities.
- Unemployment has remained consistently below the state average.

Labor Force

- Northfield has a skilled and well educated labor force. One-half of the labor force is in the management, business, science and arts occupations category.
- 71% of the labor force works in the private sector, 22% work in government and 7% are self employed.
- Reflecting employment, 44% of the labor force is in educational services.

Income

- Average (mean) household income was \$72,345 in 2011.
- The poverty rate is very low (3.5%).
- Average weekly wages range from \$943 for educational and health services to \$229 for retail jobs.

Consumer Spending

- An estimated \$20,000,000 is spent annually by Northfield residents on retail purchases.
- An estimated \$3,500,000 is spent annually by Northfield residents on services.
- Almost all this money is spent out-of-town since Northfield has so few retail and services businesses.

WHAT DOES IT MEAN?

- Without any change agents employment is likely to continue to decline.
- Reuse of the Northfield campus with an adult population would be an enormous change agent.
- A concerted village commercial district could provide another effective change agent.
- Some home occupations could expand, finding space in newly built or converted commercial buildings.
- The new solar overlay zone in West Northfield has the potential to attract companies in the alternative energy and "creative economy."
- Agriculture has the potential to expand *vis a vis* the recent "farm to table" movement.
- Agriculture could also expand by growing more recently popular garden vegetables.
- There is ample land for economic activities to expand or newly locate in Northfield.
- The potential industrial park and office park proposals proposed earlier are still valid.
- Northfield has adequate infrastructure to support most types of economic development.



6

Northfield's Transportation Resources

Travel Characteristics

- Average commute time = 24 minutes, lower than the state average (28 minutes).
- Commute times mostly between 10 and 44 minutes.
- Carpool trips have decreased by 53% over last 10+ years.
- 3,726 registered vehicles (1.2 vehicles per person).

Traffic Operating Conditions

- Rt.10 Bridge is the only roadway facility across the Connecticut River in operation.
- No gas station in town.
- No traffic signals in town.
- Highest volume on Main St.(Rt. 10/Rt. 63) 8,200 vehicles per day.
- Traffic volumes have decreased in recent years.

Safety

- High Accident Locations: Rt.10/Gill Center Road; Rt.10/Rt. 63; Main Street/Warwick Road/Parker Avenue.
- Vehicle accidents increased in 2011.

Pedestrian/Bicycles/Transit/Rail

- Sidewalks recently rebuilt on Main Street.
- Existing trails: Mill Brook Trail, Franklin County Bike Path, Northfield Connector, the Connecticut River Valley Corridor, and many hiking trails.
- No fixed-route transit service is provided by Franklin Regional Transit Authority.
- Shared senior van service with Bernardston is provided.
- Medical transportation services for Franklin County senior residents are provided by FRTA through the MED-RIDE and Mass Health programs.
- Passenger rail and freight rail service passes through Northfield. The nearest Amtrak passenger stations are located in Amherst and Greenfield (2013) and Brattleboro, VT.
- There are nine at-grade crossings with the railroad and seven grade separations.

WHAT DOES IT MEAN?

- The single roadway crossing (Rt.10) of the Connecticut River limits connectivity between east and west Northfield. Schell Bridge repair/replacement being considered for pedestrian and bicyclists.
- No gas station increases vehicle-miles traveled.
- Most vehicle trips are made by single-occupant automobile which is common in rural communities.
- Consider opportunities to increase ride sharing through ride-matching services and park-and-ride lots.
- Traffic and pedestrian safety issues may be exacerbated with new college, but are correctable.
- Traffic signal may be needed at intersection of Rt. 10/Rt.63 with new college.
- New college may provide opportunity to provide fixed-route transit service.
- Speed trailer would help police enforce speeding on main roadways.
- Consider bicycle accommodation for selected roadways.
- The demand for senior transportation services will increase over time.
- Town must take over jurisdiction of Main Street from MassDOT if it wishes to redesign roadway for future demand and multi-modal uses and parking.



7

Northfield's Public Facilities & Services

Northfield is a very small town (the 80th smallest of the 351 towns in the Commonwealth) and therefore it is difficult to provide cost efficient services and to upgrade facilities; nevertheless its residents have access to a full set of basic services. The condition of the facilities varies and services may need updating.

ACCESS TO A FULL SET OF BASIC SERVICES

- The **Pioneer Valley Regional School** accommodates a significant number of choice and tuition students from outside the District; planned improvements including the Land Management Plan at the high school will result in state of the art educational opportunities.
- The **Northfield Elementary School** has experienced a recent decline in enrollments and has a number of facility needs relating to maintenance and changes in technology and pedagogy.
- The **Town Hall building** is in fair condition, but in the near future there will be a need for a space plan for efficient and effective allocation of space, technology and storage. Additionally, funds will be necessary for renovations, upgrades, and historical restoration of the building.
- The **library** is in fairly good condition and has the potential to play a broader role in the community.
- The **Police Department** operates out of inadequate facilities in the basement of the Town Hall building.
- The **Fire Department** needs additional space for its equipment.
- **EMS** has found a temporary solution to its facility needs, but will need a permanent facility sometime in the near future.
- The **senior population** of Northfield is increasing and will need additional services. There are two trends: those requiring more health-oriented services and supports and those more interested in wellness and socializing.
- The Town recently voted to join **Wired West**, a regional cooperative formed to provide universal **broadband access** to its member towns.
- The Town's **water** supply exceeds current demand and most likely has the capacity to accommodate future growth. The Water Commissioners are currently developing a plan for improving the system.
- More than half of the **wastewater treatment** system's capacity goes unused therefore, it is likely that the current plant will suffice even with significant growth and expansion, however, there are certain large scale uses that are required to hook up to a wastewater treatment facility. This is only available in a limited geographic area.
- Northfield has begun taking measures to ensure the future **sustainability** of its natural resources; these include obtaining a Green Communities designation from the state & creating an Energy Committee, and the Transitional Northfield tool library.

WHAT DOES IT MEAN?

- There is a need to upgrade police, fire and EMS facilities, either together in a Public Safety Complex or in separate facilities.
- The Town Hall will need renovation
- Bringing fiber optic access to the town would result in better broadband service for the community including the 40% of the Town that currently does not have access to any service.
- The Land Management Plan at the Regional High School presents many potential benefits to the students as well as to the community at large.
- Potential additional growth in enrollments could be accommodated at the H.S by reducing the number of choice and tuition students.
- The Elementary School is in need of repairs, updating and renovation.
- There will be a need for additional services for seniors, helping them to age in place by providing a wide range of service including health, wellness and opportunities for socializing. This may include an expanded senior center, a Town Nurse, and an expanded senior van service.
- The library can provide opportunities for life long learning and community gathering.
- The demand is less than the approved withdrawal, therefore, the Northfield Water District appears to have the capacity to support potential additional water demand
- Lack of sewer capacity may constrain development of some uses, in some locations.



NORTHFIELD MASTER PLAN INVENTORY: HISTORIC AND CULTURAL RESOURCES

This chapter identifies and describes Northfield’s many historic and cultural resources and past efforts to preserve, promote and enhance them. Historic and cultural resources include both physical resources (landscape features, landscapes, and archaeological sites (both historic and pre-historic), as well as non-physical resources (organizations, clubs, programs, events, and traditions), both of which contribute to the quality of life in the town. The chapter includes:

- A brief history of Northfield and an overview of the town’s historic resources;
- A synopsis of past efforts to preserve historical and cultural resources; and
- A description of the many historic and cultural organizations based in Northfield, as well as those in surrounding communities providing programs in Northfield.



Pauchaug Meadow, as seen from the Northfield campus, was likely the site of native fishing, hunting and farming into the 1600s. (From Views of Northfield, Mass.)

NORTHFIELD’S HISTORY & EXTANT HISTORIC RESOURCES

PRE-HISTORICAL, CONTACT & PLANTATION PERIODS (BEFORE 1675)

The rich, alluvial floodplain of the Connecticut River on the border between Massachusetts, Vermont, and New Hampshire has been the site of human habitation for centuries. Before the early 1600s, a large “horticultural village” likely spread across the area, inhabited by Squakeags,¹ natives who occupied lands along the river stretching from Greenfield, north to Brattleboro, extending ten miles to the west and as far east as the headwaters of Miller’s River.¹ In addition to farming, the Squakeags likely hunted and fished in the lowland areas adjacent to the river, including Pauchaug Meadow, Great Meadow, Beers Plain, Little Meadow, Moose Plain and Bennett’s Meadow.² Between 1620 and 1675 Northfield was the site of two native villages, “Squenatock,” located on the eastern side of the Connecticut River, and “Natanis,” located on the western side on the bluffs overlooking Bennett Meadow. By the end of this period, the native population declined as the result of disease (epidemics) and warfare with rivaling Mohawks.

Europeans first came to the area in the late 1630s and established it as a fur-trading post, and by the mid-1600s obtained permission to purchase land from the natives. William Clark and John King, agents for the original proprietors negotiated a deed from the Squakeags in January of 1671 that conveyed land on both sides of the river for approximately eight miles

¹ Griffinn, Simon G., A History of the Town of Keene, NH, Seventeen Thirty-Two to Nineteen Hundred and Four, p. 30. Other sources refer to Squakeag as the area around Northfield, with the inhabitants known as Sokokis, a band of the Western Abenakis.

² Massachusetts Historical Commission, “MHC Reconnaissance Survey Town Report for Northfield,” p. 3.

NORTHFIELD MASTER PLAN INVENTORY: HISTORIC AND CULTURAL RESOURCES

Summary of Key Points

- Humans have inhabited Northfield for centuries, largely because of the agricultural value of the area's rich, alluvial floodplains. The Squakeags occupied the area into the 17th century. Colonial settlers came in the 1670s, and established the "Town Street," today's Main Street.
- Northfield, originally known as Squakeag Plantation, was settled twice – and abandoned twice – before its final permanent settlement in ca. 1713. It was first abandoned during King Philip's War (1675-1676) and second during Queen Anne's War (1702-1713).
- While the Connecticut River geographically divides the town, it has been Northfield's lifeblood, providing a fertile floodplain for food production, and a navigable waterway for transportation.
- Agriculture has always been a part of the Northfield economy, first as a means of subsistence, and later, in the 19th century, as a larger-scale producer of crops for shipment via river and railway.
- Northfield's geographic features, including the mountain and river, spurred the development of five distinct villages within the town – the Farms, the Mountain, Main Street, East Northfield, and West Northfield.
- Northfield holds an unparalleled collection of houses designed and built by master craftsmen Calvin Stearns, his brother Samuel, as well as Calvin's sons. The buildings have been extensively studied by historians of early American architecture.
- Several buildings on the Northfield campus are the work of nationally-renowned architects, including H. N. F. Marshall, Ralph Harrington Doane, Fuller & Wheeler, Parish & Schroeder, and Shepley, Rutan & Coolidge.

- For much of the 20th century, two large institutions dominated the local economy – The Northfield Inn and the Northfield Seminary.¹ Together, they occupy a significant portion of the northeastern section of the town, and the loss of these institutions has led to great concern, on the part of Northfield residents, about the future character of the town.
- Fortunately, many of the town's historic buildings and landscapes remain intact, giving Northfield's Main Street an authentic early 19th century appearance. The town's setting beneath the broad slopes of Northfield Mountain and overlooking the Connecticut River, furthers the visual appeal.

north to what is today the Vermont border.³ The original settlement, known as "Squakeag Plantation," contained a "Town Street" (today's Main Street), leading in the north-south direction. Twenty houselots extended east-west from the street, and a meetinghouse was constructed at the center. In ca. 1673, sixteen families, many former residents of Northampton, had settled and were engaged in farming and raising of livestock, and had surrounded the community with a wooden palisade.

Other than the "Town Street," few resources are known to exist dating prior to 1675. However several place names, including "Great Meadow," "Little Meadow," and "Moose Plain," continue to be part of the local vocabulary.⁴

³ Griffinn, p. 31.

⁴ MHC Reconnaissance Survey, p. 5.

NORTHFIELD MASTER PLAN INVENTORY: HISTORIC AND CULTURAL RESOURCES



Northfield's Main Street, ca. 1890. The alignment dates to the first settlement of the town in 1671. (From *Views of Northfield, Mass.*)

COLONIAL PERIOD (1675 – 1775)

The dawn of the Colonial Period brought turmoil and destruction to Northfield, with the original settlement, Squakeag Plantation, abandoned and demolished in 1675. In September of that year, Captain Richard Beers was sent from Watertown with thirty-six men to evacuate settlers from the area. The Indians, using the tactic of concealment, ambushed Beers and his men on September 3 in the area known today as Beers' Plain.⁵ The Squakeags, Pocumtucks, Norwotucks, Agawams and others set up a major encampment in 1676, located on a terrace to the north of Bennett's meadow, and possibly on the northern portion of Northfield's eastern

⁵ Philbrick, Nathaniel, *Mayflower, A Story of Courage, Community and War*, p. 261. Local tradition holds that while nearly all of Beers's men were killed, at least one soldier survived and retreated.

lowlands. The former site is known today as "King Philip's Hill," and an historic marker stands in memory of this time in Northfield's history.

In the 1680s, the settlement was re-established, with Main Street continuing to serve as the primary north-south axis on the east side of the Connecticut River. In 1683, the town consisted of approximately 40 families, and three years later, a connection with the west side of the river was made via ferry, between Pauchaug Brook and Moose Plain.⁶ Settlers constructed the first grist mill in ca. 1685 on the Mill Brook, marking the beginning of industrial operations in Northfield.⁷ This second settlement survived until 1690, when, at the dawn of Queen Anne's War (1702-1713), settlers once again abandoned the area.⁸

Permanent settlement came in ca. 1713. Townspeople changed the name from Squakeag Plantation to Northfield the following year, in honor of the settlement's location as the furthest north on the Connecticut River in Massachusetts. In ca. 1718, settlers built a meetinghouse on Main Street. Small industries began to emerge, including a sawmill (ca. 1717), located on the Mill Brook (below the earlier grist mill), and a brick yard (ca. 1718), located at the southern end of Main Street. Extant historic resources dating to the Colonial period include the Peter Evans House (1716; 120 Main Street), Jonathan Belding House (1750; 103 Main Street), and Dr. Medad Pomeroy House (ca. 1765; 73 Main Street), as well as Center Cemetery (1686), one of the town's oldest extant resources.⁹ The Alexander Tavern (ca. 1774; Millers Falls Road) is one surviving commercial building dating to the Colonial period.¹⁰ Northfield was officially incorporated in 1723, and by 1776, the town held 580 residents.¹¹

⁶ MHC Reconnaissance Survey, p. 5.

⁷ MHC Reconnaissance Survey, p. 7.

⁸ MHC Reconnaissance Survey, p. 6.

⁹ Massachusetts Cultural Resource Information System (MACRIS). According to Temple & Sheldon in *History of the Town of Northfield, Massachusetts*, "The tradition is, that [Sgt.] Samuel Wright was killed [by the Indians] Sept. 2, 1675, and his bones, when found, were interred where he fell; which circumstance decided the location of the cemetery." (Footnote, p. 101.)

¹⁰ MHC Reconnaissance Survey, pp. 7-8.

¹¹ MHC Reconnaissance Survey, p. 6.

NORTHFIELD MASTER PLAN INVENTORY: HISTORIC AND CULTURAL RESOURCES

FEDERAL PERIOD (1775 – 1830)

Northfield experienced a proportionally large growth in settlement and population during the last decades of the 18th century and early decades of the 19th, expanding to a total of 1,757 residents by 1830. Settlement continued to be concentrated along Main Street, with farming activity taking place in the river meadows. Small villages, including Northfield Farms and West Northfield, grew up around the farming centers, and with the establishment of these villages came the Farms Cemetery (ca. 1811) and West Northfield Cemetery (ca. 1781).¹² Agriculture continued as the base of Northfield's economy, with additional grist mills operating along the Connecticut River tributaries.¹³ Up until 1800, ferries, in the form of canoes and scows, provided the sole means of crossing the river. In 1809, the town voted to build the first bridge. Constructed entirely of wood and completed in 1811, the crossing operated for ten years. After breaking in 1820, the bridge was removed, and ferry service resumed, providing the only means of crossing for another 80 years.¹⁴

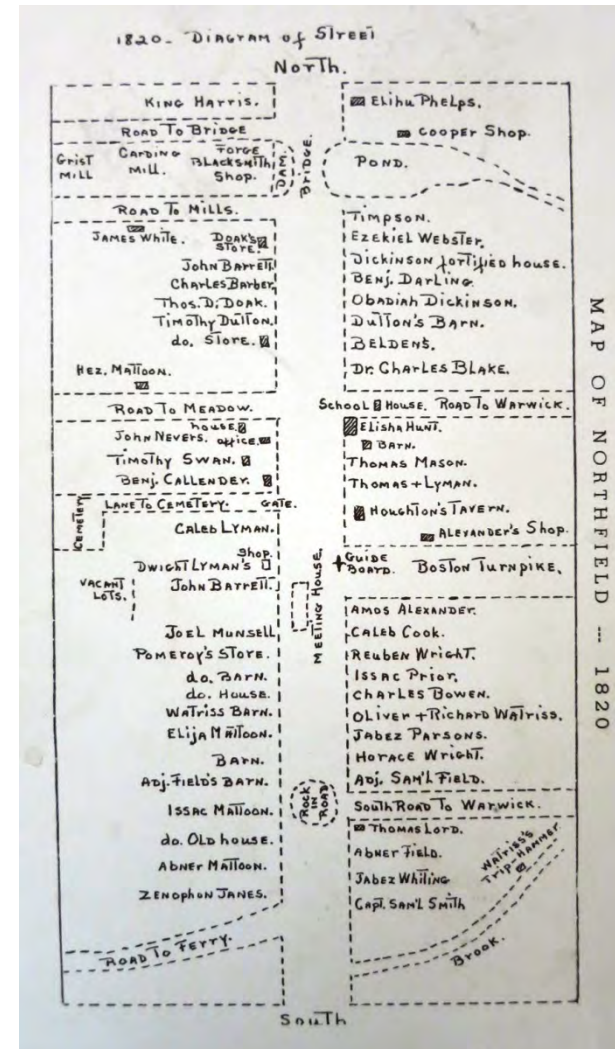
The first public library in the country was established during the Federal Period in Northfield. In 1798, an act of the General Court allowed for the creation of "social libraries," and granted "proprietors of such library[ies] the right to manage the same." In 1813, a group of Northfield residents met at Houghton's Tavern and formed the Northfield Social Library association, the first of its kind in the country. Thomas Power, a young lawyer from Boston, led the effort, and by the end of 1813, the organization had accumulated seventy works of non-fiction.¹⁵ Power is also

¹² MHC Reconnaissance Survey, p. 9; (MACRIS). Northfield contains eight known cemeteries: Center Cemetery (ca. 1686); West Northfield Cemetery (ca. 1781); Farms Cemetery (ca. 1811); South Mountain Cemetery (1815); Dwight and Emma Moody Gravesite (1897), Coller Cemetery, Pentecost Road Cemetery, and St. Mary's Cemetery.

¹³ MHC Reconnaissance Survey, p. 9.

¹⁴ National Register Nomination for the Schell Bridge, 2012. Railroad bridges were constructed in conjunction with the building of the railroads, beginning in the 1840s, but these were not intended for horses, carriages or pedestrians.

¹⁵ (www.northfieldpubliclibrary.org)



A sketch map of Northfield in 1820 shows the concentration of settlement along Main Street. Smaller settlements also emerged in West Northfield and Northfield Farms. (Collection of the Dickinson Memorial Library)

NORTHFIELD MASTER PLAN INVENTORY: HISTORIC AND CULTURAL RESOURCES

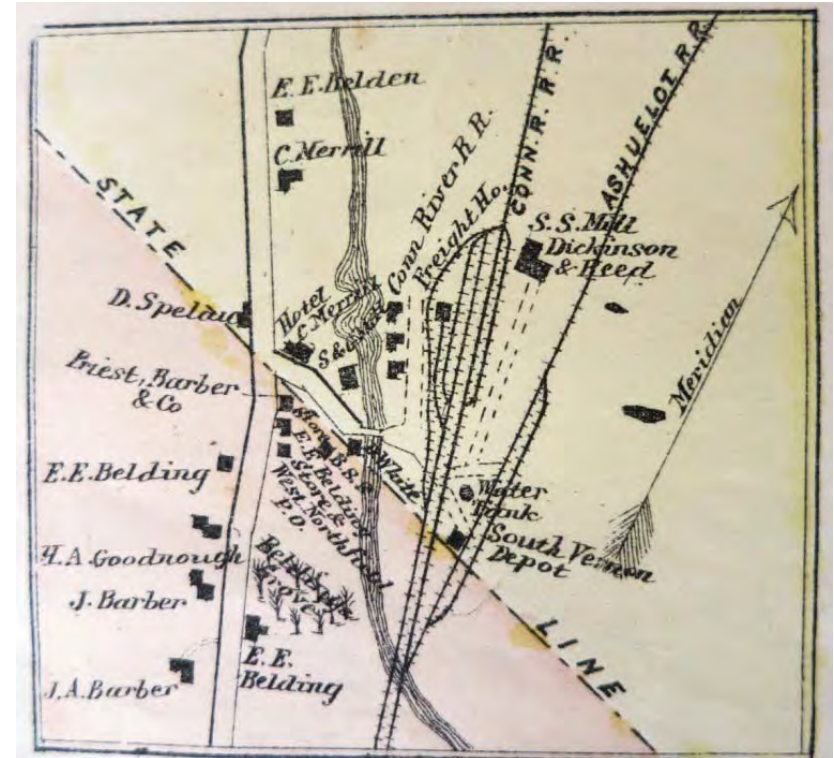
credited with planting Northfield's broad main street with four rows of elms and maples.¹⁶

Over 30 houses and many small cottages remain extant from the Federal Period. Of these, several were designed and built by master carpenters and brothers Calvin Stearns and Samuel Stearns and Calvin's sons, George, Charles, Calvin S., Marshall, Albert and Edward. Prominent amongst these are the John Nevers House (1811; 94 Main Street), the Samuel House (1828; 66 Main Street), and Calvin Stearns's own house (1807; Maple Street – 7th house from Main Street).¹⁷

EARLY INDUSTRIAL PERIOD (1830 – 1870)

The middle decades of the 19th century brought changes to Northfield fostered largely by the coming of the railroads. The primary route, constructed in the 1840s as the New London and Northern (today's Vermont Central), ran along the east side of the Connecticut river, with depots at Northfield Farms, Gill Station, and Northfield Center. By 1849, the railroad had constructed a bridge across the river, allowing trains to reach West Northfield. In 1847, the Connecticut Valley railroad established a second route on the west side, with junctions at West Northfield and Vernon (Vermont).¹⁸ Irish immigrants, fleeing the potato famine, likely came to Northfield to build the rail lines and later, work on the trains, and as a result, slightly diversified the town's population.¹⁹

Railroads spurred the growth of agriculture because goods could now be shipped. Principal crops included hops, tobacco, and broom corn, and between 1830 and 1855, broom production became a notable industry in



The 1871 Beers Atlas shows the railroad along the west side of the Connecticut River, extending to Vermont. (Collection of the Dickinson Memorial Library)

Northfield.²⁰ The railroads and depots also led to a spreading out of the population, and village centers emerged and expanded at West Northfield, lower Main Street, and along Mount Hermon Road.²¹ New houses sprung up throughout town, with many on Main Street built by the Stearns family. Included in these are the Lane House (1845; 33 Main Street), Elijah Belding House (1840; West Northfield Road), and Hall House (ca. 1846; 89 Main

¹⁶ Hamilton, Sally Atwood, ed., *Lift Thine Eyes, the Landscape, the Buildings, and Heritage of Northfield Mount Hermon School*, p. 25.

¹⁷ MHC Reconnaissance Survey, p. 9; MACRIS.

¹⁸ MHC Reconnaissance Survey, p. 10.

¹⁹ MHC Reconnaissance Survey, p. 10.

²⁰ Federal Writers' Project of the Works Progress Administration for the State of Massachusetts, *The WPA Guide to Massachusetts*, p. 305.

²¹ MHC Reconnaissance Survey, p. 10.

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Street), all built in the Greek and/or Gothic Revival styles. The only extant commercial building from the Early Industrial Period is the Webster Block (1848; 74 Main Street), built in the Italianate style.²²

LATE INDUSTRIAL PERIOD (1870 – 1915)

At the end of the 19th century, Northfield began to evolve into an educational and religious center, and a recreational destination. Much of the success of these enterprises is owed to a native son, Dwight Lyman Moody who, in 1879, founded the Northfield Seminary on land in East Northfield adjacent to his birthplace. This institution and the soon-to-be established Mount Hermon School for Boys (1881) served as platforms for Moody's endeavors to provide work and study opportunities to young people, regardless of their family income or social status. Moody was responsible for the construction, in 1888, of Northfield's Trinitarian Congregational Church on Main Street (no longer extant), attended by students from both schools, and by Moody himself.²³ In 1880, Moody also launched summer religious conferences, drawing thousands of attendees from around the world. The popularity of these gatherings led to the establishment of spin-off communities of summer cottages, built by attendees at Moody's religious conferences. In 1901, the first cottage was built on Rustic Ridge, an enclave of Queen Anne and Craftsman style summer cottages in East Northfield. Two other clusters of cottages, Mountain Park (north of Rustic Ridge) and Northfield Highlands (north of Mountain Park) were established after Rustic Ridge.

Moody's efforts in Northfield extended beyond the religious and educational communities. In 1887, he arranged for the construction of the Northfield Hotel, also known as "The Northfield," on farmland located to the south of the Northfield Seminary campus, owned previously by Ora Holton.²⁴ This sprawling structure opened in 1888

²² MHC Reconnaissance Survey, p. 11.

²³ Hamilton, Sally Atwood, ed., *Lift Thine Eyes*, p. 85.

²⁴ The Northfield Inn was also referred to as "The Inn."



Rustic Ridge in 1905, shortly after construction of the first cottages. (C. L. Howe, photographer, from [Views of Northfield, Mass.](#))



The Northfield, in ca. 1900, was a sprawling structure located to the south of the Northfield campus. (Library of Congress)

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The Schell Bridge, completed and opened in 1904, provided a vehicular crossing to The Northfield and Chateau, for visitors arriving to Northfield via train on the west side of the River. (Library of Congress)

and became host to hundreds of visitors each summer, including many political and social figures. In 1889, Francis R. Schell, part of a wealthy New York banking family, met Dwight Moody, and began travelling to Northfield in summers for the religious conferences. In 1900, after inheriting a fortune from his father, Schell began constructing a massive home (completed in 1903), known as the “Chateau” or “Castle” near the Northfield Seminary campus, spending summers at the home until 1928.²⁵

²⁵ Parsons, *A Puritan Outpost*, p. 441.



The Late Victorian/Italian Renaissance style Auditorium building, at the Northfield School, was constructed in 1894 and remains as one of the campus’s many architectural treasures.

Transportation enhancements made at the end of the 19th century helped provide better circulation through the town for residents, and contributed to the success of Moody’s ventures. After 1870, forty trains came to Northfield each day, servicing the four depots.²⁶ In 1898-99, Franklin County built the first non-railroad bridge, known as the Bennett’s Meadow Bridge, across the river at the southern end of town (near the Mount Hermon School). Designed by Boston engineer Edward S. Shaw, the

²⁶ Northfield Historical Commission, National Register of Historic Places Nomination for the Schell Bridge, 2012.

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reversed cantilever structure spanned 613 feet. In 1901, Schell funded the construction of a second bridge in Northfield, also designed by Shaw. The bridge, dedicated to Schell's parents, opened in 1904, providing a vehicular crossing that led directly to the Chateau and Northfield campus.²⁷

Construction of new buildings, both residential and institutional, continued during the Late Industrial Period, with several Queen Anne style houses constructed along Highland Avenue, and Victorian houses of several styles built on Main Street. At the Northfield Seminary, institutional structures were built in two phases – initially in 1880s (East Hall, Talcott library, Weston, Holton, Marquand, and Revell Halls); and after 1900 (Sage Chapel, Music Hall, Kenarden Hall). Several institutional and commercial buildings were also added along Main Street, including the fourth First Parish Church (1871), Saint Patrick's Church (1886), Dickinson Memorial Library (1897), Buffum Store (ca. 1910) and Webster's store (1903).²⁸

EARLY MODERN & MODERN PERIODS (1915 – TODAY)

Northfield experienced institutional and commercial growth in the early 20th century, marked by the addition of Spencer's Garage (1919), Morgan's Garage (1921), Town Hall (1927, replacing an earlier structure), and the Center School (1941), and several churches, as well as several structures on the Northfield Seminary campus. Many new houses were added to Main and Highland Streets, and Winchester Roads in the 1920s. (MHC, p. 14) As the Seminary began to take hold, East Northfield continued to expand, with the Northfield Inn remaining a popular vacation spot well into the 1900s. In 1934 Northfield residents Monroe and Isabel Smith found American Youth Hostels. The organization first operated out of Schell's Chateau, and then moved to a house on 88 Main Street (no longer extant). As the century evolved, new residential areas emerged in the Farms and South Mountain areas.

²⁷ National Register of Historic Places Nomination for the Schell Bridge.

²⁸ MHC Reconnaissance Survey, p. 13.

Several environmental and economic factors, emerging in the 20th century, brought marked change to the natural and historic resources that had once dominated the Northfield landscape. In the 1930s, the Farms area suffered natural disasters, including a major flooding of the Connecticut River in 1936, and destruction caused by the 1938 hurricane.²⁹ Between 1964 and 1970, Interstate 91 was built, providing major highway access from Northfield to points north and south, and expanding residents' options for employment in Brattleboro and Greenfield, as well as in the Five College area (Northampton and Amherst), 35 miles to the south. While the town population remained small (less than 3,000), Northfield began to transform into a bedroom community. Perhaps most transformative, however, were the losses of significant structures, including the Chateau (torn down in 1963) and the Northfield Inn (demolished in 1977).³⁰ The closing of the Schell Bridge to vehicular traffic (1985) and placing of the structure on a list for demolition by MassHighway (1987), compromised movement between Main Street and West Northfield. Most recently, the 2005 consolidation and consequent vacating of the Northfield School campus has brought a concern for and awareness of the importance of the town's historic resources in defining physical character and providing residents with a high quality of life.

²⁹ It is likely that Northfield lost many of its historic and iconic elm trees lining the Main Street during this storm, and in the decades that followed, due to elm disease.

³⁰ "Remembering the Northfield Inn and Chateau," *Greenfield Recorder*, January 23, 2013, p. 3.

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PAST EFFORTS TO PRESERVE HISTORIC AND CULTURAL RESOURCES

Summary of Key Points

- Historic and cultural resources have been a key focus of many past town-wide planning efforts, from the 1977 master plan, *Pathway to Tomorrow*, through the most recent attempts to enact Village Center zoning.
- The Community Preservation Act, while reduced from the initial 3% of real estate tax levies to 0.5%, has allowed Northfield to provide better stewardship over its publicly-owned resources, including the library, town hall, and historic monuments.
- Efforts to influence the future of the Northfield campus have been undertaken in a collaborative, cooperative manner, involving all interested parties at an equal level.

PAST EFFORTS

Pathway to Tomorrow: A Master Plan for Northfield (1977). As part of a comprehensive master planning process undertaken by the town in 1977, a “task force” (or sub-committee) addressed Northfield’s historical and architectural heritage. At the time, the town’s early architecture and layout of land were held in high regard by the residents of Northfield. The goal of the task force was to “present a comprehensive and realistic plan for preserving Northfield’s heritage while encouraging greater commercial activity and expanded residential opportunity.” The task force identified

seven areas of concerns and made specific recommendations for addressing each, as follow:

- *Historic District Designation.* Two areas were considered by the task force for Local Historic District designation, Main Street and the “Ridge.” East Northfield was considered after the task force completed its work. The Planning Board placed a higher priority on Main Street, because it is the town’s major commercial area, and new businesses were seen as needed. The LHD designation was seen as a way of preserving the character of Main Street, while, at the same time, introducing new operations and buildings. (In 1977, zoning in Northfield did not permit commercial activity along Main Street. It was not until the following year, when the Massachusetts General Laws were amended to allow for variances, that commercial activity was allowed.) Recommendations included establishing the LHD on Main Street, and amending the local zoning bylaw to allow for commercial development.
- *National Register Designations.* The task force noted that several sites within Northfield, including the Northfield-Mount Hermon Schools, held national as well as local significance. Recommendations included further investigating the resources eligible for listing on the National Register, and moving forward with nominations so that these sites may be protected from State or Federally funded projects.
- *Preservation and Research Facility.* The task force noted that the town lacked a safe storage facility for its records and other valuable artifacts exceeding 200 years in age. Recommendations included creating a research and preservation facility as an annex to town hall, but located in the Dickinson Library.
- *Historic Sites.* Northfield contains historic sites, including historic archaeological sites (such as cellar holes) and extant buildings and landscapes. Recommendations included placing historical markers at the prominent sites, and creating an inventory and

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accompanying map that could be used by both residents AND the building inspector.

- *Highway Approaches.* The task force identified the gateways into Northfield as potentially threatened sites, especially if commercial development landed near the gateways. At the time, commercial development was not allowed in Northfield, so alteration of the gateways was not an imminent threat. However, recommendations included creating sign regulations to prepare for any zoning changes that would affect the approaches.
- *By-pass Highway.* The task force voiced concern that all north-south traffic on the east side of the Connecticut River flowed through Northfield on Main Street, and that increases in that traffic could affect the integrity of the historic buildings. Recommendations included considering a by-pass located to the west of Main Street adjacent to the Vermont Central Railroad corridor.
- *Native Americans.* The task force noted that a study – the first of its kind in Northfield – was being completed of the Native American archaeological sites in Northfield, and preliminary findings showed that the town was rich in evidence of human habitation in pre-historic times. Recommendations included developing a “sensitivity map” showing where this evidence was likely to be found, and having applications for building permits reviewed by the Historical Commission to check for archaeological evidence at proposed sites.

Historic Main Street, Northfield (1977). In 1977, the Northfield Historical Commission engaged students from the Conway School of Landscape Design to assist in obtaining National Register of Historic Places and Local Historic District designations for Main Street. The study was an outgrowth of the 1977 town-wide master plan, which identified National Register and Local Historic District designations as priority implementation items. It included a rationale for the designations as well as a boundary definition. It also identified the character-defining features of Main Street, and

provided a summary of “issues to be recognized in the design of new buildings.” Finally, it provided a schematic plan for increasing commercial activity on Main Street, while, at the same time, retaining its historic character, including proposals for architecture, circulation, parking, new development, and landscaping.

Historic Homesites Program and Stearns’ Family Plaques (1989). In 1989, the Northfield Historical Commission launched a “Historic Homesites” program which identified buildings and land owned by the same family for over 100 years. Eight in total were identified, and the property owners were given plaques to place at their homes. The commission also marked the contributions of Calvin Stearns and family to Northfield by providing plaques for houses designed and built by the Stearns family.

Northfield’s Master Plan Review: A Review and Update to Northfield’s Existing Master Plan “Pathway to Tomorrow” – 1977 (1993). In 1993, the Town of Northfield appointed a “Master Plan Review Committee” that scanned the 1977 Master Plan and noted the recommendations that had, and had not, been implemented:

Implemented:

- Main Street was listed on the National Register of Historic Places (1982)
- Proposals for Local Historic Districts had been studied but not passed
- Sensitivity areas had been established, along with procedures for addressing them

Implementation Remaining:

- A preservation, research, and storage facility for records and fragile artifacts had not been built.
- A by-pass corridor, located to the west of Main Street along the Central Vermont Railroad corridor, had not been established.

A report of the Northfield Historical Commission, submitted in 1992 as part of the Master Plan review process revealed strong continued support for

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creating a Local Historic District along Main Street, and for developing the Main Street by-pass corridor. The Commission also advocated for the preservation, research and storage facility, and the designation of historic rural landscapes and additional archaeological sites. Recommendations from the overall Master Plan Review included designation, within the next one to five years, of “historic rural landscapes.”

Connecticut River Scenic Farm Byway (2000). Designated in 2000, the Connecticut River Scenic Farm Byway is one of four of its kind in Franklin County, and includes the towns of Sunderland, Montague, Erving and Northfield. The designation, along with its *Corridor Management Plan* (1998) helps promote the region’s economy while, at the same time protecting the Byway’s natural, cultural and historic resources. Implement of the *Management Plan* included design and construction of streetscape improvements along Northfield’s Main Street.

Town of Northfield Community Development Plan (2003). In 2003, the Franklin Regional Council of Governments Planning Department collaborated with a town-based Community Development Committee to develop a Community Development Plan. The plan laid out a vision for Northfield’s future, which included preserving “the Town’s rural character, special qualities, and natural resources;” and included, as a key finding,

“Northfield’s Main Street Historic District, which is on the National Register of Historic Places, is a significant community historic and scenic asset. Approximately two miles in length, it contains 148 documented historic structures, including 134 buildings, and part of the Northfield Mount Hermon School campus.”

Recommendations included:

- Considering one or more village centers, and zoning them as village center districts

- Investigating the feasibility of re-zoning potential village areas (four were identified – West Northfield, Main Street, Route 63/South Mountain Road, and Route 63/Cross Road)
- Allowing village centers to accept housing and some small commercial uses (general store, offices, etc.)
- Creating voluntary design guidelines for commercial development, to encourage growth that is compatible with the town’s historic character.

Village Center Zoning (2005 and 2012). Northfield made two attempts to create additional zoning districts that would help preserve the character of Main Street, while at the same time accepting new residential and commercial development. In 2005, a November Special Town Meeting reviewed a proposal to create two “Village Center Districts.” The first, a Rural Village Center (RVC) had three proposed locations, in West Northfield, in the Farms area, and in the northern part of Northfield, from Wanamaker Brook to the New Hampshire state line. The second, a Main Street Village Center (MVC) was proposed to extend from the Route 10/Route 63 intersection northward to Moody Street. Amendments to the by-laws included performance standards for new buildings, including design elements. This proposal was voted down. In 2012, a second attempt to create a Main Street Village Center Zone was proposed with the same boundaries described in 2005. It too, was voted down.

Town of Northfield National Register of Historic Places Listings (1981-2004). Beginning in 1981, the Northfield Historical Commission endeavored to list several significant historic sites on the National Register of Historic Places. Current listings include King Philip’s Hill (1981), the Main Street Historic District (1982), Simeon Alexander, Jr. House (1991), Pine Street School (2002) and the Northfield Center Cemetery (2004). Pending review as of the compilation of this inventory is a nomination for the historic Schell Bridge.

Northfield: A Conservation Vision (2007). In 2007, The Trust for Public Land (TPL) conducted a visioning process in Northfield aimed at helping

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residents “sustain the best elements of life” in the town. Over fifty residents, including a Northfield Conservation Vision Steering Committee, took part in the project which (1) identified opportunities to conserve land; (2) outlined sources of funds for conserving land; and (3) developed strategies for implementing the conservation vision. The overall goal was to allow development to occur, but “rarely on the lands that are most important to the community’s identity...”³¹ Participants named six priority areas for conservation, and among the highest weighted was the town’s historic and rural character. Other priority areas included farmland, habitat, water quality/quantity, recreation areas, and “special places.” One outgrowth of the process was the preparation of a town-wide Open Space and Recreation Plan, which is nearing completion as of the writing of this inventory. Further information about the TPL project can be found in the Open Space and Natural Resources chapter of this inventory.

Town of Northfield Historic Resources Survey (2006, 2011, 2012). The Northfield Historical Commission has undertaken a phased comprehensive historic resource survey of the town, and as of the writing of this inventory chapter, a total of 467 resources have been entered into the Massachusetts Cultural Resource Information System (MACRIS). The survey began in 2006 with the inventorying of 47 resources on the Northfield campus. In fiscal year 2011, the Massachusetts Historical Commission, through its Survey and Planning Grant Program, awarded \$10,000 to the Northfield Historical Commission to survey an additional 203 properties in the East Northfield area of town. Completed by a preservation consultant and the Town of Northfield historian, the project identified three potential districts for consideration for the National Register of Historic Places. “Rustic Ridge,” received special attention, as the area contains 68 cottages that together document the influence of the Northfield Seminary Bible Conference on the development of this area of Northfield.³²

³¹ “Northfield: A Conservation Vision, Executive Summary,” The Trust for Public Land, 2007.

³² January 22, 2013 letter from Nancy Maida, Deputy State Historic Preservation Officer (Massachusetts Historical Commission) to Marie Booth Ferre, Chair, Northfield Historical Commission.

Community Preservation Act (2008/2009). Voters in Northfield passed the Community Preservation Act in November of 2008 with a 3% surcharge on real estate taxes by a Town Meeting vote of 51% to 49%. The following spring, voters lowered the surcharge to 0.5% through a 60% to 40% Town Meeting vote. Applications for historic preservation funds must address the following questions:

- Is the property eligible for listing on the National Register of Historic Places?
- Is the property eligible for listing on the State Historic Register?
- Is the property in danger of being demolished?
- Are there potential archeological artifacts at the site?
- Has the property been noted in published histories of the town or county?
- Are there other potential uses for the property, which could benefit the town?
- Could the building be converted for affordable housing use while still retaining its historic quality?
- Is the owner also interested in preserving the historic integrity of the property?
- Is there an opportunity for other matching funding to preserve the property?
- What are the particularly important historic aspects about the property?
- Was a known architect of the era involved in the design of the structure?
- Did the property ever play a documented role in the history of the town?

Since the Act has been in place, the following historic preservation projects (eleven), totaling \$86,912.00, have been funded:

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- 2010: Dickinson Memorial Library skylight renovation
Restoration of a water line to Center Cemetery
Restoration of the Town clock
Restoration and renovation of the floors and stairs at the Dickinson Memorial Library
Rehabilitation of the Belcher Fountain
Cataloging of historic sites
Replacement of the back door at the Northfield Historical Society
- 2011: Inventory of historic properties
Structural evaluation of Town Hall
Restoration of the Town Hall steps
- 2012: Renovation of World War I Plaque

EXISTING HISTORIC AND CULTURAL ORGANIZATIONS

HISTORICAL ORGANIZATIONS

Friends of the Schell Bridge. Incorporated in 2004, this non-profit organization is dedicated to the rehabilitation and interpretation of the Schell Bridge, the third oldest of five remaining Pennsylvania Truss bridges located within the United States. Located at the end of East Northfield Street and spanning the Connecticut River, it provides an historic link to the West Northfield section of town. Constructed in 1903 and opened in 1904, the bridge was a gift of Francis Schell to Northfield, providing the town with the second vehicular crossing of the Connecticut. It was named, in 2003 by Preservation Massachusetts, Inc. as one of the state’s ten most endangered historic resources, and in 2006, a 1400-signature petition secured the bridge despite earlier plans to demolish it. To date, the Friends have secured State funds for an engineering study of the bridge, and developed a strategic plan addressing the recreational, economic and environmental assets of the bridge. In 2007, the Northfield Town Meeting voted to nominate the bridge for listing on the National Register of Historic Places (determined eligible for listing in 1981).

Summary of Key Points

- Since its inception in 1975, the Northfield Historical Commission has taken an active and forward-thinking role interpreting and preserving the town’s historic resources, including creating a plaque program, undertaking an historic resource survey, nominating several properties to the National Register, and establishing a National Register Historic District on Main Street.
- The Dickinson Memorial Library serves, in part, as a cultural hub for the town, through its lending services, educational programs, and provision of meeting and gallery space.
- Through its Local Cultural Council, Northfield has been able to import arts and cultural programming from surrounding communities, and send its residents out to regional arts, humanities and science institutions.
- Northfield has demonstrated flexibility in the face of change by forming new organizations and committees (such as Transition Northfield and the Campus Collaborative) in response to economic, social and cultural shifts.

Northfield Historical Society. This non-profit organization, housed at the historic Pine Street School, collects, interprets, and exhibits artifacts relating to the history of Northfield and its people. In 1983, the historical society collaborated with the Northfield Historical Commission to produce “A Walking Tour of Northfield, Massachusetts,” an 11 x 17” pamphlet (with map) featuring 56 properties along Northfield’s Main Street. In 2010, the Historical Society collaborated with the Northfield Historical Commission and Friends of Northfield’s Old Cemeteries to sponsor an annual “Day of History.” The event includes tours, reenactments, and other programs centered on a changing historical theme

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Northfield Historical Commission. This seven-person board established in 1975, endeavors to advocate for the protection of Northfield's historic properties and landmarks. Past accomplishments include the Historic Homesites and Stearns family plaque program, completing five nominations to the National Register of Historic Places (a sixth, the Schell Bridge, is pending). Each of these efforts is described earlier in this inventory chapter. As noted above, in 1983, the commission collaborated with the Northfield Historical Society to produce "A Walking Tour of Northfield, Massachusetts," an 11 x 17" pamphlet (with map) featuring 56 properties along Northfield's Main Street. Over the past couple of years, the commission has concentrated efforts on expanding the inventory of historic resources (begun in 2005 and furthered in 2007 and 2012), and as of the writing of this inventory chapter, a total of 467 resources have been entered into the Massachusetts Cultural Resource Information System (MACRIS).³³ In 2010, the commission collaborated with the Northfield Historical Society and Friends of Northfield's Old Cemeteries to sponsor an annual "Day of History." The event includes tours, reenactments, and other programs centered on a changing historical theme.

Dickinson Memorial Library/Friends of the Dickinson Memorial Library. Northfield's public library was established in 1813 through an effort led by Thomas Power, a Boston-based lawyer.³⁴ A 1798 act of the General Court granted towns to establish and manage libraries, and Northfield was the first in the nation to do so. Originally known as the Northfield Social Library, it began with 70 works of non-fiction, and by 1825 held over 500 titles. By the 1870s, the library held nearly 1,000 volumes. The Dickinson library building, constructed in 1897-1898, was the library's fourth home (other locations included a tavern, former boot factory, and town hall), a gift of Elijah Dickinson, a descendent of an old Northfield family. Today, the library not only serves as the town's major lending institution, it also

³³ MACRIS (<http://mhc-macris.net/index.htm>) contains areas, buildings, sites, objects, and structures.

³⁴ A plaque honoring Thomas Power hangs on the south wall of the entry hall in Northfield Town Hall.

provides computer access/internet service, and offers many public programs. A collection of books about Northfield's history is housed in the upper floor. The library is open five days a week.³⁵

The Friends of the Dickinson Memorial Library provides support to the library's services and resources, and to advocate for a strong role for the library in the Northfield community. Since its inception, the volunteer organization has raised funds for library furnishings, internet access, equipment, and passes to museums. The group also sponsors guest lectures, children's programs, a children's weekly story hour, as well as after school programs.³⁶

Friends of Northfield's Old Cemeteries. Established in 2008, this friends group serves as an auxiliary to the Town of Northfield, to provide for preservation of its early grave markers. In 2010, the friends collaborated with the Northfield Historical Commission and Northfield Historical Society to sponsor an annual "Day of History." The event includes tours, reenactments, and other programs centered on a changing historical theme. Friends' members have also worked with Historical Commission members to clean and repair stones in South Mountain Cemetery.

ARTS & CULTURAL ORGANIZATIONS

Northfield Cultural Council. This five-person board, appointed by the Northfield Board of Selectmen, provides grants each year to local artists and performers. In fiscal year 2013, the NCC distributed over \$4,000 to 23 individuals and organizations in grant amounts ranging from \$50 to \$550. Many of the programs supported artists from outside Northfield staging

³⁵ www.northfieldpubliclibrary.org.

³⁶ "Your Library Needs Friends," promotional brochure. Friends of the Dickinson Memorial Library, date unknown.

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performances at Northfield venues, including the Northfield Elementary School, Northfield Council on Aging, and Dickinson Memorial Library. Funding for NCC is provided by the Massachusetts Cultural Council, a state agency, and approximately \$3,870 is awarded to NCC annually.

Dickinson Memorial Library/Friends of the Dickinson Memorial Library. As noted above, the library and friends group play a central role in sustaining the cultural life of Northfield. In addition to the historical collection, lectures, and other programs, the library, through the friends, provides passes to area museums including the Smith College Museum of Art, Brattleboro Museum and Art Center, Springfield Museum, Historic Deerfield, Magic Wings (butterfly museum), and Eric Carle Museum.

Slate Roof Poetry. Established in 2004, this member-run press is committee to publishing Western Massachusetts and regional poets. The press publishes limited-edition, art-quality chapbooks, which are designed by the poets and printed by a Northfield-based press (Swamp Press).

Northfield Mountain Recreation and Environmental Center. Owned and operated by First Light GDF Suez, and located at the base of Northfield Mountain, this center offers many programs to the public both on and off-site. Recent educational programs have focused on astronomy (the night ski), mountain lions, and tree identification, as well as winter photography.

Transition Northfield MA. Established in 2009, Transition Northfield MA is a community-based organization, formed around the need for responses to economic instability, resource depletion, and climate change. In so doing, it aims to create a stronger, more cohesive community. Projects have included the creation of a tool lending library, hosting of a re-skilling workshop series, and participation in a Transition Towns Film Festival. Several subcommittees have been established to tackle future efforts that address economic needs and foster sustainability within the town.

Northfield Campus Collaborative. The Northfield Campus Collaborative was established by the Northfield Board of Selectmen and was, until January of 2013, comprised of representatives from three entities: the town, the owner of the campus, and the Northfield Mount Hermon School. The group aimed to identify the needs and responsibilities of each entity in

envisioning a future for the historic campus. As of the writing of this inventory chapter, the group's status is on hold pending the identification of a new permanent owner for the campus.

OTHER ARTS & CULTURAL ORGANIZATIONS & RESOURCES

In addition to the organizations and resources discussed above, the surrounding area hosts several individual artists and arts/cultural institutions that perform in or in towns around Northfield or incorporate, as part of interpretive programming, Northfield history and cultural traditions.

Arena Civic Theatre, Inc., established in 1970 and based in Greenfield, is a resident company of the Shea Theater in Turners Falls.

Great Falls Discovery Center, based on four acres in a complex of historic Turners Falls mill structures, provides exhibits and dioramas centered on the natural, cultural and industrial history of the Connecticut River watershed.

Fortnightly, is a social and educational organization, formed before 1900 as a means for providing women a place for discussion of topics such as temperance, abolition of slavery, and voting rights. It continues to meet fortnightly (twice per month), hosting education programs on a range of subjects.

Mohawk Trail Concerts, Inc., established in 1969 and based in Charlemont, is dedicated to bringing Chamber music in many styles, all historical periods and multinational places of origin to the hills of Western Massachusetts.

Music in Deerfield, Inc. presents performing artists of national and international reputation whose repertoire is of the highest quality, creativity and diversity so as to enrich the cultural life of the Pioneer Valley and adjacent communities.

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Museum of Our Industrial Heritage, located in Greenfield, tells the story of Franklin County's industrial heritage and the impact of industrial activity on small towns near Greenfield.

Northfield Area Business & Tourism Council, an organization devoted to the economic development within the Northfield area, hosts an annual holiday children's arts program.

Northfield Country Players/Country Players, is a resident theater company of the Shea Theater in Turners Falls. The group formed as the result of an effort to re-build the Trinitarian Congregational Church in Northfield.

The Nolumbeka Project, based in Greenfield, is a non-profit organization dedicated to preserving the history of Native American people in New England through education, art, history and music programs, seed preservation, and other cultural events.

Pioneer Valley Symphony Orchestra and Chorus, founded in 1939, is one of the oldest community orchestras in the United States. Based in Greenfield, the organization performs symphonic and choral music, provides opportunities for community members to participate, and introduces young children to orchestral music through musical education programs. The orchestra and its choral group perform in several venues throughout the Valley.

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NORTHFIELD MASTER PLAN INVENTORY: NATURAL RESOURCES, OPEN SPACE AND RECREATION

Natural resources are a major factor contributing to the character of Northfield. The Connecticut River is the largest river ecosystem in New England and spans four states, including Vermont, New Hampshire, Massachusetts, and Connecticut. It enters Massachusetts through the Town of Northfield and flows through 45 communities before entering the state of Connecticut. The river sits among forested hills offering pleasing vistas and valuable wildlife habitat. Turn-of-the-century residential architecture and working farms reveal the history of the community. The rich collection of natural resources and the diversity of styles found in Northfield's architecture are major assets for the future of the town.

Clean water and air are critical for any town's future. Healthy ecosystems and habitats with a diversity of wildlife are indicators that families can live healthy lives and enjoy their surroundings. Measures to protect natural resources will be important strategies for the Master Plan. One of the primary ways to help preserve the town's character is the preservation of natural resources and open space.¹

¹ Note: Much of the following is directly from the Northfield Open Space and Recreation Plan 2012 update.

GEOLOGY, TOPOGRAPHY, AND SOILS

GEOLOGY

Surficial geology is the underlying basis for both natural systems and human development and provides important information about the area's environmental and economic potentials and vulnerabilities. The area we know as Northfield today is the result of millions of years of geologic history: great upheavals of the earth's crust and volcanics, and the sculpting power of moving water, ice and wind. The glaciers that covered New England more than 12,000 years ago left their mark on Northfield. The advance of the mile-thick layer of ice scraped some hills down to bedrock and its retreat left deposits of till, a mixture of stones, clay, and other material. This distinctive physical base has determined the distribution of the town's water bodies, its soils and vegetation and its settlement patterns, both prior to and since colonial times.

The glacier picked up, mixed, disintegrated, transported and deposited material in its retreat. Material deposited by the ice is known as glacial till. Material transported by water, separated by size and deposited in layers is called stratified drift². The glacier left gravel and sand deposits in the lowlands and along stream terraces.

² Natural Resource Inventory for Franklin County, University of Massachusetts Cooperative Extension; May 1976

Where deposits were left along hillsides, they formed kame terraces and eskers. Kames are short hills, ridges, or mounds of stratified drift, and eskers are long narrow ridges or mounds of sand, gravel, and boulders.

During the end of the last ice age, a great inland lake formed in the Connecticut River Valley. Fed by streams melting from the receding glacier, Lake Hitchcock covered an area approximately 150 miles long and twelve miles wide, stretching from St. Johnsbury, Vermont to Rocky Hill, Connecticut. Streams deposited sand and gravel in deltas as they entered the lake; smaller silts and clays were carried into deeper waters.

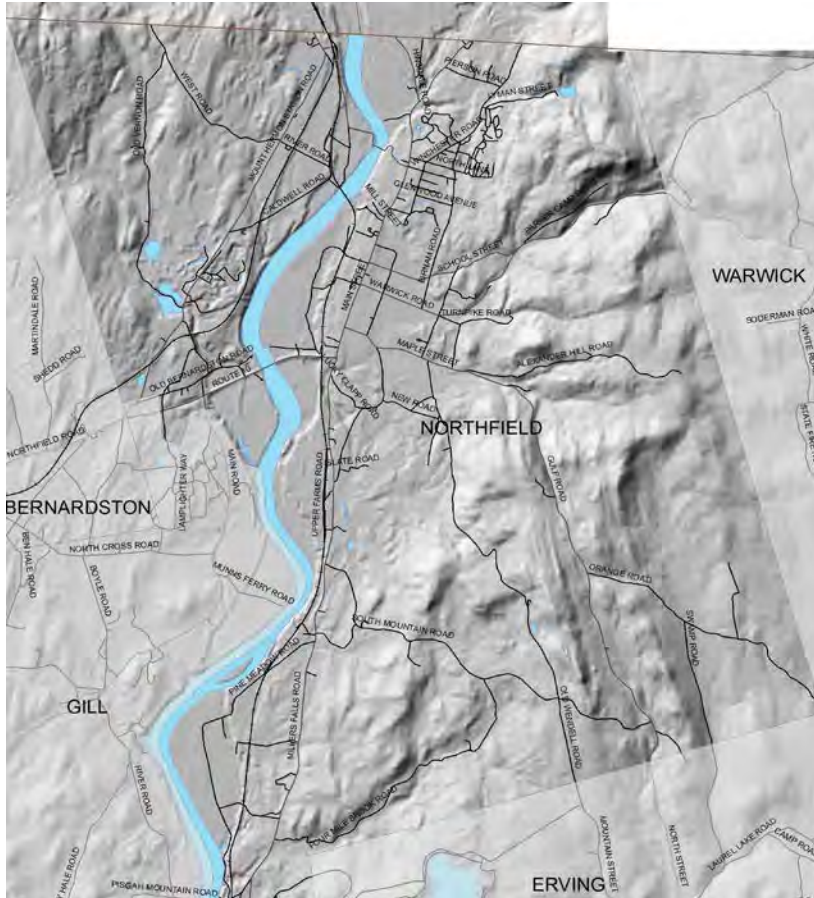
The Northfield mountains and hillsides are glacial till or bedrock. Glacial till tends to have moderately or poorly drained soils with many stones and rocks – conditions that often increase the costs of development. Floodplain alluvium deposits, like areas along the Connecticut River, settled out onto flat areas or wetlands after the glaciers retreated and Lake Hitchcock drained. Some of these low-lying, water-borne deposits are poorly suited for development because of high groundwater and the threat of flooding. Many of these low-lying areas and adjacent farm lands are some of the best agricultural soils in the state. The town's glacial legacy has had a major effect on the land's use and history.

Summary of Key Points

- Surficial geology is the underlying basis for both natural systems and human development and provides important information about the area's environmental and economic potentials and vulnerabilities.
- Northfield's topography has shaped the town's physical character along the floodplains and gentle slopes of the Connecticut River while the steeper slopes of the mountains have restricted growth in outlying areas.
- Twenty one point five percent of Northfield's 22,633 acres is steep with slopes of more than 25% and extremely sensitive to erosion; these steep slopes add visual drama and have potential, although limited, value for recreation and education use.
- Development or recreational activities on steep slopes should be carefully controlled to prevent soil erosion.
- Care should be taken to avoid development that would promote soil erosion or detract from the visual appeal of the ridges.
- Northfield's soils influence the current character and future development of the town.
- Several soils constrain development due to flooding and high water table for most of the year, or shallow depth to bedrock and the presence of hardpan in places. Ledge and steep slopes can also be present.
- Sports fields require well-drained soils and level topography, whereas lands with slopes greater than 25 percent are

TOPOGRAPHY

Northfield's topography has shaped the town's physical character along the floodplains and gentle slopes of the Connecticut River while the steeper slopes of the mountains have restricted growth



Shaded Relief Map

- attractive to wildlife and to outdoor recreation enthusiasts.
- Prime soils produce the highest yields with the fewest inputs, and farming in these areas results in the least damage to the environment.
- While some soils present few limitations for construction they represent a small percentage of the town's total area. Development is therefore likely to occur on soils that are less conducive for construction.

in outlying areas. The topography of the Town of Northfield is one of sharp contrast. Along the Connecticut River, which bisects the northern half of town and forms the western border of the southern half, the valley is broad, consisting of floodplain and glacial lake bottom. The lowest elevation is 187 feet above sea level. Much of Northfield's prime farmland soils can be found in these lowlying areas. At a higher level above the river are additional alluvial deposits consisting of sand, gravel, hardpan, and some ledge outcroppings. The Connecticut River's tributaries, formed at the end of the Ice Age, created this level. To the east and west of these terraces, the topography gradually begins to rise to forested hills, which range in elevation from 500 feet to just over 1,500 feet. The highest elevations occur in eastern Northfield with Crag Mountain, located near the town's southern border, dominating the landscape at 1,503 feet. Other notable peaks in eastern Northfield include the Upper Bald Hills (1,345 feet), Notch Mountain (1,319 feet), First Bald Mountain (1,276 feet), and Great Hemlock (1,255 feet).

Slopes have kept most historic development to the valley floors and terraces, some low lying areas, and along major transportation

corridors. More recent development has begun to occur in areas with steeper slopes. ***Twenty one point five percent of Northfield's 22,633 acres is steep with slopes of more than 25% and extremely sensitive to erosion; these steep slopes add visual drama and have potential, although limited, value for recreation and education use. Development or recreational activities on these steep slopes should be carefully controlled to prevent soil erosion.***

Eleven percent of Northfield has slopes between 15 and 25%. These areas too are subject to some erosion and should be developed with care. Twenty four point two percent of Northfield consists of slopes between 8-15% and 21.8% are between 3 and 8%. This is where the village is and where most of the development has occurred with the exception of recent outlying growth on steeper slopes. These slopes also have some restrictions for development. For example, playing field sites would be likely to require grading. Slopes greater than 5% may present challenges for wheelchair accessibility that would need to be addressed on a site-specific basis.

The flattest areas of Northfield, between 0-3% slopes, are typically found along the floodplain of the Connecticut River, in wetlands, other low-lying areas, and on some of the terraces and comprise approximately 16.3% of the total land area of the town. These flat areas are found between School Street and New Road in the village as well as along the river. Wet soils severely limit development in many of these areas.

SOILS

Northfield's soils influence the current character and future development of the town. Soil is the layer of minerals and organic material that covers the rock of the earth's crust. All soils have characteristics that make them more or less appropriate for different land uses. Soils are classified and grouped into associations that are commonly found together.

Soils may have characteristics that:

- Constrain development given current technologies;
- May be particularly suited for recreational opportunities and wildlife habitat;
- Are best for agriculture, and
- Are most conducive to future development.

The following provides a description of the soils in Northfield based on their influence on agriculture, recreation opportunities, wildlife habitat, and development potential.

DEVELOPMENT CONSTRAINTS

Three soil associations found in the Town of Northfield have the potential to constrain development. They include:

- The silty Hadley-Winooski-Limerick soils are found in the floodplains of the Connecticut River in Northfield. Due to their location, ***they are subject to flooding and can have a high water table for most of the year.***
- The Hollis-Charlton soils, found on the slopes of rolling to steep wooded hills, are located in West Northfield. They ***have a***

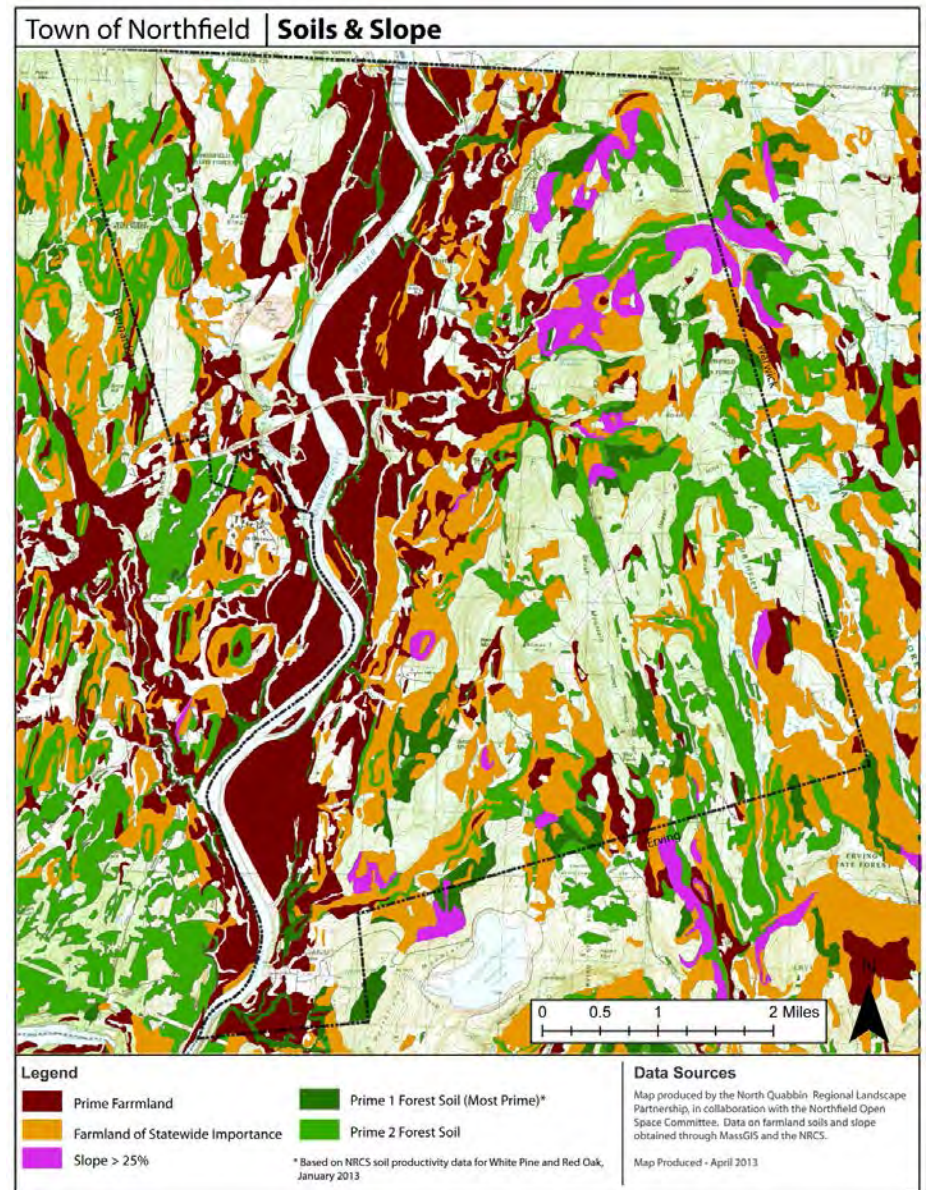
shallow depth to bedrock and there is the presence of hardpan in places. Ledge can also be present.

- The Shapleigh-Essex-Gloucester association, found in the uplands of eastern Northfield, presents constraints to development primarily due to the ***shallow depth to bedrock***, however, steepness of slopes (15 percent to greater than 25 percent) can also be problematic.

RECREATION SUITABILITY

Different recreational uses are constrained by different soil and topographical characteristics. Sports fields require well-drained soils and level topography, whereas lands with slopes greater than 25 percent are attractive to wildlife and to outdoor recreation enthusiasts such as hikers, mountain bikers, and snowshoers.

The soils of Northfield that are able to support certain recreation activities are the Hollis-Charlton association in West Northfield and the Shapleigh-Essex-Gloucester association in the hills of eastern Northfield. The Hollis-Charlton association is generally found in rolling to steeply wooded hills greater than 400 feet in elevation. These soils formed in stony, sandy glacial till. The Hollis soils, found mostly on the steeper slopes, are somewhat excessively drained and shallow. The Charlton soils are on the upper slopes and hilltops, and are deep and well drained. The Shapleigh-Essex-Gloucester association is found on forested, rolling hills above 500 feet in elevation. The soils formed in sandy, gray glacial till, are stony with many large boulders. The Shapleigh soils are shallow and are found on the steeper slopes with many rock ledges and outcrops. The Essex and Gloucester soils are similar. They are both



well-drained and are found on the upper parts of the hills. They differ in that the Essex soils have a hard layer at approximately twenty-four inches in depth.

AGRICULTURE

The Natural Resources Conservation Service (NRCS), formerly known as the Soil Conservation Service of the U.S. Department of Agriculture is responsible for classification of soils according to their suitability for agriculture. NRCS maintains detailed information on soils and maps of where they are located.

NRCS defines prime farmland as the land with the best combination of physical and chemical characteristics for producing food, feed, forage, fiber and oilseed crops and that is available for these uses³. ***Prime soils produce the highest yields with the fewest inputs, and farming in these areas results in the least damage to the environment.*** Unique farmland is land other than prime farmland used for the production of high-value food and fiber crops. Unique farmland has a special combination of soil quality, location, growing season and moisture supply. These agricultural soils are a finite resource. If the soil is removed, or the land is converted to another use, the capacity for food and fiber production is lost.

Prime farmland soils have contributed to the town's economy throughout its history and continue to be in use throughout the town today. The soils that constitute Northfield's prime and unique agricultural land include the Hadley-Winooski-Limerick association

and the Hinckley-Windsor-Merrimac soils. The Hadley-Winooski-Limerick association is found on the floodplains along the entire length of the Connecticut River in both the eastern and western portions of Northfield. The soils are generally silty and free of stones. The Hadley soils are well drained and are located on small knolls and terraces. The Winooski soils are moderately well drained and are found in the more level areas, whereas the Limerick soils are located in depressions and are poorly drained. Due to their high nutrient content, these soils are considered the most productive soils for farming in Northfield and the remainder of the Connecticut River Valley in Franklin County. The Hinckley-Windsor-Merrimac association is found on the level to rolling terraces parallel to the Connecticut River. The Hinckley soils, which dominate this association, are droughty and have formed in deep sandy and gravelly deposits. Gravel can be found within a foot and a half of the surface and sometimes on the surface itself. The Windsor soils are droughty and located on deep sand deposits. The Merrimac soils are similar to the Hinckley soils. They are somewhat droughty, but the subsoil is sandy loam with the gravel layer found more deeply, approximately two feet from the surface. The Hinckley-Windsor-Merrimac soils are best suited for dairying and several types of cash crops and are also considered important recharge areas for groundwater.

DEVELOPMENT SUITABILITY

Some soils have limitations like depth to bedrock or groundwater or the presence of steep slopes or boulders that increase the cost of construction or hinder the installation of a basement or a septic

³ USDA, NRCS, National Soil Survey Handbook; 2001.

system. Other soils present few limitations. Some of the soils in Northfield that generally have few limitations for development are Unadilla silt loam, Merrimac fine sandy loam, Agawam fine sandy loam, Canton fine sandy loam, Canton Chatfield-Hollis complex, Gloucester sandy loam, and Charlton-Chatfield-Hollis complex. Agawam fine sandy loam, Merrimac fine sandy loam, and Unadilla silt loam are also prime farmland and should be preserved for agriculture whenever possible. ***While these soils present few limitations for construction they represent a small percentage of the town’s total area. Development is therefore likely to occur on soils that are less conducive to construction.***

WATER RESOURCES

Northfield is rich in water resources, including brooks, streams, ponds, vernal pools, wetlands, and aquifers (see the Water Resources Map at the end of this Section). ***Land in Northfield drains into two watersheds, the Connecticut River Watershed and one of its sub-watersheds, the Millers River Watershed.*** This section focuses on waters within the Town of Northfield, but it is important to keep in mind improvements in water quality in the rivers, brooks and streams in town have an impact beyond town borders.

SURFACE WATERS

Most of the Town of Northfield lies in the Connecticut River Watershed. The Connecticut River has a “Class B” water quality designation from the New Hampshire-Vermont border to Holyoke and is classified as a warm water fishery. Class B waters are

supposed to provide suitable habitat for fish and other wildlife and to support primary contact recreational activities such as fishing and swimming. The water should also be suitable for irrigation and other agricultural uses.

Summary of Key Points

- Land in Northfield drains into two watersheds, the Connecticut River Watershed and one of its sub-watersheds, the Millers River Watershed.
- The Connecticut River is a major feature of Northfield but it is impaired by pollution.
- The hydropower licenses for the Vernon Dam, Turners Falls Dam, and Northfield Mountain all expire in 2018. Recreation, open space, water quality, flow, erosion, and fisheries will all be discussed during the re-licensing process.
- Northfield has 1,484 acres of wetlands, including water bodies and a variety of types of wetlands.
- Massachusetts Natural Heritage and Endangered Species Program has identified approximately eighty potential vernal pools throughout Northfield.
- Northfield has one large area considered to be medium-yield aquifer.
- The Northfield Water District does not own the entire Zone I radius around its wellhead.
- The Grandin Reservoir is located off Louisiana Road in northeastern Northfield. It is owned by the Northfield Mount Hermon School and currently serves the former Northfield campus as well as nearby neighborhoods.

The Connecticut River is a major feature of Northfield and plays an important role in its present day and historic life. However, ***the River is impaired by polychlorinated biphenyls (PCBs) along its total length*** and by fecal coliform from its confluence with the Deerfield River to the Montague town line. A report published in January 1998 by the New England Interstate Water Pollution Control Commission (NEIWPC) listed bioaccumulation and toxicity as water quality issues for the entire length of the Connecticut River in Massachusetts. Bioaccumulation refers to the concentration of toxins in organisms at higher levels in the food chain. The report specifically identified PCBs in fish. As most recently as 2007, the Massachusetts Department of Public Health, Bureau of Environmental Health Assessment issued the following fish consumption advisory: “(All towns between Northfield and Longmeadow)... Children younger than 12 years, pregnant women, and nursing mothers should not eat any fish from the Connecticut River and the general public should not consume channel catfish, white catfish, American eel, or yellow perch because of elevated levels of PCB⁴.”

Although wastewater treatment facilities constructed throughout the watershed have been treating major pollution discharges for more than twenty years, the Connecticut River is still affected by pollution from combined sewer overflows, PCBs, chlorine heavy metals, erosion, landfill leachate, storm water runoff and acid rain. Long Island Sound has a “dead zone” from too much nitrogen being discharged into the Sound, and over the next several years,

Massachusetts may be required to make additional efforts to reduce nitrogen inputs into the Connecticut River and its tributaries. These pollutants come from both point sources, like wastewater treatment plants and manufacturing plants, and non-point sources, including failed residential septic systems, improperly managed manure pits and stormwater runoff carrying herbicides.

According to the Connecticut River Five-Year Action Plan 2002-2007⁵ developed by the Mass. Executive Office of Environmental Affairs, the Town of Northfield lies in the most rural portion (the Northern Reach) of the Connecticut River Watershed in Massachusetts. Important characteristics of this part of the watershed include agricultural lands, large tracts of forestland, and the presence of two hydroelectric facilities, including the Northfield Mountain pump storage facility owned by GDF Suez/First Light Power Resources. The Plan lists the following objectives for the Northern Reach:

- Increase awareness of the importance of riparian buffers along the mainstem of the Connecticut River and its tributaries;
- Reduce human-influenced erosion along the mainstem and its tributaries;
- Restore vegetative riparian buffers where appropriate;
- Protect water quality through the implementation of growth management strategies;
- Obtain additional water quality data;
- Reduce non-point source pollution with a particular focus on the mainstem and four priority tributaries including Bennett Brook and Fourmile Brook in Northfield;

⁴ 2003 CT River Water Quality Assessment Report, page 9

⁵ <http://www.mass.gov/eea/docs/eea/water/wap-connecticut-2003.pdf>

- Assist communities with the protection of drinking water resources;
- Improve fish passage;
- Encourage the protection of important wildlife habitat;
- Complete an updated inventory of existing boat access points;
- Implement an education program for boaters; and
- Assist with the development of a public access point on the Fall River in Bernardston.

The hydropower licenses for the Vernon Dam, Turners Falls Dam, and Northfield Mountain all expire in 2018. The re-licensing process will begin approximately in the fall of 2012, and ***recreation, open space, water quality, flow, erosion, and fisheries resources will all be discussed, studied, and a new license will incorporate new requirements.***

SURFACE WATER RESOURCES IN THE CONNECTICUT RIVER WATERSHED

There are numerous brooks and ponds in the eastern portion of Northfield including:

- Pauchaug Brook is located in northeastern Northfield. It originates in Winchester, New Hampshire just north of Warwick, Massachusetts. The brook supplies Wanamaker Lake on its generally westerly flow to its confluence with the Connecticut River, slightly north of the Pauchaug Meadow boat access ramp. The lower portion is located within the Pauchaug Meadow Wildlife Management Area. The brook is stocked with trout by the Mass. Division of Fisheries and Wildlife each spring.

- Louisiana Brook originates in the area of Louisiana and Notch Mountains in northeastern Northfield. The brook is dammed near its headwaters to create the Grandin Reservoir, which is a community water supply serving the former Northfield campus of the Northfield Mount Hermon School (NMH) and surrounding neighborhoods. The brook flows in a westerly direction from the reservoir to its confluence with Pauchaug Brook just below Wanamaker Lake.
- Mill Brook originates in Bass Swamp in the town of Warwick. It initially flows southwesterly along Warwick Road and makes a turn to the northwest as it approaches Northfield Village, reaching the Connecticut River in a series of cascades west of Main St. at Mill Road. The brook creates a large area of wetlands east of Main St. Mill Brook is stocked with trout annually.
- Minot Brook is a tributary of Mill Brook and originates in Northfield State Forest in the eastern section of town. It flows westerly to its confluence with Mill Brook, northeast of the intersection of Warwick and Strowbridge Roads.
- Millers Brook is located in a beautiful ravine and originates in the area of Pratt Hollow, Stratton Mountain, and the Upper Bald Hills in eastern Northfield. It flows generally west southwesterly to its confluence with the Connecticut River in the area of Beers Plain.
- Roaring Brook is a tributary of Millers Brook and originates in the area of Brush Mountain, Roman T Hill and Beers Mountain. Roaring Brook flows west northwesterly to its confluence with Millers Brook near Route 63. There are

several falls along Roaring Brook, two of which are notable, Sheep Falls and Salmon Falls. Salmon Falls was the site of a former grist mill and Sheep Falls was so named as the falls drop into a small pool that was once used for washing sheep prior to shearing. Roaring Brook is stocked with trout each spring.

- Merriam Brook originates in the area of South Mountain and flows westerly to its confluence with the Connecticut River at the Munns Ferry campground.
- Pine Meadow Brook is a small stream that originates in the area of South Mountain. It flows into the Connecticut River near the southern end of Pine Meadow.
- Fisher Brook is a tributary of Fourmile Brook. It originates in the area of Beers and South Mountains and flows southwesterly to its confluence with Fourmile Brook.
- Fourmile Brook originates atop Northfield Mountain near the town's border with the town of Erving. It flows generally westerly to its confluence with the Connecticut River in the southwestern corner of Northfield. Fourmile Brook is stocked annually with trout by the Massachusetts Division of Fisheries and Wildlife.
- Wanamaker Lake used to be located along Pauchaug Brook in northeastern Northfield. The dam to the lake failed in 1997.
- This swamp and the two-acre unnamed pond are located in Great Meadow near the Center Cemetery.
- Two ponds known as Perry Ponds are located on the grounds of the Northfield campus of NMH.

There are also numerous small ponds located throughout Northfield.

In West Northfield:

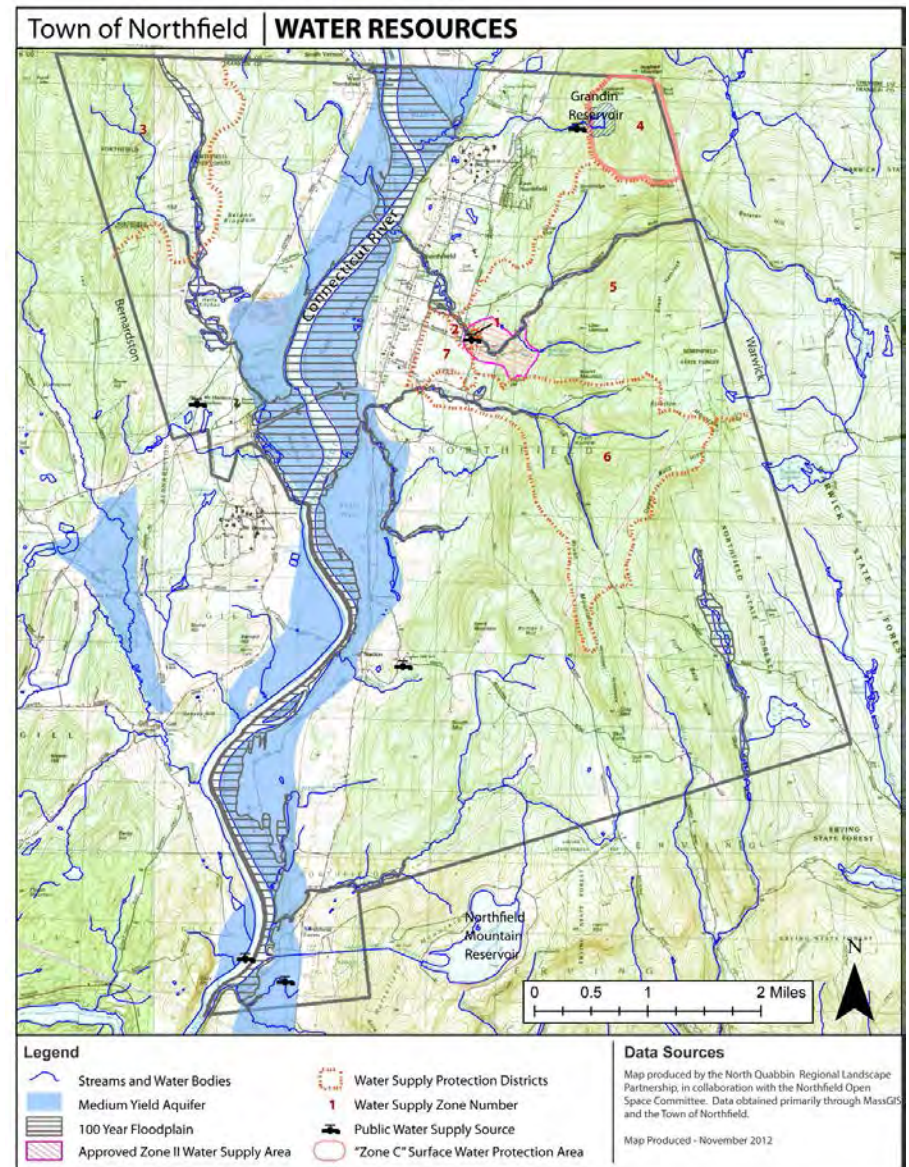
- Bottom Brook originates in the uplands of West Northfield near the town's border with Vernon, Vermont. The brook flows generally southeasterly to its confluence with the Connecticut River at Moose Plain just north of the railroad bridge.
- Mallory Brook originates in uplands just north of West Road and flows southeasterly to its confluence with the Connecticut River at the southern tip of Second Moose Plain.
- East Wait Brook is a series of wetland areas connected by short sections of stream. The brook originates in wetlands in the northwest corner of West Northfield near the border of Vermont and drains into the wetlands area of Hell's Kitchen west of Lily Pond.
- West Wait Brook originates in the northwestern corner of Northfield. It flows southeasterly through Northfield State Forest and drains into the wetlands area of Hell's Kitchen.
- Bennett Brook flows out of the southern Sawyers Pond and travels southeasterly to its confluence with the Connecticut River at the southern end of Bennett Meadow.
- Hell's Kitchen is a 40-acre wetland located off Vernon Road listed in the National Wetland Inventory. East and West Wait Brooks drain into the wetland and in turn, the wetland drains into the northern Sawyer Pond. Hell's Kitchen is part of the Satan's Kingdom Wildlife Management Area owned by the Massachusetts Department of Fish and Game.

- Sawyer Ponds (privately-owned) are located in West Northfield at the southern end of Hell’s Kitchen. The Hell’s Kitchen swamp drains into the northern Sawyer Pond and Bennett Brook flows out of the southern pond. The southern pond is twelve acres in size, and the northern pond is nine acres in size.
- Lily Pond is located to the northeast of Hell’s Kitchen.
- Streeter Pond is a two to three acre shallow pond located on Route 142 in West Northfield.

SURFACE WATER RESOURCES IN THE MILLERS RIVER WATERSHED

The Town of Northfield is located in the western portion of the Millers River Watershed. The watershed is located in north central Massachusetts and southwestern New Hampshire. The headwaters for the Millers River are located in southern New Hampshire as well as in the towns of Winchendon and Ashburnham, Massachusetts. Fifty-one miles in length, forty-four of which are in Massachusetts, the Millers River flows south, then gradually west to its confluence with the Connecticut River in the town of Erving. Although the Millers River fluctuates between sluggish and rapid flows, there is an average drop of twenty-two feet per mile. This feature made the Millers River and its main tributaries a magnet for manufacturing and hydroelectric power generation, which provided the impetus for initiation of industrial activities in neighboring towns in the late 1700s.

Many town centers are located along the Millers River, or on one of its main tributaries. The presence of industry, dense residential



development, and the use of the river as a means of wastewater disposal combined to produce serious pollution problems in the past. Many of the point sources of pollution have been regulated and as a result, the Millers River is much cleaner today than in years past. However, the continued presence of dangerous levels of mercury and poly-chlorinated biphenyls (PCB's), buried in the stream sediments of the Millers River, means that the river's classification as swimmable/fishable, has still not been achieved. Fish flesh has been found to contain these chemicals at levels that have motivated the Massachusetts Department of Public Health to initiate public health warnings against consuming fish caught in the Millers River. The extent of the PCB contamination has been studied by the U.S. Geological Survey (USGS) and given the results, the Mass. Department of Environmental Protection has been able to move forward in the identification of a responsible party⁶.

The watershed priorities for the Millers River Watershed according to the Executive Office of Environmental Affairs include:

- Complete the hydrologic assessments to determine hydrological impacts and implement a recommended action plan;
- Continue to improve water quality by implementing a Non-Point Source Pollution Education campaign;
- Continue water quality monitoring through DEP's Strategic Monitoring and Assessment for River Basin Teams (SMART) Monitoring Program;
- Support continuing efforts to solve and mitigate PCB contamination of the Millers and Otter Rivers; and

- Continue efforts to preserve open space and promote sustainable growth by conducting a watershed-wide Regional Open Space Plan⁷.
- The Millers River Watershed Council (MRWC), an associate of the Millers River Environmental Council, was formed in the 1970's to restore and maintain clean water, lobby for cleanup of pollution points, encourage conservation and assist in developing the river as a recreation resource. The MRWC conducts biweekly sampling of the river at five locations on the Millers River in Athol and Orange. Results so far are below the Massachusetts required levels.

In the Millers River Watershed Action Plan prepared by the Millers River Watershed Council and the Franklin Regional Council of Governments, the action plan issues and concerns include the following:

- Restore and improve natural flow regimes and aquatic habitat;
- Preserve and restore biodiversity and wildlife habitat;
- Support environmentally sustainable growth in the watershed;
- Promote, protect, and enhance watershed open space and recreational values;
- Expand public outreach and educational activities in the watershed;
- Protect and improve water quality in the watershed; and
- Strengthen grassroots support for the watershed

There are numerous brooks and ponds in the Northfield portion of the Millers River Watershed including:

- Keyup Brook originates in the area of Great Swamp in the portion of Northfield State Forest located in the southeastern

⁶ DEP website; 2004

⁷ DEP website; 2004

corner of town. Keyup Brook flows southerly and is joined by Jack's Brook before flowing into the Millers River in the town of Erving.

- Jacks Brook originates in the area of the First Bald Hills in the southeastern corner of Northfield. It is a tributary of Keyup Brook, which flows into the Millers River in the town of Erving.
- Great Swamp is located in the portion of Northfield State Forest located in the southeastern corner of town. Great Swamp is the headwaters for Keyup Brook and is listed in the National Wetland Inventory.

CLASS A WATERS

In the Town of Northfield, the Grandin Reservoir and its tributaries have been designated as Class A water sources by the Massachusetts Department of Environmental Protection. As such, these waters can be used as public water supplies. The Grandin Reservoir is used by the East Northfield Water Company and serves the campus buildings formerly owned by NMH as well as nearby neighborhoods. Class A water sources are also considered excellent habitat for fish, other aquatic life and wildlife. They have aesthetic value and are suitable for recreation purposes compatible with their designation as drinking water supplies. These waters are designated for protection as Outstanding Resource Waters.⁸

FLOOD HAZARD AREAS

Flooding along rivers is a natural occurrence. Floods happen when the flow in the river exceeds the carrying capacity of the channel.

⁸ under Massachusetts 314 CMR 4.04 (Mass. DEP website; 2004)

Some areas along rivers flood every year during the spring, while other areas flood during years when spring runoff is especially high, or following severe storm events. The term "floodplain" refers to the land affected by flooding from a storm predicted to occur at a particular interval. For example, the "one hundred year floodplain," is the area predicted to flood as the result of a very severe storm that has a one percent chance of occurring in any given year. Similarly, the 500-year floodplain is the area predicted to flood in a catastrophic storm with a 1 in 500 chance of occurring in any year.

The 100- and 500-year floodplains are mapped by the National Flood Insurance Program (NFIP) after a study of waterways. The 100-year floodplain is used for regulatory purposes. According to the NFIP maps effective in 1980, one hundred-year floodplains in Northfield occur along:

- The lowland areas along the entire length of the Connecticut River in Northfield including Pauchaug Meadow, Great Meadow, Little Meadow, Pine Meadow in eastern Northfield and Moose Plain, Second Moose Plain and Bennett Meadow in West Northfield;
- Pauchaug Brook from Wanamaker Lake to its confluence with the Connecticut River;
- Louisiana Brook from Route 10 to approximately one eighth mile upstream;
- The entire length of Mill Brook;
- Millers Brook from its confluence with the Connecticut River upstream to approximately one quarter mile past the intersection of Gulf and Alexander Hill Roads;
- Nearly the entire length of Roaring Brook;
- Fourmile Brook from its confluence with the Connecticut River to a point approximately 1.5 miles upstream;
- The entire length of Keyup Brook;

- East Wait Brook and associated wetlands, Sawyer Ponds, Lily Pond; and
- Bennett Brook.

WETLANDS

Northfield has 1,484 acres of wetlands, including water bodies and a variety of types of wetlands. Wetlands are transitional areas where land-based and water-based ecosystems overlap. Inland wetlands are commonly referred to as swamps, marshes and bogs. Technically, wetlands are places where the water table is at or near the surface or the land is covered by shallow water. Sometimes, the term wetland is used to refer to surface water as well.

Over the past several decades, scientists have recognized that wetlands perform a variety of extremely important ecological functions. They absorb runoff and prevent flooding. Wetland vegetation stabilizes stream banks, preventing erosion, and trap sediments that are transported by runoff. Wetland plants absorb nutrients, such as nitrogen and phosphorus, which would be harmful if they entered lakes, ponds, rivers and streams. They also absorb heavy metals and other pollution. Finally, wetlands are extremely productive, providing food and habitat for fish and wildlife. Many plants, invertebrates, amphibians, reptiles and fish depend on wetlands to survive. Wetlands have economic significance related to their ecological functions: it is far more cost-effective to maintain wetlands than build treatment facilities to manage stormwater and purify drinking water, and wetlands are essential to supporting lucrative outdoor recreation industries including hunting, fishing and bird-watching.

In recognition of the ecological and economic importance of wetlands, the Massachusetts Wetlands Protection Act is designed to protect eight “interests” related to their function:

- public and private water supply,
- ground water supply,
- flood control,
- storm damage prevention,
- prevention of pollution,
- land containing shellfish,
- fisheries, and
- wildlife habitat.

To this end, the law defines and protects “wetland resource areas,” including banks of rivers, lakes, ponds and streams, wetlands bordering the banks, land under rivers, lakes and ponds, land subject to flooding, and “riverfront areas” within two hundred feet of any stream that runs all year.

WATER SUPPLY AND AQUIFERS

Aquifers are composed of water-bearing soil and minerals, which may be either unconsolidated (soil-like) deposits or bedrock where water flows through fractures, pores and other openings. In unconsolidated deposits water flows through openings between the particles.

As water travels through the cracks and openings in rock and soil, it fills all spaces in what is known as the “saturated zone”. The water

in this layer is referred to as “groundwater”. The upper surface of the groundwater is called the “water table”⁹.

The route groundwater takes and the rate at which it moves through an aquifer is determined by the properties of the aquifer materials and the aquifer’s width and depth. This information helps determine how best to extract the water for use, as well as determining how contaminants, which originate on the surface, will flow in the aquifer.

Precipitation recharges the groundwater by soaking into the ground and percolating down to the water table. Almost all the public wells in Massachusetts, including those in Northfield, and many private wells tap unconfined aquifers¹⁰. Wells that rely on confined aquifers are referred to as “artesian wells.”

According to MassGIS and US Geological Service (USGS) documents, **Northfield has one large area considered to be medium-yield aquifer**, defined as an aquifer with the potential to provide a pumping volume 25 to 1,000 gallons per minute. This aquifer extends along both sides of the Connecticut River in Northfield, with the exception of a small area between East Northfield Road and Elm Ave. (see Water Resources Map).

The areas that contribute to public water supply wells are known as recharge areas. The Massachusetts Department of Environmental Protection strictly regulates an area within a radius of 100 to 400

feet of public water supply wells, known as the “Zone I,” and land uses in this area are restricted to water supply related activities only. The Northfield Water District’s well has a Zone 1 radius of 400 feet around the wellhead. **The District does not own the entire Zone I radius** and as such, is considered to be non-conforming by the state. The Massachusetts drinking water regulations¹¹ require public water suppliers to own the Zone I or control the Zone by conservation restriction, and that only water supply activities be allowed. Since many water supplies were developed prior to the regulations, many are non-conforming. The Source Water Assessment and Protection (SWAP) Report prepared by the Mass. Department of Environmental Protection indicates that within the Northfield Water District Zone I, there are activities which include pasturelands, residences and roads. These uses are considered potential sources of contamination.

The Northfield Water District also has a delineated Zone II recharge area. A Zone II is that area of an aquifer that contributes to a well under the most severe pumping and recharge conditions that can be realistically anticipated (180 days of pumping at approved yield with no recharge from precipitation). The Zone II is located west of the confluence of the Minot Brook and Mill Brook (See Water Resources Map).

Threats to the District’s Zone II recharge area contributing to a designation of “high” threat of contamination include residential use, roadways, potential hazardous materials storage and use, presence of an oil contamination site as noted by DEP, and

⁹ Masters, Gilbert. Introduction to Environmental Engineering and Science, Second Edition; 1998

¹⁰ Mass. Audubon Society; 1985

¹¹ 310 CMR 22.00

agricultural uses. The Northfield Water District's Zone II recharge area is 137.6 acres in size and roughly bounded by Birnam Road, Old Turnpike Road, Round Hill and Minot Brook, with Warwick Road roughly bisecting the area.

SURFACE WATER RESERVOIRS

The Grandin Reservoir is located off Louisiana Road in northeastern Northfield. It is owned by the Northfield Mount Hermon School and currently serves the former Northfield campus as well as nearby neighborhoods. It has a storage capacity of 30 million gallons, an estimated safe yield of 200,000 gallons, and an area of approximately seven acres. The reservoir and 95 percent of its watershed is currently owned by NMH. The East Northfield Water Company completed an updated watershed protection plan in 2011. The water is chlorinated after it is pumped from the reservoir.

The Grandin Reservoir has three protection zones, Zone A, Zone B and Zone C. Zone A, the most critical area for protections, is that area 400 feet from the edge of the reservoir and 200 feet from the edge of the tributaries draining into the reservoir. Zone B is that area one-half mile from the edge of the reservoir and does not go beyond the outer edge of the watershed. Zone C is the remaining area in the watershed not designated as Zone A or B. The Grandin Reservoir's Zones A and C are densely forested. NMH worked with DEP to do some forestry cutting in Zone A to re-establish smaller growth which provides added filtering for water entering the reservoir. Currently, additional forestry cutting is happening in Zone B.

The Massachusetts Department of Environmental Protection considers the threat of contamination to the Grandin Reservoir as moderate. Although the potential sources of contamination, which includes access roads, the possibility of aquatic mammals, and forest operations, are considered to be of low threat, its vulnerability as a surface water supply increases its susceptibility to contamination.

POTENTIAL SOURCES OF PUBLIC AND PRIVATE DRINKING WATER SUPPLY CONTAMINATION

Potential sources of contamination of public and private wells include septic systems, subsurface fuel tanks, manure piles, improper use, storage and disposal of hazardous materials, herbicide runoff from farmland, utility rights-of-way, state highway vegetation control, and road runoff.

VEGETATION AND WILDLIFE

Summary of Key Points

- Northfield, with more than 16,300 acres of woodlands, has large areas of mixed hardwood and pine forest that produce clean air, reduce run off and flooding, and moderate climate. Wetland and upland plant communities provide rich wildlife habitat, enhance passive recreation experiences, and add visual interest to the landscape.
- The Natural Heritage and Endangered Species Program (NHESP) of the Massachusetts Division of Fisheries and Wildlife has noted the Town of Northfield as having a number of uncommon ecologically significant natural communities within its borders, which support a number of the state-listed rare and endangered species..
- The value of agriculture in Northfield also includes its social and aesthetic contribution to the town.
- In the Town of Northfield, there are several BioMap 2 Core Habitat areas that are protected or partly protected from future development and several that remain unprotected.
- The Massachusetts Natural Heritage and Endangered Species Program has mapped several “Priority Habitats of Rare Species” and “Estimated Habitats of Rare Wildlife” in the Town of Northfield and identified approximately eighty potential vernal pools.
- Maintaining the biodiversity of Northfield over the long term will likely require the protection of both unique habitats for specific species and networks of habitat across the landscape.

FORESTS

Northfield, with more than 16,300 acres of woodlands, has large areas of mixed hardwood and pine forest that produce clean air, reduce run off and flooding, and moderate climate. Wetland and upland plant communities provide rich wildlife habitat, enhance passive recreation experiences, and add visual interest to the landscape. The town’s forests are diverse, including unusual communities such as Northern hardwoods and conifers; major river and high-terrace floodplain forests; and black ash and black gum swamps.

The predominant forest type in Northfield is the transition hardwoods-white pine forest¹². Within this forest type, northern hardwoods such as yellow and paper birch, beech, and sugar and red maple are the major species. On the dryer sites, oaks and hickories can be found with red oak being the most abundant deciduous species. Hemlock occurs in the moist cool valleys, north and east slopes, and sides of ravines in Northfield. White pine is characteristic of the well-drained sandy sites. The transition hardwood-white pine forest type commonly occurs up to an elevation of 1,500 ft. above sea level in upland central Massachusetts and southern New Hampshire, northward through the Connecticut Valley.

¹² USDA; 1992

UNUSUAL NATURAL COMMUNITIES

The Natural Heritage and Endangered Species Program (NHESP) of the Massachusetts Division of Fisheries and Wildlife has noted the Town of Northfield as having a number of uncommon ecologically significant natural communities within its borders, which support a number of the state-listed rare and endangered species.

Additional information is available in the Northfield Open Space and Recreation Plan. These communities include:

NORTHERN HARDWOOD – HEMLOCK – WHITE PINE FOREST

According to the NHESP, Northfield has an excellent example of a Northern Hardwoods – Hemlock – White Pine Forest located approximately in the area of the Northfield Mountain and stretching into the town of Erving. This forest type can be found in dry to moist, moderately acidic soils on north facing slopes and ravines. The community type can range from hemlock in pure stands to a deciduous forest with scattered hemlocks. Other species found in this forest type include various combinations of hemlock, sugar maple, yellow birch, black cherry, red oak and white pine. Also, there can be scattered paper birch, aspen, red maple, and yellow birch. The shrub layer, which is usually open, often contains hobblebush, red-berried elderberry, fly honeysuckle, and striped maple. The herbaceous layer is sparse but may contain intermediate woodfern, Christmas fern, clubmosses, Canada mayflower, white wood aster, and wild sarsaparilla. Rand's goldenrod is an endangered plant species and the water shrew is an animal species of special concern that can be found within this forest type.

MAJOR-RIVER FLOODPLAIN FOREST

Major-River Floodplain forests occur along large rivers such as the Connecticut River. In Northfield, major-river floodplain forests can be found in two areas, on Kidd Island and in the area of the boat ramp along the Connecticut River near Pauchaug Brook in northern Northfield. Flooding occurs annually and is usually severe. The "island variant" occurs on elevated sections of riverine islands and riverbanks where there are high levels of disturbance from intense flooding and ice scour. The dominant species of this floodplain forest is the silver maple, covering the majority of the over story with lesser amounts of cottonwood. American elm and/or slippery elm can be found in the sub canopy. Shrubs are lacking and the herbaceous layer primarily consists of stinging nettles. Ostrich fern also occurs and whitegrass is found in small amounts. The "island variant" has similar species, but cottonwood, sycamore and American ash are also present in the canopy. Box elder, staghorn sumac, bittersweet, riverbank grape and Virginia creeper are also present. Floodplain forests are insect-rich habitats that attract many species of songbirds. Raptors such as bald eagles and red-shouldered hawks also use riverbank trees as perch sites. Wood ducks and hooded mergansers are found along the shady edges of the riverbanks as are Eastern comma butterflies and several species of dragonflies. Floodplain forests also provide sheltered riverside corridors for deer and migratory songbirds. Many state protected rare animal species use the floodplain forest as an important component of their habitat.

HIGH-TERRACE FLOODPLAIN FOREST

The high-terrace floodplain forests can also be found in Northfield at the downstream end of Kidd Island. Typically, they occur on raised banks adjacent to rivers and streams, on steep banks along high gradient rivers particularly in western Massachusetts, on high alluvial terraces and on raised areas within major-river and small-river floodplain forests. The high-terrace floodplain forest is not subjected to annual spring flooding as it is above the flood zone.

The high-terrace floodplain forest in Massachusetts has a mixture of hardwoods generally associated with floodplains. These include red and silver maple as well as sugar maple, shagbark hickory, black cherry, American elm, and basswood. Ironwood is present in the sub-canopy and is a good indicator of this community. Within the shrub layer one can find arrowwood, nannyberry and winterberry. The herbaceous layer is a mixture of forest ferns and upland herbs characteristic of floodplain forests. Rare plants associated with high-terrace floodplain forest include the black maple, narrow-leaved spring beauty, and barren strawberry. Rare animal species include the Jefferson salamander, blue-spotted salamander, spotted turtle, the wood turtle, Blanding's turtle, and the four-toed salamander.

BLACK GUM SWAMPS

The Black Gum Swamp is a community type not usually found in Massachusetts. In Northfield, there are two examples in the northwestern corner of the town. Black gum swamps are deciduous swamp forests characterized by black gum, but red maple can also

occur. These swamps are found in saddles or depressions near the tops of hills and are surrounded by upland forests. Two black gum swamps are located adjacent to the Monadnock/Metacomet Trail (officially, the New England National Scenic Trail) between Crag Mountain and Gulf Road. The soils are accumulations of muck or peat. Black gum swamps are characterized by hummocks and hollows that are seasonally flooded. These swamps occur below 1,000 feet in elevation, have relatively small watersheds, limited drainage, and are usually isolated from perennial streams. White pine, hemlock, black ash and red spruce can also be found in the canopy. The sub canopy includes a mixture of the canopy species as well as yellow birch. Shrubs generally characteristic of black gum swamps are winterberry and highbush blueberry. Cinnamon fern is the most abundant species in the herbaceous layer. Black gum swamps are similar to vernal pools in that they provide important habitat diversity for wildlife, including amphibian breeding sites.

BLACK ASH SWAMPS

Also uncommon in Massachusetts are black ash swamps, deciduous swamp forests consisting of a high diversity of tree species including black ash and red maple. Found in a wide variety of settings, black ash swamps usually occur with significant groundwater seepage. They can be found in depressions at or near the headwaters of streams and occasionally on sloping edges of river floodplains or as within areas of red maple swamps. An area of black ash swamp can be found in the northwestern Northfield.

Besides black ash, red maple can also be found in the canopy of black ash swamps. White pine, hemlock and yellow birch may also

be present. The sub canopy includes American elm. The shrub layer is quite diverse, but the most characteristic shrub is winterberry. The herbaceous layer is also diverse with cinnamon fern and skunk cabbage the most abundant. The high coverage of ferns in the black ash swamp is one of its more striking characteristics. Besides the cinnamon fern, royal fern, marsh fern, and sensitive fern can be found.

LEVEL BOGS

Level bogs are wetland communities with accumulations of incompletely decomposed organic material (peat) that develop along ponds, at the headwater of streams, or in isolated valleys without inlet or outlet streams. With no stream flow and isolation from the water table, level bogs are the most acidic and nutrient poor of peatland communities. Examples of level bogs are limited in Massachusetts and as such, have been designated Priority Natural Communities for Protection. In Northfield, a portion of a level bog is associated with Steven's Swamp, which can be found in the eastern section of town in Northfield State Forest along the town's border with Warwick.

A level bog consists of a mixture of tall and short ericaceous shrubs, which dominate the landscape. Leatherleaf is dominant, but other ericaceous shrubs such as rhodora, sheep laurel, bog laurel, bog rosemary, Labrador tea, and low-growing large and small cranberry. Stunted coniferous trees, mainly tamarack and black spruce, occur throughout the level bog. A mixture of bog plants also grow on the Sphagnum surface and include carnivorous pitcher plants, and sundews.

Four rare plant species occur in level bogs: pod-grass, dwarf mistletoe, mud sedge and northern yellow-eyed grass. Pod-grass and dwarf mistletoe are protected under the Massachusetts Endangered Species Act. Several rare animal species also occur in level bogs. Of these, three species are considered endangered: the spatterdock darner, ebony boghaunter, and ringed boghaunter.

AGRICULTURAL LAND

In 2005, agricultural land (2,834.4 acres) in Northfield, which includes cropland, pastureland, orchards and nurseries, comprised 12.5 percent of the town's total land area a decrease from 13.6 percent in 1999. Northfield's agricultural land is located primarily along the Connecticut River, and along the Route 63 corridor in the eastern section of town. There is currently only one dairy farm in operation in the Town of Northfield—part of the Llewelyn Farm.

In 2010 the Northfield Agricultural Commission produced a map and inventory of all farms and farm stands in Northfield ranging from one-acre operations to farms of several hundred acres. The farms include cropland, tree farms, vegetables, and animals such as sheep, goats, and beef. There are 26 farms and farm stands that sell directly to the public. In addition, there are 70 farms that do not sell directly to the public.

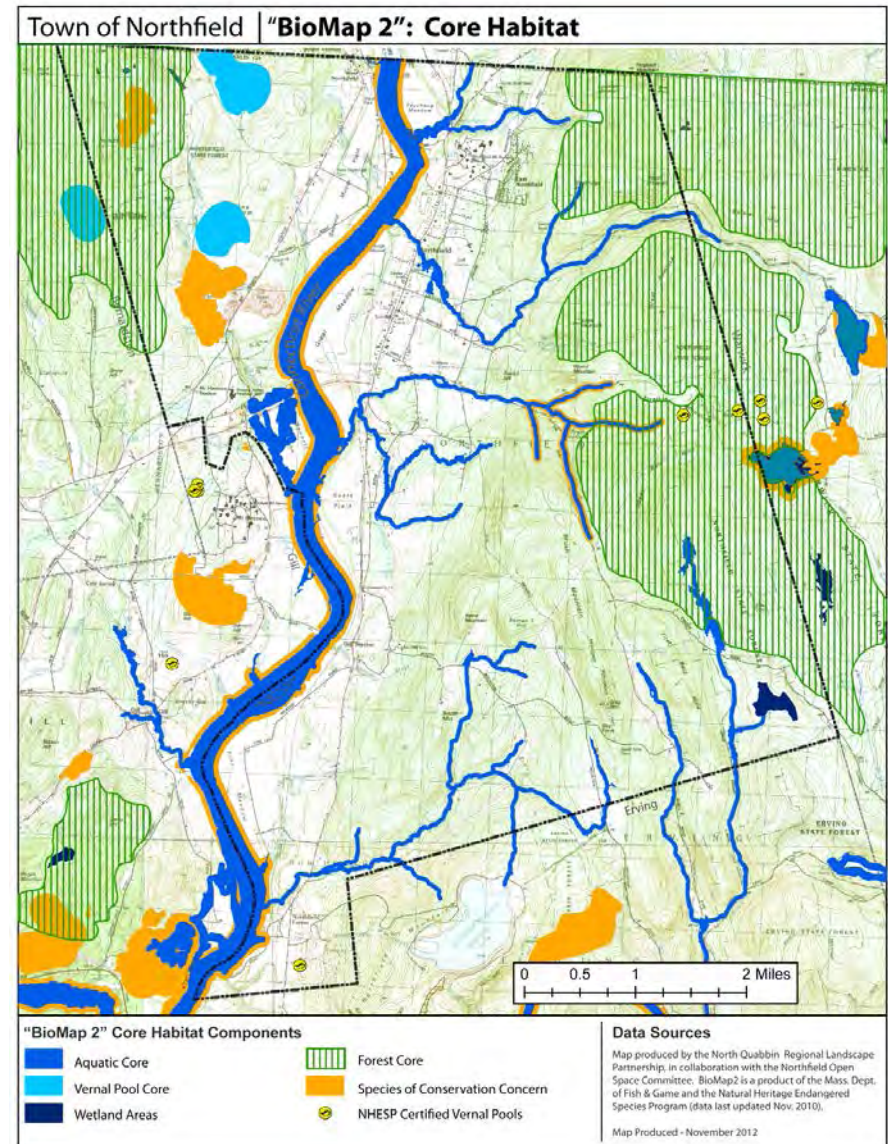
The value of agriculture in Northfield also includes its social and aesthetic contribution to the town. Farmland is also an important habitat for a variety of wildlife. Many bird species nest near these fields and use them as well as other habitats for hunting and feeding on seeds, insects, and small mammals. Many migrant

songbirds, those that move between northern and southern latitudes with the seasons, can be found feeding in farm fields in Northfield and other nearby towns during migration. Many hawks and owls, such as American kestrels and northern harriers, rely on grasslands for hunting small mammals, while other hawks and owls, such as red-tailed hawks and great horned owls, hunt in these fields as well as in forested areas. In addition to birds, voles, white-tailed deer, woodchucks, coyotes, and eastern cottontail rabbits and other mammals often use agricultural areas. Several snakes, such as the eastern hognose snake and the northern brown snake can also be found in fields and pastures.

BIOMAP2 AREAS

Northfield's forests, rivers, wetlands and open farmland provide habitat for a variety of common and rare wildlife species. The Massachusetts Natural Heritage and Endangered Species Program (NHESP) and The Nature Conservancy's Massachusetts Program developed BioMap2 in 2010 as a conservation plan to protect the state's biodiversity. BioMap2 is designed to guide strategic biodiversity conservation efforts in Massachusetts over the next decade by focusing land protection and stewardship on the state's most important areas for conservation.

BioMap2 identifies two complementary areas, Core Habitat and Critical Natural Landscape. Core Habitat identifies key areas that are critical for the long-term persistence of rare species and other Species of Conservation Concern, as well as a wide diversity of natural communities and intact ecosystems across the Commonwealth. Protection of Core Habitats will contribute to the



conservation of specific elements of biodiversity. Critical Natural Landscape identifies large natural Landscape Blocks that are minimally impacted by development and contribute to the long-term viability of Core Habitat.

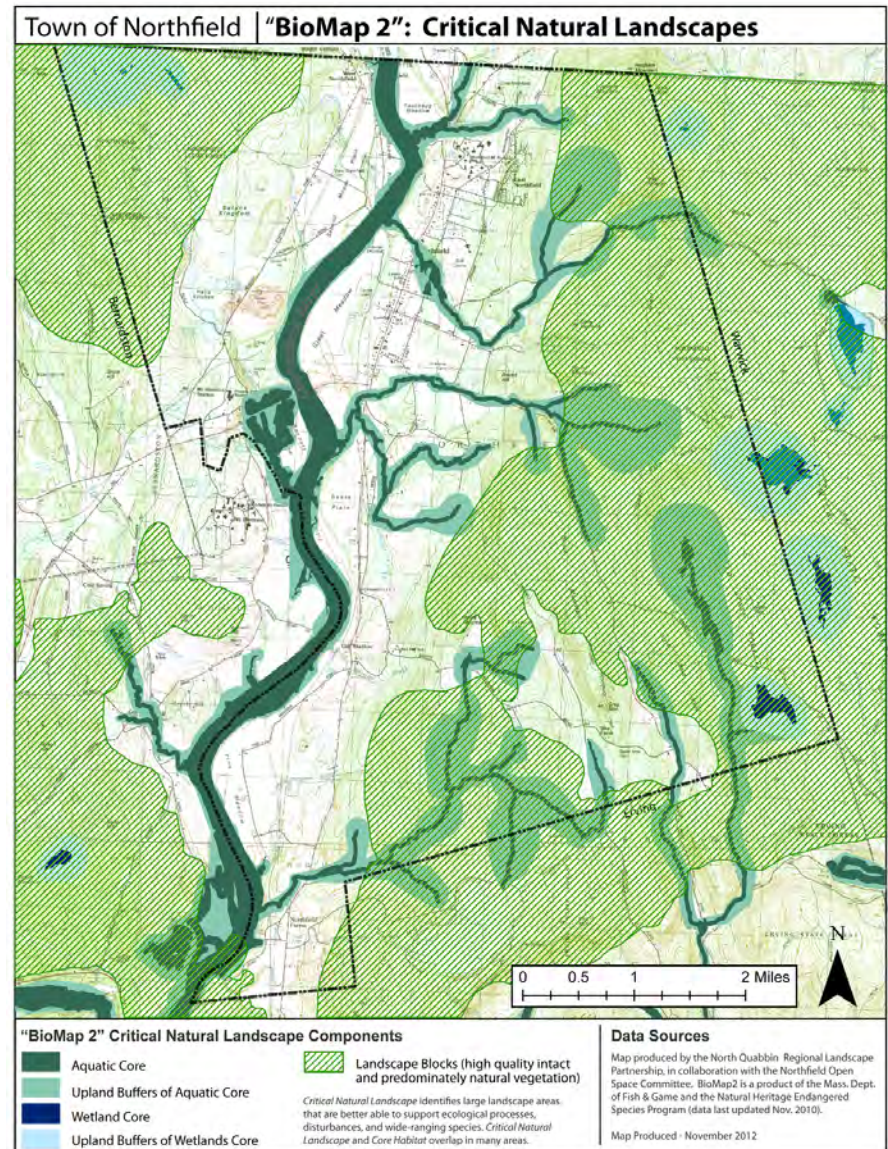
In the Town of Northfield, there are several Core Habitat areas that are protected or partly protected from future development:

- An area in the northwestern most corner of town, including a small portion of Northfield State Forest;
- The area of the confluence of Pauchaug Brook and the Connecticut River; and
- Along the Connecticut River from Little Meadow to the town's border with Erving (About half is protected from development);

There are also several Core Habitat areas that remain vulnerable to future development, these include:

- An area containing Hell's Kitchen, Lily Pond, and Sawyer Ponds and stretching west to the town's border with Bernardston;
- An area at the southwestern end of Bennett Meadow;
- Along the first 1.5 miles of Millers Brook as well as its tributaries;
- An area east of Coller Cemetery, surrounding an unnamed intermittent stream which drains into Moss Brook in Warwick and connects to a larger Core Habitat area also in that town; and
- An area located in the southeastern most corner of town that continues into the town of Erving and includes Northfield Mountain.

Of the many large areas of contiguous forest in Northfield, there are several considered by the NHESP to contain Critical Natural Landscapes that buffer or link lands to the Core Habitat areas:



- The eastern forest block, the largest Critical Natural Landscape in Northfield, contains forests along the town's entire border with Warwick west to Louisiana Mountain, Strowbridge Hill, Garnet Rock, Birnam Road, Northfield Reservoir, Round Hill, Gulf Road, Orange Road and Keyup Brook. Two of the largest parcels of Northfield State Forest lie within this forest block.
- The northwestern block of Critical Natural Landscape from the town's border with Vermont south to Little Meadow and west to the town of Bernardston. This block contains two Northfield State Forest parcels and a portion of Satan's Kingdom.
- The southern block beginning near Beers Mountain and Roman Hill, including South Mountain, and Four Mile Brook and its tributaries. This Critical Natural Landscape stretches into the town of Erving and includes a Core Habitat located in the southeastern most corner of town that continues into the town of Erving and includes Northfield Mountain.
- A Critical Natural Landscape along the Connecticut River from the town's border with Vermont and New Hampshire south to the Schell Bridge.

Large blocks of contiguous forestland such as these are important regional resources for several reasons. First they represent an area with a low degree of fragmentation. Wildlife species that require a certain amount of deep forest cover separate from people's daily activities tend to migrate out of fragmenting landscapes. New frontage lots and subdivisions can often result in a widening of human activity, an increase in the populations of plants and animals that thrive alongside humans (i.e. raccoons and squirrels) and a reduction in the species that have larger home ranges and unique habitat needs. When these large blocks of forest are protected from development they help to protect and provide clean water, air, and

healthy wildlife populations. In addition, areas of unfragmented forest are more suitable for active forest management.

RARE SPECIES

The Massachusetts Natural Heritage and Endangered Species Program has mapped several "Priority Habitats of Rare Species" and "Estimated Habitats of Rare Wildlife" in the Town of Northfield. Many actions or developments within these habitats are regulated under the Massachusetts Wetlands Protection Act or the Massachusetts Endangered Species Act.

Seventeen rare species of animals and nine rare species of plants are recorded for Northfield according to the Natural Heritage and Endangered Species Program. One bird, the Northern Harrier, is classified as threatened. Seven rare species of animals are classified as endangered: the Yellow Lampmussel (a mussel); the Dwarf Wedgemussel (a mussel also listed on the Federal Endangered Species list as threatened); the Midland Clubtail, Spine-crowned Clubtail, and the Riverine Clubtail (dragonflies); the Bald Eagle and American Bittern (both birds). Animal species of special concern include the wood turtle, one mussel (the Creeper), and five dragonfly/damselflies (the Brook Snaketail, Spatterdock Darner, Stygian Shadowdragon, Skillet Clubtail. and Cobra Clubtail).

The Intermediate Spike-sedge and the Adder's tongue fern are plant species considered threatened. The Wright's spike-rush, Ovate spike sedge, and Winged monkey-flower are plants considered endangered. A plant whose status is of special concern is Frank's

lovegrass. Three other plants are on the Plant Watch list; Lesser Bladderwort, Daisy-leaf Moonwort, and Narrow Triangle Grape-fern.

Many of the areas of special habitat and exemplary communities are not protected by town zoning or wetland regulations. They are valuable natural and educational resources for Northfield and may disappear as a result of unregulated growth and development. It is vital for the survival of these species that the town includes protection of these habitats in its master plan and open space plan.

VERNAL POOLS

Vernal pools are temporary bodies of fresh water that provide critical breeding habitat for many vertebrate and invertebrate wildlife species. They are defined as “basin depressions where water is confined and persists for at least two months during the spring and early summer of most years, and where reproducing populations of fish do not survive.” Vernal pools may be very shallow, holding only 5 or 6 inches of water, or they may be quite deep. Vernal pools are found across the landscape, anywhere that small woodland depressions, swales or kettle holes collect spring runoff or intercept seasonal high groundwater, and along rivers in the floodplain. Many species of amphibians and vertebrates are completely dependent on vernal pools to reproduce. Loss of vernal pools can endanger entire populations of these species.

The state’s Natural Heritage and Endangered Species Program (NHESP) has predicted the location of vernal pools based on interpretation of aerial photographs and have **identified approximately eighty potential vernal pools throughout Northfield**

with several clusters especially in the northwestern part of town. An effort to visit these sites and certify qualified vernal pools would increase the knowledge about valuable habitats in Northfield¹³.

In addition to identifying potential vernal pools, NHESP certifies the existence of actual vernal pools when evidence is submitted to document their location and the presence of breeding amphibians that depend on vernal pools to survive. Certified vernal pools are protected by the Massachusetts Wetlands Protection Act and by additional state and federal regulations. In Northfield, there are seven Certified Vernal Pools¹⁴. Three are located in West Northfield and four are scattered in East Northfield. Efforts to certify other potential vernal pools could increase the number of certified sites.

CONSERVING NORTHFIELD’S BIODIVERSITY

There are two concepts that can be used to help explain Northfield’s options for pursuing the conservation of the town’s biodiversity: Island Biogeography and landscape ecology.

The theory of Island Biogeography is based on observations that biodiversity is greater on large islands than on small ones, and greater on islands that are close to the mainland. The concept of islands surrounded by water has been applied to the idea of “islands” of protected open space surrounded by developed areas. Based on this theory, ecologists predict that increasing the size of a

¹³ There is more information about vernal pools in Northfield Open Space and Recreation Plan.

¹⁴ **MassGIS Certified Vernal Pool layer updated to 2012.**

protected area increases its biodiversity¹⁵. Therefore, connecting two protected areas via a protected corridor to create one large area should also increase natural biodiversity¹⁶.

Another model for wildlife habitat protection aggregates similar land uses while allowing other uses in discrete areas¹⁷. This model is reflected in Northfield's current land use patterns. In the northwest and in the east, are large areas of mostly contiguous forest that may be best managed as wildlife habitat, forest products, and water supply recharge areas. Housing is located at the edges of these forest areas though roads bisect them in areas. The best farmland in town is aggregated along the floodplains of the Connecticut River while most of the population is centered either in the villages or along roadway corridors.

Individual animals move within a landscape. When and where wildlife and fish species move is not well understood by wildlife biologists. However, we do know that animals pay little attention to political boundaries. Wildlife seek natural cover for shelter and food, but some species willingly forage where human uses, such as farm fields, gardens and even trash cans, provide browse or food. As the land within Northfield continues to be fragmented by development, it is reasonable to expect that remaining large blocks of undeveloped forest and the parcels of land connecting them will become more important to area wildlife and conflicts between the needs of wildlife and residents will become more common.

¹⁵ MacArthur and Wilson; 1967

¹⁶ Wilson and Willis; 1975

¹⁷ Forman; 1997

Many species of wildlife in Northfield have home ranges greater than fifty acres in size. Even those species with smaller home ranges move across the landscape between sources of shelter, water, food and mating areas. Some animals, including white-tailed deer and black bear, seek both interior forest habitat and wetland edges where food sources may be more abundant.

Roads are a form of connection for humans but they can be an impediment to some wildlife movement. Wildlife benefit from having land to move within that is isolated from human uses. Conservation planning that recognizes this need often focuses on the development of wildlife corridors. Permanently protected wildlife corridors are particularly critical in a landscape which is experiencing development pressures to ensure that animals have the ability to travel across vegetated areas between large blocks of habitat.

Connections between bodies of water and sub-watersheds are also important for wildlife and fisheries species. Some of the more common animals that use river and stream corridors are beaver, muskrat, raccoon, green heron, kingfish, snapping turtle, and many species of ducks, amphibians, and fish. Since many species rely on a variety of habitats during different periods of their life cycle, species diversity is greatest in areas where several habitat types occur in proximity to each other. With this in mind, the protection of all habitat types is vital for maintaining and enhancing biodiversity in Northfield.

There are three general strategies for conserving the health of wildlife populations. One is to protect the habitat of specific species

that are rare, threatened, or endangered. It is thought that other species will also benefit from this strategy. A second strategy is to conserve landscape-level resources such as contiguous forest or riparian areas. This helps to protect the habitats of a large number of species, but it might not meet the needs of all rare and endangered species. The third method is a combination of the first two. ***Maintaining the biodiversity of Northfield over the long term will likely require the protection of both unique habitats for specific species and networks of habitat across the landscape.***

Conservation strategies for the town to consider include monitoring of species locations, numbers, and movements; the protection of core habitat areas as identified by the NHESP BioMap2 (see Core Habitat map); the continued protection and linkage of large blocks of contiguous forestland; the retention of early successional habitats like fields and grasslands; and the protection of vernal pools, wetlands, and riparian corridors that sustain the greatest diversity of life in Northfield.

SCENIC RESOURCES AND UNIQUE ENVIRONMENTS

Summary of Key Points

- Northfield has beautiful views, a rich architectural heritage and large areas of forest that provide the scenic infrastructure of the town. Without protection and careful planning these attractive features could be lost to development.
- The purpose of inventorying scenic resources and unique natural environments in Northfield is to provide a basis for setting resource protection priorities. .
- With help from more than fifty residents at a public forum, the Open Space and Recreation update steering committee identified priority areas for conservation and nominated “special places” including landscapes and historic areas.

Northfield has beautiful views, a rich architectural heritage and large areas of forest that provide the scenic infrastructure of the town. Without protection and careful planning these attractive features could be lost to development. Currently only few of the popularly identified sites have some level of protection.

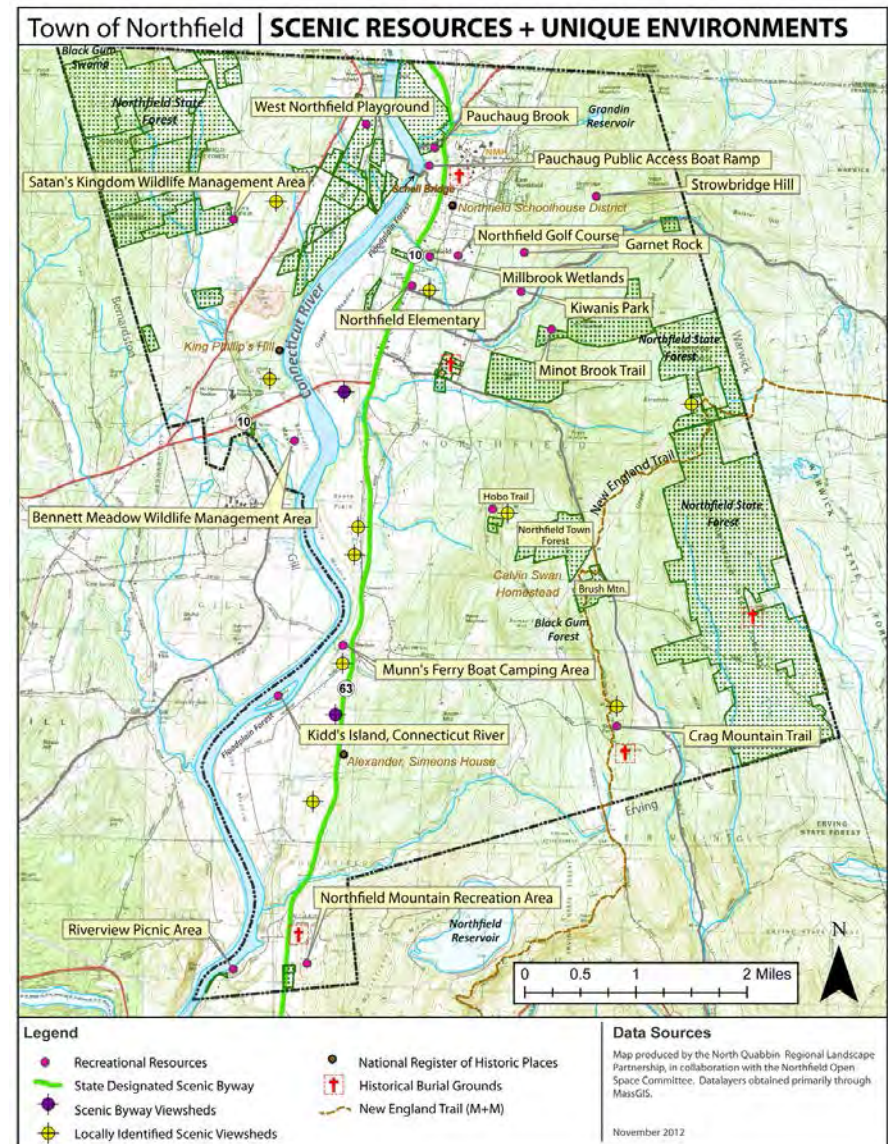
The characteristics that allow a stranger to distinguish Northfield from other towns in the region may be different than the unique qualities and special places that only residents can really know. In many ways the history of Northfield--how people came to settle the land, use its resources, and enjoy its forests, streams, and bodies of

water--can be seen in the landscapes that have retained a sense of the past.

The unique environments in Northfield play a very important role in providing residents with a sense of place. Brooks, mountains, wetlands, and village centers provide markers on the landscape within which we navigate our lives.

Scenic landscapes often derive their importance from location relative to other landscape features. ***The purpose of inventorying scenic resources and unique natural environments in Northfield is to provide a basis for setting resource protection priorities.*** To this end, this section includes information about the different values associated with each scenic resource and natural environment, and indicates areas where multiple values are represented in one landscape. Those landscapes that contain, for example, scenic, wildlife, and cultural values may be given higher priority for protection than a landscape that contains only one value.

These documented resources include historic landscapes and special places. This inventory is based on a formal survey done in 1992 for the Franklin County Rural Historic Landscape Preservation Plan Report. This document distinguishes between types of landscapes, identifies in general terms the locations of rural historic landscapes in each town, and provides examples of different preservation strategies. The methodology for identifying significant historical landscapes was based on National Park Service criteria including area of significance, period of significance and historical integrity. NPS classifies landscapes into four different categories:



- landscapes that reflect major patterns of a region's history (e.g. agricultural landscapes),
- landscapes that are associated with historically significant individuals (e.g. institutional grounds and buildings),
- landscapes that are important due to their design or physical characteristics (e.g. an 18th century Colonial Period Connecticut Valley rural farm), and
- landscapes that yield or have the potential of yielding significant information on pre-history or history (e.g. a native American encampment site). (See Scenic Resources and Unique Environments map)

In 2007 the Trust for Public Land selected Northfield to conduct a conservation visioning process to identify and prioritize lands for conservation. ***With help from more than fifty residents at a public forum, the Open Space and Recreation update steering committee identified priority areas for conservation and nominated "special places" including landscapes and historic areas.*** The following table includes the results from that visioning process along with resources identified in the 2005 Open Space and Recreation Plan.

Significant Scenic, Ecological, Recreational, and Historic Landscapes/Features in Northfield

	<i>Resource Values</i>	<i>Historical Values</i>		<i>Resource Values</i>	<i>Historical Values</i>
Stream Corridors					
Connecticut River	Fishing and boating		Pine Meadow Brook	Rare Species Habitat	
Pauchug Brook	Fishing, trout stocked		Fisher Brook		
Louisiana Brook	Public drinking water supply		Fourmile Brook	Fishing, trout stocked	
Mill Brook	Cascades; fishing, trout stocked	Site of colonial mills, Indian encampments & salmon runs	Bottom Brook		
Minot Brook			Mallory Brook		
Millers Brook	Rare species habitat		East Wait Brook	Portion in Satan's Kingdom WMA	
Roaring Brook	Falls; fishing, trout stocked	Site of former grist mill, pool for washing sheep before shearing, and Capt. Richard Beers battle with Indians	West Wait Brook	Portion in Satan's Kingdom WMA	
Merriam Brook			Bennett Brook	Portion is part of the Bennett Meadow WMA	
Jack's Brook			Keyup Brook		Site of old mills and colonial settlement
Ponds & Lakes					
Wanamaker Lake	Waterfall, former ice skating & swimming	Ice harvesting	Streeter Pond	Scenic view	
Sawyer Ponds	Rare species habitat, scenic view, suitable for swimming		Schell Pond	Fishing, hiking, birding	Site of historic chateau
Lily Pond					
Wetland Areas					
Hell's Kitchen	Part of Satan's Kitchen WMA, hiking, birding		Pond & swamp near Center Cemetery	Birding	
Mill Brook Swamp & Pond	Rare species habitat, scenic view, birding	Site of historic chateau	Great Swamp & Keyup Brook	Part of Northfield State Forest, hiking, cross-country skiing	Early settlement site
Northfield Mountain Recreation Area	Hiking, cross-country skiing, mountain biking, horseback riding, environmental programs		Kidd's Island, Connecticut River	Unique habitats, camping & picnicking, access by boat only	Historic Recreational Landscape

A Master Plan for Northfield

	<i>Resource Values</i>	<i>Historical Values</i>		<i>Resource Values</i>	<i>Historical Values</i>
Recreation Area					
Riverview Picnic Area	Picnicking & access to Conn. River		Brush Mt. Conservation Area	Snake habitat, Critical Natural Landscape, hiking, cross-country skiing	Homestead of Calvin Swan 1799-1865, abolitionist, sawmill owner
Munn's Ferry Boat Camping Area	Camping, access by boat only	Historic ferry landing	Minot Brook Trail	Hiking, nature study	
Northfield Town Forest	Rare species habitat, hiking, cross-country skiing, snowshoeing	Historic Recreational Landscape	Strowbridge Hill Area	Hiking, cross-country skiing, snowshoeing	
Northfield State Forest	Bog, hiking, fishing, hunting, cross-country skiing, snowshoeing	Cellar holes, Historic Recreational Landscape	Schell Nature Trail	Hiking; nature study, cross-country skiing; snowshoeing; birding	Early settlement
Bennett Meadow WMA	Wildlife habitat, wildlife viewing, hunting	Early settlements, Native American remains	Northfield Elementary School Grounds	Playground; baseball field; soccer field; basketball court	
Pauchaug Brook SMA	Unique habitat, wildlife viewing, hunting	Indian camps during French & Indian War; Native American corn field	Kiwanis Park	Picnicking, hiking, pavilion	
Pauchaug Brook Public Access Boat Ramp	Access to Connecticut River	Native American encampments	West Northfield Park	General playground; sports field; picnic area; pavilion	
Satan's Kingdom WMA	Hiking, wildlife viewing, hunting		Northfield Golf Course	9 hole course open for semi-public operation; cross-country skiing	Historic course
Metacomet-Monadnock Trail (New England National Scenic Trail)	Long distance hiking, scenic views, nature study		Camp Northfield & Northfield Mount Hermon School campus	Church-sponsored religious camp	Historic Recreational Landscape

A Master Plan for Northfield

	<i>Resource Values</i>	<i>Historical Values</i>		<i>Resource Values</i>	<i>Historical Values</i>
Recreation Area					
Crag Mountain & Trail	Glacial feature, hiking, scenic views, picnics	Lookout post	Northfield Connector of Franklin County Bikeway	Bikeway with shared roadway links to Northfield Mountain Recreation Center, downtown Northfield & NMH	
Hobo Waterfall Formerly Cascades	Unusual rock formations, hiking	Site of ice cutting	King Phillip's Hill	Geologic interest, hiking, picnicking	Site of King Phillip's lookout during French & Indian War
Historical Agricultural Landscapes					
Along Routes 63 and 10		Historic Landscape	Great Meadow Road		Historic Landscape
Caldwell Road		Historic Landscape	Coller Cemetery area		Historic Landscape
East Northfield Road		Historic Landscape	River Road		Historic Landscape
South Mountain Road		Historic Landscape	Upper Northfield Farms Road		Historic Landscape
Old Wendell Road near Erving line		Historic Landscape	Along Connecticut River		Historic Landscape
Pine Meadow Road		Historic Landscape	Cow Plain, between Pine Meadow Road & Millers Falls Road		Believed to have been used as an agricultural site by Native Americans
Historical Burial Grounds					
Graves of Dwight L. Moody & Emma G.R. Moody		High	Coller Cemetery		High
South Mountain Cemetery		High	Northfield Farms Cemetery		High
Center Cemetery (Moody Cemetery)		High	St. Mary's Cemetery		High
Burial Place, Captain Beers		High			

	<i>Resource Values</i>	<i>Historical Values</i>		<i>Resource Values</i>	<i>Historical Values</i>
Historic Community Development/Conservation/Science/Industrial Landscape					
Main Street National Historic District	Walking, Franklin County Bikeway	National Register of Historic Places (Approx. 2 miles in length, the District contains 148 historically significant properties & structures)	King Philips Hill	Scenic views hiking; birding	National Register of Historic Places
Historical Transportation Landscape					
Schell Bridge	Potential pedestrian crossing Connecticut River	Historic Transportation Landscape; Rare design	Route 63 Bridge		
East Northfield Road Railroad Bridge			Birnam Road Bridge		
Central Vernon Railroad Bridge					
Other Historical Sites					
Simeon Alexander House		National Register of Historic Places	Pratt Hollow		
Northfield District Schoolhouse #2		National Register of Historic Places	Indian Council Fires off Rt. 63 in junkyard		Native America Site
Unusual Geologic Features					
Ice House Cave			Great Rock		
Rattlesnake Den					
Scenic Views					
Pauchaug Brook & Wanamaker Lake			Hogback Mountain	Hiking, views, wildlife	
Crag Mountain	On the New England National Scenic Trail,	views of western Mass.	Notch Mountain	Hiking, views, wildlife	
Mill Brook at confluence with Connecticut River	Wildlife, River views		St. Mary's Road to East St.		
Northfield mountain ridges from east on Rt. 10			East Road to St. Mary's Road		
Gulf Rd. driving north					

	<i>Resource Values</i>	<i>Historical Values</i>		<i>Resource Values</i>	<i>Historical Values</i>
Scenic Road					
Rt. 63 – Connecticut River Scenic Farm Byway	State designated Scenic Byway; scenic viewsheds		Fourmile Brook Road		
Vernon Road			So. Mountain Road		
Warwick Road			Old Wendell Road		
Pine Meadow Road			Gulf Road		
Rt. 142					

Source: Northfield Open Space and Recreation Plan 2012 update

FUTURE THREATS TO NORTHFIELD’S NATURAL RESOURCES

Summary of Key Points

- Northfield Open Space & Recreation Plan Update committee members identified four main types of environmental problems in town:
 - Need for reinforcement of existing regulations through education;
 - Negative impacts of development in the town and region;
 - Need for protection of the community drinking water supplies in town; and,
 - Erosion along the Connecticut River.

Northfield Open Space Planning Committee members identified four main types of environmental problems in town:

- ***Need for reinforcement of existing regulations through education;***
- ***Negative impacts of development in the town and region;***
- ***Need for protection of the community drinking water supplies in town; and,***
- ***Erosion along the Connecticut River.***

Under the **need for reinforcement of existing regulations through education** the committee listed:

- Illegal use of off-road-vehicles; ATVs are not allowed in Northfield State Forest and in the Town Forest. ATVs are known to cause damage to trails and rare species habitats and the noise associated with their engines reduces the sense of quiet that residents have come to appreciate about Northfield. The Connecticut River boat launch is another area that is misused with people driving their vehicles onto the beach.
- Unregistered vehicles and illegal storage of vehicles

- Illegal littering and dumping

The solution to all of these problems lies not in further regulation but in education. The first step may be to foster a general awareness of the problems of trail misuse and noise pollution associated with illegal motorized vehicle use. A concerted educational outreach effort by the Select Board, the Open Space Committee, and the Zoning Board of Appeals could produce a consistent message for residents and visitors regarding the proper use of open space and recreational resources. By raising residents' knowledge of the issues, more people could be on the watch for illegal or inappropriate behavior, and could then report any problems to the Environmental Police or other authorities.

Under the **negative impacts of development** in the town and region they listed:

- Forested wildlife habitats are vulnerable fragmentation as a result of development: To reduce the future impact of subdivisions, the town could amend their zoning bylaw to increase incentives for use of their cluster development measure; participate in local and regional land conservation efforts; and, educate landowners about their land preservation and estate planning options.
- Traffic Issues on Routes 63, 10, and 142: Traffic calming measures and forbidding the use of "compression release" engine brakes by trucks could help reduce the negative impacts.
- High quality farmland soils are vulnerable to development: The Town of Northfield contains some of the best food producing soils in the world. As these soils become developed, that capacity is lost, as is a part of the town's and the region's food producing self-reliance. The town may want to consider all of the ways it could help to conserve these soils over time: support

of farm businesses, use the town's right-of first refusal with Chapter 61A farmlands, set aside match funds each year to help attract APR funds for farmers that want to protect their land, etc.

Under the need to **protect drinking water supplies** they noted that Grandin Reservoir can be accessed via one road and several ATV trails. It is unknown at this time what types of regulations are imposed on traffic on these roads. The Northfield Water District's groundwater supply is perhaps even more vulnerable to contamination because the potential sources of pollution include impacts of everyday activities: lawn fertilizers, fungicides, and other pesticides, septic problems, motor oil and hydraulic fluid spills, etc.

Under **erosion on the Connecticut River** they noted the cooperative effort with the Franklin Regional Council of Governments, the members of the FRCOG's Connecticut River Streambank Erosion Committee, and FirstLight Power to correctly implement river bank bioengineering restoration work and other strategies to stem erosion.

OPEN SPACE

Summary of Key Points

- The term “natural resource” describes the biological and physical components of an ecosystem that people depend on for their existence and for some, their livelihood.
- Northfield has more than 4,005.6 acres of permanently protected open space and recreation land. Forty one percent of Northfield (9,336.5 acres) is some form of protected open space.

Open space in the Town of Northfield consists of farms, forests, park, and recreation areas under both public and private ownership and management. In general terms, “open space” is defined as undeveloped land. For planning purposes the focus is on undeveloped land, which is valued by residents because of what it provides:

- actively managed farm and forestland;
- wildlife habitat;
- protection and recharge of groundwater;
- public access to recreational lands and trail systems;
- important plant communities;
- structures and landscapes that represent the community’s heritage;
- flood control; and
- scenery.

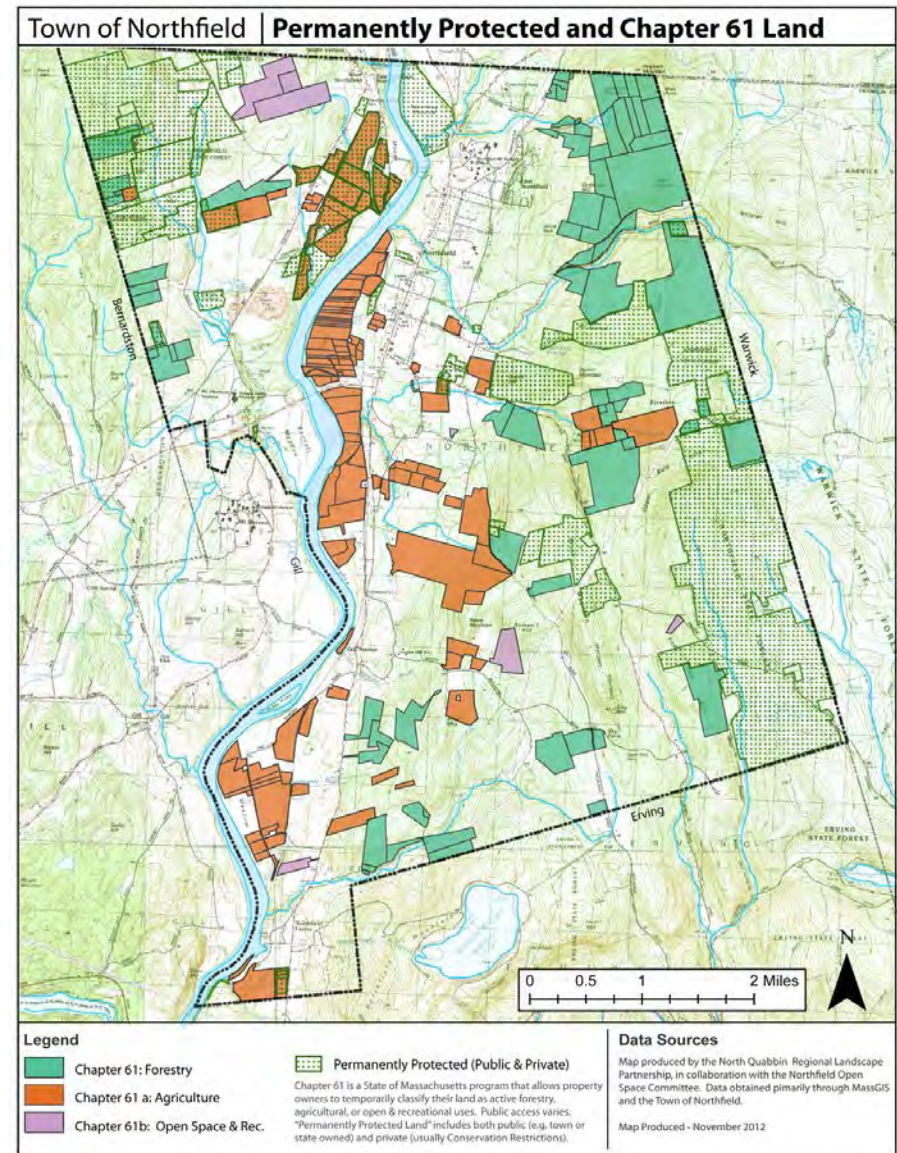
The term “natural resource” describes the biological and physical components of an ecosystem that people depend on for their existence and for some, their livelihood. These components are air, surface and ground water, soil nutrients, vegetation, fisheries, and wildlife. Recreational facilities can include open space, parks, and developed areas like tennis courts and swimming pools. Master plans and open space plans typically identify areas of undeveloped land that contain natural and recreational resources that are valued by the residents and prioritize them for protection. See also the discussion and recommendations of the State’s BioMap2 project to identify critical natural areas for future protection on page xx.

Open space can be protected from future development in several ways that differ in the level of legal protection they provide, the method by which they are protected, and by the type of landowner. When land is considered “protected”, it is intended to remain undeveloped in or in recreation se in perpetuity. This level of protection is ensured in one of two ways: ownership by a state conservation agency, a not-for-profit conservation land trust, or the local Conservation Commission, or attachment of a conservation restriction or similar legal mechanism to the deed.

There are several types of conservation restrictions. Some protect specific resources, such as wildlife habitat, or farmland. Actively farmed land with Prime soils or soils of Statewide Importance may be eligible for enrollment in the state’s Agricultural Preservation Restriction (APR) Program. The APR program purchases the development rights and attaches a restriction to the deed, which legally bars development, keeping land “permanently” available for agriculture.

The development of any parcel of land that is in the APR Program, protected with a conservation restriction, owned by a state conservation agency, or owned by a land trust¹⁸ or a town for conservation purposes would require a vote by two thirds of the State Legislature as outlined in Article 97 of the Amendments to the Massachusetts State Constitution. This “protection” conveyed by Article 97 does have its limits. The state legislature has frequently voted to release this protection at the request of local communities, so that conservation land can be used for schools, roads, economic development, or other public projects not related to resource protection.

Parcels enrolled in Massachusetts Chapter 61 tax abatement programs are considered “temporarily protected” from development. This program offers landowners reduced local property taxes in return for maintaining land in productive forestry, agricultural or recreational use for a period of time. These “chapter lands” provide many public benefits, from maintaining wildlife habitat and recreational open space to sustaining rural character, and local forest and farm-based economic activity. Another benefit of the Chapter 61 programs is that they offer towns the opportunity to protect the land. When a parcel that has been enrolled in one of the Chapter 61 programs is proposed for conversion to a use that would make it ineligible for the program (e.g. to be developed for residential or other use), the town is guaranteed a 120-day waiting period during which it can exercise its right of first refusal to



¹⁸ The Mount Grace Land Trust has worked closely with Northfield to protect several parcels in town.

purchase the property. Many residents of Northfield understand the need for protecting open space.

Northfield has more than 4,005.6 acres of permanently protected open space and recreation land. Forty one percent of Northfield is some form of protected open space. The table below shows the ownership and status of this land¹⁹.

Owner	Acres	Percent
Permanent Protection		
Northfield Conservation Commission	206.5	0.9
DCR (State)	2,098.6	9.3
DFW (State)	883.9	3.9
APR Land (private)	430.7	1.9
Conservation Restrictions (private)	385.9	1.8
Total Permanently Protected Land	4,005.6	17.7
Limited Protection		
Water Dist. & Mt. Herman Water Supply	431.6	1.9
Town owned land	26.8	0.2
Total Land with Limited Protection	458.4	2.0
Temporary Protection		
Farmland under Ch. 61A	2,098.5	9.3
Forest land under Ch. 61 & 61B	2,751.7	12.2
Total Land with Temporary Protection	4,850.2	21.4
Cemetery Land	22.3	0.1
Total	9,336.5	41.2

OPEN SPACE AND RECREATION PLAN

Northfield’s Open Space and Recreation Plan has just been updated. The State requires that the plan be updated every seven years in order to qualify for some forms of financial aid. The plan has the following goal and objectives for open space:

Ensure that Northfield protects farmland, forest land, scenic views, and other open space vital to sustaining the town’s historic rural character and maintaining the quality of air, water, and wildlife habitats.

1. STEWARDSHIP-Develop effective means for Northfield citizens to become engaged in the stewardship of the natural and recreational resources of the town
2. COORDINATION-Work with town committees and other organizations to achieve this open space goal.
3. FUNDING-Set aside municipal funds each year to be used as a town match to help enable landowners to protect their land through the APR and other appropriate programs.
4. CONSERVATION-Continue working to preserve areas of Northfield that are most important to protect from development.
5. MANAGEMENT-Assist the Conservation Commission in managing town-owned and town managed conservation areas and conservation restrictions held by the town.
6. WATER-Monitor the quality of surface water in Northfield and monitor the town’s sources of drinking water (surface water, groundwater, and medium to high yield aquifers).

¹⁹ Northfield Open Space and Recreation Plan 2012 Update

RECREATION

Summary of Key Points

- Northfield has a variety of recreation resources, some managed by the Recreation Commission, the School Department, Conservation Commission, the State Forest, and private recreation resources like Northfield Mountain and the golf course.
- Surveys and meeting in 2011 revealed the need for recreational swimming facilities, ice skating facilities, and playing fields for school-age baseball, softball and soccer teams.
- There are also currently no public tennis courts and only one basketball court available for recreational use. In addition, Northfield needs a preschool playground for families and caregivers during the school day when the elementary school playground is reserved for elementary school children.
- Though Northfield has extensive frontage on both sides of the Connecticut River, there currently are no riverbank trails. There is considerable interest in developing such trails, and should that happen these would be convenient for almost all residents of the town.

Increasingly we are finding that our wellbeing and health are linked to our recreation resources. ***In Northfield those resources include facilities managed by the Recreation Commission, the School Department, the State Forest, Conservation Commission, and private recreation resources like Northfield Mountain and the golf course.***

TOWN-OWNED RECREATION LAND

There are a number of recreation facilities in Northfield that are town-owned and are currently available for recreational use.

Northfield Elementary School – 2.9 acres

Located in the center of the Northfield Elementary School includes a playground and sports field complex including:

- a larger paved area with picnic tables and a basketball net,
- 2 play structures, one for younger and one for older children
- 2 swing sets,
- 2 climbing structure

In addition, the playground includes a sandbox, one half of a soccer field, and a poorly maintained baseball diamond. The viewing area for spectators is located down slope from the parking lot at the rear of the school. The fields have some drainage problems.

Senior Center Recreation Area – 1.5 acres

Located in conjunction with the Senior Center at the Town Hall this site includes a covered pavilion, horseshoe pitch, and raised beds for gardening.

Bush Mountain Conservation Area – 46 acres

Located on Gulf Road this conservation area protects forest land and has hiking trails. It is on the New England Trail. It was permanently protected in 2005 with help from the Mount Grace Land Conservation Trust.

Town Forest – 150 acres

Adjacent to Brush Mountain on Gulf Road this site also includes trails.

King Phillip Hill – 14 acres

This site is located off Old Bernardston Rd. near Rte. 10, west of the Connecticut River. An historical marker is located at the base of the hill describing how King Phillip and other Native Americans used the hill as a defensive position in the 1600s. The hill is very steep and has a steep trail that accesses its top.

Many other town-owned sites also have recreational value for hiking, nature study, bird watching, snowshoeing, cross-country skiing, fishing, and hunting.

STATE OWNED LAND

The Massachusetts Department of Conservation and Recreation, Division of State Parks and Recreation manages approximately 2,083 acres and the Department of Fish and Wildlife (DFW) manages approximately 884 acres. This land is also available for hiking, nature study, bird watching, snowshoeing, cross-country skiing, fishing, and hunting. These areas are permanently protected. The state owns and manages the following:

Pauchaug Boat Ramp – part of the 150 acre Pauchaug Meadow Wildlife Management Area (DFW)

The boat access area to the Connecticut River includes a paved parking area and ramp. The boat ramp can accommodate canoes, fishing boats, recreational motorboats. It is part of the Connecticut river Greenway State Park.

Connecticut River Greenway State Park – 32 acres

In addition to the Boat Ramp, the Connecticut River Greenway State Park includes this undeveloped, forested site on the River at the boundary with Erving.

REGIONAL SCHOOL LAND

Pioneer Valley Regional School – 24.76 acres

The 87-acre School site includes 2 baseball fields, 2 softball fields, a track, a football, a soccer field, 2 multi-purpose field, and a gymnasium. The area is considered to have limited protection. The recreation uses some of these fields on a pay-for-use basis.

PRIVATE RECREATION LAND

There are a number of recreation facilities in Northfield that are privately owned and unprotected that are currently available for recreational use.

West Northfield Playground – 4.8 acres

This site is owned by a non-profit association and includes a general playground; sports field; a picnic area; and a pavilion.

Northfield Mountain Recreation Area – 287 acres

Located in the southern portion of Northfield, along the town's border with the Town of Erving, approximately 287 acres of the Northfield Mountain Recreation Area are within the Town of Northfield, with the remainder located in the Town of Erving. The Northfield Mountain Recreation Area offers cross-country skiing,

snowshoeing, mountain biking, horseback riding, and recreational and environmental programs.

Riverview Picnic Area – 15 acres

The Riverview Picnic Area, a part of the Northfield Mountain Recreation Area and is located on the Connecticut River. Riverview offers picnicking and river access. It is also the dock for the 45-foot Quinnetukut II riverboat that does tours of the River.

Munns Ferry Camping Area – 2 acres

Munns Ferry is a camping area on the Connecticut River accessible by boat only. It is also a part of the Northfield Mountain Recreation Area and is comprised of approximately 2 acres.

Kidd Island – 12 acres

Kidd Island is leased to the Franklin County Boat Club and is used by its members for camping and picnicking.

Camp Northfield – 21.5 acres

This site is a Baptist summer camp with cabins, tent cabins, a lodge, a chapel, ropes course, and activity field.

Northfield Mount Hermon – 2,028 acres of upland and 95 acres of wetlands

Residents value the undeveloped land in town owned by Northfield Mount Hermon even as its future owner is unknown. Much of this forestland is highly valued as areas for hiking, nature study, and other recreational activities. The school owns 138 parcels totaling 2,028.4 acres, most of which is located in East Northfield, north of Warwick Road. NMH also owns about 95 acres of significant wetlands in the center of town and bordered by Main St, School St,

and Birnam Rd. This area is an important birding site and includes a nature trail.

Northfield Golf Course – 51.6 acres

Northfield Mount Herman land includes a 9-hole golf course that is open for “semi-public use”.

NMH Tennis Courts– 4.3 acres

Northfield Mount Herman land includes two tennis courts at the corner of Pine Street and Highland Ave and seven more in the campus complex.

NMH Athletic Fields – 12.4 acres

Northfield Mount Herman land includes two large fields on Pierson Road that are used by the Recreation Commission.

Kidd Island – 12 acres

Kidd Island is leased to the Franklin County Boat Club and is used by its members for camping and picnicking.

Kiwanis Park – 6.25 acres

The park, at 223 School St., currently has horseshoe pits, space for volleyball and badminton nets, and a large grill, kitchen, bathrooms and plenty of covered seating. During the park’s season, it’s available to Northfield individuals and groups for \$100 per day, and \$150 for out-of-towners. A new playground was installed this spring and a performance stage and storage shed are planned in the coming year.

There are also five privately owned parcels in the Chapter 61B Open Space and Recreation program. These parcels do not have to allow public access.

RECREATION COMMISSION

The Northfield Recreation Commission has the mandate and wants to provide programs for all of the residents, but it lacks a single facility that can be used by all. They do provide a number of programs, primarily focusing on elementary school age children: They currently offer the following programs:

- Soccer for approximately 70 kids at the Elementary School in the fall;
- Basketball for approximately 80 kids also at the Elementary School in the winter;
- Baseball and softball for approximately 100 kids in a Tri-state league. The softball team uses the Regional High School field for a fee, and the baseball teams use the Elementary School field.
- Very popular Summer Day camp for a capacity of 100 kids at a variety of sites; and
- A variety of other events throughout the year including river tubing and college sports events.

RECREATION NEEDS

The Open Space and Recreation update committee conducted a recreation survey that was mailed to 1,391 households and held a public forum to seek the needs of residents for future recreation facilities in 2011. The respondents to the Community Survey, the

attendees at a Community Forum, and subcommittee meetings with the Northfield Recreation Commission ***expressed the desire for recreational swimming facilities, ice skating facilities, and playing fields for school-age baseball, softball and soccer teams. There are also currently no public tennis courts and only one basketball court available for recreational use. In addition, Northfield needs a preschool playground for families and caregivers during the school day when the elementary school playground is reserved for elementary school children.*** This all suggests that these needs and desires could be met by developing a community park that provides these facilities in an efficient, coordinated manner. The Town will need to identify a suitable piece of land, determine the feasibility of developing a community park, build community support, and identify sources of funding.

Though Northfield has extensive frontage on both sides of the Connecticut River, there currently are no riverbank trails. There is considerable interest in developing such trails, and should that happen these would be convenient for almost all residents of the town.

REGIONAL RECREATION NEEDS

The Massachusetts Statewide Comprehensive Outdoor Recreation Plan, Massachusetts Outdoors 2006, places the highest priority needs for new recreation facilities for residents of the Connecticut Valley region on road biking (14.5%), walking (13.9%), swimming (13.8%), playground (11.3%), hiking (10.0%), and mountain biking (10.3%). A middle tier of priorities includes golfing (8.2%), tennis, picnicking and fishing (5.5%), and camping (5.3%). These facilities

needs are converted into “Inferred” resource area needs, i.e. those natural or developed areas that can supply, and are conducive to, the desired recreation activities. Highest among these for the Connecticut Valley Region are rivers and streams, then parks and golf courses, then agricultural lands, followed by trails and greenways, and finally lakes and ponds. Note also that the regional needs for hiking, mountain biking (10.3%), and cross-country skiing (4.1%) rank higher than in any other region. The “needs assessment” was based on a 1995 telephone survey of 1,434 randomly selected households.

See the Transportation Section for a discussion of bicycle trails and resources in the region.

2012 OPEN SPACE AND RECREATION PLAN

The plan has the following goal and objectives for recreation:

Ensure that Northfield maintains and improves the variety, quality, and accessibility of recreational facilities important in the twenty-first century for health and wellbeing of all residents, and promote the use of these facilities and any organized programming thereof.

1. COORDINATION-Work collaboratively with town boards, committees and community organizations to achieve the Recreation Goal.
2. COMMUNITY PARK-***Create a Northfield recreation area that includes playing fields, tennis courts, swimming, playgrounds, ice skating, and other activities for all ages.***

3. TRAILS-Promote the use of new and existing trails in Northfield, and develop and/or improve trail systems throughout the town.
4. RECREATION ACCESS TO THE CONNECTCUT RIVER-Increase the number of public access points on the Connecticut River, including boat and paddling launching areas.

OPEN SPACE AND RECREATION FUTURE OPPORTUNITIES AND NEEDS

Below is a listing of the types of needs that have been identified. Other needs may emerge as we proceed with the master plan.

- Carefully control development on ridges (to protect views) and steep slopes (to avoid erosion)
- Continue to support and encourage the preservation of prime agricultural soils
- Continue efforts to protect the water supply and surface water quality
- Continuing efforts to protect wildlife habitat – especially BioMap 2 Core Habitats and Critical Natural Landscapes
- Creating “corridors” to connect already protected lands
- Continuing efforts to develop trails and encourage their use
- There is considerable opportunity for carefully controlled passive recreational use (hiking, nature study) of some protected lands
- There may be an opportunity to have more coordination and sharing of facilities between the Recreation

Commission and School Department (e.g. using school spaces for some recreation programs)

- Renovation of and on-going maintenance of existing recreation facilities is and will be a continuing need

SOURCES

Northfield 2012 Open Space and Recreation Plan

Note: The majority of the information in this section came from this recent plan. Footnotes came directly from the Open Space and Recreation Plan unless shown in bold letters.

Massachusetts Geographic Information System (MassGIS)

Northfield Assessors data

NORTHFIELD MASTER PLAN INVENTORY: LAND USE AND ZONING

Land use is a result of historic patterns of development, physical constraints like steep slopes and waterways, land ownership, public investments (like utility lines and public facilities), and zoning. A town's primary two means of controlling types of development and their locations are regulations like zoning and public investments like sewer and water lines. This section describes land use in Northfield as it has developed and currently exists. The master plan will make recommendations that will help guide land use in the future.

NORTHFIELD'S LAND USE IN HISTORY

Additional information on Northfield's history may be found in the inventory of its Historic and Cultural Resources. Northfield's lowlands, proximity to the Connecticut River, and its streams and forests, all helped shape the history of the town. Its native communities took advantage of the large tracts of agricultural lands along the Connecticut River, fished its tributaries and hunted in the town's lowlands and forests.

The first Colonial settlers came to Northfield ca. 1673 and inhabited the southernmost portion of Main Street. This site was selected as the first settlement as the land had already been cleared and cultivated by its former inhabitants. Permanent settlement, however, was made difficult until the end of the Indian Wars in the mid-1700s, due to the invasions by the native population.

Throughout the 1700s, farming, consisting of crops and livestock, was the town's economic base. Industrial development, in the form of sawmills and gristmills, did occur, but on a smaller scale than neighboring towns, as Northfield does not have the necessary waterpower. Roadways were constructed to help in the supply of goods and services.

The 1800s saw the farms of Northfield expand and prosper. In the early part of the century, the Connecticut River provided a means for the trading of goods. In the mid-1800s, the railroad came to Northfield connecting the town to the greater regional area. The rail line connected Northfield to Millers Falls on the eastern side of the Connecticut River. A primary rail route was also constructed on the western side of the river, connecting Northfield to Vernon, Vermont. This more easily enabled the trade of farm crops and encouraged the growth of commercial farming. It also encouraged the development of canning and pickling factories, and the creation of the Northfield campus' Northfield Cooperative Creamery. In 1879 Dwight L. Moody founded the Northfield Seminary for Young Ladies; in 1881 he founded its male counterpart, the Mount Hermon School for Boys, located in the town of Gill. These schools subsequently influenced the character of Northfield. The Town of Northfield now also enjoyed a reputation as a "school town". Residential development in Northfield continued along Main Street, but now also spread to the outlying area of Northfield Farms and across the Connecticut River to West Northfield. Northfield's

population grew significantly between 1790 and 1830, from 868 to 1,757 residents and fluctuated little until after 1870, when the population began a decline. Attributed to the founding of Dwight Moody's schools, the population of Northfield once again began to climb in 1885.

By the early 1900s the Town of Northfield saw the loss of most of its mills and shops to the more urban towns of Greenfield, Brattleboro, Vermont and Keene, New Hampshire. Adding to the erosion of the town's commercial and industrial base, farming also began a serious decline. Small dairy farms were consolidated into larger commercial ones. This contributed to a decrease in population between 1900 and 1910 of 16.5 percent from 1,966 people to 1,642. However, apart from a decrease in population of 9 percent in the 1970s, Northfield grew steadily between 1910 and 2000, to almost three thousand residents.

Like many towns in New England, the automobile greatly contributed to the ability of residents to live in Northfield and work elsewhere. Almost 75 percent of residents over the age of 16 currently work outside town. Given Northfield's proximity to Interstate 91 and State Route 2, many Northfield residents leave town to work in other communities in Franklin County, in other regions of the state or in the neighboring states of Vermont and New Hampshire.

Important historic resources in Northfield include:

- Main Street National Historic District (National Register of Historic Places)

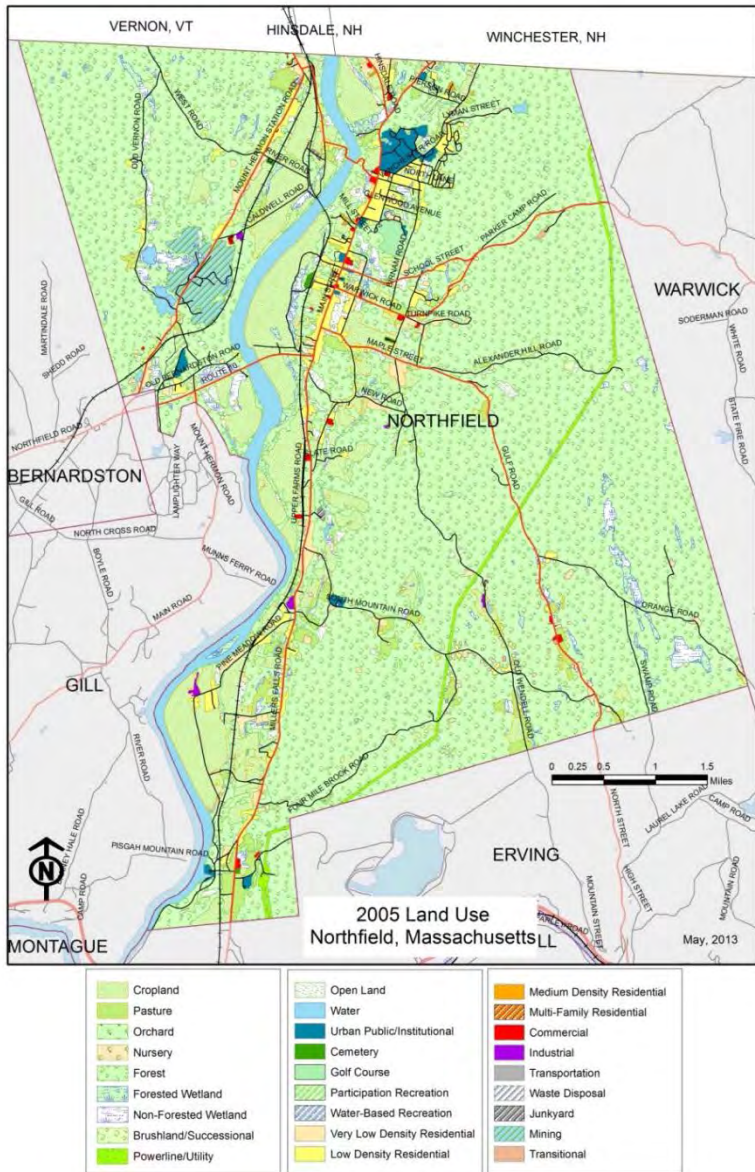
- Simeon Alexander House (Millers Falls Road);
- Northfield District Schoolhouse #2 (Pine Street);
- Historic buildings along Millers Falls Road and Warwick Road;
- Various buildings and landscapes on the Northfield Mount Hermon Campus;
- Rustic Ridge Houses;
- The Beehive, the address of the first American Youth Hostel;
- Historic cemeteries;
- Ferry sites;
- Historic bridges;
- The working farms of Northfield; and,

EXISTING LAND USE

Summary of Key Points

- 78.7% of Northfield is open land, agriculture, wetlands, or forest.
- Of the remaining 4,821 developed acres, 58.8% is agricultural, 24.0% is residential, 0.9% is commercial, 0.4% is industrial, and 2.5% is recreation and golf course. Other recreation land and activity is associated with schools (institutional). Other developed land (institutional, waste disposal, junkyards, and mining) makes up the remaining 15.4%.

Existing land uses in Northfield reflect the historic development of the town and the underlying zoning. Massachusetts Geographic Information System (MassGIS) prepared an interpretation of land use based on 2005 air photos.



The table and map show land uses in Northfield.

2005 Land Use	Acres	Percent
Agriculture (Cropland, Pasture, Orchard, & Nursery)	2,834.4	12.6%
Forest	16,066.59	71.0%
Forested Wetland	306.9	1.4%
Non-forested Wetland	435.7	1.9%
Open Land, Brushland, Transitional, and Utility ROW	428.4	1.9%
Recreation	67.7	0.3%
Golf Course	51.6	0.2%
Multi-family Residential	1.4	0.0%
Medium Density Residential	11.6	0.1%
Low Density Residential	720.6	3.2%
Very Low Density Residential	423.0	1.9%
Commercial	43.4	0.2%
Industrial	17.7	0.1%
Urban Public/Institutional	147.5	0.7%
Transportation	59.4	0.3%
Waste Disposal and Junkyard	13.3	0.1%
Cemetery	11.5	0.1%
Mining	244.8	1.1%
Water	746.2	3.3%
Total	22,634.0	100.0%

Source: MassGIS

Undeveloped land (forests, wetlands, agriculture, open land) and water make up 78.7 of the total area. Of the remaining 4,821 developed acres, 58.8% is agricultural, 24.0% is residential, 0.9% is commercial, 0.4% is industrial, and 2.5% is recreation and golf course. Other recreation land and activity is associated with

schools (institutional). Other developed land (institutional, waste disposal, junkyards, and mining) makes up the remaining 15.4%.

EXISTING ZONING

Summary of Key Points

- The Town of Northfield currently has two principal zoning districts: Residential-Agricultural (RA) and Residential-Agricultural-Forested (RAF) and three overlay districts: the Floodplain District, the Water Supply Protection District, and the Solar Photovoltaic Overlay District
- The town has a flexible development measure that includes provisions for multiple family dwellings and by-right Open Space Residential Design which allows smaller lot sizes in exchange for at least 50% of the land being set aside for open space
- The uses allowed by special permit in the two districts include both small commercial uses, such as a gift shop or professional office, and large industrial uses, such as manufacturing or a transportation facility
- Both districts allow single-family homes and two-family dwellings by right and allow, by special permit, for the conversion of a single-family or two-family dwelling to a three to four-family dwelling

Zoning and history are major determinants of Northfield's land use. The concept behind zoning, begun in New York City in 1916, was to insure that land uses are properly situated in relation to each other, with adequate space for each type of use. Under provisions of

zoning, new growth is directed into specific locations, and existing properties are protected by requiring the provision of adequate light, air, and privacy for people living and working within the community. Zoning controls the minimum size of a lot, the maximum area of a lot that may be built upon, the height and bulk of structures, and the type of uses within each delineated district.

Before zoning it was customary to have mixed uses, with commercial on the ground floor and offices or even apartments on the upper floors. This assured compact development and short walking distances between living and working areas. The advent of the automobile and single-use zoning began the trend to segregate uses and increase distances between residential areas and work. Now there is a trend to again encourage more mixed uses as a means of fostering more sustainable development.

The following is from the 2012 Open Space and Recreation Plan Update.

The Town of Northfield currently has two principal zoning districts: Residential-Agricultural (RA) and Residential-Agricultural-Forested (RAF). The Town also has three overlay districts: the Flood Plain District, the Water Supply Protection District which restricts uses in the overlay areas to protect these important resources, and the solar photovoltaic overlay district which provides by-right solar installations as required by the Green Communities Act. In addition, the town has a flexible development measure that includes provisions for multiple family dwellings¹ and by-right

¹ Northfield Zoning Bylaws, section 9.01

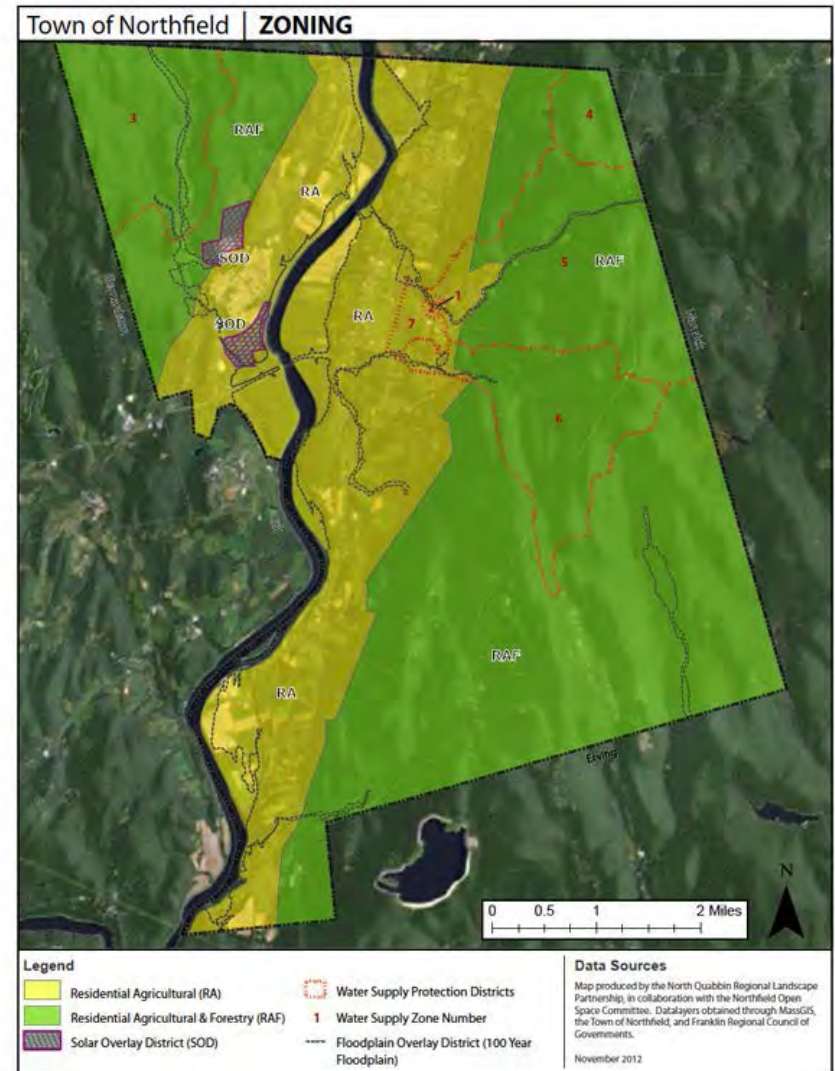
Open Space Residential Design² which allows smaller lot sizes in exchange for at least 50% of the land being set aside for open space. The uses allowed in the RA and RAF districts by right and by special permit are identical. The primary difference between the two districts is the minimum allowed lot size and frontage, with the RAF district being more restrictive.

The RA district runs north south along the Connecticut River (see the Zoning Map). It includes Northfield Center, Route 63, Route 142, and everything in-between. The RAF includes the sections of Town away from the Connecticut River that have steeper slopes and less development.

Both the RA and RAF districts allow the following uses by right: single-family dwellings, two-family dwellings, day care facilities for six or less children or adults, agriculture, forestry, religious uses, education uses, and home businesses with no more than one full-time employee. Most other commercial and industrial uses are allowed in both the RA and RAF districts by special permit. **The uses allowed by special permit include both small commercial uses, such as a gift shop or professional office, and large industrial uses, such as manufacturing or a transportation facility** (quoted from the Northfield Zoning Bylaws).

Both districts allow single-family homes and two-family dwellings by right (Northfield Zoning Bylaws, Section 6.02). They also allow, by special permit, for the conversion of a single-family or two-family dwelling to a three to four-family dwelling (Northfield

² Northfield Zoning Bylaws, Section 11.07



Northfield Zoning District Dimensional Requirements

Zoning District	Minimum Lot Size	Minimum Frontage	Minimum Depth	Front Yard Setback	Side Yard Setback
Residential-Agricultural (RA) – not served by sewer	50,000 sq. ft.	150 ft	200 ft.	25 ft.	25 ft.
Residential Agricultural Forested (RAF)	100,000 sq. ft.	300 ft.	250 ft.	25 ft.	25 ft.
RA Lots Served by Municipal Sewer	15,000 sq. ft.	150 ft.	200 ft.	25 ft.	25 ft.

Zoning Bylaws, Section 6.02). All residential development must adhere to the Town’s requirements for setbacks and lot sizes.

Residential development allowed only by special permit must also meet additional requirements as specified in Articles VIII and IX of the Northfield Zoning Bylaws. Northfield’s Zoning Bylaws offer flexibility for future housing development. They permit the construction of new single family and two-family structures by right, and also provide a process for the building of multi-family units and other alternative residential units.

OVERLAY DISTRICTS: FLOOD PLAIN, WATER SUPPLY PROTECTION, SOLAR PHOTOVOLTAIC

There are three overlay districts: Flood Plain Overlay District, the Water Supply Protection Overlay District and the Solar Photovoltaic Overlay District. The overall purpose of the Floodplain Overlay District is to decrease the impacts that can be associated with flooding including disruption of utility networks, pollution or contamination of surface and ground waters, loss of life and property, and the costs of response and cleanup. All development

within the overlay district is prohibited unless plans can be shown by a registered professional engineer or architect that they will not result in any increase in flood levels during a 100-year flood.

The Water Supply Protection Overlay District allows no new uses within the Zone 1 Wellhead Protection Area. Within Zones 2-7, uses are prohibited that involve hazardous wastes and materials, waste disposal and storage, trucking, transportation, and other business uses that involve degreasers and petroleum products, commercial and industrial uses that treat process wastewater using on-site systems, commercial mining of land, underground fuel storage, and uses covering more than 25 percent of any given lot with impervious surfaces that has an average slope of less than 25 percent, and, more than 15 percent of any given lot with an average slope of greater than 25 percent.

The Solar Photovoltaic Overlay District allows large-scale ground-mounted photovoltaic solar installations to be constructed by-right on up to five acres, as required by the Massachusetts Green Communities Act.

OPEN SPACE RESIDENTIAL DESIGN

The Open Space Residential Design measure allows for the by-right development (after site plan review by the Planning Board) of parcels no less than 10 acres in size, in a manner that results in a reduction in frontage and minimum lot size requirements and the conveyance of at least 50 percent of the lot, excluding wetlands, to a home association to be used as common open space. Additional incentives include allowing increased housing density in return for (a) more reserved open space and/or (b) providing grid-connected photovoltaic solar generation facilities on each unit. This provision has recently replaced an older, similar, provision that required a special permit and did not have the more-open-space and solar incentives.

PAST ATTEMPTS TO CREATE A VILLAGE DISTRICT

Funded by a Smart Growth Technical Assistance Grant, the Town proposed creating a two village center zoning districts. Within the districts, certain businesses would be allowed by right as long as they met performance standards designed to help minimize potentially negative impacts on nearby properties and help preserve the Town's historic and scenic character. The May 2012 Town Meeting did not adopt the proposed districts and they will be revised to reflect the goals of the master plan and proposed at a future Town Meeting.

SOURCES

Northfield 2012 Open Space and Recreation Plan

Note: The majority of the information in this section came from this recent plan. Footnotes came directly from the Open Space and Recreation Plan unless shown in bold letters.

Massachusetts Geographic Information System (MassGIS)

Northfield Assessors data

Northfield Planning Board website

NORTHFIELD MASTER PLAN INVENTORY: POPULATION, HOUSEHOLDS AND HOUSING

INTRODUCTION

This chapter deals with Northfield’s people, their characteristics, the households they form, where they live and the way they are housed. The topics of income, type of households and type and age and cost of housing are covered. Past trends in some of these topics are covered as are expected growth in them. Population and its related topics and components have been growing very slowly. If current trends continue future slow growth is expected. If, however, the Northfield Campus of the Mount Hermon School is occupied by a substantial number of adult residents; population, housing, household and economic growth will change rapidly. This chapter documents the current situation where the campus is vacant. Projections are based on no large influx of adult population on the campus in the future.

POPULATION

Summary of Key Points

- Population has grown very slowly (less than 0.5% per year).
- Continued slow growth is expected.
- The population is aging and is expected to continue to age.
- By 2030 21% of the population is expected to be 65 years of age or older (up from 15% in 2010).
- The population is relatively well educated. More than 70% of those over age 25 have some college education.
- 97% of the population is white.

TOTAL POPULATION CHANGE

Table 1 shows population change in Northfield over the last 20 years and forecast 20 years into the future. Forecasts are taken from the 2012 Transportation Plan for Franklin County, prepared by the Franklin Regional Council of Governments.

Table 1
Total Northfield Population Change: Past and Future

<u>1990</u>	<u>2000</u>	<u>2010</u>	<u>2020</u>	<u>2030</u>	<u>% Change 1990 - 2030</u>
2838	2951	3032	3160	3240	14%

Source: Franklin Regional Council of Governments 2012 Transportation Plan, Appendix C

The forecasts are used for a variety of planning purposes including transportation planning. They take into account local, regional and national economic and demographic factors.

Table 2
Northfield Life Cycle Groups: Past and Future

<u>Age and Life Cycle</u>	<u>2010</u>	<u>2020</u>	<u>2030</u>	<u>% Change 2010 - 2030</u>
0-14: Early School Age	562	602	627	12%
15-24: Late School Age and Early Adult	324	365	364	12%
25-34: Family Formation	225	298	261	16%
35-64: Family Rearing and Empty Nester	1473	1363	1315	-11%
65+: Retirement	448	532	673	50%
Total Population	3032	3160	3240	7%

Source: Franklin Regional Council of Governments 2012 Transportation Plan, Appendix C

A change of 14% over the 40 year period amounts to less than one-half percent per year, which is very slow growth. In 2010 the average age of Northfield’s population was 44.8 years, up from 40.0 years in 2000. Average age is expected to further increase in the future as the population ages, as shown in Table 2.

NORTHFIELD MASTER PLAN INVENTORY: POPULATION, HOUSEHOLDS AND HOUSING

Examining the data by life cycle age groups, as shown on Table 2 reveals that there will be very substantial growth in the elderly population (50% by 2030) and modest growth in school age children. The increase in school age children results from the increase in the family formation life cycle group. This also accounts for the growth in the late school age and early adult group, despite the fact that some young adults leave Northfield to attend higher education schools elsewhere, or to move elsewhere in search of economic opportunities as they become adults. This is a common phenomenon in rural communities. Young people move to communities that have more jobs and appropriate housing. Some of the modest decline in the family rearing and empty nester group can be accounted for by smaller numbers of people moving up to this category from lower age groups over the 20 year forecast period, but most of the decline is probably empty nesters moving out of town when they no longer need the large houses they had to rear children. This decline could be diminished by having more, smaller one and two bedroom homes available in Northfield.

POPULATION COMPOSITION

Table 3 shows the ethnic makeup of Northfield. The population is very predominately white and non-Latino. Afro-Americans, east and south Asians and other and mixed races make up only 2.8% of the population. There were 56 Latinos in 2010. Latino is an ethnic classification, not a racial one. Latinos can be of any race. The other categories shown are racial classifications.

Table 3
Ethnic Composition of Northfield’s Population

Racial/Ethnic Category	Number	%
White	2,944	97.1
Black or African American	13	0.4
American Indian and Alaska Native	6	0.2
South Asian	0	0
East Asian	9	0.3
Native Hawaiian and Other Pacific Islander	0	0.0
Other or Mixed Race	60	1.9
Hispanic or Latino (of any race)	56	1.8

Source: 2010 U. S. Census of Population

EDUCATIONAL ATTAINMENT

Table 4 shows educational attainment of Northfield’s population over age 25 for the census years of 2000 and 2010. The decline in high school and less than high school education is balanced by increases in associates and full four year college degrees. Northfield’s population is well educated with over 70% of the population over age 25 having some college education.

Northfield has a higher level of educational attainment than Franklin County as a whole. This fact is reflected in the town’s labor force characteristics and income levels (reported in the Economic Development Inventory).

NORTHFIELD MASTER PLAN INVENTORY: POPULATION, HOUSEHOLDS AND HOUSING

Table 4
Educational Attainment of Northfield’s Population: 2000 and 2010

Year	2000	2010	Franklin County 2010
Population 25 years and over	1,992	2,240	51,302
	%	%	%
Less than High School	6.7	4.2	8.8
High School Graduate	30.7	24.2	29.6
Some College, no Degree	21.1	21.7	19.3
Associates College Degree	10.7	12.8	10.0
Bachelor’s Degree	15.8	22.0	18.3
Graduate or Professional Degree	15.0	15.1	14.0

Source: U.S. Census of Population 2000 and American Community Survey, 2010

Table 5
Mobility of Northfield’s Population

RESIDENCE 1 YEAR AGO	Northfield		Franklin County	Massachusetts	United States
Population 1 year and over	3,019		70,684	6,515,057	307,900,319
Same house	2,672	88.5%	86.3%	86.9%	84.8%
Different house in the U.S.	332	11.0%	12.9%	12.2%	14.6%
Same county	266	8.8%	6.6%	7.4%	9.2%
Different county	66	2.2%	6.2%	4.8%	5.4%
Same state	36	1.2%	3.5%	2.7%	3.1%
Different state	30	1.0%	2.7%	2.1%	2.3%
Abroad	15	0.5%	0.8%	0.9%	0.6%

Source: 2011 American Community Survey

MOBILITY

Table 5 shows where Northfield residents lived one year before 2011, the date of the American Community Survey prepared estimates for the town. 88.5 % of the population lived in the same house in 2010. This is slightly higher than the similar figure for Franklin County and for Massachusetts as a whole. All three jurisdictions exhibit less mobility than the U. S. as a whole, where almost 15% of the population lived in a different house in 2011 than they did in 2010. Lesser mobility, like Northfield has is an indication that the housing market is not very strong (fewer sales). It is also an indication that the community is very stable, as further indicated by its home ownership level (79.4% in 2010). Another indicator of stability is shown on Table 13 where 80.5% of the households moved into their homes before 2005.

HOUSEHOLDS

Summary of Key Points

- Households are decreasing in size (a 3.2% decline from 2000 to 2010).
- The largest growth is in non-family households (8.7% from 2000 to 2010).
- Households headed by persons age 65 or over increased by 6.7% from 2000 to 2010.
- 100 to 200 more households are expected by 2030, resulting in a need for 100 to 200 more housing units.
- It is likely that households will continue to decrease, given current demographic trends.
- Decreasing household size will lead to the larger number of housing units needed (200).

NORTHFIELD MASTER PLAN INVENTORY: POPULATION, HOUSEHOLDS AND HOUSING

Table 6
Household Types: 2000 - 2010

Household Change: 2000 to 2010	2000	2010	% Change
Total households	1,158	1,226	5.9
Family households (families)	815	853	4.7
With own children under 18 years	395	350	-11.4
Husband-wife family	665	692	4.1
With own children under 18 years	302	265	-13.2
Female householder, no husband present	105	106	1.0
With own children under 18 years	65	61	-6.2
Nonfamily households	343	373	8.7
Householder living alone	292	302	3.4
Householder 65 years and over	119	127	6.7
Households with individuals under 18 years	419	375	-10.5
Households with individuals 65 years and over	288	330	14.6
Average household size	2.53	2.45	-3.2
Average family size	3.04	2.90	-4.6

Source: 2000 and 2010 U. S. Census of Population

Table 6 shows the number and types of households in Northfield in 2000 and 2010. Total households grew faster (5.9%) than total population (2.7) which is associated with a decrease in average household size over the 10 year period. The largest increase in types of households is in non-family households (8.7%). Two additional indicators of the aging of the population are that householders (heads of households) 65 years of age and over, grew by 6.7%, and the number of people 65 years and over living in any households grew by 14.6%. Households translate directly into housing demand and the increase in non-family households and households headed by people 65 and over indicates a need for smaller homes (fewer bedrooms). This is also reflected in the decrease in the numbers of households that have children under age 18.

Population projections for Northfield are shown on Tables 1 and 2. These are projections the Franklin Regional Council of Governments (FRCOG) uses in its planning work. Northfield is expected to continue to grow in population at a very modest rate, as it has in the past. However, as mentioned, if a major new school or other institution locates on the former Northfield campus of the Mount Hermon School, population of the town could increase very substantially. Assuming this does not happen, and that Northfield continues to grow in population at past rates a level of 3,160 people is projected for 2020, to increase to 3,240 by 2030.

If household size remains at its current level, 2.45 people per household, a figure of 3,160 people in 2020 yields 1,290 households for that year. Similarly, a figure of 1,322 households is yielded for 2030 using the existing household level. These can be considered low levels, given the FRCOG population projections, because average household size is expected to continue to decline. If it declines at past rates it may become 2.37 by 2020 and 2.29 by 2030. This translates to household figures of 1,333 for 2020 and 1,415 for 2030. These can be considered high figures for the future. These levels translate into a demand for between 96 and 189 new housing units by 2030. The household calculation data is summarized on Table 7.

Table 7
Estimates of Future Households based on Household Size

Year	2000	2010	2020	2030
Population	2,951	3,032	3,160	3,240
Households	1,158	1,226	1,333	1,415
Pop./HH	2.53	2.45	2.37	2.29
High Household Forecast @ 2.37 and 2.29 Pop./HH			1333	1415
Low Household Forecast @ 2.45 Pop./HH*			1290	1322

Source: 2010 U.S. Census of Population

*Note: Household size is taken from U. S. Census data. It is not the same as dividing population by households because some population identified in the Census is not in households, e.g. in group quarters.

NORTHFIELD MASTER PLAN INVENTORY: POPULATION, HOUSEHOLDS AND HOUSING

HOUSING STOCK

Summary of Key Points

- Northfield’s housing stock is overwhelmingly single-family detached units.
- Housing production is very slow, reflecting slow population and household growth.
- A yearly average of 5.1 single-family building permits were issued from 2003 to 2012.
- Larger older homes are quite common. 26% of homes have 4 bedrooms or more.
- 45% of Northfield’s homes were built before 1939.
- Modest 3 bedroom homes cost an average of about \$150,000. Larger 4+ bedroom homes cost about \$300,000.
- Houses are strung out along Northfield roadways. There is almost no interior residential development in subdivisions.
- Over half of the housing stock can be considered affordable, especially for Northfield residents and also for Franklin County residents.
- There are a number of housing financial assistance programs available to potential home buyers.

Northfield had 1,391 housing units in 2010, according to the U. S. Census of Housing. 1,226 of these were occupied and of these 974 were owner occupied, and 252 were renter occupied. 165 housing units were vacant, a rate of 12% of all units. The vacancy rate is high. A rate of between 5% and 8% is normal. The high vacancy rate may be associated with the economic downturn that started in 2008. Northfield’s housing stock consists of the following types and sizes of units shown in Table 8. Note that the 2010 American Community Survey, which is the data source for size of housing unit, estimated 60 more housing units than the 2010 Census of Housing, which does not contain this more detailed information. For the 2010 Census

of Population and Housing the U.S. Census Bureau relied on statistical survey procedures to estimate many detailed categories of information reported in the American Community Survey.

Table 8
Number of Units per Housing Structure: 2010

UNITS IN STRUCTURE	Number	Percent
Total housing units	1,451	100%
1-unit, detached	1,334	91.9%
1-unit, attached	19	1.3%
2 units	47	3.2%
3 or 4 units	13	0.9%
5 to 9 units	23	1.6%
10 to 19 units	0	0.0%
20 or more units	0	0.0%
Mobile home	15	1.0%
Boat, RV, van, etc.	0	0.0%

Source: 2010 American Community Survey of the U. S. Census Bureau. This estimated data is slightly different than the 2010 Census of Housing which is a 100% count.

Northfield’s housing stock is overwhelmingly in single-family detached units. Only 83 units are in structures containing 2 or more housing units. There are 19 single-family attached units and 15 mobile homes.

Northfield’s housing stock is also characterized by large size units, as shown in Table 9. 64% of Northfield’s housing has 3 or more bedrooms. 26% has four or more bedrooms.

NORTHFIELD MASTER PLAN INVENTORY: POPULATION, HOUSEHOLDS AND HOUSING

Table 9
Number of Bedrooms in Northfield’s Housing Stock: 2010

BEDROOMS	No.	%
Total housing units	1,451	100%
No bedroom	0	0.0%
1 bedroom	94	6.5%
2 bedrooms	424	29.2%
3 bedrooms	552	38.0%
4 bedrooms	269	18.5%
5 or more bedrooms	112	7.7%

Source: 2010 American Community Survey

Number of rooms in housing units is also a measure of size. Table 10 shows that % of Northfield housing has 6 rooms or more. The median housing unit size is 6.3 rooms. 256 housing units have 9 or more rooms, which is quite large. The large older housing is one defining characteristic of Northfield.

Table 10
Number of Rooms in Northfield Housing Stock: 2010

ROOMS	No.	%
Total housing units	1,451	100%
1 room	0	0.0%
2 rooms	0	0.0%
3 rooms	47	3.2%
4 rooms	129	8.9%
5 rooms	275	19.0%
6 rooms	364	25.1%
7 rooms	287	19.8%
8 rooms	93	6.4%
9 rooms or more	256	17.6%
Median No. of rooms	6.3	

Source: 2010 American Community Survey

Age of housing and style of housing is another defining characteristic of Northfield. Table 11 shows when housing was built in town. 45% of Northfield’s homes were built before 1939 in older traditional architectural styles. There was a small building surge in the 1980’s and a lesser one in the 1990’s. Otherwise residential building activity has been very slow. A further indicator of this is the data on residential building permits, shown on Table 12.

Table 11
Age of Northfield’s Housing Stock

YEAR STRUCTURE BUILT	No.	%
Total housing units	1,451	100%
Built 2005 or later	30	2.1%
Built 2000 to 2004	81	5.6%
Built 1990 to 1999	144	9.9%
Built 1980 to 1989	272	18.7%
Built 1970 to 1979	99	6.8%
Built 1960 to 1969	52	3.6%
Built 1950 to 1959	63	4.3%
Built 1940 to 1949	58	4.0%
Built 1939 or earlier	652	44.9%

Source: 2010 American Community Survey

Building Permits have averaged about 5 per year from 2003 to 2012, according to data from the Northfield Building Commissioner’ Office. The early part of the last decade saw more residential building activity than the latter part of the decade. Very few permits were applied for and granted during the period of the economic downturn, since 2008.

NORTHFIELD MASTER PLAN INVENTORY: POPULATION, HOUSEHOLDS AND HOUSING

Table 12
New Single-Family Building Permits: 2003 – 2012

New One-Family Building	
YEAR	No. of Permits
2003	10
2004	9
2005	11
2006	6
2007	2
2008	5
2009	2
2010	2
2011	2
2012	2
Total	51

Source: Northfield

Table 13 indicates sales activity and mobility, to complement the data in Tables 5 and 14. The table lists the year householders (heads of households) moved into the housing unit they occupy. The data show a fairly even distribution by decade of residents moving into their homes. This is an indication of an active, if fairly small, housing market and a further indication of the stability of Northfield with 80.5% of residents having moved in before 2005.

HOUSING LOCATION

Homes in Northfield can be located anywhere. They are permitted in the town’s two zoning districts and the solar overlay district. Northfield has two principal zoning districts: the Residential-Agricultural (RA) District and the

Residential-Agricultural-Forested (RAF) District. Both districts allow single-family homes and two-family dwellings by right (Northfield Zoning Bylaws, Section 6.02). The zoning provisions are further identified and discussed in the inventory chapter on land use and zoning.

Table 13
Year Householder Moved into Current Home

YEARS	No.	%
Occupied housing units	1,276	100%
Moved in 2005 or later	249	19.5%
Moved in 2000 to 2004	228	17.9%
Moved in 1990 to 1999	273	21.4%
Moved in 1980 to 1989	247	19.4%
Moved in 1970 to 1979	136	10.7%
Moved in 1969 or earlier	143	11.2%

Source: 2010 American Community Survey

A look at the land use map contained in the inventory chapter on land use and zoning, shows that residences in Northfield are strung out along its roadways. There is almost no residential development back from the major roads in town. The only clustered residential development is in the northeast part of town around North Lane and Glenwood Avenue, near the Mount Hermon Northfield school campus. This is an area of older stately large homes. Location strung out along the roadways is typical of rural communities where residential development occurs via the “approval not required” (ANR) process, one, two or three lots at a time. Northfield has provisions in its zoning bylaws for cluster residential development, by means of creating subdivisions. The town also has subdivision regulations that are rarely if ever used because no subdivisions are proposed. This is unlikely to change in the future if the slow pace of residential development is maintained. There is still ample roadway frontage vacant land in town. If however, reuse of the Mount Hermon campus spurs increased residential development, subdivisions may be proposed.

NORTHFIELD MASTER PLAN INVENTORY: POPULATION, HOUSEHOLDS AND HOUSING

HOUSING MARKET

The housing market in Northfield is active but not very extensive, given the slow pace of population and economic growth. Table 14 shows the number of sales and average prices for homes in Northfield over the last decade. Sales volumes are fairly steady year to year, with a little dip in 2008, the year the national housing mortgage market virtually collapsed, causing many housing foreclosures and a drying up of housing mortgage money.

Table 14
Residential Sales and Prices: 2000 – 2009

YEAR	Number of Residential Sales	Ave. Sales Price
2000	43	\$110,000
2001	33	\$124,500
2002	48	\$135,450
2003	41	\$151,000
2004	47	\$162,500
2005	38	\$192,500
2006	35	\$215,700
2007	31	\$206,000
2008	19	\$203,500
2009	25	\$187,000
Total	360	

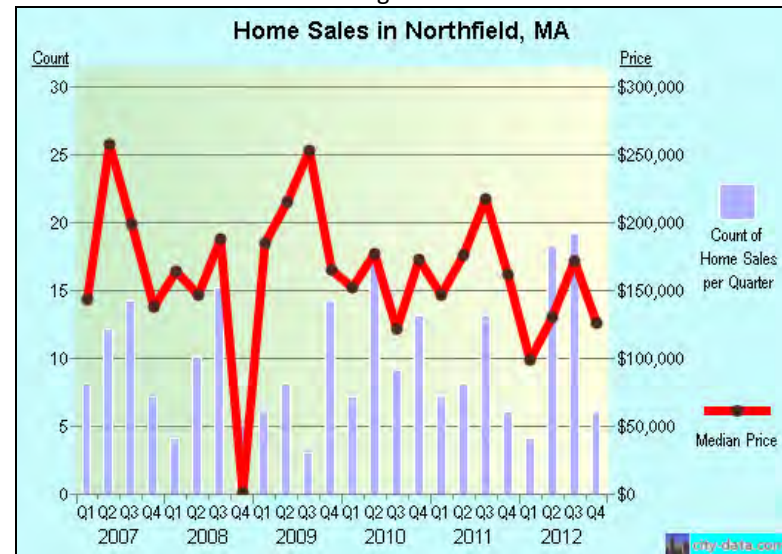
Source: The Warren Group

Current asking prices for homes are higher than those shown on Table 14. Twenty-nine homes currently on the market average \$222,144 in asking prices. A listing of seven homes sold during 2012 and the first part of 2013 shows an average sales price of \$156,071. The homes currently on the

market are mostly moderate size three bedroom homes. The recently sold homes are also moderate sized, averaging 3.75 bedrooms. The graph on the next page shows home sales and prices by quarter from 2007 to 2012. They show the same pattern of a big drop in 2008, and a modest recovery, with average selling prices now around \$150,000, which is a large difference from the average asking prices. Clearly, selling prices have not yet recovered to the 2007 pre-economic downturn level of \$250,000.

There are currently fifteen home lots listed for sale, averaging \$66,307. They are all building lots of various sizes, ranging from 1.6 acres to almost 50 acres. The lots have a variety of selling features such as streams, extensive road frontage, town water and various permits. They range in price from \$32,500 to \$110,000. There are also two large tracts of raw land and one horse farm for sale. The two raw land parcels average 188 acres in size and have an average asking price of \$612,500 for an average of \$3,258 per acre.

Figure 1



NORTHFIELD MASTER PLAN INVENTORY: POPULATION, HOUSEHOLDS AND HOUSING

Many residential properties, both with homes and vacant building lots, remain on the market for a relatively long time. The average length of time currently listed homes have been on the market is 116 days, according to Trulia Real Estate Listings (it is really higher than this because the highest number of days listed is 180+). Fourteen of the thirty single-family home listings have been on the market for more than 180 days. The market for building lots is even slower. Trulia currently lists 15 lots with an average listing time of 166 day and 13 of the lots have been listed for more than 180 days. Two of the four multi-family and large acreage parcels have been listed for more than 180 days.

The rental market in Northfield is not extensive. Table 15 shows the number and percentages of rental and owner occupied housing units in town. Table 16 shows estimated rent levels for different kinds of housing in town.

Table 15

HOUSING TENURE	Number of Units	%
Occupied housing units	1,226	100.0
Owner-occupied housing units	974	79.4
Population in owner-occupied housing units	2,468	82.2
Average household size of owner-occupied units	2.53	n.a.
Renter-occupied housing units	252	20.6
Population in renter-occupied housing units	534	17.8
Average household size of renter-occupied units	2.12	n.a.

Source: 2010 Census of Housing; n.a. means not applicable

Table 16

Average Monthly Rental Costs for Housing in Northfield

3 – 4 Bedroom Detached House	\$1,500
2 – 3 Bedroom Attached House (Duplex)	\$875 - \$900
3 Bedroom Apartment	\$800
2 Bedroom Apartment	\$600
1 Bedroom Apartment	\$550 - \$575
Studio Apartment	\$400

Source: Interview with Pam Veith, Northfield Realtor

The 2011 American Community Survey of the U. S. Census Bureau reported there were 95 households in Northfield that paid more than 35% of their income for rent. 35% is the upper limit of a normal amount to pay for rent. Paying more than this level reduces household expenditures for other needed items like food, clothing, medical care, education, insurance and transportation.

Rental units are important for allowing young people to move into town and for providing reasonably priced housing for young Northfield residents moving out of their parent’s homes and into homes of their own. It can be important also for allowing elderly residents to stay in town.

The demand for housing in Northfield is indicated by data in Table 14 that shows the numbers of residential sales by year as reported by the Warren Group, and another data set by the Trulia Real Estate Listings. Both indicators show a slow market. According to the Warren Group data in Table 14 there was an average of 36 single-family homes sold each year from 2000 to 2009. This is only 2.5% of the total housing stock of 1451 homes.

NORTHFIELD MASTER PLAN INVENTORY: POPULATION, HOUSEHOLDS AND HOUSING

HOUSING AFFORDABILITY

While Northfield has only 2.1% of its housing rated as affordable by the state in its inventory of housing that can be counted toward meeting a 10% affordability requirement in order to avoid having a “Comprehensive Permit” Chapter 40B housing development thrust on it, much more of Northfield’s housing stock can be considered affordable, using the guidelines from the U. S. Department of Housing and Urban Development, and used by the Massachusetts Department of Housing and Community Development. Housing affordability for the 40B program is determined by family (household) size and annual income. That program uses the same set of criteria as the state and federal governments use for public housing eligibility. The basic requirement is that the income of families or households does not exceed 80% of the metropolitan (region-wide) area median household income; but there are lower thresholds, 50% and 30%, for definitions of very low and extremely low income households. Table 17 shows the upper income limits by household size that governs eligibility for housing financial assistance.

According to the 2011 American Community Survey there were 300 households in Northfield that had annual incomes of less than \$35,000. This would make them eligible for subsidized housing in all household size categories under the extremely low income criteria, and for very low income housing under if they were households of only 1 or 2 people. There are an additional 200 to 250 households that could be eligible for low income subsidized housing with household size of 1, 2 and 3 people. There are only 27 units of subsidized housing in Northfield. Twenty of these are housing for the elderly in Squakeag Village. The Franklin County Housing and Redevelopment Authority has currently issued 9 Section 8 Rental Vouchers for Residents of Northfield. The waiting list for housing in Squakeag Village is 2 to 3 months for residents of Northfield, and for military veterans. There are only 2 applicants from residents on the waiting list. The waiting list for non-residents is several years. There are 55 applicants on that list.

Table 17
Annual Income Limits by Household Size for Financially Assisted Housing

Number of Persons in a Household	Extremely Low Income (30% of Regional Average)	Very Low Income (50% of Regional Average)	Low Income (80% of Regional Average)
1	\$18,100	\$30,250	\$45,500
2	\$20,700	\$34,500	\$52,000
3	\$23,300	\$38,800	\$58,500
4	\$25,850	\$43,100	\$65,000
5	\$27,950	\$46,550	\$70,200
6	\$30,000	\$50,000	\$75,400
7	\$32,100	\$53,450	\$80,600
8	\$34,150	\$56,900	\$85,800

Source: Massachusetts Department of Housing and Community Development

Housing affordability can be defined by the numbers of households that could afford to buy the average priced home in Northfield. The average recent selling price for single-family homes is \$151,071. A 30 year fixed rate mortgage at 3.75% and a 20% down payment would require an annual income of about \$24,000 with a down payment of \$30,220. 83% of the households in Northfield have annual incomes above \$25,000, as do 78% of Franklin County households. Younger households may have difficulty in saving the 20% down payment. Some banks may be willing to provide home mortgages with less than 20% down.

Also, there are first time home buyer and rural housing financial assistance programs that are available to help prospective home buyers, some of which require minimal or no down payment.

These Massachusetts programs are described on the web site of Community Resources Information, Inc. at <http://www.massresources.org/homebuyer-programs.html> . The site describes programs that help low and moderate income residents buy and repair single and multi-family homes. Programs

NORTHFIELD MASTER PLAN INVENTORY: POPULATION, HOUSEHOLDS AND HOUSING

include low interest mortgage loans, down payment and closing cost assistance, government mortgage payments, mortgage insurance, homebuyer education and lead paint removal assistance. Massachusetts rural housing assistance programs are described at <http://www.usdaloans-101.com/usda-loan-limits/massachusetts-usda-loans.html>. Some rural mortgage loans require no down payment.

SOURCES

2000 and 2010 U. S. Census of Population and Housing
2010 and 2011 American Community Survey of the U. S. Census Bureau
Trulia Real Estate Listings
The Warren Group Data Base on Housing Sales and Prices
The Northfield Building Commissioner
Interview with Pamela Veith, Local Northfield Realtor
The Franklin Regional Council of Governments 2012 Transportation Plan
The 2003 Northfield Community Development Plan
The Franklin County Housing and Redevelopment Authority

NORTHFIELD MASTER PLAN INVENTORY: ECONOMIC DEVELOPMENT

INTRODUCTION

Economic development generally refers to the sustained, concerted actions of communities to promote their standard of living and economic health. Economic development can also be referred to as the quantitative and qualitative changes in the economy. Such actions can involve multiple areas including development of human capital, critical infrastructure, regional competitiveness, environmental sustainability, social inclusion, health, safety, literacy, and other initiatives. Economic development is generally undertaken to increase local employment, income and property tax base. It starts from an assessment of local economic resources, market potentials, financial means and other forms of assistance available, and includes attainable goals that a community sets for itself.

EMPLOYMENT

Summary of Key Points

- Employment in Northfield has slowly declined over the last decade.
- Northfield’s employment base continues to be dominated by educational services, even with the sale and shut down of the Northfield Mount Hermon School campus.
- Other categories of employment show some diversity, but they are very small.
- Many of Northfield’s businesses are conducted at home.
- Building and construction and agriculture are important in the town’s economic activities.

Northfield has slowly declined in employment from a high of 1277 in 2002 to the last reported figure of 877 in the second quarter of 2012. Educational services are by far the largest single category of employment, although employment in these services have suffered a serious decline, from a high of 856 in 2003 to 533 in the second quarter of 2012. Closing of one of the Northfield Mount Hermon campus is reflected in the data shown on Table 1. All other categories of employment are very small, as evidenced by the fact that many of them are unreported to avoid disclosure of information. Data in Table 1 are from required private sector

reports to the Massachusetts Department of Training and Workforce Development. Public sector data is not reported in these tables, nor are self-employed people. According to the American Community

**Table 1
Employment Located in Northfield 2001 – 2012**

NAIC No.	Description	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012*
	Total, all industries	1,183	1,215	1,169	1,108	1,067	1,078	981	900	887	890	901	877
11	Agriculture, Forestry, Fishing & Hunting	16	14	N.R.	N.R.	N.R.	35	N.R.	N.R.	10	10	12	N.R.
23	Construction	23	26	23	21	24	16	34	20	20	22	25	29
42	Wholesale Trade	N.R.	N.R.	N.R.	N.R.	45	44	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
	Retail Trade	49	53	52	47	41	37	38	36	29	29	26	27
48-49	Transportation & Warehousing	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	38	40	N.R.	N.R.	N.R.	N.R.
52	Finance & Insurance	N.R.	N.R.	14	14	N.R.	N.R.	N.R.		N.R.	N.R.	N.R.	N.R.
54	Professional & Technical Services	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	9	13	14	17	11	12
56	Administrative & Waste Services	9	13	12	15	13	13	14	13	13	14	24	25
61	Educational Services	N.R.	N.R.	856	N.R.	763	680	664	609	606	577	585	533
81	Other Services, Except Public Administration	12	10	9	7	9	9	11	10	12	10	7	8

Source: Mass. Dept. of Training and Workforce Development ES-202 Quarterly Reports

N.R. means Not Reported

The total is greater than the sum of the reported categories because some employment is not reported by category to avoid disclosure of proprietary information.

NAIC means the North American Industrial Classification Code System

* 2012 for the 2nd Quarter only. All other for the full year.

Survey reported by the U. S. Census Bureau, there were 131 self-employed people in Northfield in 2011. Ninety-eight people were reported to work at home in 2011. Table 2 on the next page shows 49 businesses in Northfield with their owners and addresses registered with the Town Clerk. Table 4 also shows a more complete tally of businesses, most of which are home occupations.

Employment in Northfield is diverse with all major categories reporting some jobs in various years. The employment base in all categories except educational services however is very small, ranging from 8 in other services to 29 in construction. Opening of one or two businesses in most categories will show a significant percentage jump in that category’s employment. Jobs in construction and administrative and waste services have shown small increases over the 12 year period, while jobs in other categories have declined.

NORTHFIELD MASTER PLAN INVENTORY: ECONOMIC DEVELOPMENT

Table 2

List of Businesses on File with the Town Clerk			
Business Name	Last Name	First Name	Business Address
Lamb & Thyme	Godard	Lisa	593 Millers Fall Road
Pro/Casual Too	Hanley	Stephen	75 Main St
Northfield Barber Shop	Bridges	Wendy	74 C Main St
James Rourke Carpentry	Rourke Jr	James	63 Mt Hermon Station Rd
Sam Browning Trucking & Repair	Browning	Sam & Michele	637 Gulf Rd
Garden Bee Design and Landscape	Kazokas	Kristen	105 Main St
Homestead Computing Solutions	Lovelace	Gordon	518 Gulf rd
Spinoza Rod Co	Aroner	Marc	296 Birnam Rd
Wave Lengths	Steiner	Linda	194 Main St
Northfield Mountain Antiques	Harris	Raymond	1026 Millers Falls Rd
Hair by Irene	Hoisington	Irene	194 Main St
Rogers Cybernetics and Consulting	Rogers	Kevin	471 Millers Falls Rd
Centennial House	Stoia	Joan & Stephen	94 Main St
K.L.S. Bookkeeping	Shute	Kathy	29 Holly Ave
Otter Brook Consulting	McNeill	Crystal	214 Warwick Rd
Jack's General Repair	Leary Jr	John Francis	49 Orange Rd.
SLGO DESIGNS	Gregory Overstreet	Sudi-Laura	22 West Lane
Jacquie's Cleaning	Maguire	Jacquelyn	17 Main St #5
Five Point Farm	Llewlyn	William & Mary	76 Upper Farms Rd
River Valley Construction	Milotte	Kenneth	287 Birnam Rd
David Rowe Construction	Rowe	David	35 N Old Bernardston Rd
Matilda & Nunzi's Emporium	Burnor	Michelle & Robert	180 Main St
Starlight Creations	Kazokas	Kristen	105 Main Street
Frog and Fox Theater	Neids	David	PO Box 68
Dr Mikes Auto Care	Syevaka	Michael	190 Main St
KLMNC D/B/A The Notch	Crochier	Kathleen	77 Main St
Stataline Nursery	Brassor	David & Barbara	213 Winchester Road
Northfield Coffee & Books	Pontius	David	105 Main St
Joshua B Poole Plumbing & Heating	Poole	Joshua	20 Main Street
Bobbies Hair & Nail Salon	Martineau	Bobbie	75 Main St
Lauries Hair	Hackett	Laurie Marie	75 Main St
MIM'S Market	Farmer	Kimberly	60 Main Street
Back on Track Consulting	Blanker	Charles	456 Mt. Hermon Station Rd.
T E Walker Septic Service	Walker	Thomas	78 Pierson Road
Slate Roof Press	Rayher	Edward	15 Warwick Road
LaSall's - N - Things	Snow	Linda	Main St
Northfield Creamie	Bowen	Tim	Main St
Riverview DayCare	Gamache	Melissa	23 Riverview Street
HAIN Properties	Basterache	Scott	609 Pine Meadow Road
Shearer & Snide Inc D/B/A	Shearer	Thomas	101 Cross Street
Asbestos Removal & Insulation			
J C Woodworking & Artist	Christopher	Jonathan	66 Main Street
Sunrise Siding & Windows	Graveline	Joseph	67 Route 10 West
Spring Valley Farms	Wheeler	Gene	79 Randall Road
Massage for Health, Sports & Neuromuscular Therapy	Anderson	James	70 Main St
My Natural Canine	Barry	Kimberly	546 South Mountain Road
Whitney Hill Alpaca & Llamas	Whitney Sr	Jay	168 Old Vernon Road
S & J Printing	Sanieski	John Paul	154 South Mountain Road
Pioneer Valley Reflexology	Rimby	Katherine	25 Lower Farms Road
Safe & Green	Woolner	Catherine	61 Linden Avenue

Table 3: Northfield's Largest Employers

Employer Name	Address	# of Employees	NAIC #
LANE Construction Corp.	216 Mt Hermon Station Road	100 to 249	2361
First Light Power Resources	99 Millers Falls Road	50 to 99	2211
Northfield Elementary School	104 Main Street	50 to 99	6111
Pioneer Valley Regional School	97 F Sumner Turner Road	50 to 99	6111
Camp Northfield	56 Pierson Road	20 to 49	7212
Northfield Mountain Pump Storage	99 Millers Falls Road	20 to 49	2211
Sisson Engineering	330 Old Wendell Road	20 to 49	3327
Northfield Fire Department	91 Main Street	20 to 49	9221
Whitney Trucking Inc.	578 Pine Meadow Road	20 to 49	4842
Community Health Center-Franklin County	97 F Sumner Turner Road	10 to 19	6211
Five Acre Farm	110 Hinsdale Road	10 to 19	4249
Michael Humphries Woodworking	158 Birnam Road	10 to 19	2383
Mim's Market	60 Main Street	10 to 19	4451
Northfield Ambulance Service		10 to 19	6219
Northfield Golf Club	31 Holton Street	10 to 19	7139
Northfield Mountain Pumped Storage	Route 63	10 to 19	7211
Northfield Police Department	91 Main Street	10 to 19	9221
Mass. Rural Water	168 Main Street #2	5 to 9	2371
Northfield Food Mart	74 Main Street #A	5 to 9	4451
Northfield Mountain Pumped Storage	Northfield Farms	5 to 9	2211
Notch	77 Main Street	5 to 9	7222
US Post Office	136 Main Street	5 to 9	4911
Northfield Police Department	69 Main Street	5 to 9	9221

NORTHFIELD MASTER PLAN INVENTORY: ECONOMIC DEVELOPMENT

Source: Massachusetts Depart. of Training and Workforce Development, Infogroup database

Table 4

Categories of 140 Northfield Companies Listed on the MANTA Website

Agriculture (8)	Financial (2)
Apparel (1)	Food (2)
Associations/Non-Profits (12)	Furnishings (2)
Automotive Services (5)	Government (4)
Building & Construction (35)	Healthcare (4)
Computer Software (2)	Housing (1)
Consumer Electronics & Appliances (2)	Information Technology (1)
Consumer Services (22)	Insurance (2)
E-Commerce & IT Outsourcing (2)	Legal (3)
Educational Services (13)	Machinery & Equipment (2)
Electrical (5)	Materials & Chemicals (1)
Energy & Resources (7)	Nonclassifiable establishments (2)

Source: Website; http://www.manta.com/mb_51_ALL_96K/northfield_ma

The largest employers are shown on Table 3. Employment is shown by ranges. The largest employer is the Lane Construction Corporation. The smallest to make the list have between 5 and 9 employees, which are small size businesses.

There are 140 There Northfield companies (contained on Table 4) listed on the MANTA Website with business category, product or services shown and contact information. The most prevalent of these are construction contractors (34 businesses), followed by consumer services (22 businesses). Many of these businesses are home occupations conducted off of the commercial/residential area along Main Street. Some of the businesses might be candidates for relocation to office or retail space on Main Street, as they outgrow the space they have at home. This could provide a market for a speculative small office building

with business services. Another building type common in small towns where expanding home offices can potentially be accommodated, is a retail shopping plaza with offices on the second floor.

UNEMPLOYMENT

Summary of Key Points

- Northfield has consistently been substantially below the state unemployment average.
- The labor force, like the town population, has been very stable.

Table 5 shows unemployment of Northfield residents over a 12 year period. The data show that unemployment reached a high of 6.6% in 2010, reflecting the national and state economic downturn. The resident labor force level is virtually the same in 2012 and 2013 as it was in 2001. It reached a high of 1,921 in 2006, shortly before the national and state economic downturn.

Table 5

Northfield Resident Labor Force, Employment and Unemployment: 2001 – 2013

Year	Period	Labor Force	Employed	Unemployed	Rate	State Rate
2013	1st 3 mos.	1,742	1,644	98	5.7	7.0
2012	Annual	1,742	1,666	76	4.4	6.7
2011	Annual	1,753	1,661	92	5.2	7.3
2010	Annual	1,776	1,659	117	6.6	8.3
2009	Annual	1,742	1,629	113	6.5	8.1
2008	Annual	1,748	1,673	75	4.3	5.4
2007	Annual	1,736	1,677	59	3.4	4.5
2006	Annual	1,921	1,853	68	3.5	4.8
2005	Annual	1,885	1,816	69	3.7	4.8
2004	Annual	1,856	1,787	69	3.7	5.2
2003	Annual	1,864	1,786	78	4.2	5.8
2002	Annual	1,813	1,754	59	3.3	5.3
2001	Annual	1,747	1,704	43	2.5	3.7

Source: Mass. Executive Office of Labor and Workforce Development; Monthly Labor Market Reports

NORTHFIELD MASTER PLAN INVENTORY: ECONOMIC DEVELOPMENT

LABOR FORCE

Summary of Key Points

- Northfield has a skilled and well educated labor force. One-half of the labor force is in the management, business, science and arts occupations category.
- 71% of the labor force works in the private sector, 22% work in government and 7% are self employed.
- Reflecting employment, 44% of the labor force is in educational services.

Table 6 shows the occupational categories of the Northfield Resident Labor Force. These are people who live in Northfield and work in Northfield **and the surrounding area**.

Table 6

OCCUPATION	Number Employed
Civilian employed population 16 years and over	1,709
Management, business, science, and arts occupations	838
Service occupations	219
Sales and office occupations	341
Natural resources, construction, and maintenance occupations	123
Production, transportation, and material moving occupations	188

Source: U.S. Census Bureau, American Community Survey, 2011

Table 7 shows the industry categories in which the resident Northfield labor force works.

Table 7

INDUSTRY	Number Employed
Civilian employed population 16 years and over	1,709
Agriculture, forestry, fishing and hunting, and mining	24
Construction	135
Manufacturing	164
Wholesale trade	26
Retail trade	130
Transportation and warehousing, and utilities	74
Information	14
Finance and insurance, and real estate and rental and leasing	44
Professional, scientific, and management, and administrative and waste management services	75
Educational services, and health care and social assistance	749
Arts, entertainment, and recreation, and accommodation and food services	83
Other services, except public administration	106
Public administration	85

Source: U.S. Census Bureau, American Community Survey, 2011

As noted, the resident Northfield labor force lives in town and works in Northfield and other nearby cities and towns. **According to the U. S. Census data the average (mean) travel time to work for Northfield residents was 24 minutes in 2011.** Like data for employment in Northfield (shown in Table 1), the resident labor force data shows the dominance of employment in educational services. Also, reflecting employment data, the labor force data shows participation in a diverse array of categories.

Table 8 shows the class of worker in the labor force, as defined and estimated by the U.S. Census Bureau for 2011.

Table 8

NORTHFIELD MASTER PLAN INVENTORY: ECONOMIC DEVELOPMENT

CLASS OF WORKER	Number Employed
Civilian employed population 16 years and over	1,709
Private sector wage and salary workers	1,208
Government workers	370
Self-employed in own, not incorporated business workers	131
Unpaid family workers	0

Source: U.S. Census Bureau, American Community Survey, 2011

INCOME (IN 2011 INFLATION-ADJUSTED DOLLARS)	No. of Households
Total households	1,276
Less than \$10,000	35
\$10,000 to \$14,999	48
\$15,000 to \$24,999	137
\$25,000 to \$34,999	80
\$35,000 to \$49,999	128
\$50,000 to \$74,999	355
\$75,000 to \$99,999	198
\$100,000 to \$149,999	229
\$150,000 to \$199,999	33
\$200,000 or more	33
Median household income (dollars)	\$61,667
Mean household income (dollars)	\$72,345

Source: U.S. Census Bureau, American Community Survey, 2011

INCOME

Summary of Key Points

- Northfield has a relatively affluent population with its average (mean) household annual incomes over \$72,000.
- The poverty rate is very low (3.5%).
- Average weekly wages range from \$943 for educational and health services to \$229 for retail jobs.

Table 9 shows the distribution of Northfield’s households in various annual income categories. The median household income is 7% lower than the state figure (\$65,981) and 18% higher than the Franklin County figure (\$52,246). 3.5% of Northfield’s population has incomes below the federally defined poverty level. This figure rises to 4.4% for persons age 65 and over. For female headed households with no husband present the poverty level is 8.8%. For Franklin County the comparable figures are 8.7% (all persons), 7.7% (persons 65 and over) and 26.4% (female headed households with no husband present). **In terms of household income, Northfield is comparatively better off than Franklin County as a whole.**

ESTABLISHMENTS AND WAGES

Summary of Key Points

- With the exception of the education and health sector, the average business size in Northfield is very small (5 – 6 employees).
- In the education and health sector average business size is 89 employees.
- Wages in all sectors are ample.
- Households can be supported with the average wages paid in town, with the exception of those for retail and private household workers.

Table 9

NORTHFIELD MASTER PLAN INVENTORY: ECONOMIC DEVELOPMENT

According to data in Table 2 there are 49 establishments (businesses) in Northfield. According to data from the Massachusetts Department of Training and Workforce Development, there are 67 establishments with an average (mean) size of 13 employees, as shown on Table 9. According to the Manta database shown in Table 4 there are 140 businesses in Northfield. Keep in mind that not all businesses are reported to the Massachusetts Department of Training and Workforce Development, and not all businesses register with the Northfield Town Clerk. It is estimated that most businesses appear in all three data bases.

The average weekly wage figures do not translate directly to household income (reported in Table 10) because there is often more than one wage earner and income producer in each household. The wage figures provide a guide to which activities produce higher household incomes. Clearly, Educational and Health Services is the highest producing category. Loss of these jobs is a major problem for maintaining income in Northfield. The lowest paying jobs are in the retail sector (\$229 per week) and domestic private household workers (\$280 per week). These are jobs that primarily provide supplementary income for households. It would be very difficult to live without other household income if these jobs provided the only income.

MARKET CONDITIONS: OFFICE SPACE/SERVICES/RETAIL

Summary of Key Points

- An estimated \$20,000,000 is spent annually by Northfield residents on retail purchases.
- An estimated \$3,500,000 is spent annually by Northfield residents on services.
- Almost all this money is spent out-of-town since Northfield has so few retail and services businesses.
- There is a potential to capture some of the consumer expenditures with further development of stores, shops and offices in town.

Northfield has very little commercial office space. Office space is occupied by firms providing services, or by management and administrative activities of manufacturing, agricultural, retailing and other industries. Commercial office space is often found in clusters where business services exist and where other

Table 10
Number of Establishments, Employees and Average Weekly Wages in Northfield by 2 Digit NAIC Categories for the Third Quarter of 2012

NAIC	Description	No. of Establishments	Number of Employees	Ave. Weekly Wage
23	Construction	13	29	\$672
31-33	Manufacturing	4	33	\$743
44-45	Trade, Trans. & Util.	11	106	\$648
54	Prof. & Tech. Services	13	38	\$622
56	Admin. & Waste Serv.	7	25	\$598
61	Ed. & Health Services	6	534	\$943
81	Other Services*	8	8	\$532
-	Other Services Not Identified	5	104	Not Reported

*Except Public Administration

Source: Mass. Department of Training and Workforce Development: ES-202 Quarterly Reports

related services exist. Post offices, town halls or court houses often provide a nucleus for clustered offices. There are no such clusters in Northfield that have developed around these public buildings. There are 39 office-type establishments identified in Table 10, and only a few commercial offices in town, which means that many of the services provided in Northfield are located in home offices.

There is a demand for services found in offices. Approximately \$3,500,000 is spent annually by Northfield residents on services such as medical, personal care, apparel care, entertainment, automobile maintenance and other repair and maintenance functions. **Almost all of this money is spent out-of-town.**

There are very few retailing activities in Northfield. Those located in Northfield consist of a bookstore, a few stores that sell food and a few restaurants. Some retailing is done in home occupations. Approximately \$20,000,000 is spent annually by Northfield residents on retail goods. Like services, **almost all of this money is spent out-of-town.** The largest retail expenditures are food at home

NORTHFIELD MASTER PLAN INVENTORY: ECONOMIC DEVELOPMENT

(\$5,000,000) and food in restaurants (\$3,500,000). Other major consumer expenditures are for apparel (\$2,500,000) and gasoline and motor oil (\$2,800,000). All figures are annual estimates based on consumer surveys done by the U.S. Bureau of Labor Statistics and published in September, 2012.

MARKET CONDITIONS: INDUSTRIAL

Summary of Key Points

- Northfield is well positioned to create more industrial jobs.
- The new solar zoning overlay in West Northfield has the potential to attract firms in the “creative economy.”

Sisson Engineering on Old Wendell Road is the largest manufacturing company in Northfield. As noted on Table 3 it employs between 20 and 49 people. A smaller similar machine tool metal fabricating manufacturing company is Tri-State Precision, Inc. Other manufacturing activities include apparel and handicrafts production on a small scale using local raw materials such as wool and wood. On Table 10 the number of manufacturing firms is reported as 4, with 33 employees and an average weekly wage of \$743. Manufacturing activities, like all economic activities in Northfield, can be and are located anywhere. There are no industrial zoning districts identified in the town’s zoning bylaws.

Northfield has assets that favor industrial location such as access to an interstate highway and an interstate rail line, flat well-drained relatively inexpensive land, a skilled labor force and available water and sewer services in some parts of town. Manufacturing has long been the largest sector of Franklin County’s economy. While it still is, it has been declining, as it has been throughout Massachusetts and the U. S. A special feature for possible industrial growth in Northfield is the newly created Solar Overlay Zone located west of the Connecticut River. This could attract solar and other alternative energy firms.

MARKET CONDITIONS: AGRICULTURE

Summary of Key Points

- Agriculture, like machine tool manufacturing, is a traditional industry in Northfield and surrounding towns.
- Northfield has extensive prime agricultural lands.
- Some of the farms are expanding, buying land in Northfield and surrounding towns.
- Agriculture has the potential to expand *vis a vis* recent trends in farm-to-table restaurants, and in homes, with niche market type garden vegetables.

Northfield is an agricultural rural community. There are almost 3,000 acres of agricultural land. 457 acres of Northfield’s agricultural lands are permanently protected. There are 8 working commercial farms reported in the Manta business database. Shown on Table 11 these are:

Table 11
Commercial Farms in Northfield

Balky Farm 15 Main Street, Northfield MA Sheep and Goats	Spring Valley Farm 79 Randall Road, Northfield MA Beef Cattle Feedlots
Five Acre Farm, LLC 108 Hinsdale Road, Northfield MA Food Crops Grown Under Cover	Lambs & Thyme LLC 593 Millers Falls Road, Northfield MA Field Crops, Except Cash Grains
Five Point Farm 76 Upper Farms Road, Northfield MA Crop and Dairy Farm	Northbrook Stables 850 Old Wendell Road, Northfield MA Horse Farm
Four Star Farms 496 Pine Meadow Road, Northfield MA Ornamental Floriculture and Nursery	Will O Wind Farm 330 Millers Falls Road, Northfield MA Horse Farm

Source: Website; http://www.manta.com/mb_51_ALL_96K/northfield_ma

There are other agricultural activities involving crops and livestock in Northfield, some operated by people with other jobs outside the agricultural sector. Northfield has fertile flat river-bottom land on both side of the Connecticut River, which gives the town much of its character and economic activities.

One growing market for agricultural produce is farm to table restaurants. There are a number in the Northfield area and the likelihood is that there will be more as this popular trend continues. Other outlets for agricultural produce are

NORTHFIELD MASTER PLAN INVENTORY: ECONOMIC DEVELOPMENT

farmer's markets and roadside farm stands. These are shown on the following listing and map. Both are generally seasonal outlets while farm to table restaurants generally operate year-round. Northfield has a seasonal farmer's market located at Trinitarian Congregational Church, Main Street South Mountain Road, off Route 63. It features an assortment of vegetables, organic food, local specialties, fruits and crafts. Hours are May 28-October 7, Thursday, 4:00 p.m.-7:00 p.m.

The following two pages are taken from the web site of the Northfield Agricultural Commission and list the farms and farm stands in the town. It is an extensive list and indicates the importance of agriculture in Northfield. Quite a bit of income is generated in this sector. The 2007 U. S. Census of Agriculture reported that four farms in Northfield had annual sales of over \$250,000, 1 farm had annual sales of between \$50,000 and \$250,000, and 41 farms and farm related establishments (like farm stands) had sales of less than \$50,000.

NORTHFIELD MASTER PLAN INVENTORY: ECONOMIC DEVELOPMENT

NORTHFIELD FARMS AND FARM STANDS THAT SELL DIRECTLY TO THE PUBLIC

- 1 Stephen Bachinsky
6 acres, vegetables
contact: 413-498-2093
- 2 Doris & Stewart Balk
20 acres, sheep, goats, hay
contact: 413-498-2077, 413-498-2805
- 3 John & Lester Black
maple syrup, firewood
contact: 413-498-5560
- 4 Eugene Clossen
farm stand
contact: 413-498-2683
- 5 Country Corner
6 acres, farm stand
contact: 413-498-5458
- 6 Denise Erway
5 acres, horses
contact: 413-498-2020
- 7 Fairview Gardens
3 acres, greenhouse, florist
contact: 413-498-2484
- 8 Charles Fisher
13 acres, wood
contact: 413-498-2615
- 9 Five Acre Farm
18 acres, garden center
contact: 413-498-2208, 413-498-5988
- 10 Four Star Farm
272 acres, sod farm, whole grains, fish
contact: 413-498-2968
- 11 Polly & Kevin Gray
5 acres, beef, dogs
contact: 413-498-4377
- 12 Steve Kelley
4 acres, farm stand
contact: 413-498-2456
- 13 Ernest & Christine Lawrence
farm stand
contact: 413-498-5403
- 14 William & Mary Llewelyn
474 acres, cropland, hay, corn
contact: 413-498-5869
- 15 Mondego Acres
1 acre, vegetable farm stand
contact: 413-636-9738
- 16 George & Shirley Nelson
18 acres, strawberry stand, hay
contact: 413-498-2446
- 17 Jerry Nelson
156 acres, wood
contact: 413-498-0068
- 18 Cory & Christine Norwood
114 acres, tree farm, lumber, hay, pasture
contact: 413-498-5335

- 19 Todd & Crescent Pierce
8 acres, horses, dogs
contact: 413-498-5533
- 20 Michael Quinn
1 acre, maple syrup
contact: 413-498-5359
- 21 James & Kelly Rice
16 acres, farm stand
contact: 413-498-5004
- 22 Rock Ridge Farm
4 acres, nursery, farm stand
contact: 413-498-5520
- 23 Milton Severance
1 acre, maple syrup
contact: 413-498-2032
- 24 Ed Shearer & Tracy Norman
farm stand, cropland
contact: 413-498-2730
- 25 Peter Sibley
19 acres, maple syrup, honey
contact: 413-498-4481
- 26 Michael Waterman
8 acres, maple syrup
contact: 413-498-4356

NORTHFIELD FARMS THAT DO NOT SELL DIRECTLY TO THE PUBLIC

- 27 William & Nancy Ames
145-acre tree farm, 20 acres hay
- 28 Raymond & Robert & Richard Barnes
31 acres, horses, hay
- 29 Clifford & Edmond Bassett
78 acres, tree farm
- 30 Roger Bassett
22 acres, tree farm
- 31 Donald & Judy Campbell
42 acres, tree farm
- 32 Roger Chapman
20 acres, hay
- 33 Commonwealth of Massachusetts
129 acres, cropland, hay, corn
- 34 William & Christine Copeland
182 acres, tree farm
- 35 Dark Night Realty Trust - Deborah Black
28 acres, tree farm
- 36 James Dresser, Jr.
173 acres, beef, hay, woodland
- 37 Robert Duby
190 acres, tree farm
- 38 James Field
145 acres, forest, 15 acres pasture
- 39 FirstLight Power Co.
200 acres, cropland
- 40 Walter & Marjorie Fisher
24 acres, hay, beef
- 41 Joel Fowler
57 acres, tree farm

- 42 Martin & Sophie Fritz
61 acres, hay, heifers, woodland
- 43 David & Susan Fuller
7 acres, hay, sheep
- 44 Fred & Margaret Fuller
26 acres, hay, cropland
- 45 Richard & Susan Gargiari
24 acres, horses
- 46 Paul & Stephen Gorzowski
397 acres, cropland, woodland
- 47 Joe & Gail Graveline
8 acres, hay
- 48 Mark & Karen Hathaway
6 acres, horses
- 49 David Hatton
125 acres, tree farm
- 50 Donald & Rita Huber
7 acres hay, 49 acres woodland
- 51 Walter & Jane Jaworski
118-acre tree farm, 59 acres hay & cropland
- 52 Glen & Deborah Johnson
31 acres, hay
- 53 Wesley Johnson & Lynne Bassett
14 acres, beef, pasture
- 54 Robert Johnston
28 acres, hay
- 55 Samuel & Louis Kendall
5 acres, cropland
- 56 Laurey Kennerson
179 acres, tree farm
- 57 John & Teresa Kopinto
36 acres, wood, hay, pasture
- 58 William & Sandra Lacy
28 acres, tree farm
- 59 Peter Laddinski, Jr.
7 acres, hay
- 60 Alice Lord
61 acres, tree farm
- 61 Candace Loughrey
21 acres, tree farm
- 62 Keith & Luanne Lyman
127 acres, tree farm
- 63 John & Suzanne McGowan
88 acres, tree farm
- 64 Christopher & Cynthia Mithum
79 acres, tree farm
- 65 Moose Plain Realty - Savage/Patterson
146 acres, vegetables, turf
- 66 Mt Grace Conservation Trust
45 acres, woodland
- 67 Northfield Mount Hermon School
hay, woodland
- 68 Timothy O'Shea
8 acres, beef
- 69 Richard Parsons
13 acres, hay
- 70 William & Joan Patterson
12 acres, woodland

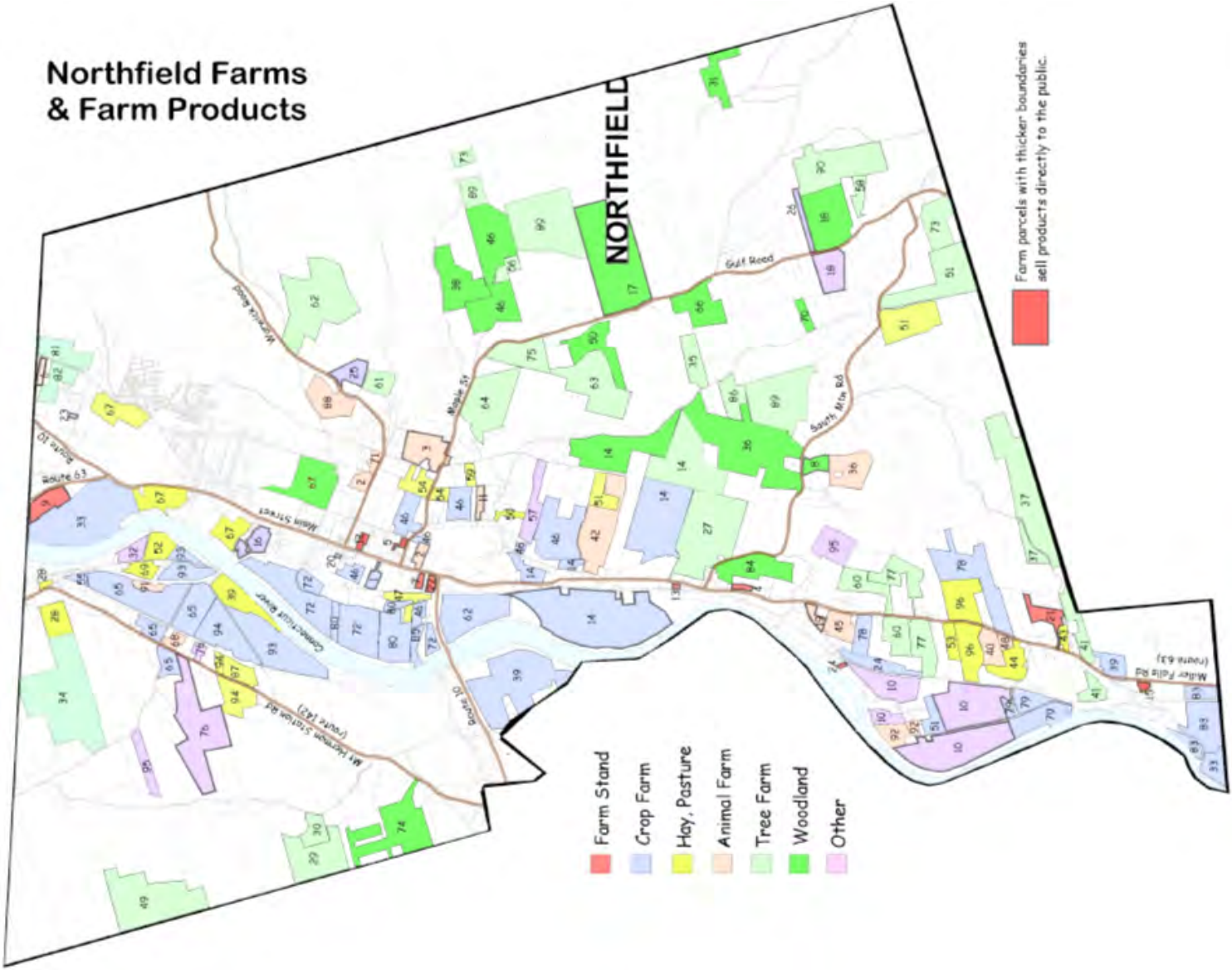
- 71 Tammy Pelletier
7 acres, horses
- 72 Frank & Mary Podenski
320 acres, cropland
- 73 The Quinnekuk Company
49 acres, tree farm, recreation
- 74 Mark Remillard
81 acres, woodland
- 75 Stephen Roberts & Deborah Descovich
47 acres, tree farm
- 76 William & Joyce Roberts
116 acres, cropland, firewood
- 77 Alan & Valerie Rogers
79 acres, tree farm
- 78 Margaret Shearer Estate
139 acres, pasture, cropland, tree farm
- 79 Thomas & Patricia Shearer
65 acres, hay, cropland, beef
- 80 Smiarowski Brothers LLC
105 acres, cropland
- 81 David Spaulding
32 acres, tree farm
- 82 Paul & Cynthia Spaulding
24 acres, tree farm, hay
- 83 Split River Farm LLC, Peter Melnick, mgr.
61 acres, cropland
- 84 Martha Stinson
46 acres, hay, pasture, woodland
- 85 Sudbury Nursery
14 acres, nursery
- 86 Deborah Taricano
26 acres, tree farm
- 87 Elmer & Veona Towne
27 acres, hay, cropland
- 88 Ronald & Lynn Vishaway
39 acres, horses
- 89 W M & Company
224 acres, tree farm, recreation
- 90 Michael & Audrey Waterman
112 acres, tree farm
- 91 Gene & Patricia Wheeler
6 acres, dairy
- 92 Whitney Farm
horses
- 93 Stanley Wickey Estate
146 acres; hay, cropland
- 94 Stanley Wozniack
40 acres, hay, woodland
- 95 John Zilinski
30 acres maple syrup, 22 acres woodland
- 96 Peter & Melanie Zschau
84 acres; hay, cropland, woodland

NOTES:

- ☛ The numbers above refer to the parcel numbers in the map on the reverse side.
- ☛ A tree farm is forest land in chapter 61 protection; a woodland is other forest land.

NORTHFIELD MASTER PLAN INVENTORY: ECONOMIC DEVELOPMENT

Northfield Farms & Farm Products



Northfield Farms & Farm Products



Agricultural Commission
69 Main Street
Northfield, MA 01360

NORTHFIELD MASTER PLAN INVENTORY: ECONOMIC DEVELOPMENT

LAND FOR ECONOMIC DEVELOPMENT

Summary of Key Points

- Northfield has adequate land for economic development. There are almost 300 acres of vacant unused unforested land in town and currently 15 tracts of vacant land are for sale.
- The 2005 land use survey identified 428 acres of open land, brushland, transitional and utility right-of-way land that could be used for economic development.
- Because industrial and commercial uses can be located anywhere (with special permits) economic development can potentially occur on any or all of the available vacant land.

According to MassAudubon's Losing Ground report (2005) Northfield has:

- 1,293 acres of developed land (5.7%)
- 16,971 acres of natural land (forests, wetlands) (75%, the highest percent in the state)
- 2,834 acres of agricultural land (12.5%)
- 532 acres of recreation land
- 753 acres of water
- 4,195 acres of protected land (18.5%)

Northfield has 2,338 acres of "BioMap Core" (state designated important natural areas). Almost 2/3 of these areas are unprotected. 16.1% (457 acres) of Northfield's agricultural lands are permanently protected.

The following material on land for economic development is taken from the 2003 Community Development Plan for Northfield. That report identifies two areas most suitable for light industrial development or large commercial Development. Light industrial or large commercial land uses could include an office park, a retail business larger than 5,000 square feet, or a facility conducting materials testing,

scientific research, or assembly work. The suitable land areas for new light industrial or large commercial development have slopes of 15 percent or less, and are located near transportation infrastructure. They are also not situated near residential or recreational land uses, nor near historic, scenic, or environmental or open space resources, as they may not be compatible. Specifically, the potentially suitable areas meet the following criteria:

- They have slopes of 15 percent or less.
- They are not located within 500 feet of the Main Street Historic District designated by the National Register of Historic Places, or the Route 63 Scenic Byway. The Route 63 Scenic Byway has been designated as an official Scenic Byway for Massachusetts. The Main Street National Historic District runs along Route 63 from Route 10 north to Pauchaug Brook. Having light industrial or large commercial uses close to the Scenic Byway or National Historic District could diminish the scenic and historically intact character of these important community assets.
- They are not situated within 500 feet of existing residential or outdoor recreational land uses. Current residential and recreational land uses were determined from the 1999 MacConnell land use data.
- Locating light industrial or large commercial uses closer than 500 feet to residential or recreational land could be detrimental to the quality of residential neighborhoods, or recreational areas.
- They are situated within a quarter-mile of an existing rail line, or within half a mile of a major roadway. Northfield has a few active rail lines in the eastern and northern sections of Town near the Connecticut River. Major roadways in Northfield have been defined for this analysis as those roadways with an Average Annual Daily Traffic (AADT) count of 1,000 cars or more. Roads in Northfield with this level of traffic are the following: Gill Center Road, Route 10, Route 142 (Mount Hermon Station Road), and Route 63 (Millers Falls Road and Main Street). Traffic volume data on major Northfield roadways was collected by the Franklin Regional Council of Governments transportation staff.

Once this part of the screening was completed, some additional criteria were used to select the potentially most suitable areas for this type of development. These criteria were the following:

NORTHFIELD MASTER PLAN INVENTORY: ECONOMIC DEVELOPMENT

- Each of the most suitable areas consists of at least approximately 50 contiguous acres;
- They consist primarily of land with less than 8 percent slopes;
- They are not located on prime farmland; and
- They are not located within the 500-year floodplain or within aquifer boundaries.

After this additional screening, only two sites for large-scale commercial or light industrial development remained. These sites are shown on Maps 1 and 2 as being the potentially most suitable locations for light industrial and large commercial development. One of the sites is located at the current gravel mining operation on Mount Hermon Station Road.



Map 1: Potential Industrial Area owned by Lane



Map 2: Potential Office Park Construction Area

This site has been identified as a potential location for an industrial park. The other site is located east of Route 63 between South Mountain Road and Captain Beers Plain Road. This site currently contains a large number of abandoned cars and other junk materials. This site has been identified as a potential location for an office park.

One issue that both the proposed sites have in common is their current lack of water and sewer infrastructure. Many light industrial and large commercial uses require water and sewer infrastructure to comply with environmental regulations and to provide adequate protection for natural resources. In addition, some uses, particularly industrial processing uses, have the need for high capacity water and/or sewer access for these processes.

However, if the proposed uses have minimal water and sewer needs, and small environmental impacts, they can sometimes be developed in the absence of municipal water and sewer infrastructure. For water, an on-site well is likely the most feasible option for the two identified sites.

The first site is located in West Northfield where there is currently no public water supply. However, a water district with test wells only was created in West Northfield in the 1960s, and there could be potential for a new water supply there. The second site, located off Route 63, is over one mile from the existing public water lines and extending water service to the site could be costly and technically challenging. For wastewater, the options in unsewered areas include extending the public sewer lines or installing an on-site sewage package treatment facility. Another potential issue that both sites share is possible contamination from their current land uses. If there is any contamination, these sites would likely need to undergo environmental clean-ups before they could be reused. Sewer lines extensions can also be expensive.

It is essential that both the proposed sites for large scale economic development be investigated further, and that an engineering feasibility study be conducted for each site to fully evaluate the site's development potential, and its options for sewer and water provision, and to examine the issue of possible contamination and environmental constraints. Both projects are contained in the Greater Franklin County 2012 Comprehensive Economic Development Strategy (CEDS) Annual Report, leaving open the possibility of federal funding from the U. S. Economic Development Administration.

The 2003 Community Development Plan identified areas most suitable for new small commercial development (any commercial use with a footprint of 5,000 feet or less). Such uses might include a small office building or a retail store. The

NORTHFIELD MASTER PLAN INVENTORY: ECONOMIC DEVELOPMENT

process to determine the potentially most suitable land for small commercial development started with the potentially developable area. From there, the potentially developable land was screened to eliminate all areas not within a half-mile of a major road. This screening was used because small commercial uses generally benefit from good access to transportation infrastructure, and because this is where businesses would have the least impact on residential neighborhoods. As mentioned, major roads in Northfield are defined as those roadways with an Average Annual Daily Traffic (AADT) count of 1,000 cars or more. Roads with this level of traffic are the following: Gill Center Road, Route 10, Route 142 (Mount Hermon Station Road), and Route 63 (Millers Falls Road and Main Street)

The area that remained after the road screening is considered potentially suitable for small commercial development. Most of this area lies within the Residential-Agricultural zoning district. When the potentially suitable area for small commercial development was first identified and mapped, there was concern that focusing future commercial growth along major roads could encourage a pattern of sprawling development along these corridors. To address this issue, the Community Development Plan Committee decided to try a different approach and to support the concept of developing village centers with mixed residential and commercial uses, over promoting development along roadways. New small commercial growth in Northfield could be encouraged to focus in these village centers, and these village areas could possibly allow some low-impact businesses, such as professional offices or small stores, by right, instead of by special permit. Four potential locations for village centers were identified. Except for the mixed-use district proposed for Northfield Center, none of the other potential village centers would have access to the current municipal sewer or water infrastructure.

Uses in these village centers would likely rely on private wells and septic systems. It is possible that in the long-term, new public water supplies could be identified and developed to serve these other village centers. Development of a coordinated septic system for each of these areas could also be considered.

CREATION OF A NORTHFIELD CENTER

Summary of Key Points

- Northfield does not have a well defined center. Commercial and residential and service and public facilities are spread out over a long stretch of Main Street.
- Various studies in the past have proposed creating a more compact and pedestrian oriented town center.
- Town Meeting has twice turned down proposals to create a Village Center Zoning District overlay.

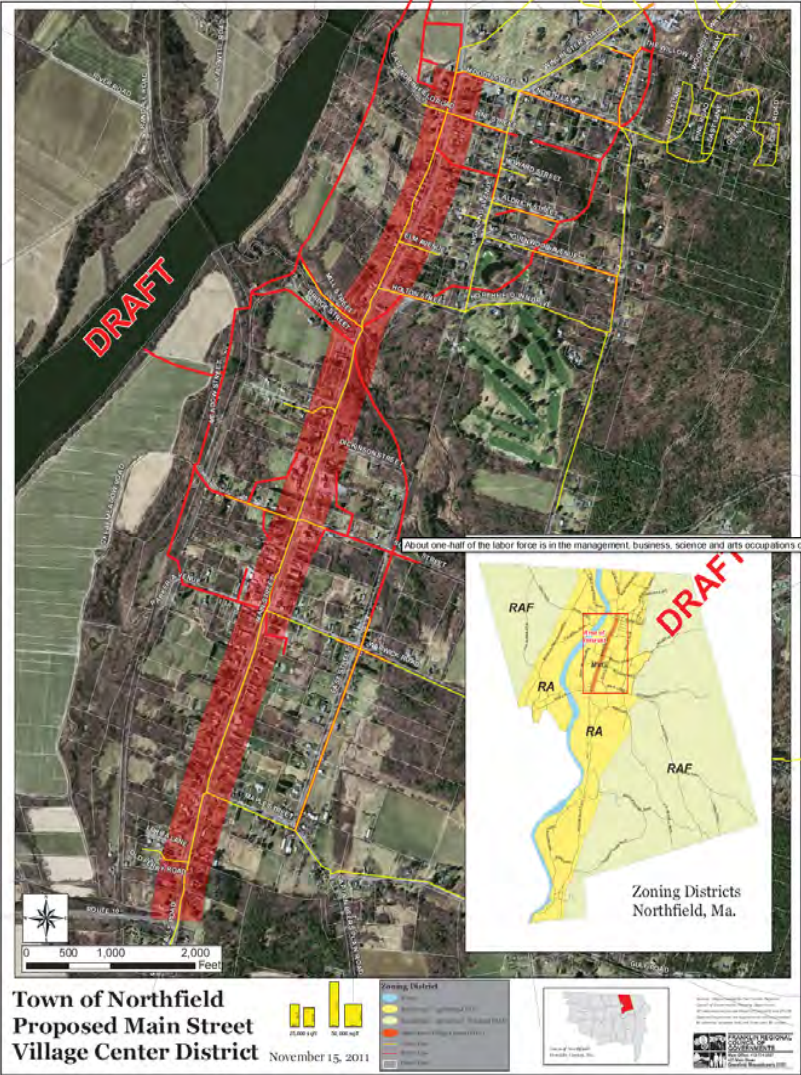
One of the village centers proposed in the 2003 Community Development Plan is along Main Street from Route 10 on the south to Moody Street on the north. A separate zoning district which extends 300 feet on either side of Main Street has been proposed which encompasses most of the commercial development in Northfield. It is shown on the map on the next page. An amendment to the zoning bylaw to create the district was approved by the Northfield Planning Board on February 29, 2012, but still has not been passed by Town Meeting. The new district would permit by-right business offices or professional office, restaurants and other retail uses with up to and including 2,000 square feet of enclosed floor area. Such uses over 2,000 square feet would require a special permit. Conversion of an historic (50 years or older) residential or commercial structure with no more than 3,500 square feet of enclosed floor area, to a mix of retail stores, business or professional offices, restaurants, or residential uses, would also require a special permit. Residential and agricultural uses would be permitted by-right in the district.

Creation of a village center would require a depth of more than 300 feet from Main Street. It would be desirable to have parking behind or to the side of buildings to avoid the monotonous and unattractive strip appearance of many small commercial areas. Because Route 63 is a state highway parking on it is prohibited. All commercial parking would have to be off-street, which is most desirable from a functional point of view.

It would also be desirable to have building footprints in L shapes or full squares (two Ls matched together) with pedestrian and landscaped areas between the buildings, to create a village ambiance. Shops, restaurants and offices and possibly apartments would look out on small landscaped areas in the center,

NORTHFIELD MASTER PLAN INVENTORY: ECONOMIC DEVELOPMENT

instead of simply looking at parked cars and Main Street. It is likely that some existing buildings can be used as a nucleus of a mixed-use village type development. Adherence to Northfield’s New England style architecture would be very desirable for mixed use village complexes. Creation of shopping and services areas in Northfield Center would help recapture some of the sales that are now made out-of-town.



Map 3

ECONOMIC POTENTIAL GENERATORS (ANTICIPATED IMPACTS OF CAMPUS REDEVELOPMENT)

NORTHFIELD MASTER PLAN INVENTORY: ECONOMIC DEVELOPMENT

Summary of Key Points

- The largest potential economic generator would be a new college located on the grounds of the former Northfield Campus of the Mount Hermon School.
- Occupancy by adult age students and faculty would create markets for commercial and residential activities much beyond what exists today.
- There are other potential economic generators in town which would capture some of the retail and service consumer expenditures now being spent out-of-town.

Commercial office space in a village district would have the potential of allowing some relocated home offices to expand operations. A small business center with copy and print and office supplies might sell to village district offices. Some retail space in a village district could sell goods used by the farms, such as equestrian equipment for the horse farms, animal feed and seeds and fertilizer for crops and livestock. Another restaurant or two might keep residents who now seek food away from home eating in town. Residents have expressed a desire to have a gas station in town, perhaps one with a small convenience store attached, as many have.

The largest unknown at this time is whether an institute of higher education will be located on the grounds of the sold-off Northfield Mount Hermon School. Occupation by hundreds, if not thousands of college level students of those grounds will create a market for substantially more retail and office space in Northfield. It could also create a market for more residential space, depending on the residential policies of a new occupant of the campus. If college level adult students attend the campus, many will prefer to live off-campus. A fully or even partially occupied campus can certainly be considered a major potential generator of economic activities. Even if non-adult (high school or middle school or elementary school age students) were to attend a new educational institution on the campus, substantial economic opportunities would be created for additional retail and service activities in Northfield.

INFRASTRUCTURE

Summary of Key Point

- Northfield has adequate infrastructure to support new economic development.

There is local roadway access to most of the town's developable available land, and interstate freeway access to the region and tri-state area. There is a main rail line with national and international connections running north and south through town. There is adequate water supply both in the water companies that serve parts of Northfield and in available ground water for wells. There is available capacity in the town's wastewater treatment plant, but it only serves limited parts of town. Electricity is readily available. The solar zoning overlay area may produce energy that can be used for economic development. Telecommunications facilities serve Northfield, enabling modern high speed electronic connections for businesses and homes. There are current efforts to improve telecommunication services.

NORTHFIELD MASTER PLAN INVENTORY: ECONOMIC DEVELOPMENT

SOURCES

Massachusetts Department of Training and Workforce Development, Infogroup database

Massachusetts Department of Training and Workforce Development, ES-202 Quarterly Reports of Employment and Wages

Massachusetts Department of Training and Workforce Development, Monthly Labor Market Reports

Business Registry of the Northfield Town Clerk

http://www.manta.com/mb_51_ALL_96K/northfield_ma (business data base)

U.S. Census Bureau, American Community Survey, 2011

Northfield Agricultural Commission

Interview with David Kalinowski, member of the Northfield Agricultural Commission and owner and operator of Rock Ridge Farm

2003 Community Development Plan for Northfield

2012 Greater Franklin County Comprehensive Economic Development Strategy (CEDS) Annual Report

Massachusetts Audubon Society, Losing Ground Report, 2005

NORTHFIELD MASTER PLAN INVENTORY: TRANSPORTATION

This section summarizes the existing transportation system in Northfield and how it connects with the regional transportation system. As the town population and economics change over time, the transportation system and service may need to change to meet the demands of residents, employees, and visitors.

The information provided is based on a review of previous reports completed by others and available data from local, regional, state, and federal agencies. Additional information was obtained through interviews with the town staff and steering committee members. Site visits were also made to observe and record existing transportation operations and conditions.

Summary of Key Points

Northfield's transportation system is generally adequate to accommodate the current needs of residents, employees, and visitors. However, there are areas where improvements should be made to improve mobility and safety now and in the future.

Travel Characteristics

- Average commute time for Northfield workers is 24 minutes, lower than the state average (28 minutes).
- Overall commute times for Northfield workers have decreased slightly between 2000 and 2011. The longest commute times (>45 min) have decreased by 37%. Most workers have commutes between 10 and 44 minutes.
- Eighty-three percent (83%) of Northfield workers drive alone; carpool trips have decreased by 53% between 2000 and 2011; and 4% walk.
- A total of 3,726 vehicles were registered in Northfield in 2011 representing 1.2 motor vehicles per person.

Operating Conditions

- Route 63, Route 10 and Route 142 are major roadways in Northfield. The closest regional highways are I-91 and Route 2, which are located in the neighboring towns of Bernardston and Erving, respectively.
- The Route 10 Bridge is the only facility across the Connecticut River in operation. The Schell Bridge has been closed since 1987. As a result, west Northfield is not well connected to the rest of the town east of the Connecticut River.
- There is no gas station in town.
- There are no traffic signals in town.
- There are no overriding critical traffic issues, but specific areas need improvement.
- Main Street/Route 10/Route 63 experiences the highest volume of traffic with approximately 8,200 vehicles per day.
- Traffic volumes on most roadways in town have decreased in recent years, similar to the statewide trend.
- The three highest accident locations between 2006 and 2011 are: 1) Route 10/Gill Center Road/Main Street; 2) Route 10/Main Street/Route 63; and 3) Main Street/Warwick Road/Parker Avenue. There are geometric deficiencies at each of these locations.
- The total number of vehicle accidents in town has increased between 2009 and 2011, but the number of citations issued has dropped from 141 to 72 in 2011.
- Northfield does not have dedicated bike lanes; however, the town allows bicyclists to ride on sidewalks.

NORTHFIELD MASTER PLAN INVENTORY: TRANSPORTATION

- Sidewalks are provided in the town center area. The concrete sidewalks on Main Street were recently replaced. Sidewalk lighting is inadequate in most locations.
- Existing trails in the Town of Northfield include the Mill Brook Trail, Franklin County Bike Path, Northfield Connector, and the Connecticut River Valley Corridor.
- There is no fixed-route transit service for the general public. Northfield shares senior van service with the Town of Bernardston to provide regional transit service for seniors. This service is reportedly inadequate to serve current needs and the demand is expected to continue to increase as the population ages. Medical transportation service for Franklin County residents 60 years and older is available through the MED-RIDE and MassHealth programs.
- Passenger rail and freight rail service passes through Northfield. The nearest Amtrak passenger stations are located in Amherst, MA and Brattleboro, VT. There are nine at-grade crossings and seven road grade separations in Northfield.

Potential Improvements

- Pedestrian activated traffic signal at the intersection of Main Street/Warwick Road/Parker Avenue.
- Need for permanent portable radar trailer to record and enforce traffic speeds on town roadways.
- Need for ride-share services and park-and-ride lot in the region to serve Northfield residents. Coordination needed between FRCOG, FRTA and MassDOT.
- Repair/replace Schell Bridge to pedestrians and bicyclists to improve access between west and east Northfield.
- Consider providing bicycle accommodations on select roadways.

- Potential transportation improvements related to potential new college on the Northfield Mount Herman campus:
 - Need for extending sidewalks on Main Street to current campus;
 - New traffic signal at the intersection of Rt. 10/Rt. 63;
 - New fixed route transit service;
- Redesign and construction of town center area on Main Street to accommodate traffic, pedestrians, bicycles, and on-and off-street parking. Will require town to start the Discontinuance Process with MassDOT District 2.

EXISTING TRANSPORTATION CONDITIONS

The following elements are summarized in this section:

- Travel Characteristics – Commuter travel, travel mode, number of vehicles
- Roadways - Functional Classification
- Traffic Volumes - Existing and historic, heavy vehicles, congestion
- Traffic Operations
- Accidents – Number of crashes over time
- Pedestrian and Bicycle Facilities - Sidewalks, trails and paths
- Transit – Senior van service
- Rail Service – Passenger and Freight Services

NORTHFIELD MASTER PLAN INVENTORY: TRANSPORTATION

TRAVEL CHARACTERISTICS

COMMUTE TIME AND TRAVEL MODE

The population in Northfield was 2,951 in 2000 and 3,032 in 2010 based on US Census Bureau data, indicating an increase in population by less than one-half percent per year during that time period.

Figure 1 shows mean commute time for Northfield and Massachusetts for 2000 and the 2007-2011 American Community Survey (ACS) 5-Year period. The figure shows that Northfield had an average commute time of 25 minutes in 2000, lower than the state average of 27 minutes. In 2011, the average commute time for Northfield decreased by 1 minute (24 minutes) while the state average increased by 1 minute (28 minutes).

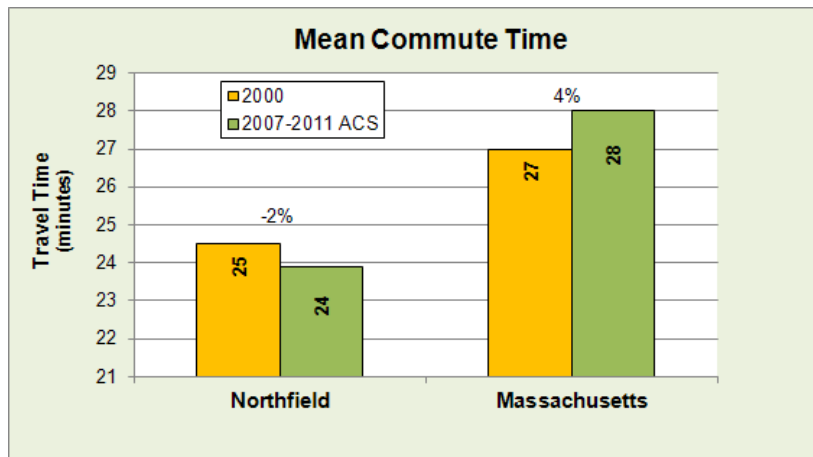


Figure 1: Mean Commute Time
Source: US Census 2000 and 2007-2011 American Community Survey 5-Year Estimates

Figure 2 illustrates the commute time for Northfield workers by time increment. According to the US Census 2000 and 2007-2011 American Community Survey 5-Year Estimates, the commute time for the majority of the Northfield workers was between 10-29 minutes both in 2000 and 2011. The number of Northfield workers who travelled less than five minutes decreased significantly by 72%, while those who travelled 5–9 minutes decreased only slightly by 8% in 2011 compared to 2000. There was an increase in the number of Northfield workers who travelled between 10 and 44 minutes in 2011 compared to 2000. Workers who travelled more than 45 minutes decreased by approximately 37% in 2011 compared to 2000. The results suggest that many Northfield workers have shifted their commute pattern from short (under 5 minutes) and long (over 45 minutes) commutes to commutes between 10 and 44 minutes. This may be a result of the recent economic recession.

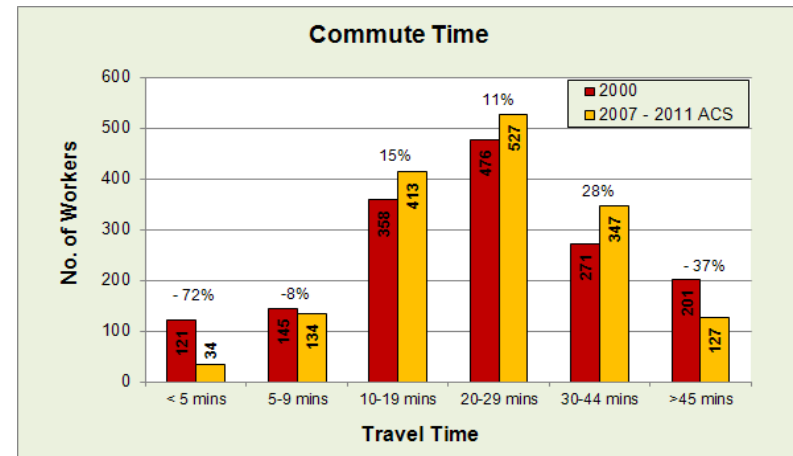


Figure 2: Commute Time for Northfield Workers
Source: US Census 2000 and 2007-011 American Community Survey 5-Year Estimates

NORTHFIELD MASTER PLAN INVENTORY: TRANSPORTATION

The mode split of Northfield workers is illustrated in Figure 3. There were approximately 1,643 workers recorded in 2000 and 1,680 workers in the 2007-2011 ACS period. Both in 2000 and 2011, the majority of the Northfield workers (approximately 80%) drove alone to their work even though the number of workers who drove alone increased slightly (6%) in 2011. While, the next popular means of transportation among the Northfield workers was carpooling, the number of workers who carpooled decreased significantly by 53% in 2011 compared to 2000. In 2000, approximately 189 workers (12% of the total workers) carpooled whereas only 89 workers (5% of the total workers) carpooled in 2011. Both in 2000 and 2011, approximately 4% of the workers walked to work, which is similar to the statewide data. Northfield does not have any public transit services.

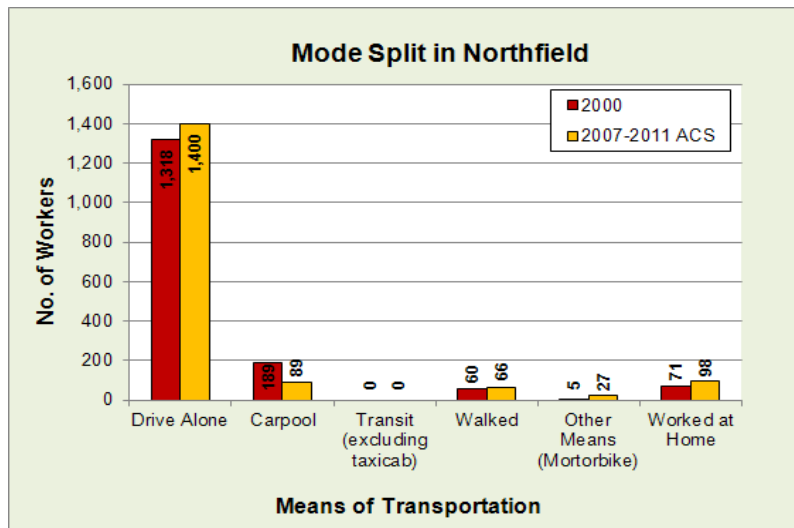


Figure 3: Mode Split in Northfield
 Source: US Census 2000 and 2007-2011 American Community Survey 5-Year Estimates

VEHICLES AVAILABLE

According to the Massachusetts Department of Revenue, Division of Local Services, there were 3,726 vehicles registered in Northfield in 2011.¹ This shows there were more vehicles than people in Northfield (population was 3,032 in 2011) with 1.2 motor vehicles per person in 2011.

The number of vehicles available per household in Northfield is shown in Table 1. According to the US Census 2000 and 2007-2011 American Community Survey, the majority of Northfield households had one or more vehicle both in 2000 and 2011. The number of households with one or more vehicle increased by approximately 13% in 2011 compared to 2000. The number of households that did not own any vehicle decreased by 33% from 42 households in 2000 to 28 households in 2011.

No. of Vehicles per Households	No. of Households		% Households	
	2000	2007-2011 ACS	2000	2007-2011 ACS
0	42	28	4%	2%
1 or more	1,104	1,248	96%	98%
Total Households	1,146	1,276	100%	100%

Table 1: Vehicles Available per Household in Northfield – 2000 and 2011
 Source: US Census 2000 and 2007-2011 American Community Survey 5-Year Estimates

¹ At A Glance Report For Northfield. Massachusetts Department of Revenue, Division of Local Services. Updated on 09/23/2011.

NORTHFIELD MASTER PLAN INVENTORY: TRANSPORTATION

Table 2 compares the number of vehicles available for households for both Northfield and the State for the 2007-2011 ACS survey period. It shows that Northfield residents are more dependent on private automobiles than the state. In 2011, 54% of Northfield households owned two vehicles and 17% owned three or more vehicles, which is higher than the state (37% owned two vehicles and 15% owned three or more vehicles).

No. of Vehicles per Households	Northfield		Massachusetts	
	2007-2011 ACS	% 2007-2011 ACS	2007-2011 ACS	% 2007-2011 ACS
0	28	2%	311,674	12%
1	350	27%	903,684	36%
2	686	54%	934,818	37%
3 or more	212	17%	372,233	15%
Total Households	1,276	100%	2,522,409	100%

Table 2: Vehicles Available per Household in 2011 – Northfield v Massachusetts
 Source: US Census 2000 and 2007-2011 American Community Survey 5-Year Estimates

Key Points:

- Average commute time for Northfield workers is 24 minutes, lower than state average 28 minutes (2011).
- Overall commute times for Northfield workers have decreased slightly. The longest commute times (>45 min) have decreased by 37% between 2000 and 2011. Most workers have commutes between 10 and 44 minutes.
- 83% of Northfield workers drive alone; carpools have decreased by 53% between 2000 and 2011; 4% walk.
- 3,726 vehicles were registered in Northfield in 2011 (1.2 motor vehicles per person).

ROADWAYS

MAJOR ROADWAYS

Northfield does not have any major regional highways. The closest interstate highway is Interstate 91 (I-91) located to the west of Northfield in neighboring Bernardston. The other closest major highway is Route 2 located to the south of Northfield in neighboring Erving. I-91 is a major north-south highway running between New Haven, Connecticut and the Canadian border. I-91 is connected with Route 10 in Bernardston (Exit 28). Exit 28 is also the last I-91 exit in Massachusetts before continuing to Vermont. Route 2 is a major east-west highway that runs from Boston to Albany. It can be accessed by Route 63 and Gulf Road/North Street.

Route 63

Route 63 is the main connector link between Northfield and nearby urban centers such as Greenfield, Keene and Amherst and Brattleboro, Vermont. Route 63 runs in a north/south direction, parallel to the Connecticut River, from the Town Line through the center of Northfield and to New Hampshire State Line and continues northwesterly as New Hampshire Route 63 to the Town of Hinsdale, NH. South of the Northfield Town Line, Route 63 (also known as Northfield Road) continues to Erving and provides the primary access to Route 2/2A. In Northfield, Route 63 is also known as Millers Falls Road until it joins Route 10 (just north of Lucky Clapp Road) where it becomes Route 63/Route 10 or Main Street. It then continues through the Town Center to just south of the New Hampshire State Line for just under 2.5 miles splits into Route 63/Hinsdale Road that continues northwesterly to the Town of Hinsdale in New Hampshire and into Route 10/Wanamaker Road that continues to northeasterly to the Town of Winchester in New Hampshire. Route 63 through Northfield is designated as a Scenic Byway as part of the larger Connecticut River Scenic Farm Byway.

Route 63/Route 10 (Main Street) has predominately commercial land use. It has one travel lane in each direction, with adequate shoulders and good sight distances for most of its length. Shoulders on Route 63 are wider after Pine Meadow intersection (north direction). On-street parking is not allowed on Main Street because it is under MassDOT jurisdiction. There are no traffic signals in the Town. There is a flashing beacon at the intersection of Route 63 and Route 10 and on Main Street at the intersection of Warwick Road and Parker Avenue. Route 63 northbound near intersection of Pine Meadow and Route 63 has a posted speed limit of 55 mph, which changes to 45 mph just south of Town Center. Route 63/Main Street southbound just north of Route 10 intersection has a posted speed limit of 35 mph.

The major intersections on Route 63 are at Route 63/Route 10, Main Street/Maple Street, Main Street/Warwick Road/Parker Avenue, Main Street/School Street/Meadow Street, Main Street/Moody Street, and Main Street/Holton Street.

Route 10

While Route 10 is primarily a north-south state highway, it runs in an east-west direction in Northfield starting from the Town Line just south of F Sumner Turner Drive/Lamplighter Way. It crosses the Connecticut River and Connecticut River Main Line (owned by Pan Am Railways) before joining Route 63. The Route 10 Bridge is the only active traffic bridge within town. The smaller Schell Bridge lies inactive (since 1987) near the Vermont state line, and the old Vermont and Massachusetts Rail Bridge lies between them.

Route 142

Route 142 (Mount Hermon Station Road) is a north-south roadway that runs between Brattleboro, VT and Northfield., It terminates at Route 10 just south of the Northfield town line in Bernardston. Route 142 is the main roadway in west Northfield.

ROADWAY FUNCTIONAL CLASSIFICATION

Vehicular travel involves movement through a network of roads. Functional classification is the process of grouping streets and highways according to the character of service they are intended to provide. This classification determines how travel can be guided within a road network in a logical and efficient manner.

The three basic functional classes are: arterials, collectors, and local roads. All roads are grouped into one of these classes, depending upon the character of the traffic and the degree of land access allowed. Arterials provide the highest level of service at the greatest speed for the longest uninterrupted distance (typically some level of access control), and are typically used for longer through-travel between major trip generators (larger cities, recreational areas, etc.). Collectors provide a less highly developed level of service at a lower speed for shorter distances by collecting traffic from local roads and connecting them with arterials, and connecting smaller cities and towns with each other and to arterials. Local roads provide access to private property or low volume public facilities. Arterials and Collectors have further sub-classifications of “Urban” or “Rural” and “Major” or “Minor” based on population density characteristics.

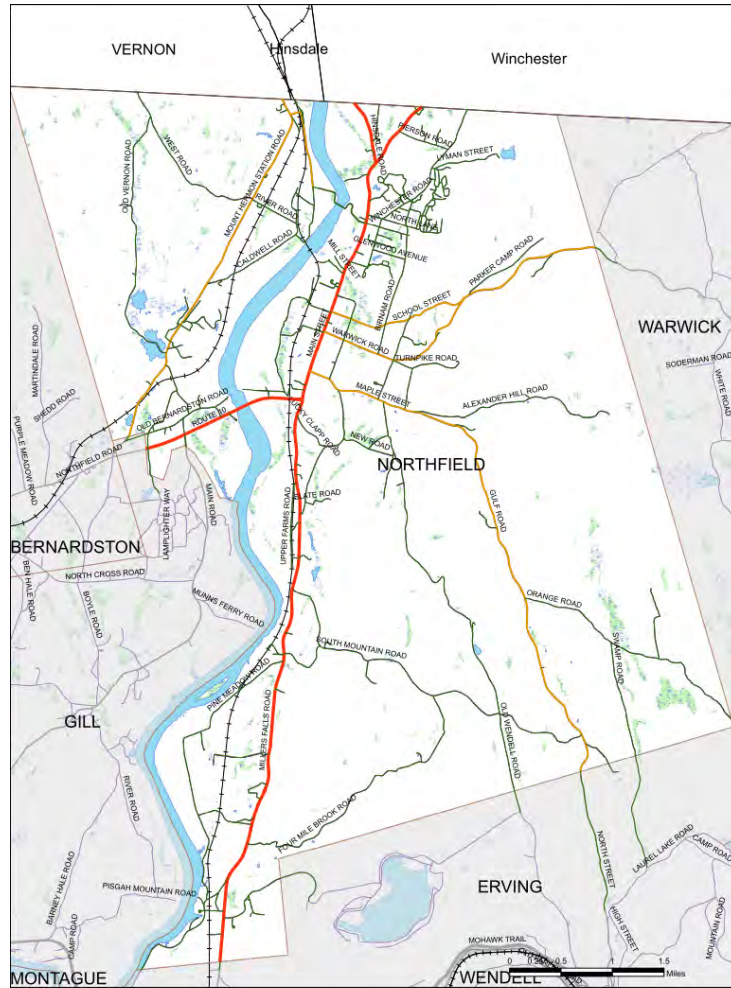
The functional classification of Northfield’s roadways is shown in Figure 4. Northfield has approximately 84 miles of roadway.² Approximately 8 percent of the roadways are located in west Northfield. Roadways are classified as minor arterials, major collectors and local roadways in Northfield. Most of these are designated as local roadways under town jurisdiction.

Minor arterials in Northfield include State Route 63 and State Route 10. Major collectors include Route 142, Maple Street, Warwick Road, School Street and West Northfield Road. Local roadways include South Mountain

² Ibid.

NORTHFIELD MASTER PLAN INVENTORY: TRANSPORTATION

Road, Pine Meadow Road, Lucky Clapp Road, Dickinson Street, Moody Street and Ashuelot Road.



Legend
Road Classification
 Functional Classification of Roadways
 Northfield, Massachusetts
 Arterial
 Collector
 Local

March, 2013

Figure 3: Functional Classification of Roadways in Northfield

Key Points:

- Route 63, Route 10 and Route 142 are major roadways in Northfield. The closest regional highways are I-91 and Route 2, which are located in the neighboring towns of Bernardston and Erving, respectively.
- The Route 10 Bridge is the only facility across the Connecticut River in operation. The Schell Bridge has been closed since 1987. As a result, west Northfield is not well connected to the rest of the town east of the Connecticut River.

TRAFFIC VOLUMES

EXISTING DAILY TRAFFIC VOLUMES

Table 3 summarizes weekday daily traffic volumes on select roadways in Northfield. The traffic counts were collected by MassDOT Highway Division and Franklin Regional Council of Governments in various years. The results show that Main Street, Route 10 and Route 63, being the major arterial and transportation corridor of Northfield experiences the highest amount of traffic. As shown in the table, Main Street/Route 10/Route 63 carried up to 8,200 daily vehicles south of Parker Avenue and 4,890 daily vehicles south of Moody Street. Similarly, Main Street north of campus and Main Street north of Moody Street each carried little more than 4,600 daily vehicles. Other roadways that experience moderate daily traffic volumes include Route 10 at New Hampshire State Line (2,800 vehicles), Route 63 south of Lucky Clapp Road (2,700 vehicles), Mount Hermon Road south of Bennet Brook Road (2,300 vehicles) and Route 142 north of Old Vernon Road (2,000 vehicles). Figure 5 shows daily volumes on roadways.

NORTHFIELD MASTER PLAN INVENTORY: TRANSPORTATION

The percentage of trucks on Northfield roadways generally ranges from 3% to 10% of total daily traffic.

Roadway	Daily Traffic Volume (Two-Way)	Year
Northfield		
Main Street (Rts. 10 & 63) s/o Parker Ave	8,200	2006
Main Street (Rts. 10 & 63) s/o Moody Street	4,890	2011
Main Street (Rts. 10 & 63) n/o campus	4,670	2012
Main Street (Rts. 10 & 63) n/o Moody St.	4,630	2012
Rt. 10 at New Hampshire State Line	2,800	2008
Rt. 63 s/o Lucky Clapp Rd.	2,700	2006
Mount Hermon Rd. s/o Bennet Brook Rd.	2,300	2001
Rt. 142 n/o Old Vernon Rd.	2,000	2004
Rt. 63 (Northfield Rd.) at Northfield and Erving Town Line	1,920	2011
Maple St. e/o Rt. 10/63	1,450	2012
Rts. 10 & 63 at New Hampshire State Line	1,300	2006
Rt. 142 at Vermont State Line	1,100	2001
Fort Sumner Turner Rd. n/o Rt. 10	1,070	2011
Gulf Rd e/o Commonwealth Ave	910	2006
Bennett Brook Rd. n/o Fort Sumner Turner Rd.	910	2011
Warwick Rd. e/o Rts. 10 & 63	790	2006
Pine Meadow Rd. e/o Meadow View Ln	610	2002
South Mountain Rd. e/o Rt. 63	400	2006
Parker Ave w/o Rts. 10 & 63	300	2006
Birnam Rd. n/o School St.	290	2012
Gill Center Rd. n/o Rt. 10	160	2011
Highland Ave. s/o Moody St.	150	2012
Upper Farms Rd. n/o Jewett Rd.	140	2002

Roadway	Daily Traffic Volume (Two-Way)	Year
Gill Center Rd. n/o Rt. 10	110	2007
Homer St. s/o Jewett Rd.	110	2002
River Rd. e/o Rt. 142	80	2001
Meadow St. w/o Rt. 63	20	2001
Neighboring Towns		
Rt. 10 w/o Rt. 142 (Bernardston)	8,200	2006
North Street (in Erving s/o Northfield Town Line)	1,000	2004

Table 3: Roadway Existing Daily Traffic Volume

Source: City/Town Traffic Volume Count Listing. MassDOT Highway Division.

<http://www.mhd.state.ma.us/default.asp?pageid=content/traffic01&sid=about>

Average Daily Traffic Count (ADT) Data, Franklin Regional Council of Governments (FRCOG)

TRAFFIC GROWTH

Table 4 summarizes weekday daily traffic volume growth on select arterials, collectors and local roadways in Northfield. The results show that traffic volumes on all the selected roadways decreased in recent years. Route 63 and Route 10 experienced significant decreases. The recent decreases in traffic volume are consistent with trends experienced throughout the state.

NORTHFIELD MASTER PLAN INVENTORY: TRANSPORTATION

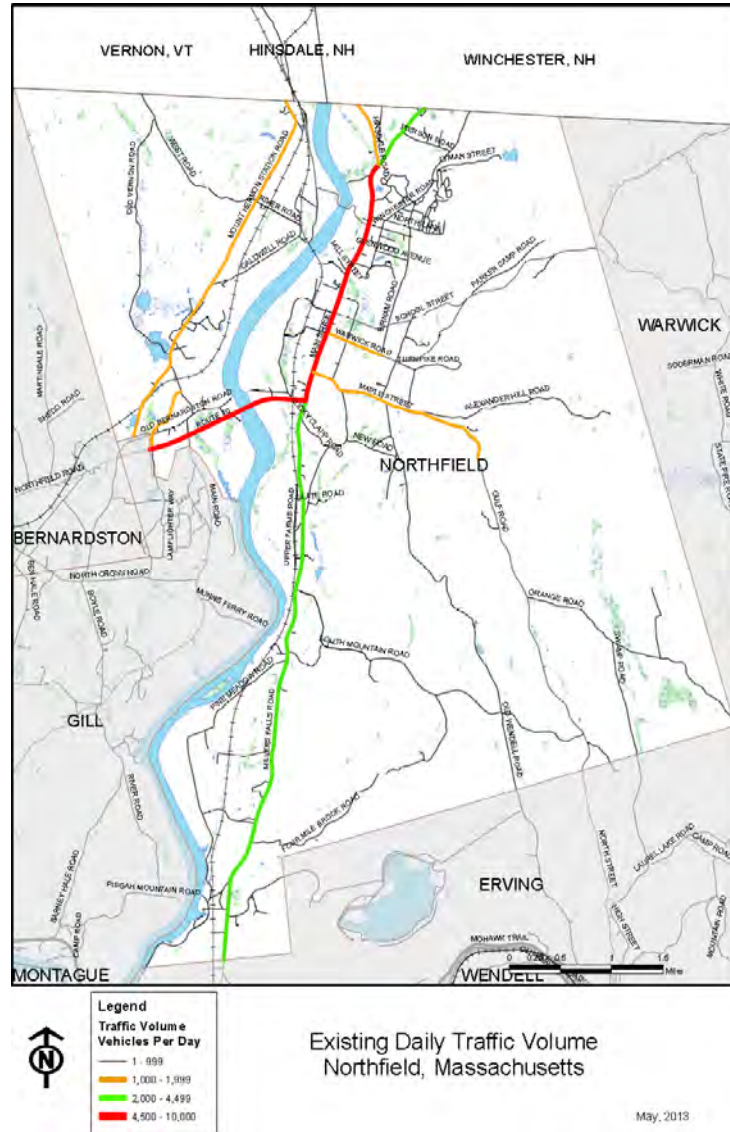


Figure 5: Existing Daily Traffic Volume

Location	Weekday Daily Traffic			
	Count Years	Daily Traffic Volume	Percent Change	Annual Percent Change
Parker Avenue west of Routes 10 & 63	2004 2006	330 300	-9%	-5%
Route 63 south of Parker Avenue	2004 2006	9,000 8,200	-9%	-4%
Route 10 at New Hampshire State Line	2001 2008	3,400 2,800	-18%	-3%
South Mountain Road east of Route 63	2004 2006	430 400	-7%	-3%
Warwick Road east of Routes 10 & 63	2004 2006	820 790	-4%	-2%
Gulf Road east of Commonwealth Avenue	2004 2006	940 910	-3%	-2%
Route 10 & 63 north of Moody Street	2006 2012	5,200 4,630	-11%	-2%
Route 63 at New Hampshire State Line	2001 2006	1,400 1,300	-7%	-1%

Table 4: Roadway Traffic Growth

Source: City/Town Traffic Volume Count Listing, MassDOT Highway Division.
<http://www.mhd.state.ma.us/default.asp?pgid=content/traffic01&sid=about>

Key Points:

- Main Street/Route 10/Route 63 experiences the highest volume of traffic with approximately 8,200 vehicles per day.
- Traffic volumes on most roadways have decreased in recent years.

NORTHFIELD MASTER PLAN INVENTORY: TRANSPORTATION

TRAFFIC OPERATIONS

This section summarizes traffic operating conditions in Northfield and identifies safety and mobility access issues. While there are no overriding critical traffic issues in town, specific areas were identified where improvements may be needed.

Key Points:

- There is no gas station in town. This increases vehicle miles traveled for Northfield residents.
- The intersections of Rt. 10/Rt. 63 and Main Street/Warrick Road/Parker Avenue have been identified as safety concerns (see Accident section below). Signalization of these intersections may be considered in the future.
- It has been reported that off-street parking at the Northfield Elementary School is inadequate for parents dropping off and picking up children. As a result, congestion occurs on Main Street and a police officer is present during both times. Because Main Street (Rt. 10 and Rt. 63) is under MassDOT jurisdiction, on-street parking is prohibited.
- Speeding on Northfield roadways is a concern, particularly on Main Street in the center area. Main Street is wide which encourages high travel speeds.

ACCIDENTS

One measurement of safety is to review the history of accidents at Northfield intersections. Crash data for Northfield was obtained from MassDOT.

Table 5 and Figure 6 show the intersections with high number of accidents in Northfield from 2006 to 2010. Table 5 shows that most intersections only had one or two reported crashes in the five-year survey period. The highest number of crashes (6) occurred at the intersection of Route 10 and Gill Center Road. It should be noted that only 110 daily vehicles were recorded on Gill Center Road north of Route 10 (see Table 3). Four of the six crashes involved injury, which are generally representative of high speed collisions. Route 10 is posted for 55 MPH at this intersection with two lanes westbound and one lane eastbound. Four of the six crashes are angle collisions which are typical where vehicles are entering a high speed roadway from a minor street. The intersection of Route 10/Gill Center Road was also listed in the *Top Fifty Most Hazardous Intersections in Franklin County* during the 2004 - 2006 study period by Franklin County. It was ranked as 33 most hazardous intersection in Franklin County.³

The next highest accident location was the intersection of Route 10 and Route 63 (Main Street), which experienced five accidents from 2006 to 2010. This is a wide T-intersection with Route 10 forming the stem of the T. There is a median on the Route 10 approach and there is a wide turning radius for right turns in and out of Route 10. There is a flashing yellow beacon for both directions on Main Street and a flashing red beacon for the Route 10 approach. The sight distance for the eastbound Route 10 approach is restricted due to vertical and horizontal curves on Main Street. Speeds on Main Street at this location appear moderately high.

The other intersection that experienced more than two crashes is the intersection of Main Street/Route 10/Route 63 and Warwick Road and Parker Avenue, where 4 crashes were recorded from 2006 to 2010. As shown in Table 3, the segment of the Main Street/Route 10/Route 63 south of Parker Avenue carries a high daily traffic volume (8,200 vehicles). This intersection has two flashing yellow beacons on each Main Street approach to the intersection and one flashing red beacon facing the Parker Avenue approach. Both the Warrick Road and Parker Avenue approaches are Stop controlled. Both Main Street approaches and the Warrick Road approaches have narrow median islands. The crosswalks across Main

³ Identification of the Most Hazardous Intersections in Franklin County, 2004-2006. Franklin Regional Council of Governments. Pg.10. January 2009.

NORTHFIELD MASTER PLAN INVENTORY: TRANSPORTATION

Street are long and cut through the median islands, which are insufficient for safe pedestrian storage. Both the Parker Avenue and Warrick Road approaches are complicated by the private commercial driveways located very near Main Street.

All the other locations experienced either one or two crashes. While no fatal injuries were recorded in any of these locations, there was one fatal injury recorded at 166 Gulf Road in 2008, which involved a motorcycle. Table 5 also shows that the total number of vehicle accidents per year at the 17 intersections was fairly constant from 2006 to 2008. The total number of vehicle accidents at these intersections decreased significantly in 2009, with only two vehicle accidents. In 2010, a total of 5 vehicle accidents were recorded.

According to the Town of Northfield’s 2011 Annual Report, a total of 47, 35 and 60 motor vehicle accidents were recorded throughout the Town for the years 2009, 2010 and 2011, respectively. Similarly, there were 141 motor vehicle offenses in 2009, 101 in 2010 and 72 in 2011.⁴ Because of budgetary constraints and elimination of a traffic enforcement grant funding from the state, which the Town had been receiving for many years, the Town saw a reduction in traffic enforcement in this same period. The Town Annual Report also notes that traffic concerns continue to be a high priority for Northfield residents and for the Northfield Police Department.

Key Points:

- The three highest accident locations over the five-year period are Route 10/Gill Center Road/Main Street, Route 10/Main Street/Route 63 and Main Street/Warwick Road/Parker Avenue.
- The total number of vehicle accidents in town has increased between 2009 and 2011, but the number of citations issued has dropped from 141 to 72 in 2011.

⁴ Annual Report. Town of Northfield. Year Ending December 31, 2011. Pg. 89. <http://www.northfield.ma.us/files/Board%20of%20Selectmen/2012%20docs/2011%20Annual%20Report.pdf>

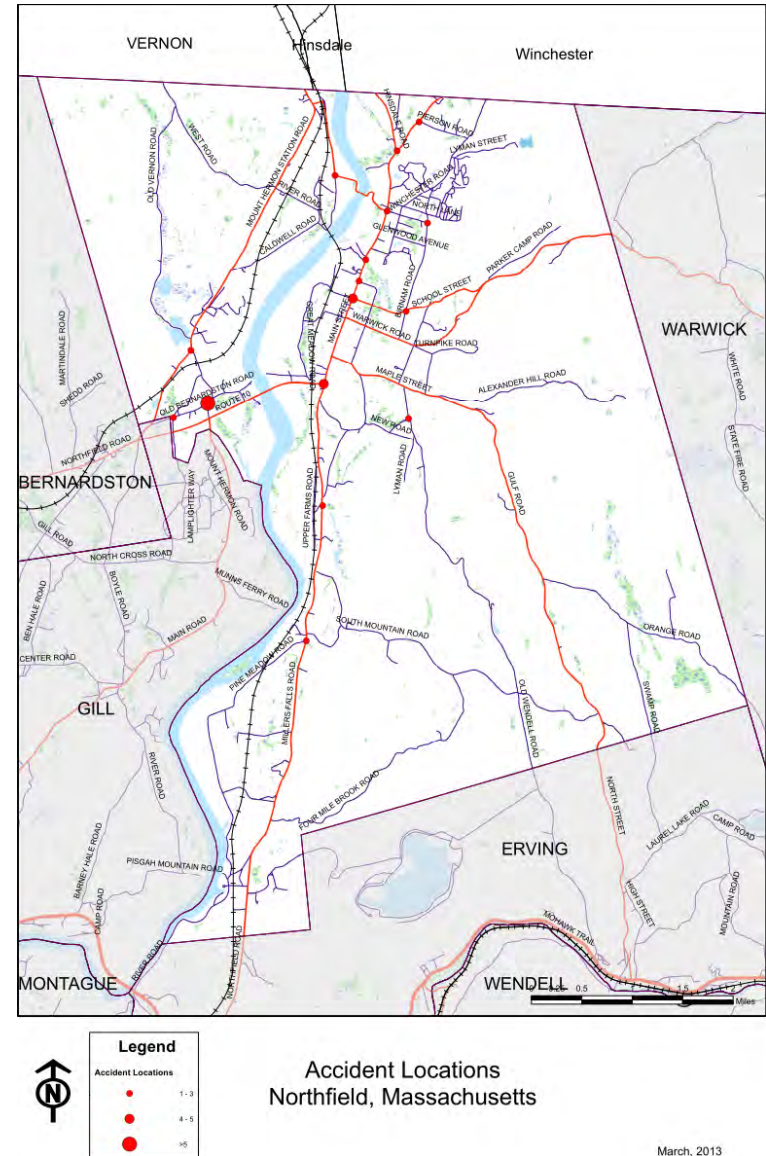


Figure 6: High Accident Locations (2006-2010)

NORTHFIELD MASTER PLAN INVENTORY: TRANSPORTATION

No.*	Location (Local Intersections)	Severity				Crash					Light Conditions					Time of Day			Day		Road Surface				Year					Total
		Property	Injury	Other/ Not Reported	Fatality	Head-on	Angle	Rear-end	Side-swipe	Other/ Unknown	Daylight	Dawn/Dusk	Dark (unlit)	Dark (lit)	Unknown	Weekday Peak Period	Other	Weekday	Weekend/ Holiday	Dry	Wet	Snow/ Ice	Other	2006	2007	2008	2009	2010		
1	Rt. 10/ Rt. 63 (Main St.)	4	1				3		2	5					3	2	4	1	3		2		2	1		1	1	5		
2	Old Wendell Rd/New Plain Rd/ Lyman Rd		1				1				1				1		1				1		1					1		
3	Birnam Rd/North Lane		1			1				1					1		1		1				1					1		
4	F. Sumner Turner Rd/ Rt.10	1	1			1	1			2						2	2		1		1		1		1			2		
5	Main St. (Rt. 10)/Warwick Rd/ Parker Ave	2	2			4				4					1	3	3	1	3		1		1		2	1		4		
6	Rt. 10/ Gill Center Rd/ Main St.	2	4			4	1		1	4	1		1		2	4	3	3	4	1	1		2	2	2			6		
7	Old Vernon Rd./West Rd.	1							1	1						1	1		1				1					1		
8	Wanamaker Rd.(Rt. 10)/Pierson Rd.		1				1			1					1		1			1				1				1		
9	Millers Falls Rd.(Rt. 63)/Captain Beers Plain Rd.	1						1		1					1		1		1					1				1		
10	Millers Falls Rd. (Rt. 63)/Lyman Hill Rd.	1							1	1					1		1				1			1				1		
11	Main St.(Rt. 10)/Hindsdale Rd. (Rt. 63)	1	1				1		1	2					1	1	1	1	2					1			1	2		
12	Birnam Rd./ School St.	1				1				1					1		1			1					1			1		
13	Caldwell Rd./West Northfield Rd.		1						1	1					1		1		1						1			1		
14	Main St.(Rt. 63)/Pentecost Rd.	1				1				1						1	1		1						1			1		
15	Mount Hermon Station Rd./Bennett Brook Rd.	1					1			1						1	1		1								1	1		
16	Main St. (Rt. 63)/Moody St.	1					1			1					1		1				1						1	1		
17	Main St. (Rt. 63)/Mill St.	1							1			1			1		1		1								1	1		
	Subtotal	18	13	0	0	0	12	10	1	8	27	2	0	2	0	16	15	25	6	20	3	5	3	9	7	8	2	5	31	

Table 5: Northbridge High Intersection Accident
 Source: MassDOT
 Note:*Identification letter corresponds to locations in Figure 6.
 There was one fatal injury recorded for 166 Gulf Road in 2008.

NORTHFIELD MASTER PLAN INVENTORY: TRANSPORTATION

PEDESTRIAN AND BICYCLE FACILITIES

SIDEWALKS ON PUBLIC WAYS

There are approximately two miles of sidewalks in Northfield that are generally limited to Main Street in the town center area and a few side streets. Main Street has a sidewalk on each side separated by a large landscaped buffer. On the east side, the sidewalk extends between Maple Street on the south and the library on the north. On the west side, it extends from Maple Street to the post office on the north.

The sidewalks on Main Street were reconstructed in 2010 as part of the Northfield Scenic Byway Construction project on Route 10/63 (Phase I).

TRAILS AND BIKE PATHS IN NORTHFIELD

Northfield does not have dedicated bike lanes however; the town allows bicyclists to ride on sidewalks. Existing trails in the Town of Northfield include the Franklin County Bike Path, Northfield Connector, Connecticut River Valley Corridor and Mill Brook Trail.

Franklin County Bike Path

The Franklin County Bikeway totals approximately 44 miles in length, and primarily consists of a loop through Greenfield, Deerfield, Montague and Gill, with a northern spur to Northfield and two southern spurs, one to Sunderland and the other to Leverett/North Amherst. The 2009 Franklin County Bikeway Plan Update identifies bicycle connections in the central, eastern and western parts of Franklin County.⁵ Northfield is located in the eastern part of Franklin County.

⁵ 2009 Franklin County Bikeway Plan Update. Franklin Regional Council of Governments.

Much of the Bikeway network consists of “on-road” or “shared roadway” sections that make use of predominantly low traffic roads. There are several “off-road” bike paths as well that provide connections suitable for all riders. The central portion of the Franklin County Bikeway is marked with Franklin County Bikeway way-finding signs. Some of the Franklin County bike paths that travel through Northfield are discussed below:

Franklin County – Vermont Loop: The Franklin County-Vermont Loop begins on the Franklin County Bikeway’s Greenfield-Montague Route at the intersection of West Gill Road and Hoeshop Road. From there, a bicyclist can travel north on Turner Falls Road to Purple Meadow Road via west on Northfield Road to Huckle Hill Road in Bernardston. This route then travels into Vermont and loops back south on Pond Road/Scott Road/West Road to Mount Hermon Station Road in Northfield. It leads back to Turners Falls Road. It is 18.2 miles long and approximately half of the loop lies within Northfield. This loop is strenuous because of the very hilly terrain and is recommended for experienced cyclists only.⁶

Northeastern Franklin County Route : The Northeastern Franklin County Route is 15.5 miles long and begins in Orange and ends in downtown Northfield. From downtown Orange, bicyclists can take Route 2A west to Route 78/Warwick Road and head north. From Warwick Road/Orange Road, take a left onto Northfield Road along the Mount Grace State Forest into downtown Northfield ending at Main Street, which is currently part of the existing Franklin County Bikeway. This route is hilly and follows windy roads with little to no shoulder. This route is recommended for experienced cyclists only.

New Hampshire Connector : The New Hampshire Connector is 3.9 miles and starts from Main Street in Northfield and connects to the Ashuelot and Fort Hill Rail Trails in New Hampshire. Only a small segment of this route travels through Northfield. These rail trails are currently not paved, but

http://www.massdot.state.ma.us/portals/0/docs/bike/Franklin%202009_bikeplan_update.pdf

⁶ Franklin County Bikeway. Eastern County Bike Map.

http://www.frcog.org/pubs/transportation/Bikeway/east_map_fr.pdf

instead have sandy/cinder surfaces. To reach the trail heads from Northfield, travel north on Main Street and then bear left on Route 63. There is an unfinished trail head parking lot on Route 63 on the left after passing Barber Road and descending through a switchback. This route has a long, steep climbs with no shoulders at times. This route is recommended for experienced cyclists.

Future Plans: The FRCOG has begun working with the Massachusetts Department of Conservation and Recreation and the States of Vermont and New Hampshire to identify routes and connections for a Tri-State Bikeway, and a map will be produced using funding from the National Scenic Byway Program. The FRCOG will also be working on an on-going basis to mark additional portions of the Franklin County Bikeway with way-finding signs.⁷

Northfield Connector

The Northfield Connector is located in the towns of Northfield and Erving. It is approximately 11 miles of shared roadway that provides a non-motorized link from Montague to the Northfield Mountain Recreation and Environmental Center and Northfield Center. Northfield Mountain, owned by FirstLight Power (formerly Northeast Utilities), is both a large regional employer (hydroelectric power plant pumped storage facility) and a significant regional recreation destination. The Northfield connector is located entirely on existing roads. It does not require land acquisition, design, engineering, or construction. The connector includes roadway signage that clearly indicates the bikeway route and alerts motorists to the road's multiple use.

⁷ Franklin County Bikeway.
http://www.frcog.org/services/transportation/trans_bikeway.php

Connecticut River Valley Corridor (East and West)

The Connecticut River Valley Corridor (East and West) is part of the proposed seven corridor Bay State Greenway (BSG) network. The *2008 Massachusetts Bicycle Transportation Plan* has recommended for the development of the BSG, which is a 740-mile statewide bicycle network of seven primary corridors. A secondary network (consisting of twenty-two routes) will provide connections between the seven corridors and other population centers, intermodal facilities, commercial districts and major activity centers.⁸ The BSG network consists of a single route alignment with a combination of on-road and shared use path sections.

The Connecticut River Valley Corridor (West) is an on-road route which travels from the Vermont border to the Connecticut border. The route travels from the Vermont border on Route 142 in Northfield; on Route 10 and Shaw and Hoe Shop Roads in Bernardston before continuing to Connecticut border.

The Connecticut River Valley Corridor (East) travels from the New Hampshire border to Chicopee. This route is also an on-road route. The route travels from New Hampshire border on Route 63, travels through Pine Meadow Road in Northfield and continues to the south.

⁸ 2008 Massachusetts Bicycle Transportation Plan. Commonwealth of Massachusetts. Executive Office of Transportation. September 2008.
<http://www.eot.state.ma.us/common/downloads/bikeplan/bikeplannolinks.pdf>

NORTHFIELD MASTER PLAN INVENTORY: TRANSPORTATION

Key Points:

- Northfield does not have dedicated bike lanes however; the town allows bicyclists to ride on sidewalks.
- Town has few access points to the river.
- Sidewalks are limited to Main Street (recently replaced) and the center area.
- Existing trails in the Town of Northfield include the Mill Brook Trail, Franklin County Bike Path, Northfield Connector, and Connecticut River Valley Corridor.

TRANSIT

Northfield does not have any fixed-route public transit services. Northfield shares senior van service with the Town of Bernardston. The senior van runs only two days a week to/from the Northfield Senior Center which is located on the ground level of Town Hall and is handicap accessible from the rear of the building.⁹ Effective July 1, 2011 the Senior Center went from three days of operation to five.¹⁰ The Town has a “Meals on Wheels” program, which provides home delivery services of meals to the seniors.

According to the Town of Northfield’s 2011 Annual Report, the participation of senior members increased approximately by 7% in 2011 compared to 2010 suggesting that Senior Center is becoming a thriving meeting place of activity for a large segment of Northfield’s population.

⁹ Northfield Senior Center. Town of Northfield website.

<http://www.northfield.ma.us/index.php?id=17>

¹⁰ Annual Report. Town of Northfield. Year Ending December 31, 2011. Pg. 77.

<http://www.northfield.ma.us/files/Board%20of%20Selectmen/2012%20docs/2011%20Annual%20Report.pdf>

The Annual Report also notes that the participants for congregate meals decreased in 2011 because some of the regular participants were no longer driving as shown by the monthly senior van records. The senior van statistics will be helpful in identifying future needs for more transportation services in the future.

The Franklin Regional Transit Authority (FRTA) contracts with the Department of Medical Assistance to provide eligible MassHealth (Medicaid) recipients with transportation to medical appointments. The FTA must have 3 business days to schedule appointments. The MED-RIDE Program is available to medical appointments outside Franklin County for ambulatory elders 60 years or older who reside in Franklin County. Demand response transportation is a curb-to-curb service offered to elders 60 years or older who are eligible Franklin County Home Care Corp. consumers, nursing home residents or Veterans with a disability rating of 70% or higher. The FRTA can provide vans for special events.

In November 2011 The Franklin Regional Council of Governments prepared the 2011 *North County Transit Study* for the Franklin Regional Transit Authority. The study evaluated the potential for fixed-route bus service between Greenfield, Bernardston, Gill and Northfield. The study recommended a new service via Routes 5, 10 and 63 with the following Northfield stops:

Key Points:

- There is no fixed-route transit service for the general public.
- Northfield shares senior van service with the Town of Bernardston to provide regional transit service for seniors. This service is reportedly inadequate and the demand is expected to increase as the population ages.
- Transportation for medical appointments is available to those 60 years and older.
- FRTA provides vans for special events.

NORTHFIELD MASTER PLAN INVENTORY: TRANSPORTATION

- Pioneer Valley Regional High School
- Northfield Mt. Hermon Gill Campus
- Northfield Senior Center
- Former Northfield Mt. Hermon Northfield Campus

The study concluded that a new fixed-route bus service between Greenfield and the northern portion of the county would benefit many residents, especially the elderly population.

RAIL SERVICE

PASSENGER RAIL

Connecticut River Main Line (owned by Pan Am Railways) travels through Northfield in a north-south direction and roughly parallels the Connecticut River and Route 63. Currently, the only passenger service in Franklin County is operated by Amtrak, the national passenger rail corporation. Amtrak operates two trains daily that pass through Franklin County but has no stops in the County. It travels between Washington, D.C. and Saint Albans, Vermont via Philadelphia, New York and Springfield. The nearest train stops to Franklin County are in Amherst to the south and Brattleboro, Vermont to the north.

The “Knowledge Corridor - Restore Vermonter Project” along the Connecticut River rail line received funding from the U.S. Department of Transportation. The competitive grant award is part of the 2010 American Recovery and Reinvestment Act (ARRA) High-Speed and Intercity Passenger Rail program. The Knowledge Corridor – Restore Vermonter Project will restore Amtrak’s intercity passenger train service to its original route by relocating the Vermonter from the New England Central Railroad back to its former route on the Pan Am Southern Railroad. The Pan Am Southern route provides a shorter and more direct route for the Vermonter between Springfield and East Northfield, and improves access to densely populated areas along the Connecticut River. The Pan Am Southern route would

include station stops at the former Amtrak station at Northampton and the new intermodal station at Greenfield. The routing of Amtrak service in Vermont and south of Springfield would remain unchanged.¹¹

FREIGHT SERVICE

Freight service in Northfield is provided through Connecticut River Main Line and NECR Main Line (owned by New England Central Railroad). Pan Am Railways (PAR) is a Class II rail carrier with connections to the New England Central Railroad (NECR) rail line in Montague and Northfield. The Connecticut River Main Line currently operates at FRA-exempted levels, and trains may not exceed 10 miles per hour. Due to these conditions, there are only a few remaining online customers.¹² NECR is a Class III railroad and is composed of 53 miles of right-of-way between Monson and Northfield. NECR Main Line is a major north-south corridor for the New England region, connecting Canada with Connecticut. Average annual freight rail tonnages is 1.3 million tons, much of it composed of lumber products shipped from Canada.

¹¹ MassDOT, Office of Transportation Planning. The Knowledge Corridor – Restore Vermonter. <http://www.massdot.state.ma.us/knowledgecorridor/index.html>

¹² Connecticut River Railroad. http://en.wikipedia.org/wiki/Connecticut_River_Railroad

NORTHFIELD MASTER PLAN INVENTORY: TRANSPORTATION

RAILROAD GRADE CROSSINGS

The railroad begins as a single railroad line at Vermont State Line. After entering Northfield, the railroad splits into two just after crossing West Northfield Road. One railroad runs parallel to Route 142 and continues to Bernardston. The other railroad crosses Connecticut River and roughly parallels to Route 63 and travels through Northfield Farms before continuing south to Erving. Amtrak is currently replacing rails on the west side of the Connecticut River and will provide new gates at crossings. Table 6 shows the railroad grade crossing locations in Northfield (nine at-grade crossings). The table also identifies the locations where the roadways pass under or over the railroads.

Key Points:

- Passenger rail and freight rail service passes through Northfield. The nearest Amtrak passenger stations are located in Amherst, MA and Brattleboro, VT. There are nine at-grade crossings and seven road grade separations in Northfield.

Route/Street	Location	Crossing Type
Meadow Street	w/o Route 63	At-grade crossing
Parker Avenue	w/o of Routes 10 & 63	At-grade crossing
Upper Farms Road	n/o of Jewett Road	At-grade crossing
Jewett Road	e/o Upper Farms Road	At-grade crossing
Homer Road	e/o Upper Farms Road	At-grade crossing
Munns Ferry Road	w/o Route 63/Millers Falls Road	At-grade crossing
Pine Meadow Road	e/o of Meadowview Lane	At-grade crossing
River Road	e/o Route 142	At-grade crossing
Mount Hermon Station Road	s/o Bennet Brook Road	At-grade crossing
W Northfield Road	s/o Vermont State Line	Road grade separated crossing (overpass)
Route 10	s/o Parker Avenue	Road grade separated crossing (overpass)
Cross Road	e/o Pine Meadow Road	Road grade separated crossing (under pass with only one lane)
Ferry Road	e/o Pine Meadow Road	Road grade separated crossing (under pass)
Bennet Brook Road	se/o Route 142	Road grade separated crossing (overpass)
Caldwell Road	e/o Randell Road	Road grade separated crossing (under pass)
Caldwell Road	e/o Route 142	Road grade separated crossing (under pass with only one lane)

*Table 6: Railroad Grade Crossings in Northfield
Source: City/Town Traffic Volume Count Listing, MassDOT Highway Division and field visit.*

FUTURE PROJECTS AND OPPORTUNITIES/NEED

PLANNED PROJECTS

The Town is planning reconstruction of section of South Mountain Road and 4 Mile Brook Road to improve drainage and stormwater issues.

The FRCOG, along with MassDOT and three other regional planning agencies, have been working to launch a marketing campaign for the seven designated Scenic Byways in Western Massachusetts. In Franklin County this includes Route 122, Route 2, Route 116, Route 47 and 63/10, and Route 122. The goal of the project is to brand and promote these Scenic Byways as local and regional travel destinations. To date the project has produced a family of logos and graphics for the byways, and is well underway with website development, the production of maps and brochures, and identification of a wayfinding sign system. The FRCOG is also working to secure additional funding to implement the recommendations of the Connecticut River Scenic Farm Corridor Management Plan which include streetscape improvements in Northfield.

Phase II of the Northfield Scenic Byway Construction project on Route 10/63 includes improving safety at Main Street/Parker Avenue, restoring the town common, enhancing surrounding areas and streetscape, and addressing traffic and pedestrian concerns. Funding for Phase II is currently not available.

Amtrak is currently replacing rails on the west side of the Connecticut River and will provide new gates at crossings.

FUTURE OPPORTUNITIES/NEED

The following measures were identified to improve existing and/or potential future transportation conditions:

- Pedestrian activated traffic signal at the intersection of Main Street/Warwick Road/Parker Avenue.
- Need for permanent portable radar trailer to record and enforce traffic speeds on town roadways.
- Need for ride-share services and park-and-ride lot in the region to serve Northfield residents. Coordination needed between FRCOG, FRTA and MassDOT
- Repair/replace Schell Bridge to pedestrians and bicyclists to improve access between west and east Northfield
- Consider providing bicycle accommodations on select roadways.
- Potential transportation improvements related to potential new college on the Northfield Mount Hermon campus:
 - Need for extending sidewalks on Main Street to current campus;
 - New traffic signal at the intersection of Rt. 10/Rt. 63;
 - New fixed-route transit service;
 - Redesign and construction of town center area on Main Street to accommodate traffic, pedestrians, bicycles, and on-and off-street parking. Will require town to start the Discontinuance Process with MassDOT District 2.

NORTHFIELD MASTER PLAN INVENTORY: TRANSPORTATION

RESOURCES

INTERVIEWS

Diane Cornwell (Senior Center Bernardston and SC) and Gwen Trelle (SC),
March 20, 2013

Steve Malsch (Water Commission, Fire Depart., Main St. Sidewalk
Committee, March 20, 2013

Acting Police Chief Rob Leighton, March 20, 2013

Tom Hutcheson (Town Administrator), March 21, 2013

Tom Walker (Highway Superintendent), May 15, 2013

FIELD VISITS

Guided Town Tour, January 30, 2013

March 20, 2013

March 21, 2013

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2004-2006. Franklin Regional Council of Governments. Pg.10. January
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<http://www.mhd.state.ma.us/default.asp?pgid=content/traffic01&sid=about>

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NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

This chapter identifies and describes the public facilities and services that the Town of Northfield provides to its residents and business owners. As the Town continues to develop and improve, municipal services may need to change to reflect the needs of the community. Aging facilities will need to be replaced and/or upgraded. Existing Town services will need to be adjusted and adapted to meet various codes, changes in technology, and changes in available methods for increased efficiency. New services and facilities may be needed to accommodate a growing elderly population. These changes will impact the way in which services are provided, the buildings which house them, as well as their capital needs, and therefore, the Town budget. As a small town with finite resources, Northfield must continually face the challenge of funding municipal and school services.

Northfield is a very small town (the 80th smallest of the 351 towns in the Commonwealth); nevertheless its residents have access to a full set of basic services (fire, police, EMS, buildings, cemeteries and road maintenance, public library, public schools, water and sewer), some of which are private or quasi-public. There are a number of people in town volunteering in a variety of roles. Some functions are not entirely formalized. More recently, there is a reported difficulty in recruiting volunteers for services that have traditionally been provided by volunteers (e.g. fire, EMS). As the town grows -- especially with the potential for

growth inherent in the reuse of the campus -- some of these functions may need to become less casual and larger scale. Additionally, some of the services that currently rely on volunteers may need to be provided by a professional staff in the future. Additionally, regionalizing services may help to make them more cost effective.

In terms of facilities, some of the facility needs have been deferred and will therefore have to be addressed in the near future, especially if they are to serve an increased population. The re-instated Building Maintenance position at the Highway Department has already begun to make a difference in cost effective repairs and preventive maintenance.

The information presented in this chapter is a compilation of a review of relevant previous studies, and documents and information posted on the web and presented in Town reports. Additionally, for each facility and service, at least one "leadership interview" was conducted (e.g., Police and Fire Chiefs, School Principal, Director of the Library, etc.). Site visits were also conducted.

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

Summary of Key Points

Northfield's public facilities are in fair to good condition with varying degrees of maintenance. Future facility and service needs include:

- There is a need to upgrade police, fire and EMS facilities, either together in a Public Safety Complex or in separate facilities.
 - The **Police Department** operates out of inadequate facilities in the basement of the Town Hall building.
 - The **Fire Department** needs additional space for its equipment.
 - **EMS** has found a temporary solution to its facility needs, but will need an upgraded facility sometime in the future.
- The **Regional High School building** is in good condition and planned improvements including the Land Management Plan at the high school will result in opportunities for students and the community at large. The regional high school accommodates a significant number of choice and tuition students from outside the District. Potential additional growth in enrollments could be accommodated at the H.S by reducing the number of choice and tuition students.
- The **Elementary School building** is in need of renovation and updating.
- The **Town Hall building** is in relatively good condition, but in the near future there will be a need for a space plan for efficient and effective allocation of space, technology and storage. Additionally, funds will be necessary for renovations, upgrades, and historical restoration of the building.
- The **library** is in fairly good condition and has the potential to play a broader role in the community. The library can provide opportunities for life long learning and community gathering.
- The **senior population** of Northfield is increasing and will need additional services. There are two trends: those requiring more health-oriented services and supports and those more interested in wellness and socializing. There will be a need for additional services for seniors, helping them to age in place by providing a wide range of service including health, wellness and opportunities for socializing. This may include an expanded senior center, a Town Nurse, and an expanded senior van service.
- Discussions are underway to bring **broadband access** to Town. Providing fiber optic access would result in better broadband service for the community including the 40% of the Town that currently does not have access to any service.
- The Town's **water** supply exceeds current demand and most likely has the capacity to accommodate future growth. Water Commissioners are currently developing a plan for improving the system. The demand is less than the approved withdrawal, therefore, the Northfield Water District appears to have the capacity to support potential additional water demand.
- More than half of the **wastewater treatment** system's capacity goes unused therefore, it is likely that the current plant will suffice even with significant growth and expansion, however, there are certain large scale uses that are required to hook up to a wastewater treatment facility. This is only available in a limited geographic area. Lack of sewer capacity may constrain development of some uses, in some locations.
- Northfield has begun taking measures to ensure the future **sustainability** of its natural resources; these include obtaining a Green Communities designation from the state and creating an Energy Committee; and the Transitional Northfield tool library.

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

CHAPTER CONTENTS

The following facilities and services are covered in this chapter:

Town Administrative Offices

Public Meeting Space

Town-wide Communication

Community Gathering (spaces and events)

SCHOOLS AND EDUCATION

PUBLIC SAFETY

Police Department

Fire Department

Emergency Medical Services

OTHER SERVICES AND FACILITIES

Council on Aging/Senior Center

Dickinson Memorial Library

Boy Scout House

Recreation

Board of Health

INFRASTRUCTURE AND UTILITIES

Highway Department

Building Maintenance

Transfer Station

Water

Wastewater

Stormwater Management

Sustainability Measures

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

NORTHFIELD MUNICIPALLY-OWNED PROPERTIES

Town-owned Property	Location	Land Area	Square Footage	Other Comments
Town Hall	69 Main Street	1.5 acres	13,261 GSF 13,069 sq.ft. (finished area)	Built about 1929 Primarily brick exterior & tar & gravel roof cover
Library	113 Main Street	.5 acres	11,650 GSF 8,439 sq. ft.(finished area)	Built about 1897, primarily stone exterior & slate roof cover
Elementary School	104 Main Street	12.65 acres	19,766 GSF 11, 648 sq.ft. (finished area) + 12,835 GSF 8,400 sq. ft. (finished area) + 19,766 GSF 14,600 sq. ft. (finished area)	Built about 1940, Primarily brick exterior & slate roof cover ----- Built about 1910 Primarily brick exterior & Slate roof cover ----- Built about 1990 Primarily brick exterior & asphalt roof cover

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES
Municipally-owned Properties (continued)

Town-owned Property	Location	Land Area	Square Footage	Other Comments
Sewer Plant	104 Meadow Street	8,985 acres	960 GSF 480 sq. ft. (finished area)	Built about 1972, Primarily concrete block exterior & membrane roof cover
Transfer Station and Highway Garage	Caldwell Street	4,878 acres	6,450 GSF 900 sf. Ft. (finished area)	Building about 1984, Primarily steel exterior & metal roof cover
Fire Station	93 Main Street	1.42 acres	4,525 GSF 2,525 sq. ft. (finished area)	Built about 1952 Primarily brick exterior & asphalt roof cover
Boy Scouts House	69 Main Street	1.5 acres	2,016 GSF 1,344 sq. ft. (finished area)	Built around 1900 Primarily clapboard exterior & asphalt roof cover

The Town owns a total of five (5) buildings and 26 parcels of land valued at \$9,933.900 (including \$8,365.800 building value and \$1,441,500 land value)

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

TOWN ADMINISTRATION OFFICES, MEETING SPACE, COMMUNICATION & COMMUNITY GATHERING

Summary of Key Points

- Discussions are underway to provide fiber optic access to the town; if this occurs, it will result in better broadband service for the community including the 40% of the town that currently does not have access to any service.
- The Town Hall Building will need renovation in the near future
- There is a need, as well as an expressed desire, for increased opportunities for community gathering

TOWN ADMINISTRATIVE OFFICES



The Town Hall building is in need of repair and renovation

The Town Hall, built in 1927, is located on Main Street in the center of Town. The building closes at noon on Fridays. The following departments are located in the approximately 13,069 square feet of the Town Hall building:

- Town Administrator
- Town Secretary
- Town Accountant
- Assessors Office
- Town Clerk
- Board of Health
- Building Inspector
- Tax Collector and Town Treasurer
- Council on Aging/Senior Center
- Police Department

Additionally, the Town's permitting bodies -- the Planning Board, ZBA, and the Conservation Commission -- operate out of the Town Hall without office space. The Recreation Commission as well as the Historic Commission and other committees also operate out of this building.

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

Facility

The town's administrative offices are located in Town Hall, on Main Street in the center of town. The building is in fair condition and is in need of maintenance. A comprehensive plan to renovate the Town Hall building was thought too expensive by the Select Board. Instead it was reduced to two projects:

- Redoing the electrical system
- Renovating the room across the hall from the Town Administrator's Office to make a meeting room and an office
 - Records and meeting space will be accommodated in the existing conference room

This reduced proposal was not recommended by the Finance Committee for the 2013 Town Meeting.

Upon Town Meeting approval, the windows in the Assembly Room and two rear doors were recently replaced. Other plans to improve the building include canopies for the rear doors, sewer liners, and repairing and/or replacing the shed. A consultant's review identified significant

deficiencies and safety issues relative to the electrical, alarms and emergency lighting, which need to be addressed. Some of the additional needs include:

- Town Clerk needs a new vault for important, historical documents
- Need to update systems incorporating advances in technology including GIS, on-line permitting, computerized record-keeping, etc.
- Need for more office and storage space

Funds (\$5,500) were allocated from the Community Preservation Fund Balance and reserved for Historical Preservation for a structural evaluation of the Town Hall Exterior focusing on the preservation of the historical integrity of the building.

A Town Hall Master Planning Committee is working on planning improvements to the building's exterior and a Building Use Committee is involved in working on projects in the interior of the building.

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

COMMUNICATION

The Town communicates using the following methods:

- Recorder (newspaper)
- Northfield Community Newsletter
- flyers posted around town
- BNC-TV
- Town website
- e-mail
- i-Neighbors social media site

Broadband. The Town recently voted to join Wired West, a regional cooperative formed to provide universal broadband access to its member towns. The new fiber option based network has the capacity to offer services that exceed the speed currently available. WiredWest is a cooperative of 40 western Massachusetts towns. Bringing fiber optic access to the town would result in better broadband service for the community including the 40% of the Town that currently does not have access to any service. It will provide more affordable access to a range of services including high speed Internet, digital phone, and TV/video.

Cable Service. The town has a ten-year contract in 2011 with Comcast for cable service. BNCTV is the local cable access channel.

PUBLIC MEETING SPACE

Meeting Space Location	Comments
Town Hall	Rooms include one in the basement (Senior Center); one on the first floor (the auditorium); & one on the second floor. Individual offices may also serve as meeting rooms.
Library	Utilized 2-3 times per week Capacity for approximately 50 people Audiovisual equipment set up capacity
Elementary School Cafeteria	Large space, separate entry
Regional High School Auditorium	Town Meeting held here
Regional High School Cafeteria	
Centennial House Bed & Breakfast (private)	2 rooms available for public use

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

COMMUNITY GATHERING

In the public forums held as part of the master planning process, the desire for additional opportunities for community gathering was one of the top most frequently expressed

Existing Spaces and Events

- Senior Pavilion: a covered “gazebo-like” structure provides space with picnic tables for events and is located behind the Town Hall. It is reportedly underutilized due to its name (“senior” pavilion) that may lead people to think that events being held there are for elderly residents.
- Day of History: the Historical Commission in partnership with the Northfield Historical Society, the Friends of Northfield’s Old Cemetery and the Northfield Area Tourism Group organizes a day in May commemorating significant events in Northfield history.
- Arts Celebration

FUTURE PLANS/NEEDS

Town Hall

In the near future there will be a need for a space plan for efficient and effective allocation of space, technology and storage in the Town Hall building. Additionally, funds will be necessary for the renovation and historical restoration of the building.

- Celebrate Northfield (summer event)
- Kiwanis sponsors an annual event at their pavillion
- Winter Day: includes historical tours, hay rides, musical performances
- Hallowe’en Rag Shag Parade
- Memorial Day Parade
- Farmer’s Market at Trinitarian Church
- Drive-in movie theater

Additional locations for community gathering: the front porch at Mim’s and Northfield Coffee and Books



Communications

In the future there the residents who currently do not have wireless internet service will have to be serviced in some way. Additionally, as the town grows, there may be a need for more and more formal communication systems.

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

Meeting Spaces

Currently the type and amount of public meeting spaces seems adequate. However, as the town grows, there may be a need for more as well as for a more formal process for reserving space.

ANTICIPATED IMPACT OF CAMPUS REDEVELOPMENT

If there were a significant increase in the population then it might be more pressing to renovate **Town Hall** and increase the efficiency of space usage. Similarly, while the means of **communication** as they exist may suffice for Northfield as it exists today, it may become necessary to formalize and increase communication if the Town increases its population substantially. There may also be a need for increased **meeting space** as well as for **opportunities for community gathering**, both important in community-building and in helping the Town feel as one.

SCHOOLS AND EDUCATION

Summary of Key Points

- There has been a recent decline in student enrollments at the Elementary School. This combined with significant numbers of Choice students from other districts as well as Tuition-paying students from Vermont, results in the ability of the schools to accommodate significant levels of additional growth if needed (in which case Choice and Tuition-paying students would be declined the possibility of enrollment)
- The Elementary School is in need of renovation and updating.
- The Land Management Plan at the Regional High School presents many potential benefits to the students as well as to the community at large.
- There are three schools located in the town; these are: Northfield Elementary School, Pioneer Valley Regional School, , and the Redemption Christian Academy (located in the former Linden Hill School).

School-aged children living in Northfield attending public schools go to schools that are part of the Pioneer Valley Regional School District (PVRSD). The Regional District serves the towns of Northfield, Bernardston, Leyden and Warwick (a total of 1134 students and their families), and is comprised of the five schools listed in the table to the right.

Total enrollment also includes school Choice students (110 at Pioneer and 68 students dispersed among the elementary schools). In addition the district has contracted with Vernon, VT to provide placement for 54 tuition students (all tuition students are at the Regional High School.. The Town of Vernon paid non-residential tuition fees of \$10,55 per student to PVRSD in 2010 and 2011.

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

Student Enrollment by School

School in Pioneer Valley Regional School District	Student Enrollment: 2013 ¹
Northfield Elementary School	219
Leyden Elementary School	50
Bernardston Elementary School	218
Warwick Community School	51
Pioneer Valley Regional High School	562
TOTAL	1,100

Although it has experienced a recent decline in numbers, Northfield’s elementary school, along with Bernardston’s have the highest enrollment of the elementary schools in the region.

Northfield benefits from participating in a regional school district by sharing services and programs and administration and other costs; as the town is so small, it would be difficult to keep the per pupil cost at a reasonable rate without sharing.

¹ From the Pioneer Valley Regional School, NEASC Site Visit, March 3-6, 2013 report.

Percent of Town Budget spent on Public Schools: Towns in Pioneer Valley Regional School District

Town in Pioneer Valley Regional School District	% of Town’s Operating Budget spent on public schools: 2011 ²
Northfield	65%
Bernardston	63%
Warwick	60%
Leyden	52%

Northfield spends the largest percentage (65%) of the town budget on the schools as compared to the other three towns in the district.

Decisions regarding the Elementary School (grades K-6) are supervised by an Elementary School Committee. Decisions regarding capital expenditures and changes to the middle and high school are shared by a 4-town Regional Board. The School District recommends improvements, but the Towns are responsible for the buildings located in their town. For decisions regarding the operating budget, three out of the four towns must agree. Policies and procedures are set by the Region.

² From the Pioneer Valley Regional School, NEASC Site Visit, March 3-6, 2013 report

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

The four communities are economically, racially, culturally and ethnically similar. No identifiable racial minority comprises more than 2% of the population and English is the primary language spoken by more than 99% of the students.³ The ethnic, racial and cultural composition of the student body has remained constant over the past ten years. There are no English Language Learners in the District.

In 2011-2012, the breakdown was:

- 96.1% White
- 1.9% Latino
- 0.6% Asian
- 0.2% Black
- 1.3% Multi Race

District-wide Student Enrollment by Town

Town	# of Students ⁴
Northfield	402
Bernardston	260
Warwick	78
Leyden	48

Northfield has the largest number of students in region.

³ From the Pioneer Valley Regional School, NEASC Site Visit, March 3-6, 2013 report.

⁴ Numbers are an average of the October 1 and the December 1 Reports, 2012.

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

STUDENT ENROLLMENT

While there has been a decline in student enrollment from within the district, the number of students in the regional high school has increased from 500 to 546 in the last 6 years; the school's total capacity is 560. In 2012, there were 96 Choice students from 11 surrounding towns and 59 tuition-paying students from over the border in Vernon, Vermont.

Grades	2008	2009	2010	2011	2012
Grades Pre-K-6	638	628	596	572	515
Grades 7-12	519	547	544	562	546
Sub-Total	1,157	1,175	1,140	1,134	1,061
Choice	195	194	186	178	170
Tuition	49	50	45	54	59
Total	1,401	1,419	1,371	1,366	1,290

The following is a break down of the number of students attending schools in the district (elementary and middle/high) by the town that they reside in.

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

Northfield Elementary School, located at 104 Main Street accommodates Pre-K to 6th grades students.

Student Enrollment

Approximately 96% of Northfield school-aged residents attend the Northfield public elementary school. There are currently 226 students in preschool through grade 6. Over the last two years, enrollment dropped by approximately 60 students. Prior to this, enrollment had been stable at between 280 and 300 students for the past fifteen (15) years or so.

There are approximately 10-12 students enrolled in the School Choice program from surrounding towns. The Elementary School intends to publicize the availability of space created by declining enrollment from within the town in order to attract additional School Choice students (and therefore, receive the revenue these students would bring).

The school building has been designed for maximum capacity of 310 students with an ideal population of approximately 300. Currently class size is an average of 18-20 per class (below the state average) with three lunch seating periods (currently being reduced to two).

Facility

The Northfield Elementary School is located on a 12-acre site and is housed in two buildings constructed in 1910 and 1940 (known as the North Building and the Center School). Both facilities are sited so that they face Main Street and collectively they contain thirteen classrooms and related spaces. Additionally there is a kitchen-cafeteria in the basement, an assembly and public meeting area (Alexander Hall).

The school was renovated in 1994 that resulted in five additional classrooms, the gym, kitchen and cafeteria. There have not been any significant improvements made to the building since then.

The Town of Northfield owns the Elementary School and leases it to the District. The lease is for 20 years and was signed last year (2012) for another twenty-year period.

The District recently secured funding through the Green Repair Project that provides that the state cost shares. With this money the District conducted heating system work at the PVRS at 57% of the cost. The cost was shared by the four towns and the state.

Curriculum

In terms of curriculum improvements, the Elementary School recently adopted the internationally benchmarked academic standards known as the Common Core and its dissemination of the Massachusetts Curriculum Frameworks for English Language Arts & Literacy and Mathematics that requires that the curriculum is well aligned with the state guidelines. A Cross District Mathematics Curriculum Alignment Study Team is formulating recommendations for a program of instructional materials to be adopted in 2013-1014 in all district elementary schools.

Community Use

The school building enjoys significant usage by the community at large and is utilized by non-school related uses/users five nights a week and at least one weekend day and both weekend days in the winter months. Community activities include basketball, Town Recreation programs, adult volleyball, Zumba, Scouts, and Fundraisers (Kiwanis, volunteer Fire Department).

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

FUTURE PLANS/NEEDS

A School Utilization Committee has developed a five-year plan and is actively involved in maintaining the school building; recently completed projects include: a replacement of roof shingles, added insulation, replacement of attic windows, two canopies above the exterior doors to the cafeteria and gym.

More long-term facility needs⁵ include the following:

- Upgrade technology (phone system, more electrical outlets, wiring)
- Need for performance space (currently use the gym with folding chairs for seating)
- Upgrade for pedagogical purposes
 - need for science labs
 - no extra space for meetings (currently using storage spaces)
- Other
 - Tile and carpet replacement throughout the building
 - Bathrooms need updating
 - Art room has no sink
 - Music space has no space for movement
 - Classroom spaces lack flexibility
 - Parking for parents, resurfacing of parking lot

A playground project continues to move forward with the following components planned:

- School community garden

⁵ As reported by the School Principal

- New basketball hoops
- Outdoor music area
- Quarter mile path meandering along the perimeter of the playground

See the Open Space and Recreation chapter for more detail on the playing fields located at the rear of the property.

ANTICIPATED IMPACT OF CAMPUS REDEVELOPMENT

A declining student enrollment combined with the fact that there are approximately 10-12 students in the School Choice program from area towns, results in creating capacity to accommodate additional growth of almost 100 students. When the campus was occupied by NMH, there were approximately 30 students at the Elementary School that were the children of faculty.

Depending on the scale and type of reuse of the campus, the impacts on the Elementary School will vary. If only a relatively small number of school-age children come to live in Northfield as a result of the reuse, then these may be accommodated with a slight increase in class size, bringing the lunch seating periods back up to three times a day, and other such measures. Other functions, such as the computer lab (which currently has 22 machines) would have to adjust the number of computers, class size, or the number of times it is held, etc.

If the reuse generates many more than 100 elementary school aged children, then the school will need to expand. The building is located on more than 12 acres and therefore, the land exists for such an addition.

In terms of benefits of the reuse, some of the students from NHM used to do their community service at the Elementary School teaching French and Spanish (currently there is no foreign language program). The campus

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

also was a site for field trips for the elementary school that frequently attended programs in theater and the arts. It is hoped that the new user would provide similar benefits. Additionally, if the user is an educational institution, then there is a compatibility and intellectual vitality injected into the community.



At the Northfield Elementary School parents park along Main Street as there is no other available parking. This is technically not allowed as it is a state road.

Pioneer Valley Regional High School, located at 97 F. Sumner Turner Road accommodates 7-12th grade students. The school was constructed in the 1950s and renovated in 2002. The science labs and other specialty spaces have been upgraded and are in good condition. The school sits at the foothills of the Berkshires in the Connecticut River Valley and serves the towns of Northfield, Bernardston, Leyden, and Warwick through an agreement established in 1961.



The Pioneer Valley Regional School

The facility seems adequate and up-to-date but will require some maintenance such as general up-keep and a need for new carpets, paint, classroom furniture, driveways and landscaping, equipment and some technology upgrades.

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

The middle and high schools completed a trial change in scheduling to reflect new ways of thinking regarding the school day. This includes the following:

- Every member of the professional staff has 10 to 12 students in advisory.
- Each week there is a theme for the advisory meeting.
- Over time high school advisors will work with the same small group of students for four years, Middle school advisors will have students for two years with the goal of building strong connections between students and adults.
- The schedule also includes longer blocks for each class each week. This allows teachers to use a wider range of strategies than is

possible in a traditional 47-minute block of time (e.g. there are many science labs that cannot be done without these longer blocks).

- Finally, the schedule added minutes to the day to create additional early release time on Fridays for teachers to collaborate on curriculum and to plan learning experiences.

SPED: The regional school district currently provided one-hundred and sixty-seven (167) students between the ages of three (3) and twenty-two (22) with special education services. Special needs students are 16% of the total enrollment (less than the state average of 17%). There is a small number of students placed outside the school district in specialized program.

Community Use

The community at large uses spaces at the Regional School for basketball in the gym, baseball, summer camp, karate tournament, dance recitals, etc. There are user fees for using the fields. The Recreation Commission wants additional use of the fields. The School Department spends \$48K/year for field maintenance and feels that user fees are the only feasible way to keep up with maintenance costs.

Parking is reportedly adequate, even for peak community-wide events.

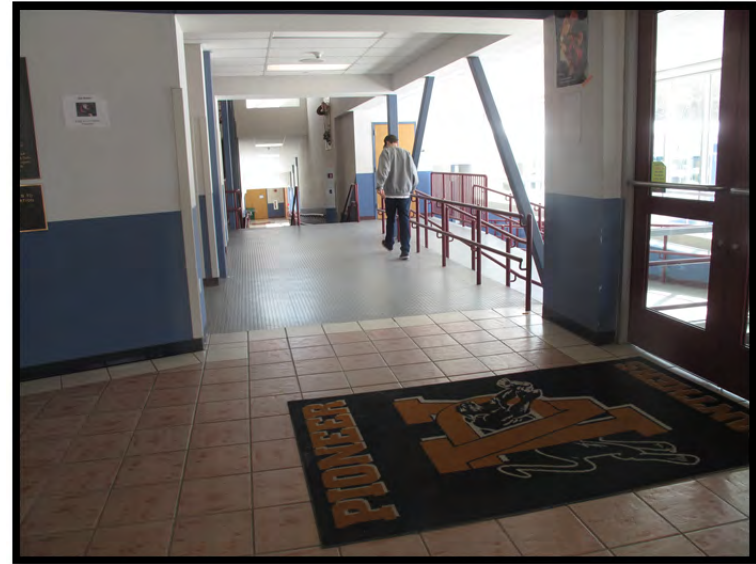
The Pioneer Valley Regional High School is also used for Northfield's Town Meetings and as an emergency shelter for the four towns it serves

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

The following indicators describe the Pioneer Valley Regional School that compare favorably to state averages.

The Pioneer Valley Regional School is designed to modern standards with up-to –date spaces for science, art, and music.

Education Indicators	Pioneer Valley Regional High School ⁶	Massachusetts
Drop out rate (2011)	1.8%	2.5%
Average student attendance (past five years)	96.7%	??
Average class size	18	??
Staff to student ratio	11.3 to 1	??
Percent of graduates attending college or university (2010)	90% (48% attended 4- year college; 42% attended 2-year college)	??



⁶ From the Pioneer Valley Regional School, NEASC Site Visit, March 3-6, 2013 report

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

FUTURE PLANS/NEEDS

Facility needs and planned changes include the following;

- The track and football fields need upgrading
- There is a plan for wireless internet access
- The Regional School District recently completed a **survey of all families in the district** as part of the New England Association of

A pro-bono **Land Stewardship Plan** is being developed by John Lepore, a recent retiree of the school with the goal of developing a Land Management Plan of the nearly 90-acres at the Pioneer School that will include:

- An assessment of local and regional conditions and recommendations for future land management practices, some examples include:
 - Remove invasive plants and replace with native species
 - Mow to improve natural water infiltration and increase wildlife habitat
- Educational opportunities and locations for “hands on” learning using wood products from the school’s forest or student projects

ANTICIPATED IMPACT OF CAMPUS REDEVELOPMENT

While the high school was built for a large number of students than are currently accommodated in the school, the Principal considers that it is pretty much at capacity. However, in the case of additional enrollments resulting from the reuse of the campus, the Principal feels that there is adequate leeway to accommodate this increase. In addition to the fact that the district has experienced a slight decrease in the number of students enrolled in the schools, a significant number of students are Choice and Tuition-paying. In order to accommodate the new students

School and Colleges accreditation process. Seven committees comprised of staff, students and parents met for approximately one year to analyze every aspect of the school. This resulted in a 113- page self-study report summarizing their findings as well as a statement of “critical strengths and needs.” A visiting team from the Accreditation agency will make recommendations that form the foundation for the action plan moving forward for the next ten years.

- Co-curricular uses such as community gardening and recreational hiking
- Provide access to administrators, school committee members, and teachers to “best practice” methodology for improving water runoff quality, fostering thriving bio-diversity, and localizing food security education.
- The next large capital project is the installation of a **fiber optic cable link** that will allow the District to double broadband access to the Internet. This is part of a state project, the Massachusetts Broadband Institute (MBI), designed to bring broadband access to rural areas. It is likely that the same fiber optic access can also be used to switch over the phone system to a voice-over-internet system.

from the campus, the schools would reduce the number of Choice and Tuition-paying students they accept, thus making room for the new arrivals. There seems to be enough capacity to accommodate any increase in the number of students that the reuse of the campus might generate. If, however, the campus reuse does not generate income, then the increase in enrollment will be a problem in that there will be no funding to cover the cost of educating the additional students generated (now they are paid for by the School Choice Program and Tuition).

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

The reuse of the campus could provide benefits to the Regional School District by potentially providing opportunities for internships for

students seeking “real world” experiences. If it is an international institution, it could help with global citizenry education of students.

PRIVATE AND PAROCHIAL SCHOOLS

The following private schools are available locally:

- Northfield Mount Hermon
- Deerfield Academy
- St. Joseph’s, Keene
- St. Michael’s, Brattleboro, VT
- Academy of Charlemont
- Redemption Christian Academy (In 2012, the Linden School closed and was transferred to the Redemption Christian Academy of Troy, New York)
- Bement School

OTHER EDUCATIONAL INSTITUTIONS

Other nearby educational opportunities available to students and the community include:

- Franklin County Tech, Turners Fall
- Greenfield Community College
- Keene State College (NH)
- The Five College System (UMASS Amherst, Amherst College, Smith College, Hampshire College, and Mount Holyoke College)

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

PUBLIC SAFE

Summary of Key Points

- The Fire Department, EMS and Police Department, all have a need for upgraded facilities, whether combined or separate.
- A study of a potential public safety complex was completed by Jacunski & Humes Architects in 2012. They prepared a space needs assessment, proposed floor plan, cost estimate and site evaluation. It was determined that a Public Safety Complex is too expensive to undertake at this time (voted down in Town Meeting 2012). Although acknowledging the need, the price of \$7.5 million did not pass.
- EMS and Police could be accommodated in a combined facility on the site where EMS is currently housed. This would free up space for the Fire Station to expand on its existing site, consolidating its equipment in an expanded facility (thus freeing up the barn where some equipment is now stored so that it can be used by the Highway Department which needs a site on this side of the river for more efficiently located equipment storage).

POLICE DEPARTMENT

The Northfield Police Department is located in the basement of Town Hall at 69 Main Street.



Facility

The Police Department operates out of an inadequately sized facility that lacks appropriate spaces for the carrying out of police department duties. The department is operated out of a small room in the basement of Town Hall with an additional space across the hall for booking which also accommodates filing and storage needs (there is additional storage in the public corridor). There are confidentiality issues both for victims and for those alleged to have committed a crime as there is no place for them to go without being completely in public view (a most dramatic example is the fact that prisoners use the public restroom). There is also no holding cell for prisoners. The department needs to identify and evaluate alternatives to the existing space utilization.

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

There is no space for training, physical fitness nor secure storage for confiscated items. While there is no space dedicated to target practice, a nearby construction company allows them to use their facilities that are reportedly adequate for this purpose.



Storage in the Police Station is very inadequate.

Staffing

In addition to space needs, the department is in the process of deciding on existing staffing and whether or not there is a demonstrated need for additional staffing.

During 2012 the Department maintained its normal staffing levels of three full time officers (but only two were actually filled); these are Acting Chief, Acting Sergeant, and a Patrolman coupled with five reserve officers.

In the meantime, the Police Department will continue to work on meeting its goals that include:

- Continue to improve officer safety measures
- Continue to update emergency response plans and make them compatible with other public safety departments within the community
- Continue to improve department communications, officer knowledge and training
- Improve Departmental Staffing and implement a formal and uniform training procedure
- Improve department record keeping and organization

Equipment

The Police Department has four cruisers that go home with the officers when they are not on duty. They are on-call at home. Every night there is no patrol for approximately 4-5 hours.

There are:

- 3 sedans (marked cars)

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

- 2 all-wheel drive cars
- 1 front-wheel drive (2006), this is the oldest vehicle which will soon need replacement
- 1 4-wheel drive which is not a patrol car (e.g. does not have a cage), but is used off-road,; this too will need replacement in the future

Calls for Service

In 2012 the Department experienced an 8% decrease of dispatched calls for service, (1,122 calls for service were recorded) through the Shelburne Control Regional Dispatch Center. Alternatively, documented police activity increased significantly due to an increase in the request for non-emergency police services and the implementation of nightly business checks. In 2012, the Department recorded a total of 10,518 police services (5,335 of which involved officer generated business and house checks).

In 2012, the police department succeeded in closing 79 criminal cases (and offenders were prosecuted). There was an increase in the number of property crimes (burglary/breaking and entering and vandalism), and a decrease in the number of crimes against persons (e.g. assault, sexual offenses and threats).

The Police Chief also reports a dramatic increase in the use of narcotics and in house break-ins related to drug use. As a response to this the Police Department improved their educational crime prevention service by implementing the DARE program which had been absent from Northfield public schools for six years. This program raises awareness and educates fifth grade students regarding the dangers of alcohol, tobacco and marijuana and provides the tools needed to make healthy choices. Unfortunately, currently there is no officer trained to do this school outreach. As a compliment to this program the department also conducts

a “drug take back” initiative in an effort to remove harmful prescription and over the counter medications from the community.

Related to this are the fly-overs using the state helicopter to identify marijuana growers. Reportedly every year new ones are found.

Traffic Enforcement

Traffic concerns continue to be a high priority for Northfield residents and for the Northfield Police Department. During the spring and summer months, when traffic complaints are more common, the department increased traffic enforcement efforts. They assigned additional four-hour patrol shifts to address these concerns, which proved to be successful. In addition, they continued to improve traffic control by strategically marking problem roadways with high visibility traffic control signage. The continued use of a speed measuring radar sign board also proved to be a successful technique to slow vehicle traffic.

An officer goes daily to supervise the crosswalk on Main Street at the Elementary School, both in the morning and in the afternoon.

Please see the chapter on Transportation and Circulation for locations and numbers of traffic accidents.



NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

Type of Enforcement 2010 - 2012

Type of Enforcement	2010	2011	2012
Total Dispatched Calls for Service	1,076	1,213	1,122
Total Police Services	2,309	3,609	10,518 ⁷
Total Criminal Investigations	365	270	357
Total Arrests/Criminal Complaints	89	73	79
Total Traffic Citations	1032	686	742
Total Citation Fines	34,325	17,510	26,050

The Department also recently updated their emergency management plans. This came in useful when Hurricane Irene and strong snow storms caused damage. The department worked with the Massachusetts Emergency Management Agency and the regional school district to ensure that there are systems in place to assure the safety of the Town’s children.

⁷ Almost half of these were “House/Building Check”

FUTURE PLANS/NEEDS

The Police Department will need updated facilities. The current space in the basement of the Town Hall building is inadequate. Additionally they will have to transition into new leadership.

The Police Department plans to finalize its staffing moving forward and include an officer trained to do school outreach. Additionally, the department plans to work with the high school administration to address the increase in substance abuse in the schools.

The Police Department will also need to replace some of its older cars in the near future and would like to have a couple of All Terrain Vehicles.

ANTICIPATED IMPACT OF CAMPUS REDEVELOPMENT

- It is expected that if there are additional users living at the campus that additional police staff will be necessary. In the past there was a private security force operating at the Northfield-Mount Hermon Schools that reportedly relieved the municipal department of many “lesser calls” (those having do to with trespassing or errant students).
- If the campus brought in a new user, this would necessarily place additional pressure on the police department, most likely resulting in a need for additional officer(s). The previous Master Plan suggested considering augmenting the police department with volunteers, a method apparently used in in areas of the country where limited police personnel cover large rural areas. This way coverage is improved with limited or no additional cost to the taxpayer. There are of course, obvious limitations to this approach, the pros and cons of which should be examined.

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

- Another option the Public Safety/Services Sub-Committee could explore is the feasibility/desirability of regionalizing police services.
- Additional people living at the campus may support a 24-hour police service that would benefit the whole town. Additionally, there may be a need for additional officers, more equipment and an improved facility.

FIRE DEPARTMENT

The Fire Department is located at 93 Main Street.



The Fire Station does not adequately store needed equipment.

Facility

The Fire Department is housed in a brick building with three street level doors for truck entrance and contains an adjacent office, kitchen and meeting area. Four fire trucks are housed in a garage designed for three. There is a period need to upgrade the equipment and given that the department's equipment already does not fit, it seems that either an expansion/renovation or a new building are needed in the near future.

Currently much of the equipment is in the storage shed located on the same site as the fire department building.

According to the Fire Fighters the best site is most likely the existing location..

Personnel

Northfield's Fire Department is a Call/All-Volunteer Fire Department; all fire fighters are residents of Northfield.

There is room for 30 volunteers; currently there are 24. These include one chief, one assistant chief, one captain, one

1st Lieutenant one 2nd Lieutenant, one 3rd Lieutenant and one Secretary/Treasurer

Inspection duties are the responsibility of the Chief's Office; these include permit issuing and investigation activities.

In the past some of the department's key volunteers have come from small businesses located in the center of town. They have provided the quick

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

response during normal working hours when others may be at work out of town. There was some concern expressed that if there are fewer local businesses in town that this may result in reducing the capacity and capability of the department to respond to emergencies appropriately leading to a need for full time employees as the only alternative.⁸

Calls for Service

In an average year the Fire Department responds to approximately 175 calls. The department has mutual aid agreements with surrounding towns including Bernardston, Hinsdale and Erving. The maximum response time is within the 5 minute industry performance standard. Residences at the top of the mountain present a challenge as they are located on dirt roads. Fire fighters have had to use a brush truck to respond to a call from homes in The Ridge area of town.

There has been a significant increase reportedly in mutual aid calls (due to a lack of personnel in surrounding towns as well as to the good reputation of the Northfield Fire Fighters). Additionally, weather related calls have recently increased, such as wires down from a storm and flooded basements.

Equipment

- 1 brush truck (brand new)
- 1 brush tanker
- 1 rescue truck
- Engine 1
- Engine 2
- Ladder Truck (105 feet)

- Flat bottom rescue boat
- 4-wheeler

FUTURE PLANS/NEEDS

Ideally the department would like to expand and renovate the existing building, move the ladder truck in a new bay, and move out of the storage shed, consolidating all the equipment.

In addition to space for the equipment, a new and/or expanded facility should include:

- More meeting room space
- A kitchenette with a table and couches
- More training space
- Fitness space

The Department predicts that it will probably need a new ladder truck within the next 5 years.

ANTICIPATED IMPACTS OF CAMPUS REDEVELOPMENT

The Department estimates that redevelopment of the campus will most likely result in a need for additional fire fighters, as many as 35 in total.

⁸ Pathway to Tomorrow, A Master Plan for Northfield, Northfield Planning Board

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

EMERGENCY MEDICAL SERVICE

In the fall of 2012, the EMS leased the former Sandri Gas Station on Main Street, funded out of its Enterprise Fund.

The EMS has one ambulance. Services are covered by an enterprise fund structure that allows them to collect revenues from insurance companies and patients copayments to offset their operating budget.

Calls for Service

For the 2012 calendar year, the EMS answered 197 calls transporting 114 patients. The EMS has experienced an increased number of calls for the ambulance to respond mutual aid outside the town.

The number of calls increased 23% from 2010 to 2011. While the number of calls remained approximately the same between 2011 and 2012, call volume is already up with an anticipated increase for the year 2013. Due to two factors, the increasing elderly population and changes in attitudes regarding health care (e.g. people calling on emergency services much more readily than in the past), this increase is expected to continue.

Northfield has a volunteer EMS service staffed by 20 EMT – Basics, 1 EMT Intermediate and 3 Paramedics. The EMS also has 2 child passenger safety technicians certified by Safe Kids for proper car seat installation and education.

The EMS actively recruits new members on a continuous basis and provide them with information regarding training, but have seen a decrease in the number of people interested in volunteering. Additionally, it is difficult to

cover the daytime/weekday hours that depend on volunteers who work odd shifts so that they are available. In the near future, they may need to review the possibility of dedicated staff to serve not only EMS functions but other roles not being fulfilled or had been cut from years past such as home visits and elder care.

The EMS is working to upgrade their level of service to Paramedic. Of the approximately 20-25 calls per month, there are 3-4 calls per month where Paramedic assistance is not available to fill the need because regional resources are limited. Obtaining a license to operate at the highest level of service would allow their trained crew members to provide additional treatments upon arriving at the scene of an emergency instead of having to wait for such help to arrive from places as far away as Greenfield, Orange or Brattleboro. This would result not only in improving patient care but also helping to reduce operating costs. In order for this to occur, a letter of support is required from the Board of Selectmen.

The plan for a consolidated public safety building was voted down at Town Meeting in 2012. As a result, Northfield EMS investigated other alternatives and found that the renovation of the 41 Main Street building was a workable solution to their immediate space needs. The building renovation was funded by donations and resulted in a “workable EMS headquarters”, but is only considered to be a temporary solution.

FUTURE PLANS/NEEDS:

In the future, EMS would like to obtain upgraded and expanded facilities. The property they are currently on is adjacent to another parcel both owned by the same owner, Sandri. Together, these 2.5 acres could eventually house an expanded combined EMS/Police building (in the feasibility study of the Public Safety Complex it was determined to be too small to include the Fire Station). This idea requires further investigation by the Public Safety Facility Committee.

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

Currently their top priority is obtaining a second ambulance (as there is no back up ambulance other than mutual aid ambulances in the case of two simultaneous calls for service). They have the staff and have two bays in which to store the second emergency vehicle, so it can easily be accommodated.

If the EMS eventually is staffed by fulltime personnel then its facility needs will change to include bedrooms, showers, kitchen, and a large meeting room.

EMS is exploring the possibility of regionalizing services in order to increase efficiency. They would like to work out an agreement with nearby town(s) The cost of the service would be covered by the Enterprise Fund.

ANTICIPATED IMPACT OF CAMPUS REDEVELOPMENT

If the campus were reused to its full capacity, the EMS Chief estimates that there will be a need for 3 ambulances in total. If there were, for example, 5,000 new residents (as estimated in the previous proposal for campus reuse), the EMS estimates it would need 6-8 full time employees and would then need to consider building an addition to their existing facility and/or building a new one.



NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

OTHER SERVICES AND FACILITIES

COUNCIL ON AGING

Summary of Key Points

- The **senior population** of Northfield is increasing and will need additional services.
- Recent trends are indicative of nation-wide trends of having to meet the needs of two diverging subsets of participants:
 - The older, frail seniors who are participating less in activities and require more outreach services and supports and health-oriented services
 - and the YES (Young Energetic Seniors) who have a completely different set of needs and interests focused on continuing education, wellness/fitness and socializing.
- There will be a need for additional services for seniors, helping them to age in place by providing a wide range of service including health, wellness and opportunities for socializing. This may include an expanded senior center, a Town Nurse, and an expanded senior van service

Senior Center

The Council on Aging runs a Senior Center in the basement of Town Hall. In warmer months it also runs programs out of the Senior Pavilion located in the back of Town Hall. A Director oversees the operations of the Center, and the Center's programs are largely run by participants and volunteers. The goals of the programs are to provide education, healthy aging and social interaction for Northfield's growing senior population. The Senior Center is open Monday through Friday from 9am to 3pm.

The Senior Center seems to be experiencing both an increase in demand in its services as well as a change in orientation on the part of the elders it serves. The Center is increasingly serving two diverging subsets of participants: The older, more frail seniors who are participating less in activities and require more outreach services and supports, and the YES (Young Energetic Seniors), primarily baby boomers, who are more focused on fitness, socializing and life long learning.

In addition to congregate meals, programs include Yoga, gardening, Osteo Strength Training, Bridge, Mahjong, and Bingo. Services include resource referrals, identifying high risk and/or isolated seniors and help in staying in their homes safely and longer (e.g. the Basic Home Safety and Modification Grant whereby the COA pays for the installation of grab bars for qualified seniors with disability or mobility issues). The senior van runs twice a week in Northfield. Some seniors attend the Senior Center in Bernardston; this is true of those who are geographically closer to that town than to the center of Northfield where the senior center is located.

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

The Franklin County Home Care program (state regional office on Aging Services) provides Meals on Wheels, congregate meals at the Senior Center, home care, money management advice, and information and referrals.

Recent changes include:

- In July 2011 the Senior Center went from three days of operation to five and added an additional congregate meal day (for a total of 4 congregate meals per week). Despite adding the fifth day, there has been a trend of a decrease in the number of people attending the congregate meals (26% decline in the number of participants between 2011 and 2012).
- An increase in the number of seniors using the senior van for transportation
- While there was a significant increase from 2010 to 2011 in the number of participants in the exercise programs and a concurrent decrease in the number of seniors using the monthly walk-in blood pressure clinic, this trend reversed itself in 2012. Yoga and Osteo strength training classes saw an 18% decline in participation, versus the Blood pressure clinic increasing by 50%.
- The Senior Center had 1% fewer special programs in 2012 as compared to 2011, yet a 9% increase in participation from last year suggesting there are more unduplicated seniors attending Center programs for the seventh consecutive year.

Seniors and Empty Nesters: Percent of Northfield Population

Year	Population aged 50 - 59	Population aged 60+	Population aged 50 and over
2010	1267	676	1,943
2030	1404	919	2,323
Percent increase	11%	36%	19.6% increase

Residents need to be 60 years old and over to be eligible for state services. However, there are needs related to senior services which often occur earlier so it is important to look at the population from age 50 onwards.

Facility Needs

In 2002 a Feasibility Study for a new Senior Center was completed with the following objectives⁹:

- To develop a Senior Center planning program to address the growing needs of the Town of Northfield’s older citizens

⁹ from Northfield Senior Center, Feasibility Study, Town of Northfield, Prepared by: John Catlin & Assoc. Architects, Inc., September 2002.

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

- To evaluate one potential site (behind Squakheag Village at 88 Main Street)
- To explore development options for the site
- To develop a generic pre-schematic building and site plans to test fit possible future alternative sites
- To establish the approximate costs of the proposed Senior Center
- The program elements which were developed with input from a town-wide survey of residents 50 years and older, included a large multi-purpose room for large gatherings and meals programs, a reading lounge, a classroom, a card/conference room, a wellness room, a games room, administrative space, storage rooms, a commercial kitchen and toilet rooms. Outdoor program elements included a landscaped parking area for 70 vehicles, a drop-off for the main entry, a separate service area and terrace/porch areas.
- The estimated construction cost was \$1.225 million for the 7,000 square foot building (at \$175/square foot).

Senior Pavilion

The Council on Aging expanded its space and programs by creating a Green Recreation area located behind the Town Hall building. A summer concert series is held under the pavilion that provides weather protection and seating. Photovoltaics will be installed on the roof of the pavilion and will provide 10% of the Town Hall's energy usage (with the potential for periodic added rebates). These were paid for by the Green Communities Grant that was obtained by the Northfield Energy Committee. Rain barrels and a raised garden bed are additional "green" features of the recreation area that is available to the public.



The Senior Pavilion is available for community use.

FUTURE PLANS/NEEDS

As the senior population increases there will be an increased need for services. There was a reported greater number of seniors focusing on maintaining healthy lifestyles rather than managing chronic health conditions as observed by the Council on Aging during the previous couple of years. This trend seems to have leveled out. In order to address the continued need to focus on health, the Council on Aging and the Board of Health are currently researching the need and feasibility of having a **Town Nurse** to address the management of chronic conditions, run clinics, and offer education to Northfield residents. It is possible to provide this service by coordinating through Emergency Medical Services.

There are a number of seniors who live alone and are isolated and without support or a way to access resources. The COA would like to expand its **outreach services** to these residents some of whom live in the woods or on the mountain and do not drive. They would like to train volunteers to identify these individuals and then make home visits to them providing

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

respite to their current caregivers and providing a safety net to the isolated seniors.

The Council on Aging for Northfield has recommended that the Town pursue acquiring a demand/response **senior van** service on its own. Current negotiations are aiming for a July 2014 start- subject to further negotiations, and pending Select board, Finance Committee and Town vote. Ridership has consistently increased each year with an over 50% increase from 2010 to 2011. Because of scheduling constraints some seniors who are no longer able to drive cannot access the van; this in turn affects their participation in programming. There is a need for greater flexibility in scheduling in order to better serve the elderly residents.

On the other hand, the **baby boomer** generation has **expectations** that differ from previous generations of elderly residents and center around continuing education, healthy aging and socializing. Services and programming will need to continually adapt to meet these.

As the number of elderly residents increase, there may be a need for an improved **senior center facility**. It may be more efficient to conceive of it as a combined Senior Center/Community Center with different hours and separate entrances and dedicated spaces for the different users.

“The challenge lies in sustaining current services and trying to increase outreach initiatives and transportation services for the elder-elders, while identifying the needs of boomers and designing programs of interest to engage them as they head into retirement.”¹⁰

¹⁰ Council on Aging, Northfield Town Annual Report, 2012

ANTICIPATED IMPACT OF CAMPUS REDEVELOPMENT

Depending on the reuse, there may be additional demand for senior services and/or space for senior housing (existing senior housing in town is reportedly outdated and insufficient in number evidenced by the fact that there is a continuous waiting list) or a senior center.

If the campus is divided into several users/uses, it may be desirable to carve out a “retirement community” for part of it with access to the golf course, medical offices and senior housing.

DICKINSON MEMORIAL LIBRARY

Summary of Key Points

- The library’s future role will increasingly be that of a community center, the site of multiple activities, for multiple users. It can also continue to fulfill the need for community gathering in a number of ways including that of providing public meeting space, but also through events and other activities.
- The library will also need to think of ways of serving an increasing senior population, including holding programs earlier in the day and increasing home delivery.

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES



Dickinson Memorial Library (photo from library website)

Building: The library is housed in a handsome granite building originally constructed in 1897. The original décor, including the 18 stained glass windows, mosaic tile floors and original stenciling on the walls and ceilings – are well-maintained and in moderately good condition.

In 2008 the building’s accessibility was improved. Using funds from a Community Development Block Grant and a town appropriation, an elevator and ADA compliant bathrooms were added. The furnace room was recently renovated (with private funds) and soon to house a Food Bank.

There is a small satellite library building located in the Farms area.

Grounds: The parking seems more than adequate and is on the list of future capital improvements. Since the new sidewalks were put in, people reportedly park in the lot in order to take a walk. There is also a bike rack for 8 bikes. People frequently walk and bike to the library.

The library’s outdoor space is used for outdoor story hour in the warmer weather, a Friends of the Library Dog Show, the Touch a Truck event, and cookouts and bonfires. In the future it could be used further with additional programming.

Programs: The library runs a number of programs throughout the year including story times, after school programs for students and monthly book discussion and writing groups. The after school programs have not been well attended (the prevailing theory as to the reason why is that presumably many of the kids are busy, like everywhere else). Additionally, the library holds a variety of programs including one on gardening, crafts, cheese-making and beer brewing, a coffee-tasting with Northfield Coffee and Books and afternoon of old-fashioned games, a Dog Show and Parade and a “Touch a Truck” event with other town departments (e.g. Police, Fire, EMS). The most popular programs are reportedly those that have to do with the history of the town and with farming and food themes.

Additional collections include art exhibits in the small art gallery space and historical collection in the Local History Room.

Circulation: The library is a member of the Massachusetts Library System and a member of C/W MARS (Western//Central Mass Automated Resource Sharing) which gives residents access to over 100 libraries throughout central and western Mass.

The main purpose of the collection is to provide reading and other materials for entertainment (rather than research). At least 60% of the reference inquiries have to do with local history or local genealogy. The collection consists of approximately 19,000 volumes in print, audio, video and kits.

Electronic circulation was up 120% between 2010 and 2011. The number of audiobooks, books and videos downloaded electronically increased by

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

40% between 2010 and 2011. This trend continues as patrons reserve DVDs, books on tape, etc.

The library also:

- loans Nook, a Kindle and a Kill-A-Watt
- has three public access computers, an iPad and 2 laptops
- has a total of 26,643 materials in its collection; these include books, print periodicals, audio, video, e-books, downloadable audio, downloadable video, materials in electronic format, materials in microform and other miscellaneous materials and equipment.

There are 2,230 registered borrowers. In FY12 the library circulated 60,588 items including 32,900 print books, 407 e-books and 20,250 DVDs. With Mass Library system delivery 5 days a week 10,157 items were received to fulfill patron requests and Northfield sent 6,340 items to libraries throughout Central and Western Mass.

Communication: The library uses traditional means of communicating to the public about events, including through the Recorder, the Northfield Community Newsletter, flyers posted in the library and around town, BNC-TV as well as by posting on the library website and informing patrons via an e-mail list and Facebook page.

Staffing: The library is staffed by one FTE (the Director), 3 part-time staff members and 1 custodian. Additionally there are approximately 10 volunteers. The Highway Department Building Maintenance staff takes care of non-custodial issues.

Funding: The library is well-funded by the Town and the Friends of the Library raise money to support library programs and other out-of-the-ordinary library needs.

Community Use: The library has a Meeting Room that can be reserved for public meetings; it is used approximately 2-3 times a week. Additionally, the Boy Scouts and the Girl Scouts have each held a sleepover at the library.

FUTURE PLANS/NEEDS

The future trend for all libraries is to become more of a community center or third place for the community to gather, learn, be entertained, and connect with one another. The library already allows food, coffee and games throughout building.

The library is planning on conducting a town-wide survey to ask residents what they would prefer in terms of hours, programs, etc. In the meantime the library would like to:

- Be involved in more inter-departmental cooperation (such as the programs it already holds “Touch a Truck”, some of the story-telling, a program on safety).
- Reach out to non-users (especially those living in West Northfield and the Farms area)
- Would like to explore how the library can better serve these geographically remote areas of town by using on-line ordering and bringing the books to the Transfer Station, the Farm and/or having a bookmobile.
- Would like to break down perceived barriers to those who do not visit as frequently as some other demographics
- Consider Sunday hours
- Continue growing a collection of e books, streaming movies and digital magazines
- Add a staff member to be in charge of children’s programming exclusively

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

- Need someone to take care of the local history room and catalog the items (tourists come in the summer interested in genealogy and local history; currently the collections are in several different places, need an archivist)
- Promote additional use of the Meeting Room
- Connect public access computers through the Mass Broadband so fiber optics so that patrons can have access to webinars and other distance learning opportunities
- Focus on providing and promoting more museum and local attraction passes. Provided out of the Friends of the Library fund.
- Use outdoor space more
- Senior Population. As the senior population increases, the library plans to provide more support to this population and is considering the following:
 - Holding programs at 2:00 p.m.
 - Increasing home delivery service

The building will eventually need to be renovated and historically restored.

ANTICIPATED IMPACT OF CAMPUS REDEVELOPMENT

Reuse of the campus could result in the following impacts on the library:

- More and more diverse population to serve
- Increased circulation
- Increased attendance at programs
- Potential increase in tax revenues
- Need for additional staff (especially children's librarian)

BOY SCOUT HOUSE

The Boy Scout House is next to the Town Hall building. The building formerly housed the town's fire station. It is a two-story building in good condition. It is currently only used by the Boy Scouts and has some capacity for additional storage. In the past there was some discussion regarding the fact that the way the building is sited, it creates an obstacle to town hall parking. It was estimated that if the building were moved to the back of the town hall lot it would increase parking capacity by approximately 30% in the town hall lot.¹¹

The building is maintained with volunteer labor and was painted two years ago with prisoner labor.



The Boy Scout House is used by Boy Scouts and Cub Scouts an estimated once a week.

¹¹ Pathway to Tomorrow, A Master Plan for Northfield, Northfield Planning Board,

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

RECREATION

Summary of Key Points

- Northfield has a variety of recreation resources managed by the Recreation Commission, the School Department, Conservation Commission, State Forest, and private recreation resources like Northfield Mountain and the golf course.

The Recreation Commission organizes sports and other activities for children and adults living in Northfield. Activities for children include baseball, softball, even soccer and t-ball for 3-5 year olds, a summer playground program. Activities for adults include: Zumba, Yoga, PVRs weight room, and Volleyball.

The Recreation Commission has been working with the Open Space Committee to secure land for a community park and recreation area

The Open Space Committee (OSRP) specifies a number of ongoing responsibilities, including:

Citizen Stewardship: The Citizen Stewardship Award, an annual award initiated in 2007, was awarded for the fifth time in 2011. The awardees this year are William and Christine Copeland for donating a “forever wild” conservation restriction (CR) on 185 acres.

Open Space Conservation: The OSC continues to track and promote various opportunities to conserve open space in Northfield. The primary

conservation achievement this year was the 185-acre forever-wild CR noted above, which the Copelands have name Masson Ridge.

Stream Monitoring: The OSC continues to partner with a local non-profit group, Greater Northfield Watershed Association (GNWA), on issues of mutual interests.

Trail Work: The OSC continues to partner with the Northfield Trails Association on issues of trail maintenance, signage, documentation, etc.

During 2012 the OSC also:

- participated in discussions involving rerouting of a bike trail in West Northfield,
- participated in discussions involving the Mill brook property,
- discussed with the Energy Committee the proposed Green Community solar overlay district,
- met with John Lepore of the PVRs Resilient Land Management Plan project,
- co-sponsored with the Northfield Trails Association a series of Sunday hikes in Northfield,
- put on hold the Riverbank Trails project due to abutter resistance.
- continued its strong working relationships with the Mount Grace Land Conservation Trust and the North Quabbin Regional Landscape Partnership.
- worked closely with these organizations to arrange community meetings regarding the “Four Rivers” Forest legacy application.

See the Open Space and Recreation Plan 2012 Update and the Natural Resources, Open Space and Recreation chapter of this report for further detail.

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

BOARD OF HEALTH

The Board of Health is an elected Board comprised of 5 members and a secretary. They meet twice a month, with additional meetings as required. The Board has many duties and responsibilities that are mandated by the State which involve protecting the public health and welfare.

Northfield belongs to the Eastern Franklin County Health District (EFCHD). Towns share the costs of membership, which provides the health agents. They perform inspections twice annually on all food establishments including the schools. Additionally, farmer's market camp and public pools

are inspected as required. They also investigate any public health or housing issue or other complaints, representing the Town in housing court if necessary.

The Board of Health issues septic haulers permits, installers permits, food permits, camp permits, pool permits, and bed and breakfast permits to name a few. Board members examine and approve all septic system designs. A Board of Health member must be present at every perc test and final inspection of each septic system; new construction, system replacement or repair.

The Board of Health also manages the Transfer Station.

Northfield Board of Health

PUBLIC HEALTH

FACT SHEET

The Northfield Board of Health provides information to Northfield's residents regarding their health and safety.

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

INFRASTRUCTURE AND UTILITIES

Summary of Key Points

Infrastructure and utilities are important to support residents in their every day living, but also for the purpose of supporting and attracting economic development. If the Town is to expand its economic base and attract additional commercial, light industrial and/or office uses, the existing infrastructure and utilities may pose a potential limitation to such growth.

- The Town's **water** supply exceeds current demand and most likely has the capacity to accommodate future growth. Water Commissioners are currently developing a plan for improving the system. The demand is less than the approved withdrawal, therefore, the Northfield Water District appears to have the capacity to support potential additional water demand.
- More than half of the **wastewater treatment** system's capacity goes unused therefore, it is likely that the current plant will suffice even with significant growth and expansion, however, there are certain large scale uses that are required to hook up to a wastewater treatment facility. This is only available in a limited geographic area. Lack of sewer capacity may constrain development of some uses, in some locations.
- Northfield has begun taking measures to ensure the future **sustainability** of its natural resources; these include obtaining a Green Communities designation from the state and creating an Energy Committee; also the Transitional Northfield tool library.
- A Stormwater Management Plan would be helpful in improving the system in a more comprehensive and efficient manner.

HIGHWAY DEPARTMENT AND BUILDING MAINTENANCE AND TREE WARDEN

The Highway Department is located in the Town Garage at 49 Caldwell Road and operates from 6:00 a.m. to 4:30 p.m. on Monday through Thursday. This location is across the River from most of the town's area that can sometimes be challenging.

The Highway Department, comprised of 5 staff members, is responsible for road maintenance, and for maintenance of the town's seven cemeteries. The Highway Department fills pot holes, plows the roads, clears drains, sweeps streets, removes salt and sand spread on the roads during the winter months and cuts brush along the road side. There are approximately 80 miles of town roads. The Department also plows the driveways and parking lots of the following town-owned buildings: Elementary School, Library, Fire Station, Town Hall, Town Garage.

While the Highway Department plows roads and driveways of town-owned buildings, residents are responsible for shoveling the sidewalks adjacent to their property and do so with a range of success. There are approximately 2 miles of sidewalk in town. Additionally, reportedly many residents who own dogs do not clean up after them; there is no dog park.

The Department also clears trees when branches fall during heavy storms.

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

TOWN GARAGE

The garage is not adequately sized to accommodate all of the Highway Department's equipment that leads to premature wear and tear due to the equipment's exposure to the elements.

Equipment

- 1 10-wheel dump trucks
- 1 single-axle dump trucks
- 1 F-450 (ton and a half truck)
- 1 F-550 (2 ton truck)
- 1 grader
- 1 excavator
- variety of small equipment
- 2 new trucks were purchased in 2012.



The sidewalks are currently the responsibility of residents and are not always plowed.

TOWN CEMETERIES

Northfield maintains seven cemeteries; these are closed between November 1st through April 1st of each year. The cemeteries are moved and maintained bi-weekly by the South Mountain Lawn Care. The digging is privatized although the Department is considering taking on this task in the future.

The following is a list of town owned cemeteries and locations:

- Center Cemetery, Parker Avenue
- Coller Cemetery, Coller Cemetery Road
- Mount Hermon Cemetery, Gill Center Road
- Northfield Farms Cemetery, Millers Falls Road
- Pentecost Cemetery, Pentecost Road
- South Mountain Cemetery, South Mountain Road
- West Northfield Cemetery, River Road

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

BUILDING MAINTENANCE

The town approved restoration of the Building Maintenance position; the position had not been funded for several years due to budget constraints. It has evolved into a blended position with primary responsibility for town building maintenance and secondary responsibilities in the highway department. Responsibilities include setting up schedules for maintenance and catching up with postponed projects.

Building Maintenance has the responsibility of maintaining the six town buildings, current issues include the need of updating and repairs such as:

- The Town Hall outdated rear entrance and boiler room doors have been replaced. Various trim and doors throughout the building have been repainted.
- At the library a new roof structure was installed over the central air conditioning units to keep them from being damaged by snow accumulation. Ceiling lighting fixtures, which had become detached over time, were secured and an unsecure broken window was replaced.

- At the fire station, bids were obtained for the replacement of roof materials and labor, as well as oversee construction and ensure contract standards were achieved.
- The Highway Garage has also seen much needed improvement in efficiency and significant cost savings with the installation of a new wood boiler. The old waste oil furnace was removed

Doing the construction in-house saves the town contractor fees.

FUTURE PLANS/NEEDS

The Department is in need of room for equipment storage as well as a washbay. The “red building” that currently stores the ladder truck in front of the Fire Station building would be adequate as well as being a good location because it is in the side of the river where most of the equipment is needed. Additionally, the Town Garage will reportedly need a new roof within the next two to three years. The Energy Committee is exploring ways of improving the insulation.

The Department would benefit from a sand and salt shed (currently it is stored in a small area and if there are two storms back to back, then the town runs out). Additionally, the prices fluctuate and the town misses out on the opportunity to benefit from cost savings by purchasing the salt and sand when it is sold at a lower cost and then storing it.

As the population ages, it may be necessary for the Highway Department to remove snow from the sidewalks. This could be achieved with the proper snow blowing equipment. New equipment will be needed for the narrower sidewalks located on side streets.

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

The Highway Department will need improved communications technology. The Department is currently not on the same radio system as the Police, Fire, and EMS. An updated system would cost an estimated \$20,000 - \$30,000.

ANTICIPATED IMPACTS OF CAMPUS REDEVELOPMENT

If the campus is redeveloped as one private entity, then it will not impact the Highway Department. If, however, it is reused it is broken up into several uses/users, then there may be a need for the Highway Department services.

State statute states that there should be one staff person per 7-12 miles of road. There are currently approximately 100 miles of road in Northfield. Breaking up the campus and adding campus road repair, maintenance, and plowing to the Highway Department responsibilities may result in a need for one to two additional staff. This may become an opportunity to explore the pros and cons of forming a Department of Public Works (DPW). This might help formalize and coordinate decision-making regarding public works priorities and resource allocation.

TRANSFER STATION

Residents must haul their trash to the Transfer Station which is open from Wednesday and Friday from 8:00 a.m. to 6:00 p.m. and on Saturdays from 7:00 a.m. to 4:00 p.m. It is reportedly a very clean and neat, even a social event.

At the Transfer Station, is a tool lending library and a swap “free” store, both apparently very popular amongst Northfield residents. The Re Use Shed (or Free store) has recently been renovated.

A structure is needed to cover the recycling bins at the Station.

The Transfer Station is managed by the Board of Health.. It represents 80% of the Board’s overall budget. The Highway Superintendent handles employee scheduling and the day-to-day operations of the facility.

The Station is a member of the Franklin County Solid Waste District; the District assist Northfield with planning and assuring that all State and OSHA regulations are met. They are also in consultation regarding ways to further save money on the operation and also to increase the revenue from recyclables (paper, cardboard, containers).

FUTURE PLANS/NEEDS

In these times of increasing costs and diminishing State programs and funding the Town must explore additional ways of working together with surrounding towns in order to function well and cost effectively.

The Department would like to do more composting and to consider bailing items so as to sell them at a market price, thus generating income. They would like to explore working with the Franklin Solid Waste District with the goal of making the process of recycling self-sufficient. (pay for itself).

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

WATER

Northfield has four water systems, all of which are privately –owned. The two public water systems serving the Town’s residents and businesses are the Northfield Water District and the East Northfield Water Company. The other two systems exclusively serve the facilities at Northfield Mountain and the Redemption Christian Academy (the former Linden Hill School) respectively.

The two municipal water districts provide drinking water to residents and businesses in Northfield Center and near the Northfield campus of Northfield Mount Hermon School. The other areas in Northfield are served mostly by private wells. The Town’s water supply exceeds current demand and most likely has the capacity to accommodate future growth.

NORTHFIELD WATER DISTRICT. This District serves the Northfield Center area and draws its water supply from the Strowbridge Well off of Strowbridge Road. The district includes water lines along Main Street, East Street, Maple Street, St. Mary’s Street, Warwick Road, and Strowbridge Road. The well is approved by the State Department of Environmental Protection (DEP) to have an average daily withdrawal of 144,000 gallons. This approved volume measures the capacity of the well and its recharge area to provide water without diminishing returns under drought conditions.

This water district is over 200 years old and in need of updates and repairs.

The Northfield Water District is member owned and operated and is independent from the Town of Northfield (although the Town is a member as several town buildings are users of the system). Members include those users who own property within the District; they have voting privileges at the annual and special-held District meetings. Almost 100% of the people

living within the District are served by the water system. The Town is charged a hydrant fee.

The District is overseen by three commissioners elected from the body of members and serve three-year terms. It is the job of the commissioners to oversee the day-to-day operations of the District, implement necessary repairs and maintenance, set water rates, and take punitive action if needed.

EAST NORTHFIELD WATER COMPANY. This District is affiliated with the Northfield Mount Hermon School and serves the school’s Northfield campus and nearby neighborhoods. The water company draws its water from the Grandin Reservoir, located off of Louisiana Road, which has a total storage capacity of 30 million gallons. The annual consumption in 2001 when the system was serving 1,450 people year-round, including 765 residents and 685 students was a total yearly usage of 35.2 million gallons. The DEP allows the water system to have an average daily withdrawal of 200,000 gallons. The allowed rate of water consumption for the reservoir is based on historic use records and therefore, does not necessarily reflect the capacity of the reservoir to provide water sustainably over a long period of time. Nonetheless, according to the 2003 Community Development Plan, the difference between the peak usage and the allowed withdrawal rate suggests that the East Northfield Water Company most likely has the capacity to support additional water demand and therefore, additional growth.

In the 1960s the Town established a West Northfield Water District, however residents could not reach consensus regarding constructing a distribution system so the district only had some test wells and never was developed.

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

Northfield Water District Water System Demand

Current Average Daily Usage (gallons per day)	Total Capacity (DEP rating) (gallons per day)
40,000 GPD	144,000 GPD

In addition to the fact that the Northfield Water District runs significantly below its DEP rated capacity, it has a back up supply in the East Northfield Water District. The two systems are interconnected. Both systems are gravity fed.

The last time repairs were done to the system was in 1996 when the water tank was upgraded and in 1997 when the pipes were upgraded to a 12" main. The District is now considering upgrading the main from the IGA north. There is a possibility of securing funding from a Community Block Grant.

FUTURE PLANS/NEEDS

The Commissioners are in the process of developing a plan for future improvements to the system. There is nothing standard in the system as all upgrades have been done incrementally. The new plan will:

- Identify location of a new well (the Mill Brook Aquifer is a potential well site)
- Identify other potential sites for additional supply
- Replace mains throughout

- Identify rate¹² increases (will be necessary as last time was in 1996)

ANTICIPATED IMPACTS OF CAMPUS REDEVELOPMENT

The demand is less than the approved withdrawal, therefore, the Northfield Water District appears to have the capacity to support additional water demand and to accommodate additional future growth.

The East Northfield Water Company that would provide water to those living on and around the campus, but would not be adequate to cover the entire campus reuse needs. The East Northfield Water Company provided water for 1,000 students, it could be a back up system for the campus reuse, but there may have to be a third separate system which could tap into the aquifer located under the golf course.

Currently the Grandin reservoir is in non-compliance and cannot treat the turbidity in the system. It needs sand filtration that is a very expensive process. They haven't made improvements to their system in many years and many of their pipes need replacement.

¹² The average household currently pays approximately \$400 per year.

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

WASTEWATER TREATMENT SYSTEM AND STORMWATER MANAGEMENT

The center of Northfield and the Northfield Mount Hermon campus in East Northfield are served by the municipal sewer system and treatment plant; the center is only partially covered from the intersection at Town Hall north to campus. The campus system was designed for a peak enrollment of 1,000 students and has not been upgraded in several years, therefore, it is unlikely to be able to reach this capacity without significant investment.

The wastewater collection is situated along primary roadways and railroad lines in Northfield center and also runs through some residential yards. According to the 1990 Census, approximately 30 percent of Northfield homes were hooked into the municipal sewer system (The 2000 U.S. Census did not collect such data). Originally the system was designed to meet projected demand through the year 2000; this was based on population projections for the service area. However, it was reported in the 2003 Community Development Plan that more than half of the system’s capacity was unused (this likely still holds true) and therefore, it is likely that the current plant will suffice even with significant growth and expansion.

Main Street, south of Town Hall, is not sewerred. Reportedly this creates Title V problems¹³ and potentially poses obstacles to further economic development. Additionally, the topography poses constraints and the cost of expanding the system is an important consideration.

The Town’s sewage treatment plant was constructed in 1972. Over the years there have been numerous extensions made to the system, the largest along East Street. Extensions have also occurred along School Street, Glen Road, and Mill Street, as well as along Main Street. In the past there were series stresses on the plant due to problems of infiltration and inflow. Infiltration is when the groundwater enters the collection system via breaks within the system piping, open join pipes or cracks in manholes. Inflow is when water enters the system through direct connections such as catch basins, roof gutter leaders, and leaking manhole covers. In the early 1990s the problem had become so significant that the combination of infiltration and inflow problems had increased the average wastewater flow to 400,000 gallons per day, almost double the plant’s capacity. The system was upgraded and repaired reducing usage dramatically to 120,000 gallons per day.

Current Average Daily Usage (gallons per day)	Total Capacity (gallons per day)
80,000 GPD	275,000 GPD

The Sewer Commission is an elected three-member board. The Sewer Commissioners’ set the sewer rate each year, and for FY13 the base rate was \$360.00 per hook up and a cost of \$8.45 per hundred cubic feet of water usage. The Sewer Commissioners had a budget of \$248,425.00, an increase from 2011.

The Wastewater Treatment Facility and Collection System are 40 years old, and required an increase in the budget to ensure the plant is able to function efficiently in to the future.

¹³ Title V is a law enforced by the Mass. Environment Department of Environmental Protection to ensure the health and safety of septic systems and cesspools.

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

The Sewer Department personnel continue to work closely with the Highway Department in the flushing of the collection system with the used Fire Truck. Taking septage is a way to generate money to help lessen the sewer rate for the next billing cycle. The Wastewater Treatment Plant treated 28 million gallons for the year (2012) with an average flow of 80,000 gallons per day. The total rainfall for the year was 41.45 inches.

FUTURE PLANS/NEEDS

The limited geographic boundaries of the existing sewer system are a potential constraint to future development, especially large-scale development. Where there is no municipal service, development has to rely on septic systems for wastewater treatment. The 1977 Master Plan had already begun discussions regarding the potential problems that such reliance could pose in the most developed areas of the center of town and East Northfield. The analysis of soil maps indicates that the soils in these areas are incapable of absorbing large quantities of waste. It was therefore decided to expand the system in the center and in East Northfield near the NMH campus.

As pointed out in the 2003 Community Development Plan, the potential for Northfield to accommodate large-scale commercial or light industrial land uses may be restricted by the Town's limited sewer infrastructure. Many commercial and light industrial uses require sewer and water infrastructure to comply with environmental regulations and provide adequate protection for natural resources. The DEP usually requires industrial firms to obtain an industrial wastewater discharge permit and to hook up to a wastewater treatment facility so as to prevent hazardous materials from entering the groundwater.

However there is a high cost associated with extending the sewer lines. There may be some funding available through the Federal Economic

Development Administration (this is how nearby Orange extended their service to the Randall Pond Industrial Park). Also, some types of large scale commercial and/or light industrial uses may be possible in non-sewered areas by using septic systems or on-site sewage package treatment facilities.

It may be important to explore the feasibility of increasing the capacity and geographic access to both water and wastewater treatment systems for the purpose of supporting desired economic development. It may be worth considering establishing a Sewer Enterprise Fund. According to the Massachusetts Department of Revenue:

“Enterprise fund accounting enables a community to identify the operating cost of providing a service, to plan for capital improvements and to set rates sufficient to cover those costs. It allows payments for indirect costs to flow from the enterprise to the general fund to reimburse the town for the time spent by town employees on enterprise activities. A surplus, or retained earnings, can be built up, accumulate interest and once certified by DOR used to fund operating, capital, or debt service costs associated with the sewer operation.”¹⁴

¹⁴ Massachusetts Department of Revenue, Division of Local Services, Town of Northfield, Financial Management Review, February, 2011, page 20.

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

ANTICIPATED IMPACTS OF CAMPUS REDEVELOPMENT

In order to accommodate new growth at and inspired by campus redevelopment, pipes in the existing system will need to be replaced both to increase their capacity as well as to deter leakage. The town may want to consider supporting an extension of the system in order to support desired growth in desired locations.

STORMWATER MANAGEMENT

There is currently no Stormwater Management Plan and catch basins are not maintained on a regular basis. Whenever a road is rebuilt the drainage is upgraded and documented. There are an estimated 600 catch basins in Town. If a catch basin collapses, it is replaced. A more comprehensive approach would be beneficial.

FUTURE PLANS/NEEDS

Assessment of the Four Mile Brook Watershed: The Town was recently awarded a Water Quality Management Planning Grant from the 604(b) Program. The grant will fund a comprehensive assessment of the Four Mile Brook watershed to inventory potential sources of nonpoint pollution and develop a Watershed Management and Restoration Plan, which includes specific recommendations for prioritized restoration and/or mitigation projects. The project will also include a macro invertebrate sampling program and a public education and outreach effort.

A Stormwater Management Plan would be helpful in improving the system in a more comprehensive and efficient manner.

SUSTAINABILITY MEASURES

The **Northfield Energy Committee** is working on behalf of the Town to help stabilize energy costs and to reduce our dependence on non-renewable energy sources by promoting energy conservation, efficient design and construction techniques, and the use of renewable energy. In July of 2012 Northfield earned its designation and funding of \$143,750 to use on energy efficiency and renewable energy projects. Some of the projects they are working on include the insulation and air sealing for Town Hall and Dickinson Library, insulating and air sealing window treatments for those same buildings, a PV system for the Senior Center Pavilion and funding to do engineering studies on other project ideas.

Green Communities Designation

The Selectboard voted to move forward toward obtaining the Commonwealth's Green Communities Designation that would make the Town eligible for energy-related grants. Additionally, a **Solar Overlay District** was created to allow property owners to erect ground-mounted solar arrays with certain size ranges by right (eliminating the need for a Special Permit process). This is an important step in the MA Green Communities certification process that will enable Northfield to qualify for a variety of grant funds.

In the fall of 2012, the Chair of the Selectboard and members of the Energy Committee accepted the town's designation as a "Green Community" which was approved at Annual Town Meeting. The first-year grant for energy improvements is \$136,000 and will be used in the Library and Town Hall primarily.

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Transition Northfield is part of an international movement to relocalize, re-energize, and build resilience in our community. The vision of Transition Northfield is;

“We envision a vibrant, resilient, and socially equitable community committed to respect and care for each other and our natural world that is prepared to meet our basic needs by relocalizing our sources of food, energy, and health care in the face of oil depletion, climate change, and economic instability.”¹⁵

Transition Northfield began a LENDING TOOL LIBRARY that loans a wide variety of tools to community members, free of charge. The Tool Library is located at the Transfer Station on Caldwell Road and operates from 9:00 a.m. to 12:00 p.m. on Saturdays.

FUTURE PLANS/ NEEDS

Transition Northfield is in the process of developing a resilience plan to include the following “key sectors”:

- Energy
- Food
- Economy
- Youth
- Water

- Health
- Education
- Transportation
- Governance
- Buildings, housing
- Arts, culture
- Inner transition
- Civic preparedness
- Waste

Transition Northfield has developed the Northfield Community exchange, a unique tool for sharing skills, goods, and services with the members of the community. The exchange works as follows:

- On the web site, members list services or goods they are willing to exchange.
- Members contact each other to arrange an exchange and agree on how many hours it is worth.
- The giver performs the service or provides the goods.
- On the web site, the receiver records the exchange, which credits the giver and debits the receiver for the agreed on number of hours.
- The web site keeps track of each member’s account balance (in hours).
- Everyone’s time is valued equally, no matter what service is performed or what goods are given.

¹⁵ From Transition Northfield: <http://transitionnorthfield.org/>

NORTHFIELD MASTER PLAN INVENTORY: PUBLIC FACILITIES AND SERVICES

RESOURCES

DOCUMENTS

Long Range Plan FY2007 – FY2011, Dickinson Memorial Library, Approved October 10, 2006.

FY2012 State Aid to Public Libraries. Annual Report Information Survey (ARIS) of 2011 Data. Commonwealth of Massachusetts Board of Library Commissioners.

Annual Report, Town of Northfield, 2011.

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Pathway to Tomorrow, A Master Plan for Northfield, Northfield Planning Board,

Northfield Community Development Plan, 2003

Pioneer Valley Regional School, NEASC Site Visit, March 3-6, 2013 Report

Northfield Senior Center, Feasibility Study, Town of Northfield, Prepared by: John Catlin & Assoc. Architects, Inc., September 2002.

Northfield Water District Consumer Confidence Report, 2012, ID#121700.

Massachusetts Department of Revenue, Division of Local Services, Town of Northfield, Financial Management Review, February, 2011, page 20.

INTERVIEWS

Steve Matsch, Fire Department, Water District/Sidewalks

Tom Hutcheson, Town Administrator

Sergeant Rob Leighton, Police Department

Bill Wehrli, Pioneer Valley Regional School Principal

Tom King, Northfield Elementary School Principal

Tom Walker, Highway Superintendent/ Sewer Commission

Suzanne Travisano, Senior Center Director, COA

Deb Kern, Director, Dickenson Memorial Library

Mark Fortier, EMS Chief

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