

MHC Reconnaissance Survey Town Report

ANDOVER

Report Date: 1985

Reconnaissance Survey Town Reports, produced for MHC's Statewide Reconnaissance Survey between 1979 and 1987, introduce the historical development of each of the Commonwealth's municipalities. Each report begins with an historic overview, a description of topography, and political boundaries. For the purposes of the survey, the historic period has been subdivided into seven periods: Contact (1500–1620), Plantation (1620–1675), Colonial (1675–1775), Federal (1775–1830), Early Industrial (1830–1870), Late Industrial (1870–1915), and Early Modern (1915–1940/55). Each report concludes with survey observations that evaluate the town's existing historic properties inventory and highlight significant historic buildings, settlement patterns, and present threats to these resources. A bibliography lists key secondary resources.

Town reports are designed for use together with a series of town maps that demarcate settlement patterns, transportation corridors and industrial sites for each historic period. These maps are in the form of color-coded, polyester overlays to the USGS topographic base map for each town on file and available for consultation at MHC. For further information on the organization and preparation of town reports, readers should contact MHC.

Users should keep in mind that these reports are now two decades or more old. The information they contain, including assessments of existing knowledge, planning recommendations, understanding of local development, and bibliographic references all date to the time they were written. In some cases, information on certain topics was not completed. No attempt has been made to update this information.

Electronic text was not available for digital capture, and as a result most of the reports have been scanned as PDF files. While all have been processed with optical character recognition, there will inevitably be some character recognition errors.

The activity that is the subject of the MHC Reconnaissance Survey Town Report has been financed in part with Federal funds from the National Park Service, U.S. Department of the Interior. However, the contents and opinions do not necessarily reflect the views or policies of the Department of the Interior. This program receives Federal financial assistance for identification and protection of historic properties. Under Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, and the Age Discrimination Act of 1975, as amended, the U.S. Department of the Interior prohibits discrimination on the basis of race, color, national origin, disability or age in its federally assisted programs. If you believe you have been discriminated against in any program, activity or facility as described above, or if you desire further information please write to: Office of Equal Opportunity, National Park Service, 1849 C Street, N.W., Washington, D.C., 20240.



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MHC RECONNAISSANCE SURVEY REPORT

Date: 1985

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I. TOPOGRAPHY

The town of Andover lies in the northwestern portion of Essex County, Massachusetts. It covers about 10,000 acres and is bounded by the Merrimack River and the city of Lawrence on the north, by North Andover on the east, by North Reading, Wilmington and Tewksbury on the south and by Tewksbury on the west. Physiographically the town lies within the New England Seaboard Lowland, a relatively smooth coastal strip of land with some hills usually below the 400 and 500 foot contours. Locally, this portion of Essex County is higher in elevation than more easterly areas with a diversified terrain containing hills, valleys, meadows and plains. Elevation averages from 100 to 200 feet throughout most of the town except along the Merrimack River where elevations are usually 100 feet or less. Most hills in the town exceed 200 feet. A few hills (e.g. Wood Hill, Holt Hill) approach or exceed 400 feet.

Bedrock deposits in the Andover area are characterized by igneous deposits throughout most areas of town except in the north along the Merrimack River where sedimentary Merrimack quartzites are found. Soils in Andover represent a mixture of types formed in outwash deposits, glacial till and organic deposits. Soils of the Hinckley - Windsor - Merrimack association are present throughout most of the town southeast of I-495 to the Shawsheen River then south to Lowell Junction, also along the Merrimack River. These soils are found in deep deposits and nearly level to steep areas. They are generally well-drained, sandy and loamy soils formed in outwash deposits. Soils of the Paxton-Woodrige-Montauk Association are found between most of Rt. 28 and Rt. 125, northeast and southwest of Fish Brook and west of Ballardville. These soils are also found in deep deposits and nearly level to steep areas. They are well-drained, loamy soils formed in compact glacial till. In the southeastern corner of town, soils of the Charlton-Rock Outcrop-Medisapristis Association are found. These soils occur in deep deposits and nearly level to steep areas. They range from well-drained, loamy soils formed in organic deposits. Rich outcrops are also present. Small isolated distributions of soils belonging to the Canton-Charlton-Sutton association are found in several areas of town including a small area north of Fish Brook to the Merrimack River, west of Haggetts Pond along the town border, west of Rt. 28 south to Andover Center. These soils occur in deep deposits and nearly level to steep areas. They are well-drained, loamy soils from friable glacial till.

Major drainage in Andover is northerly through the Shawsheen River to the Merrimack River, which drains easterly along the towns' northern border. Fish Brook also drains northerly into the Merrimack River from its source at Haggetts Pond. The Skug River drains southerly from North Andover in the southeastern portion of town. Numerous ponds, swamps, freshwater meadows and springs exist throughout the town. Major ponds include Haggetts Pond, Poms Pond, Field Pond, and Fosters Pond.

The original forest growth in Andover and in Essex County in general included a mixed growth of white pine, oak, chestnut, popular, maple, birch and some other hardwoods and conifers.

However, second growth pattern characterize most of the town today, including oak and chestnut in upland areas; birch, cedar, juniper and white pine are also present.

II. POLITICAL BOUNDARIES

Andover was originally part of the Plantation at Merrimack, also known as Village at Chochichawick established in ca. 1642. The town was purchased from Native Americans and incorporated as Andover, later Andover in 1646. Merrimack, Rowley, Salem, Woburn and Cambridge originally bound Andover. Boundaries between Andover and Billerica were established in 1658, with “Will’s Hill” (later Middleton) in 1678, with Tewksbury in 1903 and with North Reading in 1904. In 1708, Andover was divided forming the North Parish (present North Andover) and South Parish (present Andover). The Third or West Parish of Andover was created from the South Parish in 1826. Portions of Andover were included in the towns of Middleton (1728), Lawrence (1847), and Lawrence (1879). North Andover was incorporated from the Andover North Parish in 1855.

III. HISTORIC OVERVIEW

Andover, an affluent, suburban town on the northern periphery of metropolitan Boston is derived from the inland plantation, Cochichawick, named for the brook and lake within its bounds, reserved by the General Court in 1634. Renamed Andover in 1646 in reference to some planters who came from Andover in Hampshire, England, its territory also originally included the present towns of North Andover, Middleton and the City of Lawrence (south of the Merrimack River). Andover has benefited economically, environmentally, architecturally and culturally from consistent, general prosperity generated by a significant, continuing, manufacturing sector in its economy, the presence of prestigious, private, secondary schools and the continuation of longstanding, early farmsteads. Organization of the schools had an integral influence on town development establishing growth patterns and setting design standards of excellence with a preference for classical inspiration. The town's character has traditionally summarized by the phrase “the mill, the hill and the till.” As a suburb of the City of Lawrence, Andover expanded in the middle of the twentieth century as part of the post World War II settlement pattern in which veterans, first and second-generation Americans relocated outside urban areas. Situated at the intersection of two, major interstate highways (Routes 93 and 495), Andover has also grown substantially in the last thirty years as a commuter community.

Original settlement was restricted to the meetinghouse center in the northern part of town (North Parish in 1708, incorporated as North Andover in 1855). Settlement on the farmlands (Andover) was authorized in 1660. Early movement into the southern part of town is evinced by surviving “mansion homes” (Daniel Bigsbie House c. 1675, extant; Benjamin Abbot House c. 1685, extant). Farming was quickly supplemented by an early ironworks, trades, saw and gristmills at falls on the Shawsheen River. Density of settlement shifted from the northern to southern part of town within fifty years. Andover suffered little from Indian attack, but was subject to the witchcraft hysteria in 1692-93.

Farming dominated economic life in the eighteenth century, but manufacturing, commerce, tradesmen and the genesis of a professional class appeared indicating early economic and

cultural complexity. These trends intensified after the Revolutionary War, which served as a catalyst for self-reliance through local industries that exploited the waterpower of the Shawsheen River (powder mill, 1775-1796; paper mill, 1789-1820; and especially textiles) sometimes initiated by recent-immigrant entrepreneurs. Private secondary schools, Phillips Academy (1778) and Abbot Academy (1829), were founded to educate boys and girls with emphasis on the cultivation of moral values “the great end and real business of living” as well as intellectual development. Religious activity increased. A conservative stance in the controversy over the rise of Unitarianism led to the establishment of Andover Theological Seminary (1807). The continuing agrarian nature of the western part of town led to the congenial separation of West Parish (1826), but no separate incorporation.

The institution of manufacturing at each of four privileges along the Shawsheen River and the founding of three significant educational institutions within the bounds of South Parish (Andover) had a determining influence on the development of growth and settlement patterns, cultural interests and preferred aesthetic and design values which promoted Andover's prominence. Facilitated by the introduction of railroad lines in 1835 and 1847, the prosperity, intensity and physical concentrations of Andover's manufacturing interests, renowned for their innovation and success, established the town's character in the middle nineteenth century. Expansion of manufacturing promoted physical development centered around the Shawsheen River, attracted unprecedented population growth during the 1840s and 1850s, generated cultural, ethnic, architectural, social and religious diversity and promoted the amicable incorporation of South from North Parish in 1855 with the former retaining the town name largely without dispute.

The economic dynamism of the Civil War further advanced the maturation and diversification of Andover's industrial, commercial and cultural centers. The population of the town, despite territorial losses to Lawrence and North Andover, continued to grow steadily if slowly in the Late Industrial Period. After a sharp decline in the 1870s, manufacturing remained the dominant economic activity. Industrial wealth financed many of the town's notable architecturally and/or socially significant buildings. The town lost much of its agrarian disposition during the second half of the nineteenth century as employment increasingly shifted from farming to manufacturing and trades. Around the end of the nineteenth century, however, losses in the number of farms reversed, market gardens were introduced and agricultural acreage and production increased.

After World War I, deterioration of the textile industry and pervasive adoption of the automobile as the primary means of transportation were the major trends of the early modern period in Andover. Effects included the decline of the railroad and street railway, improved roadways, and greater diversification in the manufacturing sector that achieved even greater relative importance in the local economy. The principal event of the early modern period was the major investment c. 1818-1925 by the American Woolen Company in the creation of a company town for upper-level corporate management in Frye/Shawsheen Village. Population growth in Andover remained high, but the large geographic size of the town and its ingrained conservative taste for complementary architectural styles has allowed a generally successful accommodation of old and new.

General population movements and additional advancements in highway transportation after World War II intensified the “suburbanization” of development. Production facilities located in industrial park or campus settings. Residential construction concentrated in subdivisions made from former estates and farmsteads.

IV. CONTACT PERIOD (1500-1620)

A. Transportation Routes

Native American transportation routes in the Andover are likely emphasized water travel along the Merrimack River, Shawsheen River, and Skug River. Conjectured trails were also probably present along the banks of the Merrimack River and Shawsheen River possibly in the vicinity of the Old Boston Road north to the Merrimack River. An inland trail was also likely present, probably along the general route of Salem Street. A trail along Haggett's Pond Road or High Plains Road may have also existed linking the Haggett Pond area with the Merrimack River.

B. Population

Andover was inhabited by members of the Pawtucket group (often called Penacook) who inhabited the coast from the north side of Massachusetts Bay in the Saugus/Salem to York Village, Maine. Locally, this group is commonly referred to as the Naumkeags who may have been a sub-tribe of the Massachusetts but seemed to be under the leadership of the Penacooks. Most 17th century colonists consider the Pawtucket and Massachusetts Indians closely related but separate entities. Both Swanton (1952) and Speck (1928) include Pawtucket Indians in the Salem area among the Massachusetts. Gookin (1792) sites ca. 3,000 men belonging to the Pawtucket group prior to the 1617-19 epidemics, while Mooney (1928:4) lists 2,000 men belonging to the Penacook group (probably Pawtucket), as many as 12,000 natives, probably exaggerated. During the same period, both Gookin and Mooney list ca. 3,000 men belonging to the Massachusetts, which probably included some Pawtucket's. The Native American population in the Andover area may have numbered in the vicinity of 200 individuals during much of this period. Following the epidemics, fewer than 50 individuals if any remained in the Andover area.

C. Settlement Pattern

Numerous Woodland but no Contact period sites are known for the Andover area. However, environmental variables and known Contact period sites in surrounding towns indicate sites of this period should be present. For example, areas along the Merrimack and Shawsheen rivers may have been good site locations as well as other areas along the periphery of major wetlands, streams, and ponds. In addition to habitation and village type-sites, special purpose sites such as fishing sites, shell middens and burials were also probably present. These sites may have been located in similar areas to those noted above. Contact period sites have been recorded in several towns surrounding the Andover area including Haverhill, Newbury, Newburyport, Ipswich, Salem, Marblehead, and probably Saugus. This factor plus the local environmental potential

indicates the Andover area is likely underreported of the Contact period. Sites of this period should be present in the township.

D. Subsistence Pattern

Native Americans in the Andover area subsisted on a variety of seasonally determined activities including hunting, fishing, the collecting of wild plants and shellfish and horticulture. Hunting was a major activity focusing on larger mammals such as deer and smaller furbearers. Upland game birds and ducks were also hunted, particularly in wetlands and meadows surrounding riverine acres. Seasonal runs of alewives were probably present in most brooks leading to the Merrimack and Shawsheen Rivers. Shad, salmon and trout were also available though their distribution was probably restricted to the main rivers noted above. Gathering activities probably focused on numerous species of terrestrial as well as freshwater plants. Domestic plants such as corn, beans, pumpkins, squash and tobacco were important. Native fields were likely located along major riverine areas or around the periphery of major ponds and wetlands.

V. PLANTATION PERIOD

A. Transportation Routes

Indian trails likely continued in use in the Andover area throughout most of the plantation period. Water travel also probably existed along the Merrimack and Shawsheen Rivers. European land transportation in Andover began in the early 1640s after the village was settled in the North Andover area. The earliest roads were probably horse paths and cart ways leading from the village in North Andover to farming lands west of the Shawsheen River and north to the Merrimack River. Some of these lands were likely in what is today Andover. Portions of Elm Street and Lowell Street may have been included in these routes. After roads had been established from settled areas to farmlands, regional roads were developed linking the Andover area with Reading, Haverhill, Boston and Salem. These roads were laid out as early as 1647. The Andover/Reading road probably extended along the route of the Old Boston Road in the vicinity of Woburn, Abbot and Main Streets. This route was probably the main route through the town roughly following the course of the Shawsheen River inland through Reading to Boston. In the Merrimack Valley this road linked with the Haverhill Road probably along Elm Street then through North Andover to the river.

B. Population

It is unknown exactly when Europeans first permanently settled Andover. Original settlement in this area was in North Andover with many farm areas located in present day Andover. Thus, many colonists were probably farming in Andover on a temporary basis in the 1640s while living in Andover village (North Andover). Andover probably had some permanent residents by ca. 1650 as some individuals took up residence on their farms. By 1675 between 50 and 100 individuals may have resided in the town. Andover's population was exclusively Congregationalist during this period. All residents in the area were ethnically English predominantly from Hampshire, Lincolnshire and Wiltshire counties.

C. Settlement Pattern

Andover or Chochichawick as the area was then called, may have been settled by squatters as early as 1634. However, official authorized settlement did not occur until ca. 1660 when residents of Andover village (North Andover) began to settle their farmlands. Previously the Andover area was common land and undivided land used by the residents of the village. Open fields were present in the area though individuals were not permitted to reside on their land. The open field system began to fail about ca. 1660 as increasing proportions of land were granted in the third and fourth Andover land divisions. Farm areas were now granted in larger acreage and at increasing distances from the village center in present day North Andover. Landowners now wished to reside on their lands rather than travel to them for work on a daily basis. It was the movement from nucleated village life in North Andover to residence on farmlands that resulted in the settlement of Andover. Dispersed farmsteads characterized settlement in Andover at the end of this period. Relative to the large size of the town, few homes were present by 1675, in part because of constraints against living outside the village in North Andover but also because of fear from Indian attacks, which occurred during this period. Most of the area was still unsettled frontier. By the end of this period much of Andover had been divided through four divisions of upland, two divisions of meadow and one division of swampland. Most landowners now held between 125 and 150 acres with some holdings as high as 600 acres.

D. Economic Base

As Europeans settled Andover, hunting and gathering wild foods were important for their subsistence. However, the combined practice of agriculture and husbandry were clearly the most important aspects in the economic lives of Andover's early settlers. Much of present-day Andover was common lands for the original Andover village settlement, now North Andover. Open field farming was present in Andover during most of this period with individuals farming in Andover while living in this village in North Andover. This pattern began to change in the 1660s as fields were increasingly closed. Indian corn, wheat, barley and rye were the most important food crops. Fruit and vegetables were also grown but grains were the most important food products. Shortly after settlement, the production of vegetable fibers from hemp and flax were also an important activity in Andover. Cattle, horses, sheep and swine were the most important animals on local farms. Oxen and fowl were also present.

VI. COLONIAL PERIOD (1675-1775)

A. Transportation Routes

Native trails had likely been upgraded to horse paths or cart ways by this time. Three major corridors divided the town during this period. The first, the Old Boston Road roughly paralleled the Shawsheen River along portions of Woburn, Abbot and Main Streets. Elm Street entered from this road to the North Andover area north of the South Parish Meetinghouse. After the South Meetinghouse was constructed a second major road developed from the meetinghouse to Salem along the general route of Salem Street. A westerly corridor existed along the routes of Lowell Street, Bellevue Road and Haggetts Pond Road. Local roadways between farmsteads and mills were concentrated around the Shawsheen River.

B. Population

In 1675 Andover's population probably did not exceed 100 individuals. Most of the town's population was dispersed with little nucleation. During the late 17th and early 18th centuries rapid population growth characterized Andover's population. By 1692, tax lists indicated most residents were living in the North End of town or North Andover. Andover's population may have been in the vicinity of 200 to 300 individuals at this time. However, by 1707-08 a vote for a new meetinghouse indicated most residents in the area lived at the South End or in present day Andover. Over 500 individuals probably resided in the town by this date. Statistics pertaining to Andover's population were included with North Andover throughout the Colonial period. Andover's population underwent a period of constant but unsteady population growth from 1700 to 1775 though growth in this period was slower than the late 17th century. In 1705 Andover's population was 2.2 times greater than in 1680, 1.6 times greater in 1735 than in 1710; 1.3 times greater in 1755 than in 1730 and 1.5 times greater in 1756 than in 1751 (Greven 1970:178). By 1776, Andover was one of the largest and most populous towns in the colony ranking 7th out of 21 Essex County towns for population. In 1764 population density ranged from 41 persons per square mile throughout the town to 106 persons per square mile on improved land. Most Andover residents were still ethnically English though several Canadians were settled in the town in ca. 1756. A Congregationalist church was organized in Andover by 1709. Several Andover residents were convicted of witchcraft during the 1692 witchcraft trials. Several individuals were hung and others were imprisoned. Some out migration occurred during this period, most noticeably to Penacook or Concord, New Hampshire.

C. Settlement Pattern

At the start of the Colonial period, fear from Indian attack was diminishing and all 17th century land divisions had been given. These facts contributed towards an abandonment of the English Open Field system and brought an end of nucleated village life. European settlement now began to steadily grow in the Andover area. During this period, old Andover was divided into the South End or present Andover and the North End or North Andover. Prior to 1692 most residents in Andover resided in the North End. By ca. 1675 a garrison house was occupied by George Abbot in that area. However, by 1708 most residents were residing in the South End. At that date the General Court ordered that Andover be split into two parishes. The South End became the South Parish, later Andover. Prior to 1708 the North Parish (North Andover) contained the meetinghouse, minister and principal citizens in the settlement. After that date, the South Parish became the principal community. By 1705 and again in 1707 that Andover settlement voted to build a new meetinghouse, this time in the South End in an area called Holt's Wood where the cross paths meet. Prior to actual construction in 1710 a new site was chosen on the west side of Rogers Brook a few yards north of the present South Church. A Second meetinghouse was constructed in 1733-34. A military training field was present by the South Parish meetinghouse in 1718.

Much of present-day Andover was divided amongst old Andover's proprietors by the end of the plantation period. Prior to 1700 only house lots, probably in present day North Andover were granted to new settlers. Other divisions of land prior to 1700 were through sale and inheritance

as larger 1st generation grants were broken up amongst sons of the earlier settlers. Little had been done with the remaining large tracts of undivided land during the late 17th century. In 1702, 102 men were declared heirs to the 1st generation of settlers in old Andover and proprietors of common lands. In 1714, 120 men were added to the list of proprietors. Between that date and 1720, three successive divisions of common land were granted. Unlike larger decisions during the Late Plantation period these grants were smaller, rarely more than 30 acres. New land was now a problem for the younger members of many families. Larger farms exceeding 500 acres were now rare as many were broken up. Smaller farms, usually between 100 and 200 acres or less, were now common.

Most of Andover remained pasturage and woodland throughout this period. Only the area along the Shawsheen River, particularly the locale north of the south meetinghouse developed a settlement continuation. Manufacturing developed in the area late in the period. A public library or social library was also formed about this date. The Philip's powder house was built on the Shawsheen River during the winter of 1775-76.

D. Economic Base

Agriculture and husbandry continued to grow and characterized the economic base of Andover throughout the Colonial period. Grains remained the main farm products on Andover farms with corn increasingly becoming the main crop. Cows, cattle, sheep and swine were still the most important farm animals. Industry was also growing though it did not take on major proportions until 1775. By 1675 rights were given to tanners to use whatever bark they needed provided they did not cut building or mill timber. In 1682 liberties were give to any man who would setup a saw mill, fulling mill and grist mill on the Shawsheen River near Rogers Brook to take up 20 acres of land. This opportunity was exercised by Joseph and John Ballard who with their heirs were voted 20 acres in 1688 so long as they keep a gristmill, fulling mill, etc. Some confusion existed regarding exactly when and who established this mill. The mill(s) may have been built by 1682 after a delay caused by King Philip's War. Walter Wright and Edward Whittington originally received a grant for a mill in 1673 but were delayed since Whittington was drafted for war. Wright may have built the mill later with funds supplied by the Ballards. The pre-revolutionary Chandler and Lovejoy ironworks were also built near there. These mills were small-scale operations and may have been present in the late 17th century as the town gave "encouragements" for ironworks construction as early as 1689. By 1775-76 the Philip's powder mill was also built on the Shawsheen near the site of the later Marland Mills. In 1718 Samuel Frye built a combination saw and grist mill, also on the Shawsheen River in the area that would come to be known as Frye Village. Frye's son later added a fulling mill to this operation. The home spinning of textile was also important as well as other industries such as malt houses, distilleries and fish weirs on the Shawsheen and Merrimack Rivers.

E. Architecture

Residential: The Benjamin Abbot house of ca. 1700 is the only confirmed first period house in the town; its oldest section is single room and chimney bay, followed by the left room, ca 1725, and finally the lean-to. The town inventory claims several additional early houses including the

earliest sections of the Ballard-Foster, Isaac Abbot houses and Osgood Farm. Saltbox forms included the Chandler-Bigsby-Abbot house, the Blanchard Upton house, the Abbot-Symonds Baker house, the Holt house, and the Holt-Cogswell house; the latter said to date to 1740. Other early houses, about which little is known on form include the Lovejoy-Abbot house and an unnamed house on Holt Rd. Classic 2 & 1/2 story, center chimney houses survive from the eighteenth century, about fifteen are noted in the inventory. Variations included a gambrel-roofed house; two, three bay, center entry examples; several three bay, side entry examples; a house with a pedimented projecting entrance said to date to 1734; and the single pile 1717-20 Emery house. A small number of 1 & 1/2 story center chimney houses are also inventoried. Double interior chimney Georgian plan house is also known from two examples including the high hip roofed Poor-Perry houses of 1763.

Institutional: With the formation of South Parish Andover a meetinghouse was constructed do unknown appearance; it was replaced in 1734 with a house “after the same form and fashion as the old,” including diamond paned windows, and measuring 44 by 56 feet with 30 foot posts. In 1714 a schoolhouses was constructed measuring 16 by 22 feet.

VII. FEDERAL PERIOD (1775-1830)

A. Transportation Routes

Andover continued to build roadways throughout this period. Major north/south Colonial period roadways continued along the Old Boston Road east of the Shawsheen River and from the south meetinghouse to Salem. A northern route through North Andover, to the Merrimack River and Haverhill also existed, partly along Elm Street. A major roadway continued along the Lowell Street/Haggett’s Pond Road corridor with a southerly extension to Billerica, probably along Blanchard Street. The Andover and Medfield Turnpike constructed by 1807 was the major inter-regional roadway to develop through Andover during this period. This road was a privately franchised toll road throughout this period, providing a much-traveled corridor between Medfield and points in New Hampshire. At least two other important roads also developed during this period. River Road paralleled the Merrimack River east of the Shawsheen River with High Plain Road connecting the northwestern portion of town with the south meetinghouse locale. Local roadways also developed throughout the period, predominantly in the area east and west of the Shawsheen River. Travel by horseback remained important with coach travel increasing particularly after turnpike construction.

B. Population

During this period the area remained South parish of the large town of Andover; in 1820 the population equaled 1413, about 36% of the total for that town. The establishment of two important educational institutions had an important influence on the development of the town. In 1778 Samuel Philip’s Jr. and Eliphalet Pearson opened the boarding school that became Philip’s Academy. In 1808 Pearson in conjunction with like-minded men from Newburyport (Samuel Spring, William Bartlett, Moses Brown, and John Norris) formed a theological seminary in response to Harvard’s shift to Unitarianism, making the town a focus for Congregational Orthodoxy. In 1829 a female seminary was formed, later known as Abbott

Academy. A Third or West Parish was formed in 1826. In 1829 Methodists formed a society in the town. The town was anti-Federalist, and involved in the redistricting scheme of 1812 that linked the town to Marblehead, another anti-Federalist stronghold, to counteract the Federalists in the nearby towns, and gave rise to the term gerrymander.

C. Settlement Pattern

The considerable pattern of local roads, the network of district schools and the division of the community into two parishes (South Parish, Andover, added in 1709), all before the beginning of the Federal Period, suggest agricultural settlement had become substantially dispersed throughout the town.

Prompted by the availability of waterpower, the initiation of industry beyond agriculture-related mills was induced in part by the need for economic independence during and immediately after the Revolutionary War, by recognition that the quality of local farmland would not engender prosperity and by the arrival of several foreign-born entrepreneurs in search of opportunity. Although a number of mills employing a few workers had previously operated on the Shawsheen River, available waterpower was exploited for textile manufacture in the Federal Period. Moving south to north as the river flows, four mill privileges on the Shawsheen spawned mills which generated the following industrial villages: Ballardvale, Abbot Village Marland Village and Frye Village.

At the end of the eighteenth century, Timothy Ballard owned a grist and saw mill, blacksmith shop, cider mill and fulling mill located around the pond in Ballardvale.

The adjacent Abbot Village and Marland Village clustered around the two waterfalls/mill privileges on the Shawsheen River in the center of Andover, traditionally known as “The Village” in recognition of its central role in the town’s formation. Abbot Village arose at the southernmost of the two privileges. In 1807, Abraham Marland built a cotton yarn mill (not extant). He built a Federal-style residence (c. 1828-30, extant) a short distance upstream at 29-33 Shawsheen Road (formally Village Street). Surviving at 18-20 Red Spring Road (formally Mineral Street) on the west bank of the Shawsheen River is the Abbot Mill (c. 1814), perhaps the oldest extant factory building in all Andover (including present-day North Andover). It was built by Abel and Paschal Abbot to manufacture woolen, cotton and cassimere yarn. The business failed during the Panic of 1837. The property was occupied in 1843 by Peter Smith and John Dove who relocated their flax yarn mill from Frye Village. Early mill housing associated with the firm includes numerous Federal Period houses that remain along Essex Street at the junction of Shawsheen and Red Spring Roads and at 51 Red Spring Road. A stone mill (c. 1824, extant) for the manufacture of flannel was established on the east bank of the Shawsheen River by John Howarth & Company, which also failed in the Panic of 1837. The mill was taken over by Henry H. Stevens and others of North Parish Andover who continued to manufacture woollens until 1843.

Industrial development at Marland Village began with a variety of mills (not extant): pre-Federal ironworks operated by the Lovejoys, a powder mill (1775/76) erected by Samuel Phillips, Jr., a paper mill (1789) with drying house/warehouse, rag house and storage building, also erected by

Phillips in association with Thomas Houghton. A woolen mill (c. 1820-30, extant) was constructed by Abraham Marland on the west side of the Shawsheen River. Early mill housing (c. 1820s, extant) spread along Stevens (originally Marland) Street including 2 brick duplexes at 55-57 and 59-61 Stevens Street.

Frye Village was initiated when Samuel Frye built a saw and grist mill in 1718 (not extant). Frye's son later added a fulling mill (not extant). In 1824, John Smith purchased the mill privileges on the west side of the Shawsheen River near the crossroads of the old stage road from Haverhill to Lowell (Haverhill/Lowell Streets) and the Essex Turnpike (Main Street). John Smith, Joseph Faulkner and Warren Richardson erected a machine shop (not extant).

Industrial activity in turn stimulated commercial and cultural development. Andover Village then "The Village," at the intersection of several inter-community connectors, emerged as the multi-functional, center of South Parish. The earliest clustered development occurred on Central Street, location of South Parish Meetinghouse (1709, not extant) with an adjacent training field, Central Street evolved into a corridor for religious institutions and fashionable residences. Between 1820 and 1828, the second post office was located in the Federal-style Jonathan Swift House (1795, extant) at 23 Central Street, originally the mansion of a prosperous tanner and prominent landholder. Another Federal mansion (1792-93, extant), 47 Central Street, was the retirement home of wealthy Boston importer, Samuel Abbot, a founder of Andover Theological Seminary.

The Essex Turnpike (Main Street), laid out in 1805 and built in 1810, replaced Central Street, as the main artery of "The Village". Initially sparsely occupied by farmhouses and a boarding house, over the next twenty years Main Street gradually attracted commercial activity with changing functions and mixed uses, especially to its east side. Lower Main Street became a desirable heterogeneous neighborhood, but maintained an architectural and social distinction that continued to attract the town's most prominent citizens and conspicuous institutions. Andover Bank (founded in 1826 reorganized as Andover National Bank in 1865), Andover Savings Bank (incorporated in 1834), and the Merrimack Mutual Fire Insurance Company (incorporated in 1828) all had offices on Main Street in Andover Village. The Federal mansion (1819, extant) at 97 Main Street was built for local businessman, Amos Blanchard, church deacon and trustee of Abbot Academy. A boarding house (1819, extant), built by Major Daniel Cummings for students at Phillips Academy and the Theological Seminary, became Lock's Tavern in 1825. As a meeting place for the prominent, the tavern was often the place where many important local institutions and enterprises were organized or held their first meeting.

Three significant institutions of higher education were instituted during the Federal Period. Located on Academy Hill, southeast of the original Andover Village, are the institutional and associated residential buildings of Phillips Academy (1778), Andover Theological Seminary (1807) and Abbot Academy (1829) on Academy Hill. The first, major period of development for these schools between 1810 and 1835 created a concentration on the hill of some of Andover's finest Federal buildings.

Land west of the Shawsheen River remained largely farmland. In 1826, South Parish voted to divide itself accommodating those in the western part of town, mostly farmers, who had long

complained of the travel distance to worship. The meetinghouse was constructed at the intersection of Lowell and Beacon Streets with Shawsheen and Reservation Roads. This crossroads became West Parish Center, the focus of religious and social activities for Andover's farming community. It included a militia training field (remnant exists at the intersection) and burial ground (earliest graves date from the 1790s). The area characterized by farmhouses was also inhabited by a number of shoemakers. West Parish Center lacks commercial or industrial development other than the Abbot-Brown House (c. 1780s, extant), 161 Lowell Street, which functioned as a tavern and stop for the Lowell to Salem stage. West Parish Church (1826, extant, renovated 1843, 1863 and c. 1908) is the oldest house of worship extant in Andover. Federal Period houses are found on Lowell Street, Reservation and Shawsheen Roads. The holding of the Osgood Barnard House (c.1810-30, extant), 174 Lowell Street, included a shoemaker's shop (not extant) that stood in front of the dwelling. The Rev. Samuel Jackson House (1830, extant) was built for the first minister of West Parish Church on land donated by farmer, Solomon Holt who lived at 111 Reservation Road (c. 1810, extant) and also donated the land for the meetinghouse. Housewright Moses Parker lived at 166 Lowell Street (1829, extant).

D. Economic Base

“The movement which...transformed Andover from an agricultural community to one largely industrial began after the Revolution as part of a widespread attempt to develop home manufacture.” (Fuess, 1959:248) Indeed, the war itself provided the impetus for the first manufacturing operation in Andover, a water-powered gunpowder mill, the first in Massachusetts, established by Samuel Philip's on the Shawsheen River in 1775-76. Even after hostilities ceased, Philip's continued to produce gunpowder for several years. Beginning in 1789, he diversified operations at the Marland Village privilege, introducing paper manufacture. Following an explosion that destroyed the powder mill in 1796, Philip's turned exclusively to production of paper. Ca. 1800 the paper mill employed 15-20 people who produced paper worth \$10,000 annually.

As the politically independent nation sought greater economic independence from Great Britain, Andover played an important part in experimenting with and the successful production of machine-made textiles. \$300,000 in Andover capital was used to incorporate the Newburyport Woolen Mill in Newbury in 1794. In addition, the machinery for the mill was built in Andover by the Schofield brothers who established a small machine shop in the 1790s, and built, among other machines, the first American-made carding machine and spinning frame. During the first two decades of the nineteenth century two of the four mill privileges on the Shawsheen River, both previously used for agricultural milling, were transformed into cotton and woolen mills. In 1807, Abraham Marland established a small cotton cloth factory, in Abbot Village. During the War of 1812 he turned to production of woolen army blankets. In 1814 the Abbot brothers established a small mill in Abbot Village where they manufactured cotton and woolen yarn, cassimeres, and eventually, flannels. Because the Abbotts' mill used much of the water power at the Abbot Village privilege Abraham Marland was forced to move his mill to what later become known as Marland Village in order to expand his operation. Hence in 1821 he purchased the privilege and paper mill buildings and turned exclusively to woolen cloth production. Following Marland's exit from Abbot Village John Howarth established another small woolen mill there in 1824. That same year Messrs. Faulkner and Richardson established a textile machine shop at

another Shawsheen River privilege in Frye Village. In 1829 the firm employed 30 men and made textile machinery for firms in Lowell, New Market, NH, and Andover. Russell Phelps and Jonathan Sawyer established a second machine shop in 1825 in the basement of Abraham Marland's lower mill, but after only a few years the business was moved to North Andover. Federal period activities at the fourth mill privilege, in Ballardvale, are unknown.

Despite the shifting emphasis from agriculture to manufacturing, Andover was still home to many farmers. In 1820 farmers outnumbered manufacturing employees by 3 to 2. Still, only a small percentage of the land was improved. In 1791 only 5.3% of the 35,270 agricultural acres in Andover's north and south parishes was under tillage, and another 17% was devoted to English and fresh meadow hay. Corn was the principal crop. Uncultivated land was divided almost equally between pasturage, woodland and other unimproved acreage.

In 1826 the Andover National Bank was chartered and in 1828 the Andover-based Merrimack Mutual Fire Insurance Co. was incorporated.

E. Architecture

Residential: Traditional eighteenth century house forms remained popular in the town. Two and one half story, center chimney houses remained popular, known from 15 examples including one with hip roof, one of three bays and center entry, two of three bays and side entry. Five examples are known of one and one half stories. By far the most popular houses of the period however are those with familiar 2 & 1/2 story height, five bay center entry facades but with paired chimneys. The most common variation employs an L-plan and chimneys located on the rear wall of the main block, nearly twenty are known, as well as one three bay and four hip-roofed examples. Next in popularity is the prototypical double interior chimney plan, known from about fifteen gable roofed and equal numbers of stylish hip-roofed examples. The town's most stylish houses follow this form in a three-story height version. End wall chimney placement is known from about ten gable-roofed examples and six hip-roofed examples. Among these are several ambitious examples including one of three stories, one with a three bay facade with blind arcading and half round portico, and the Headmasters House (Philip's Academy) featuring blind arcading, balustrade, lateral ells, and palladian window above a fanlight window. One example is known of a double house, 2 and 1/2 stories and 6 bays with paired center entries.

Institutional: In 1788 a new South Parish meetinghouse was constructed, of unknown appearance. In 1826 the new West Parish constructed a meetinghouse of stone with wood trim, originally with three entries on the facade, and a square tower. A Methodist meetinghouse of unknown appearance was constructed ca. 1829. The first building for Philip's Academy was converted from a carpentry shop in 1778. A boarding house, known as the Latin Commons, survives in a three story, three bay center entry form with double interior chimneys. In 1786 a museum with a meeting hall above was constructed measuring 33 by 64 feet; it burned in 1818. That year Bullfinch and Pearson Halls were constructed. With the formation of the Theological Seminary in 1808 came the construction of still more education related buildings; Philip's Hall now known as Foxcroft Hall was begun in 1809; the dining hall of that year is presently a single

pile two story structure of seven bays that has been moved and divided into apartments; Bartlett Chapel was built in 1818, and Bartlett Hall in ____.

Commercial: An 1825 store survives as a 2 & 1/2 story gable front of five bays with center entry; it was later used as a tenement house, and subsequently as a “glebe house” for Christ Church.

Industrial: In 1775-76 a wooden gunpowder mill was erected by Samuel Philip’s, on the third mill privilege on the Shawsheen River, in what later became known as Marland Village. It was destroyed by fire in 1796. In 1789 Philip’s erected a paper mill complex at this privilege, consisting of four frame buildings, one a two-story structure, 36 feet by 32 feet, and three, one-story structures measuring 20 feet by 24 feet, 20 feet by 13 feet and 20 feet by 13 feet. All four buildings burned in 1811 and were rebuilt. Ca. the 1790s the Schofields erected a small machine shop at an unknown Andover location. In 1807 Abraham Marland erected a small cotton factory on the second of four mill privileges on the Shawsheen River at what later became known as Abbot Village. Paschel and Abel Abbot erected a second mill, this one for woolen manufacture, in 1814. This extant mill, a two-story shingled frame building with a pitched roof, stands near Red Spring Road. In 1820-21 Abraham Marland purchased the paper mill complex and privilege in Marland Village, erected a new brick mill and moved his operations from Abbot Village. He erected a second brick mill there in 1828, part of which housed the Sawyer and Phelps machine shop. Following Marland’s exit from Abbot Village John Howarth erected a three-story stone mill with a clerestory monitor roof in 1824 (later removed and replaced with two additional brick stories and a flat roof). Also in 1824 a machine shop of three stories with basement, 72 feet by 57 feet, was erected in Frye Village on the fourth Shawsheen River privilege.

VIII. EARLY INDUSTRIAL PERIOD (1830-1870)

A. Transportation Routes

Federal period roadways continued in use throughout this period. By the 1830s objections to tolls and the poor condition of turnpikes led to the abandonment of this system with control of turnpikes reverting to local authorities. The Andover and Medford Turnpike was free of tolls in 1836. Railroads construction also led to the decreasing importance of turnpikes and public stagecoach travel. By 1833 the Boston and Lowell Railroad was extended to Andover, completing a link between Lawrence and Lowell in 1848. This route extended along the northern shore of Haggetts Pond through the area of Interchange 32 of Rt. 93 to Lawrence. A second major railroad corridor was also constructed through Andover during this period. This railroad was originally chartered in 1833 as the Andover and Wilmington Railroad extending from the South Parish Meetinghouse to a connection with the Boston and Lowell line at Wilmington. By the 1840s this line was known as the Boston and Maine Railroad extending northerly along the Shawsheen River to Lawrence and North Andover. This line was relocated from east of the Shawsheen River to its West side in ca. 1844 so that it passed by Lawrence. By ca. 1870 the Boston and Lowell and Boston and Maine trunk lines were connected by a rail line between Ballardvale Station and Haggetts Pond Station.

B. Population

After the setting off of Lawrence and North Andover, the town's population equaled 4810 in 1855; by 1870 the total reached only 4873 after some fluctuation. The proportion of the foreign born was particularly high, equaling 25.1% in 1855 and 30.3% ten years later. Among these the Irish were by far the most numerous, followed by the English, Scots, and small number of Canadians. A number of new denominations formed societies in the town. In 1832 a Baptist society was organized, followed in 1835 by a Protestant Episcopal church. In 1846 a Free Christian Church was formed by members of the West Parish and the Methodist churches to protest the toleration of slavery. With the growth of Ballardvale came the formation of a Methodist and a Union Congregational church at mid-century. The town's first Roman Catholics worshipped after 1852 at St. Augustine's, a mission of St. Mary's Parish in Lawrence. Universalists were active in the town for about 25 years during this period. The town was the recipient of a large bequest for a high school in 1850; the 1854 decision to locate the school in the South Parish was partially responsible for the division of the town. The town sent nearly 600 to the Civil War exclusive of Academy and Seminary students; 53 died.

C. Settlement Pattern

The prosperity of manufacturing in the mid nineteenth century focused development around the Shawsheen River. Older industries expanded and incorporated and important new businesses were founded, creating factory villages of architectural, social and cultural diversity as the population grew at unprecedented rates. Part of this expansion was fueled by middle and working-class immigrants from Scotland, Ireland and England involved in the development, management and operation of the factories.

Ballardvale, Andover's first planned mill community, originated with the Ballardvale Manufacturing Company. Founded in 1836 by John and William S. Marland, sons of Abraham Marland, and several other investors, the firm made flannels, woolen and worsted goods and delaines, experimented with silk manufacture and eventually gained international renown. The village was named for Timothy Ballard who had operated earlier mills at the privilege. Construction of a new, 200-foot dam in 1835 by Timothy Ballard provided power for new industries which enjoyed a century of prosperity and generated concomitant commercial, trade, institutional, ecclesiastical, educational, cultural and recreational development. On Andover Street, the main thoroughfare which forms a U-shape through the village, the Ballardvale Mills (1836 and 1844), the railroad depot (c. 1845/48, the second for the village), school (c. 1843/48, demolished 1981) as well as early mill housing (c. 1830) were constructed.

During the middle 1840s, worker housing was developed on the west bank of the Shawsheen River on Dale (Center, Marland and Tewksbury Streets) mostly in the form of Greek Revival duplexes and cottages. In 1848, fifty acres in the center of the village owned by John Marland were platted into house lots developed by the company. The residences (extant) were soon purchased by their tenants. The Methodist meetinghouse (extant) was erected in 1851 at the corner of Tewksbury and Marland Streets. An Italianate, four-family house was added to Center Street in 1860.

On the east bank of the river, an enclave of carefully detailed, revival style, vernacular houses (extant) were erected during the mid 1840s for small businessmen on High Street. The Italianate mansion (c. 1843-48, extant) of John Marland overlooked the mills and the village from Andover Street. Later, it became the summer home of Captain Josiah Putnam Bradlee, sole proprietor of the Ballardvale Mills after 1866.

Bradlee, former treasurer of the firm, took over the mills when in financial difficulty and bought out the other stockholders. His careful management returned the business to profitability and allowed him to provide social benefits to the village including a library (between the 1870s and 1914 at Marland House, 228 Andover Street), reading room, public hall (Bradlee Hall, extant at the corner of River and Andover Streets), concerts and lectures free to the workers. He also furnished or subsidized the three churches in the village: Methodist (not extant), Congregational (1875) and Roman Catholic (1881, extant). His proprietorship of the Ballardvale Manufacturing Company made Ballardvale one of the finest manufacturing villages in the state. Several other enterprises attempted in the village were of short duration. The Tyer Rubber Company which began to manufacture rubber cement and overshoes in Ballardvale in 1855, moved two years later to buildings on North Main Street in Andover Center (demolished in 1963 and 1967).

In Abbot Village, Smith & Dove Manufacturing Company came to dominate the available sites and expanded to both sides of the Shawsheen River. In 1843, it absorbed Henry H. Stevens's woolen mill on the east side of the Shawsheen River. A Greek Revival residence at 29 Cuba Street (extant) and several, brick storehouses were constructed c. 1850/60 (extant, but substantially altered). The distinction of the partners and most of the operatives of Smith & Dove Manufacturing Company as natives of Scotland, the physical separation of the factory village from existing houses of worship and the dissention introduced to existing religious societies by the anti-slavery movement led to the formation of the Free Christian Church, partly as a declaration of severance from religious organizations which tolerated slavery. In 1849, John Smith moved the Methodist meetinghouse (not extant) from Main Street to Railroad Avenue in Abbot Village where it was remodeled at his expense and conveyed to the society. A few years later, Smith and Dove built and donated a parsonage (not extant) to the society.

At Marland Village, the Marland Manufacturing Company was founded in 1834. Abraham Marland had leased the property of Samuel Phillips, Jr.'s earlier paper mill on Stevens Street in 1820 and had begun the successful manufacture of woolens. The Marland Manufacturing Company expanded during the Early Industrial Period with construction of a picker house (1850, extant) and a finish/spinning mill (1864, extant) on the east side of the Shawsheen River. A row of frame mill housing (c. 1830-50) in the form of cottages and duplexes still stands along the east side of North Main Street north of Stevens Street.

Machinist, Parker Richardson, purchased from his former employers, Jonathan Sawyer and Russell Phelps, a machine shop which fabricated woolen mill machinery located in the basement of Abraham Marland's factory. Richardson built the brick, Federal house (c. 1828-30, extant), similar to the frame dwelling of Abraham Marland, at 232 North Main Street across the Shawsheen River just north of the row of mill housing.

At Frye Village, John Smith joined his brother Peter and John Dove in establishing a flax spinning mill opposite his machine shop in 1835. The firm expanded its operation to Abbot Village in 1843, but Smith and Dove Manufacturing Company; Lower Mills remained at Frye Village. At mid century, William Poor operated a wagon factory at the intersection of Main and Poor Streets. Elijah Hussey ran a sawmill east of Main Street northeast of the intersection of North Main Street with Haverhill/Lowell Street. William C. Donald & Co. ran an ink black factory on the east side of North Main Street in the village. Residential development spread in each direction of the intersection of the stage road (Haverhill Street/Lowell Street) with the former turnpike (North Main Street). An enclave of worker housing (not extant) was built on the southwest corner of the intersection by Smith and Dove Manufacturing Company.

Industrial success prompted social, cultural and religious expansion and complexity as professional and business sectors expanded in the local economy. Andover Village, located along the Essex Turnpike at its juncture with other major inter-community and inter-village connectors, garnered the institutional, civic and commercial core of town at Elm Square. The Methodists built a meetinghouse on Main Street in the middle 1830s, but remained a weak society in the center. A Town Hall/Post Office was erected in 1859. Elm House, a hotel, overlooked the square until demolished in 1895 to make way for the flatiron Musgrove Building. Other larger, often masonry, commercial buildings replaced earlier frame stores and residences near the intersection.

Middle-class, residential areas attractive to many prominent citizens, also arose south of the commercial area. Amos Abbot, prominent industrialist, politician and church deacon, built his residence (1832-33, extant) at 106 Main Street and a store (1832-33, extant) for dry goods, groceries and drugs next door at 112 Main Street. Prominent carpenter and contractor, William S. Jenkins, built the Italianate dwelling (1852-58, extant) at 116 Main Street. Captain Joshua Ballard, lived in the Greek Revival house (c. 1848, extant, moved from around the corner at 1 Punchard Avenue) at 104 Main Street.

Central Street in Andover Village emerged as the religious core of the community as three new churches were built there. The Greek Revival, First Baptist Church (1834, extant) at the corner of Central and Essex Streets included a store in its basement throughout the nineteenth century. In 1835, the Episcopal Society built a frame, Greek Revival church (1837, burned 1886) and a rectory (1845) on Central Street and established a cemetery (extant) near the intersection of School and Central Streets. A Roman Catholic chapel (not extant) was organized in 1851 by Augustine Fathers from Lawrence on Central Street. The frame, Romanesque, fourth meetinghouse for South Church (1861, extant) and cemetery is located near the site of the original South Meetinghouse.

The scattered presence of Greek Revival residences in outlying areas indicates continuing agrarian development during the early part of the period, despite agriculture's decline in relative economic importance. In West Parish Center, a vestry (1856) was built opposite the meetinghouse. A district schoolhouse (1848, extant to the rear of 174 Lowell Street), Greek Revival housing stock and a little commercial activity were also added.

D. Economic Base

During the first years of the Early Industrial period Andover's economic dependence on manufacturing industries was solidified as the four mill privileges developed into textile factory villages. Expansion of textile production was facilitated by completion of the Boston and Lowell Railroad in 1835 and then a direct rail line from Andover to Portland, Maine in 1843, giving Andover manufacturers easier and cheaper access to the national market. Evidence of the increased importance of manufacturing is the growth of employment and product value in this sector, the former jumping from 399 people in 1832 to 1250 in 1865, or by 213%, the latter expanding from \$385,590 to \$2,017,706 or by 423%, during the same time span. By contrast the number of people employed in agriculture in 1865 was 312 and product value was only about \$125,000. The Andover Savings Bank was incorporated in 1834.

Textiles, while by no means the sole manufactured product, were certainly the most important. By 1836 large wool or flax manufacturing firms had been incorporated at Ballardvale, and at Marland and Frye Villages. The first firm to incorporate was Abraham Marland's Marland Woolen Mfg. Co. in Marland Village in 1834. The following year the Smith and Dove Mfg. Co. was established in Frye Village, then in 1836 two of A. Marland's sons established the Ballard Rule Mfg Co. and began producing woolen flannels. The principals at Ballardvale also established a large shop where textile machinery and steam engines were made. In 1837 the Abbot and Howarth woolen mills at Abbot Village were forced into bankruptcy by the sharp economic depression of that year. After a few years of vacancy and/or ownership changes both mills were purchased by Smith and Dove, and installed with flax spinning machinery enabling the firm to expand production considerably. In 1865 Smith and Dove had four mills, employed 250 people and generated flax products worth more than \$500,000. The Marland and Ballardvale Mills (five in all) employed another 400 people and produced 1.35 million yards of woolen flannels and fancy woolens worth \$950,000. The combined product value of the three textile firms accounted for 73% of the total manufacturing product in 1865.

Among the many other products manufactured in Early Industrial Andover, including shoes, hats, soap, bricks, ink boxes, clothing, tin-ware, rubber products, iron furnaces, textile machinery and steam engines for railroad cars, the most important product was steel files which were made by the Whipple File Mfg. Co. Established in 1860 in the machine shop purchased from the Ballardvale Mfg. Co., Whipple File was capitalized at \$1 million in 1866 employing 600 people, making it the largest enterprise in Andover. When the company failed in 1869 the resulting economic dislocation was extensive.

Agriculture remained a viable economic activity for 30-40% of Andover's residents throughout the period. In 1865 there were 175 farms of over 13,000 acres. More than 50% of the land was improved, though the majority was haying or pasture land. Principal agricultural products were hay, which accounted for 45% of the 1865 total product value, grains (especially corn), potatoes, fruit, and firewood and lumber. There were four working sawmills in 1865.

E. Architecture

Residential: Large numbers of houses survive from this significant period of expansion. Continuing in popularity are the 2 & 1/2 story, gable-roofed, five bay, center entry houses with paired chimneys. Double interior chimney forms were the most popular form, known from about 35 examples. Fewer examples of rear wall L-plan and end wall houses are known. One and one half story houses increase in popularity within this general house type, and about 25 are inventoried. The most important change within single-family house construction was the adoption of the gable front form during the period, and its rise in popularity was dramatic. In contrast to other communities, large, 2 & 1/2 story houses were built in the largest numbers, about 50 are known including about 15 of expanded L-plan. One and one-half story examples are known from about half that number of survivals. Builders of these houses chose Greek Revival, and later Italianate ornament; steady development through mid-century meant equal numbers of each style, focusing on door surrounds and cornices. Small numbers of high style and elaborate houses are known. The Gothic mansion Arden was constructed in 1847 for John Dove, a 2 & 1/2 story gable block with two projecting gabled bays on the facade, and ornamented through the use of a flush-board facade, drip mold barge boards, labels, cupola, and porte-cochere. Several Italianate houses were built in more complex forms, including projecting, pedimented entry bays on gabled blocks, and T-plans with entry off center in secondary blocks.

Of particular importance is the construction of multifamily housing in conjunction with the mills in the town. During this period the most common type was of 2 & 1/2 stories, with a six bay facade and paired center entries, with simple Greek Revival ornament of which about 15 are known, including one of stone, and three of only 1 & 1/2 stories. A smaller group consists of gable blocks divided longitudinally beneath the roof ridgeline rather than from front to back; these back-to-back units each present a three bay center entry facade, perpendicular to the roadway. Isolated forms included one with entries at each end of the gable block, several five bay, center entry gable fronts of 2 & 1/2 stories, and one triple entry example of 1 & 1/2 stories.

Mansard roofed Second Empire houses achieved modest popularity here. Center entry forms are known from two two-story and four three-story inventoried examples. Side entry examples, related to the gable front, are known from four two-story and three three-story examples.

Institutional: In 1834-36 a Baptist Church was constructed, a gable front block with Doric portico and square tower with paired entries. Christ Church, Protestant Episcopal was constructed in 1837, a Greek Revival structure probably of gable front form with fluted Doric portico. In 1861 the South Parish built an elaborate meetinghouse from Renaissance Revival designs by John Steven; the gable front form has a vestibule and high steepled tower with round headed openings, a bracketed cornice, and drip moldings. Two years later the West Parish remodeled their meetinghouse along similar lines, closing the lateral entries, modifying the windows, and adding a spire. At Ballardvale both a Methodist and Congregational church were established at mid-century but their appearances are unknown; a Universalist meetinghouse is also unknown in appearance. The Free Christians purchased the house of Methodists ca. 1846. In 1852 Roman Catholics built a simple chapel to St. Augustine. In 1839 the town constructed a brick almshouse, 2 & 1/2 stories on a basement of five bay, gable front form, gable roofed lateral ells, and porch. Of the ca. seven district schools in the town one undated example survives, a 1

& 1/2 story, gable front with three bay facade, side entry, and Greek Revival trim. The Punchard High School was built in 1856 after a \$50,000 bequest by a Marland son-in-law, a brick and freestone structure measuring 45 x 75 feet and two stories that burned in 1868. The Town Hall of 1859 is a brick Renaissance Revival structure measuring 55 by 86 feet, of center entry, gable front form with segmental arch openings on the first floor, half round on the second, and drip moldings at the cornice.

Industrial: Several new buildings were erected at the four factory villages during the period. In Marland Village Marland Mfg. Co erected four new factory buildings. In 1830 a four-story brick mill with pitched roof was built; this extant building was later lowered to three stories with a flat roof. In 1850 a one-story brick boiler and dye-house was erected (extant), as was a two-story brick picker house (extant). In 1864 a two-story brick spinning and finishing mill was added to the complex, but it is no longer standing. Smith and Dove Mfg. Co. erected new buildings in both Frye and Abbot Villages. In 1835 the machine shop at Frye Village was converted to a flax mill and the following year a new mill was erected opposite it on the west side of the Shawsheen. In 1865 another brick mill was added to the Frye Village complex. All these buildings were destroyed when American Woolen Co. established the Shawsheen mills in the Early Modern period. Upon assuming control of the two mills in Abbot Village in 1843 Smith and Dave converted them to flax mills and began constructing a number of brick storehouses. These later structures, dating from ca. 1850-60, still stand, though altered considerably. In 1865 a brick mill was also built at Abbot Village. The Ballardvale Mfg. Co. also erected a large complex on the first Shawsheen privilege beginning in the 1830s. In 1835 a four-story brick factory with pitched roof and cupola (later removed), 150 feet by 45 feet, was erected (extant). In 1842 a three-story mill with a coursed granite first story and shingled frame upper stories with pitched roof was constructed; this extant building now has a flat roof. A one-story brick boiler house was added to the 1842 mill the same year (extant). In 1844, a 2 & 1/2 story wooden mill with projecting stair tower and pitched roof was erected. In 1847 a large stone machine shop was built. In 1848 a two-story wool storehouse with ridge roof and brick dentil work on the gable ends was constructed of uncoursed granite and brick (extant). In addition to the textile mills the Tyler Rubber Co. erected a small factory in 1856 on the property of the Boston and Maine Railroad between Andover and Abbot Villages, and the Andover Water Work erected a pumping station ca. 1850-60. The latter, a one-story brick building with Italianate decorative features and a hip roof with a hipped monitor, still stands at 397 Lowell Street.

Commercial: Several stores survive from this period: the Nathaniel Swift store of 1832 is a 3 & 1/2 story gable block with entry on the long wall perpendicular to the street. Barnard's Block, ca. 1850, is a 3 & 1/2 story gable front with center entry. Unnamed examples of the same period include a 2 & 1/2 story center entry example, combining store and residences later used as a boarding house, and a 2 & 1/2 story four bay example for two stores. A later Italianate example is a gable block with center entry and bay windows.

IX. LATE INDUSTRIAL PERIOD (1870-1915)

A. Transportation Routes

Railroad construction continued to characterize transportation developments in Andover during most of this period. The main trunk line of the Boston and Maine Railroad continued along a north/south corridor through the town roughly parallel with the Shawsheen River. A short spur existed from this line to Andover village and a depot in the vicinity of Brook Street and Railroad Street near the River. In the western portion of town the Boston and Lowell Railroad (later known as the Lowell and Lawrence Branch of the Boston and Maine Railroad) continued with a connecting line to the Boston and Maine line at Ballardvale station from Haggetts Pond Stations. This connecting line was abandoned by ca. 1897 for a new line to the southwest extending from a station at Salem junction (Lowell Junction) through Andover and Tewksbury. Street railways also developed in Andover during this period. In 1891 Andover was connected with the Lawrence Division of the Boston and Northern Street Railway, earlier called the Merrimack Valley Horse Railroad and later the Bay State Street Railway. The system discarded horses and became electrified in 1890-91. The same year it was extended into Andover. By 1910 three routes existed through Andover. A main line followed Main Street/Route 28 through the town with shorter extensions leading northeasterly along Elm Street and southwesterly along Lowell Street. Street routes changed little in Andover during this period, though from 1906 to 1913 automobile travel increased greatly on better routes such as Route 28, Elm Street and Lowell Street. Most roads were still gravel or stone surfaced.

B. Population

The town's total population increased by 63.7% from 4873 in 1870 to 7978 in 1915, growing at a slow but steady pace throughout the period. Meanwhile the foreign-born population more than doubled between 1875 and 1915, ending the period at 2473, 31% of the total population, compared to 24% in 1875. The Irish were the largest immigrant group in the early years with twice as many members as the Scots or English. Smaller numbers of Canadians and Germans were also present in the beginning of the period. By 1915 Scottish-born inhabitants were the largest group, representing 1/3 of the foreign-born, followed by Irish, then Canadians, then English. Small numbers of Swedes, Italians, French and Germans also inhabited the town.

C. Settlement Pattern

Local economic stimulus generated by military requirements during the Civil War advanced the maturation of Andover's industrial and commercial development. Textile and machine-making businesses in the industrial villages were supplemented by new enterprises including Tyer Rubber Company (1876), W. Barnard & Co. (c. 1860, shoe manufacturer) and Craighead & Kintz (1883, decorative metalwork) at Ballardvale.

Economic interest and employment continued to shift from agriculture to industry and trades. The Theological Seminary, having suffered a period of decline subsequent to highly publicized heresy hearings in the 1880s, moved to Cambridge in 1908. Its property was purchased and soon redeveloped by Phillips Academy. Indicative of continuing, if slow, population growth, new

local schools were built in Ballardvale (Bradlee School, 1889) and Andover Village (Stowe School, 1894).

Ballardvale expanded substantially as new factories were constructed. The property successively occupied the Ballardvale Machine Company and the Whipple File Company was taken over in 1883 by Craighead & Kintz Company, makers of art metalwork such as lamps, plaques and figures. The Ballardvale Stoneware Manufacturing Company (aka Willard and Sons and Willard & Weston), founded in 1880 by Lewis Willard later joined by Jeremiah Sullivan, manufactured stoneware in a factory adjacent to the railroad until 1892 when the firm moved to Lawrence. Residential development expanded on the west side of the Shawsheen River along Chester Street and Clark Road and in new tracts south of Tewksbury Street (Dudley, Howe and South Streets). The school on Andover Street (demolished 1981) was renovated to a library (1913). The adjacent Congregational Church was erected in 1875 (extant as an apartment building). A parsonage (extant) was added in 1893. On the east side of the Shawsheen River, major new residential areas were platted largely in a grid pattern (Eames and Anderson Avenues, Reynolds, Priest, Dexter, Preston, First, Second and Third Streets) south of Andover Street to Wilmington Road. The picturesque, Gothic Revival, St. Joseph's Chapel (1893, extant) was built on High Street.

In Abbot Village, residential construction associated with the factories continued in the form of Italianate boarding houses at 38-48 Red Spring Road (c. 1890, extant), identical, gambrel-roofed duplexes on Bechin Terrace (1890s, extant) and an attractive, Colonial Revival apartment house at 70-84 Essex Street (c. 1900/10, extant), perhaps the oldest building of its type in Andover. By 1896, Tyer Rubber Company employed 150 producing hot water bottles, fountain syringes, nipples, bulbs and medical supplies. A new mill was constructed at 18 Railroad Street (1912, extant, remodeled to housing for the elderly, 1981) including an engine house and two small buildings.

In Marland Village, the property of the Marland Manufacturing Company was sold to Moses T. Stevens of North Andover in 1879. Stevens repaired and refurbished the mills and improved and expanded the associated residential property in the village changed the street name from Marland to Stevens. A spinning and carding mill was constructed (1883; fourth story added, 1925) and a fourth story was added to the Greek Revival woolen mill (c. 1910).

In Frye Village, the area between Poor and North Main Street was platted and a substantial new area, Oakland Park with Middle, Woodland, Highland, Oak and Allen Streets and Walker Avenue was created.

Andover Village grew, but remained fashionable and attractive as the continuing social, civic, institutional center of town. Commercial, industrial and institutional construction increased substantially, most noticeably along Main Street. Philanthropy of local industrialists subsidized some institutional development including Memorial Hall Library (1873, extant) and principal new buildings at the Theological Seminary and at Abbot and Phillips Academies. A new Episcopal Church (1887, extant) was erected at the corner of Central and School Streets.

Residential tracts, filled with Victorian and Colonial Revival homes, were laid out along an adjacent network of newly created streets, some in platted developments. Andover's most noteworthy Second Empire design, the Cutler-Handy House (1873-84, extant), was built at 126 Main Street. One of the best-executed Queen Anne designs in Andover was built for Mary Ballard who relocated her father's house (see above) to construct her own home (1885-88, extant) at 1 Punchard Avenue. The Shingle-style, November Club (Andover Women's Club, 1891, extant) at 6 Locke Street was the first clubhouse in New England built for women. A men's clubhouse was erected across the street in the grandiose and pretentious, Colonial Revival 9 Lock Street (c. 1899-1900, extant). One of Andover's earliest apartment buildings is the Caronel Court Apartments at 98-102 Main Street (1923-26, extant). Large estates were created on Main Street both north and south of the center village.

Religious structures continued to be built on Central Street. The first Roman Catholic church in Andover was erected in 1883 on Central Street at the intersection of Phillips Street. It was supplanted by a new church constructed nearby on Essex Street (burned 1894; rebuilt 1900). An adjacent rectory was added in 1904. The parish, almost exclusively Irish, also instituted charitable and beneficent organizations: Young Ladies' Sodality, Married Ladies Sodality and the Children of Mercy. A new Episcopal Church (1886) was built at the corner of Central and School Streets, near the society's earlier church. Italianate and Second Empire residences were interspersed into the neighborhood in the fourth quarter of the nineteenth century.

At the end of the period, many families sold their long-held farmsteads to successors who worked them less intensively. Still, despite its continuing agricultural orientation at a time of agrarian decline, there were additions to West Parish Center in the Late Industrial Period. The Grange, organized in West Parish Center in 1890, built a hall in 1895 (moved to Shawsheen Road, 1908, demolished 1972). The cemetery at West Parish was improved c. 1908 with the addition of new acreage, reconstruction of the perimeter wall, addition of new entrances including a monumental gate and erection of a small chapel. All were financed by industrialist William Wood, President of the American Woolen Company and resident of Frye Village. The Queen Anne cottage (1884-89, extant) at 160 Lowell Street, built for market gardener Edward W. Burt and a larger Queen Anne/Eastlake dwelling (c.1872-1884, extant) at 202 Shawsheen Road were added to the vicinity. A store (not extant) at the corner of Lowell and Beacon Streets and a brush factory (not extant) located behind the earlier (1846) farmhouse at 183 Lowell Street were operated by Frank Hardy and his son who occupied the dwelling in this period.

D. Economic Base

Despite a short and sharp industrial decline in the 1870s and increased "competition" from the agricultural sector, manufacturing remained the dominant economic activity in Late Industrial Andover. As in the previous period the three textile firms at Ballardvale, Marland, Abbot, and Frye Villages employed the majority of people and accounted for the majority of the manufacturing product value. Between 1875 and 1905 the total value of all manufactured goods increased from \$1.4 million to \$2.7 million. Textiles accounted for 83% of the 1875 total and an unspecified but certainly equally large portion of the 1905 figure. Smith and Dove Manufacturing Co. remained in business throughout the period. In 1872, with 200 employees working 13 sets of carding machines and 104 looms, Ballardvale was among the larger woolen

mills in New England. The Marland Mfg. Co. meanwhile, changed ownership in 1879, having suffered bankruptcy during the sustained 1870s depression. Upon being purchased by M.T. Stevens Woolen Co., the business was enlarged and the physical plant refurbished. Other manufactures included boots and shoes, which were made by a few firms whose combined product value was only \$67,000 in 1885; rubber goods, such as rubber shoes, water bottles and pharmaceutical accessories, made by the Tyler Rubber Co., incorporated in 1876 (but established in the previous period) employing 50 people in 1888 and more in 1909 when production of automobile tires began; brass and bronze goods, made by Craighead and Kintz Mfg. Co., employing 280 people who made goods worth about \$100,000 in 1888, in the factory previously occupied by Whipple File Co; and lampblack, made by Donald Ink Co. in a factory in Frye Village. The number and percentage of men employed in manufacturing, having fallen sharply in the 1870s, grew steadily thereafter, increasing from 517 in 1875 to 1095 in 1915, or from 47% of the total workforce to 58%. During the same period commercial sector employment rose from 168 men to 428, or from 15% to 23%, while employment in agriculture fell only slightly in real terms, from 408 in 1875 to 369 in 1915, the percentage of the total fell from 37% in 1875 to 20 % in 1915.

Despite lower employment figures, agricultural activity increased during the period. After a sharp drop in the number of farms in the 1870s, there were only 106 farms in 1875 compared to 175 ten years earlier-this sector rebounded. By 1895 there were 131 farms and 15 market gardens. The acreage under cultivation with crops and hay increased, as did the amount of pasturage. Of the 131 farms at least 19 were fully devoted to dairying and others largely to poultry production. The total value of agricultural products increased 217% from \$145,824 in 1875 to \$462,647 in 1905. Dairy products accounted for 33% of the 1905 total, hay and fodder for 25%, poultry for 12% and vegetables for 11%.

E. Architecture

Residential: New housing remained numerous throughout the period. Of particular importance is the persistence of the gable front form. With ornamental shingles and spindlework trim porches, this form was used in 1 & 1/2 story height in about a dozen inventoried examples, and in 2 & 1/2 story height in twenty examples; an additional five houses combine four bays and 2 & 1/2 story height. Many other related examples were constructed in the town, covered in streetscape forms for Washington, Florence, Chestnut, and Maple Street. Larger and more elaborate Queen Ann houses were also particularly popular here, and known from nearly thirty examples. The most common form with these is five bay 2 & 1/2 story gable block with projecting bays on one side and entry on opposite side, with porch and dormers. Gable front, hip, and pyramidal blocks are also known, but more complex detailing or shaping, such as towers, are rare. Additional examples are noted on streetscape forms for Maple and Elm streets. Shingle style houses show a town builders' preference for gambrel block forms, or facade gambrel projections on gable block forms; about fifteen have been inventoried. Late in the period Colonial Revival designs achieved popularity, particularly of the 2 & 1/2 story, five bay, center entry type. Gable front houses also employed elements of this ornamental vocabulary.

Multifamily housing was constructed by mill owners and speculators, and parallel single family forms. Examples include a three-story, mansard-roofed house with paired center entries, a

Queen Ann gable block with paired central entries, and gambrel block with recessed entries on the corners of the gambrel front. Probable new additions to this repertoire are two-family houses divided horizontally rather than vertically. This is most commonly accomplished in a Queen Anne or Colonial Revival gable front form. "Wiburs Ark" is of interest as a larger block designed for eight units, a gable block with shed dormers and paired entries built between 1875 and 1877. Of particular interest are 13 two family hoses constructed on Brechin Terrace; these 2 & 1/2 story wide gambrel blocks have recessed entries on each lateral wall.

Institutional: St. Joseph's Roman Catholic Church was built in 1881, a single story frame gable front with center entry, lancet windows, transepts and belfry. The Christ Church of 1887 is a Romanesque design in polychrome stone by Hartwell and Richardson, gable front in form with transepts and corner entry tower and semicircular arches. St. Augustine's new church of 1895-1900 was designed by P.W. Ford of Boston, a brick gable front block with three-part entry, corner tower and transepts. The nearby rectory of 1903-07 is a brick hip block of Georgian Revival design with projecting pedimented frontispiece. The Free Christian Church of 1908 is a McKim, Mead, and White Georgian Revival design, a hip block with square tower and Ionic portico.

Municipal buildings made up a significant portion of new building in the town, as the educational institutions experience a hiatus in development culminating in the Seminary's removal to Cambridge in 1908. In 1873 the brick Italianate Memorial Hall and Library was constructed, a 2 & 1/2 story gable front block with a three bay frontispiece, segmental arch openings on the first floor and roundheaded on the second, designed by J.F. Eaton; in 1927 the original mansard roof was removed during a renovation by Shepley Bullfinch Richardson and Abbot. In 1889 the Bradlee School was constructed in Ballardvale, a brick hip block of 2 & 1/2 stories on a basement, with a full height entry porch, cross gables, and roundheaded openings. The original Stowe School was built in 1888 but burned soon after; its 1895 replacement was similar, designed in a Romanesque Revival style by Merrill and Cutler of Lowell, a three story hip block over a basement, with entries at each end of facade, and towers on the lateral walls. An undated school survives in West Andover as a community center, a Colonial Revival hip block with cross gambrel and center entry. An undated fire station is a 1 & 1/2 story gable front with entry to the service areas above the single engine garage. A simple 1 & 1/2 story gable front structure with center entry was constructed as a meeting hall for German residents of Ballardvale. The Women's Club was built in 1882, a shingled frame hip block with wide central facade gable with modified palladian motif and glass enclosed side entry.

Commercial: The 1890 Andover National Bank on Main Street is a three story, flat roofed Romanesque Revival design in brick with half-round headed windows in the top story. The Musgrove Block built on an acute angled corner in 1885 of brick has stone form arched openings on its third top story and entries at the corner and center of the long wall. Barnard's Brick block is three stories in height under a high mansard -like roof, with paired windows, corbelled cornice, center entry to upper stories and four stores.

Industrial: In 1880 a large steam chimney (extant) was added to the powerhouse of the Stevens' mill in Marland Village. Three years later a three-story brick spinning mill (extant) was added to the mill complex. In 1894 Smith and Dave erected a large four-story brick factory of

Romanesque Revival design at its Abbot Village complex (extant). This mill, then the largest in Andover, measuring nine bays by nine bays with a four-story stair tower and stone foundation, was designed by the industrial engineer Charles Main and still stands on Railroad St. The Tyler Rubber Co. erected a factory on Railroad St. in Abbot Village in 1876; this brick mill, 80 feet by 30 feet, was demolished in 1912 when the company erected a large, four-story brick factory with two five-story stair towers with corbelled cornices on this Railroad St. site near No. Main St. Ballardvale Mfg. Co. added a brick dye house in 1871 and a brick storehouse (identical to the 1848 storehouse) in 1880, both of which still stand. The Donald Ink Co. erected a brick factory on North Main St. in Frye Village during the period.

X. EARLY MODERN PERIOD (1915-1940)

A. Transportation Routes

Railroads declined throughout this period while motor-based transportation grew considerably. The Lowell and Lawrence Branch of the Boston and Maine Railroad was abandoned during this period though the main track line along the Shawsheen River remained. Stations or depots remained in Andover Village and Lowell junction where a westward oriented spur also remained. Electric street railways were also abandoned early in this period at the expense of motor buses and cars. Automobile transportation increased considerably throughout this period along with increased care and maintenance of roads and at least one new major route. State Route 125 represented the only major route constructed in Andover during this period. This route along with Route 28 and Elm Street represented the major State Routes in the town. Most road surfaces were now paved with “Low Type” paving while state routes were noted as a “High Type” paving. By 1939 roads such as High Plain Road, Woodhill Street and Cross Street were soil surfaced while routes such as Woods Road, Chandler Road, Cutler Road, Reservation Road and others were gravel or stone surfaced.

B. Population

With the exception of a brief period of decline between 1925 and 1930, Andover's startling rate of growth continued unabated into the Early Modern period. By 1955, the town had registered an increase of 82% from 7978 in 1915 to 14,535. Andover's percentage of foreign-born equaled that of the county average both as the period's beginning (31% in 1915) and at its end (in 1955). While natives from the British Isles (Irish, English, Scots) comprised nearly 72% of the town's foreign-born in 1915, by 1940 (the final year of data) that figure had fallen to 56%; Canadians (25%) had emerged as the 2nd largest foreign-born population, behind the Scots.

C. Settlement Pattern

Technological advances and the introduction of water and sewage systems, professional fire and police departments, electric railways and decline of textile manufacture redirected local development and settlement patterns. Major investment by the American Woolen Company allowed the firm to take over and entirely transform and rename Frye Village.

Economic decline and the pervasive adoption of the automobile as the primary mode of transportation further redirected development in Andover. After World War I, local textile mills reduced operations and eventually closed or relocated elsewhere. The Ballardvale Mills closed in the 1920s; Marland Mills, sold to J. P. Stevens & Company in 1879, remained in business until 1964; Smith & Dove was sold and closed. In 1927, the firm's property was purchased by J. P. Stevens Company of North Andover and utilized for warehouse operations until 1972. Gradual industrial diversification, suburbanization and a local nostalgic commitment to the Colonial Revival architecture had major effects on revitalization, growth patterns and aesthetic qualities in Andover.

In Ballardvale, the Ballardvale Mills were occupied by Northern Rubber Company between 1930 and 1933. Between the late 1930s and 1960, they were utilized by Francis Leland who ran a wool distribution business. The school/library (c. 1843, renovated 1913) on Andover Street also became a community center (demolished 1981). Residential development stagnated; the new subdivisions of the east side of Shawsheen River remained largely unimproved two decades later. In Abbot Village, buildings were added to the Smith & Dove Manufacturing complex between 1890 and 1925. In Marland Village, a new weaving mill was completed for Marland Mills in 1925. Various other additions were built between 1925 and 1940.

Frye Village resident William M. Wood, president of the American Woolen Company which had corporate offices in Boston and manufacturing operations in Lawrence, resolved to realize a personal dream of creating a self-contained community for the firm's executive and middle management personnel. Profits garnered from increased production during the First World War allowed him to finance the purchase of 1500 acres of property. Wood demolished existing structures and relocated the few he valued. Between 1918-1925, the area was transformed into the 600-acre, Colonial Revival model community Shawsheen Village. It was comprised of over 200, individually-designed houses and more than a dozen community buildings including stores, offices, recreational facilities, a school, service buildings and a mill. Residential areas included "brick Shawsheen" and "white Shawsheen". The former was designed by architect John Adden in Colonial Revival and some Tudor Revival styles for executives on a newly-platted section (Windsor, Kensington, William, Kenilworth and Magnolia Streets) between Poor and North Main Streets. Frame-construction "White Shawsheen", designed by architect Clifford Albright for middle management, was built in subdivision sections east of the Shawsheen River both north (Sutherland, Sterling Dunbarton and Carlisle Streets) and south (Balmoral, Carrisbrook, Argyle, Arundel and Enmore and Linwood Streets) of Haverhill Street and on Canterbury Street, west of the village. Commercial, administrative, service and recreational buildings and the Shawsheen Mill were clustered along North Main Street and Haverhill Street. Lower Kenilworth Street, York Street and Riverina Road were added. Between 1906 and 1926, the west sides of the latter two streets were developed with finely detailed houses.

Corporate decisions and the suicide of William Wood in 1926 cut short the experiment in creating a self-contained, utopian corporate town. In 1925, the American Woolen Company planned to return its offices to Boston. By the middle 1930s, all of the houses, except the personal residences of members of the Wood family, some public facilities (nearly all extant) and the mill (extant, operated by American Woolen Company until 1956, sold to and occupied by Raytheon Company until 1972, conveyed to Shetland Properties and used as subdivided, low-

end mill space and sold to Andover Mills Realty Limited Partnership which renovated the mill in 1982 to Brickstone Square, office and light manufacturing space) had been sold off to private individuals.

The Colonial Revival design of the Shawsheen Village was complemented by a similarly grand-scaled, construction boom during the 1920s and 1930s at Phillips Academy on Academy Hill in Andover Village. A substantial number of major new neo-Georgian styled structures along with substantial landscaping and the relocation, reorganization and occasional restyling of earlier buildings (often to remove Victorian detail) impressed locals and helped ingrain a permanent, pervasive, conservative preference for the classical-inspired design. The town erected a neo-classical, municipal school building, the third Pynchard Free School and Auditorium (1917, extant) on Academy Hill in Andover Village.

Similarly, popular, private residential developments, such as Johnson Acres, platted off Elm Street in Andover Village were introduced with design-restrictive covenants. Purchasers responded nearly universally with Colonial Revival houses. Other areas platted in Andover Center for development in the twenty years after 1906 were along Wolcott Avenue and Carmel Road off Elm Street, Collingsgate and Colesgate off Morton Street and Pomeroy Street between Chestnut and Summer Streets. Rows of similar houses were added along the south side of Summer Street.

New Schools were erected: St. Augustine School (grammar school) was founded Sister of Notre Dame in 1914, first operated in the Tyer Residence on Phillips Street before a schoolhouse was erected next door at 26 Central Street in 1918.

In West Parish Center, a new, stone vestry adjacent to the meetinghouse replaced the earlier parsonage across the street. A bungalow (c. 1920) at 181 Lowell Street was built at the major intersection of the Village.

Improved transportation with the upgrading to state highways of Main Street/North Main Street (Route 28) and Haverhill/Lowell Streets (Route 133), the construction of Route 125 and after the mid-twentieth century, the intersection within the town of interstate superhighways Routes 93 and 495 led to further industrial diversification and development focused on industrial parks along Lowell Street (Route 133) and River Road. Suburbanization also expanded with the development of residential subdivisions in outlying areas. At the same time, substantial open space was preserved by the institution of State Parks and Forests (Harold Parker State Forest, east of Route 125; Moncrieff Cochran Sanctuary, east of Andover Village at Phillips Academy and the State Reservation between the Villages at West Andover and Ballardvale).

D. Economic Base

Manufacturing assumed even greater importance in the Early Modern period. Between 1918 and 1920, Frye Village was converted from a mill village of Smith and Dove Mfg Co. to the company town of the American Woolen Co., complete with modern mills, management housing, banks, schools, stores and other facilities. Most of American Woolens hundreds of factory workers lived in south Lawrence, while management was transferred here. The two large mills

were powered by electricity produced at the Shawsheen River power plant. Even though Smith and Dave sold their Frye village mills to American Woolen, the firm continued to produce yarn at Abbot Village until 1928 when control passed to the Ludlow Sales Co., which continued in the textile business until it failed during the Depression in the 1930s. In addition woolen flannels continued to be produced by the Ballardvale Milling Co. and M.T. Stevens, which was in business throughout the period. Even as late as 1952 the textile industry employed 57% of the manufacturing workforce. By that date American Woolen had stopped production in Andover but other textile firms like Colonial Spinning Co, the Merrimack Card Clothing Co, P.W. Moody Co., and the Redman Card Clothing Co. established operations in Shawsheen Village.

Second to the textile industry was the rubber products industry. The Tyler Rubber Co. and the Shawsheen Rubber Co. employed 33% of the manufacturing workforce in 1952. Other industries included three paper box manufacturers, a firm making shoe soles, a silver hollow ware manufacturer, two chemical companies, a confectioner, a furniture and wooden toy producer, and a crayon company. A total of 24 manufacturing firms employed 2673 people or 75% of the 1952 workforce. The remaining 25% was composed largely of wholesale, retail, finance, real estate and service employees. By 1952 only nine people worked in agricultural occupation.

E. Architecture

Residential: The construction of over 200 single family houses in Shawsheen Village is the most significant event in the landscape history of the period if not the history of the town. Built to accommodate management employees of the American Woolen Co. the development was divided between “white” or frame Shawsheen for middle management, and brick Shawsheen for upper management. The architect of the former was John Adden; of the latter Clifford Albright. This construction nearly eclipsed all other in the town. Builders of large homes continue to favor the Colonial Revival in elaborate manifestations. Isolated examples are known however of Tudor, Spanish Colonial, and Craftsman houses. Smaller houses include a three bay saltbox, and about twenty in a generalized bungalow configuration.

Institutional: Institutional building, like residential, was dominated by the development of Shawsheen Village during the 1920s. The Administration Building, constructed 1922-23, is a Georgian Revival design by Adden and Parker, four stories of brick on a cement basement with limestone trim, totaling eleven bays with a recessed seven bay entrance screened by Doric columns, and roof balustrade. The dormitory was built ca. 1922 for single women, previously from Boston, working in administration; the 3 & 1/2 story brick hip block is five bays in length with a three bay projecting entry, string courses and block cornice. The polling place of 1923-25 is a reproduction of Washington’s hut at Valley Forge, a single story, stone gable block with slate roof, of three bays with center entry. The school of 1924 was designed by Ripley and Le Boutillier, a Georgian Revival structure of brick, 1 & 1/2 stories in height with ell, parapet end walls, quoins, and palladian windows. The laundry is 2 & 1/2 stories with similarly parapeted lateral walls.

Somewhat later in the 1920s Philip’s Academy began a major building campaign, under the direction of trustees George B. Case and Thomas Cochran. The first building added was Samuel

Philip's Hall, beginning the development of the quadrangle on the east side of Main St. Next came Samuel L. Fuller's donation and construction of Memorial tower with carillon. After 1925 came the movement of existing structures and construction of new ones with the participation of architect Charles Platt. All were constructed of brick in a Colonial Revival vocabulary and these buildings include: George Washington Hall (1926), administration; Samuel F.B. Morse Hall (1928), science; Paul Revere Hall (1929), dormitory; Oliver Wendell Holmes Library (1929); Addison Gallery of American Art (1931); and Cochran Church (1932). Also built was William's Hall, an L-plan gambrel block with dormers.

Roman Catholic educational institutions came to the town during this period. Ground was broken on the St. Francis Seraphic Seminary in 1930; the three story flat roofed brick block of 25 bays, is raised on a basement with projecting frontispiece and Doric portico with pilasters and balustrade above, and three end bays projecting, with coins. The Sisters of Notre Dame built a two-story gable block with gable and gambrel wall dormers. A post office constructed in 1920 is at a corner location a 2 & 1/2 story gable block of brick with perpendicular block at one end, parapets, dormers, and clock tower, in the Georgian Revival style. A post office constructed in 1931 is a brick single story hip block of three bays with roundheaded center entry, palladian windows, parapet, and coins. The Indian River Country Club was constructed in ca. 1920 of stucco in a Spanish Colonial mode, a two story flat roofed block with hip roofed perpendicular ells, arcaded entry porch and porte-cochere.

Industrial: The American Woolen Company erected two very large mills between 1918 and 1920 as part of its Shawsheen Village company town project. The two electrically powered mills built on the former site of Smith and Dave Co's. Frye Village mills were each five stories with basements, constructed of reinforced concrete and brick, measured 450 feet by 150 feet, and were connected at their eastern ends (extant). In addition, a large trapezoidal ten-story wool storehouse, constructed of reinforced concrete and brick, measuring 160 feet by 150 feet by 175 feet by 130 feet, was erected ca 1918-20 (extant). American Woolen also erected the Shawsheen power plant in 1921 to power the mills and other buildings in Shawsheen Village; this Georgian Revival structure constructed of reinforced concrete and brick, with a large chimney, still stands on Tantallon Rd. The Stevens Co. erected a brick saw-toothed roofed weaving shed in 1925 (extant) and added a fourth story to the 1883 brick mill.

Commercial: Shawsheen Village included significant commercial establishments as well. In 1921 the Balmoral Spa was constructed of brick and stone, 2 & 1/2 stories in height with three large gabled ells across its facade, as well as lateral parapet ell, in the approved Georgian Revival style. The next year a restaurant and recreation center was built in the same style, a flat roofed block over a cement basement with a parapeted cornice, and Doric portico. The Merchant's Block was designed by Alright in 1924, a three-story brick structure with a flat roof, 27 bay lengths with a center pedimented frontispiece. The large commercial block at 120 Main Street houses five stores each marked by a large palladian window in the second floor with parapet at the cornice.

XI. SURVEY OBSERVATIONS

Andover's inventory forms are of moderate equality. In several instances forms are entirely or nearly blank, or missing photographs. There are many instances in which poor photography had made it impossible to determine overall building form.

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