

MHC Reconnaissance Survey Town Report

WORCESTER

Report Date: 1984

Associated Regional Report: Central Massachusetts

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.

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MHC RECONNAISSANCE SURVEY REPORT

DATE: 1984

COMMUNITY: Worcester

I. TOPOGRAPHY

II. POLITICAL BOUNDARIES

Original Quinsigamond Plantation grant made in 1668. Incorporated as town of Worcester in 1684. Part called North Worcester established as Holden in 1741. Lands annexed in 1743, 1785. Part of Leicester annexed in 1758. Parish set off from Worcester and other towns established as Ward (later Auburn) in 1778. Grafton gore annexed in 1838. Incorporated as a city in 1848.

III. HISTORIC OVERVIEW

IV. CONTACT PERIOD (1500-1620)

A. Transportation Routes

Highland Blackstone River tributary area west of Lake Quinsigamond. East/west trail south of Lake Quinsigamond inferred as Sunderland Road-Heywood Street-along contours to Ward Street-Cambridge street-Main Street to Kettle brook corridor (Leicester). From this trail branches are inferred south to the French River (Webster Street), to Packachoag Hill (Southbridge Street-Packachoag Hill), to Singletary Pond (Vernon Street-Greenwood Street), and to Dorothy Pond (Massasoit road). Northeast trails inferred from the Nashua River (Burncoat Street) and north of Lake Quinsigamond (Lincoln Street) converge at Main Street with northwest highland trails on Salisbury Street and Bailey Street-Mower Street-Pleasant Street. North/south highland trail west of Lake Quinsigamond inferred as Plantation Street.

B. Settlement Pattern

Like so many areas of the Central Massachusetts region, the archaeological sites located here are of unknown cultural affiliation. The waterways, however, provide potential locations for occupations, including the shores of Lake Quinsigamond particularly at Wigwam Hill, the shores of Indian Lake, Cool Pond, Curtis ponds, and Tatnuck Brook in the west, as well as the Blackstone.

C. Subsistence Pattern

It is conjectured that the later praying town of Pakachoag in Auburn to the south, as well as villages at Tatnuck and Quinsigamond operated as gathering places. One or more served as base camps from which smaller family and task groups left for seasonal visits to upland hunting areas, as well as specific resource locations such as the quarries in Millbury to the south.

V. PLANTATION PERIOD (1620-1675)

A. Transportation Routes

Native trails continue in use, with the Lancaster Way (Burncoat Street) and the Connecticut Road (Lincoln Street) entry routes for the first European settlers. Main Street is laid out in 1674.

B. Population

A portion of the Native American population were associated with the praying town at Pakachoag, in Auburn on the southern border. Native Americans there later extinguished their claim to the area with a deed in 1684. In 1673, when some colonial settlers had taken up the Quinsigamond grant, there were some 30 individuals in six or seven houses prior to abandonment.

C. Settlement Pattern

The area now Worcester lies adjacent to the praying town of Pokachoag, now Auburn. By mid 17th century, some of the area had been granted by the General Court: 3,200 acres granted to Increase Nowell in 1657, 1,000 acres to the Malden church in 1662, and 250 acres to Ens. Thomas Noyes of Sudbury in 1664. In 1668 the General Court included these areas in its eight-mile grant to Quinsigamond Plantation, extinguishing the undeveloped Malden grant, selling the Noyes to Ephraim Curtis who settled, and absorbing the meadow-rich Nowell grant. The initial land division plan was for 90 lots of 25 acres, with a centrally located meetinghouse and schoolhouse on a 20-acre training field. Most of the thirty farmsteads laid out by 1675 were located in the eastern half of the town, particularly along the Connecticut Road or Lincoln Street.

D. Subsistence Pattern

The Native population continued patterns established during the Contact period. The colonial population had little time to do more than clear the land and built shelters.

VI. COLONIAL PERIOD (1675-1775)

A. Transportation Routes

Native trails continued to be improved as local roads and regional highways. The Great Road from Boston to Springfield (Lincoln Street-Main Street) emerged as the main route through town, probably followed by the road south through Mendon to Providence (Front Street to Grafton Street-Sunderland Road-Grafton Street). After 1731, when Worcester became the shire town of the county, a radial road network developed to connect with all the surrounding towns in the region, essentially following native and earlier colonial routes.

B. Population

There were ca. 26 males in residence in Worcester during the second settlement. By 1718, five years after the first settler returned to the town, there were 58 houses and ca. 200 individuals. Growth was rapid, reaching 1,478 in 1765 and 1,925 in 1775. Early settlers of the town came from Sudbury, Marlborough, Bridgewater, and Boston. There were also some Scots-Irish immigrants, although many of these later moved to Pelham, N.H.

The town suffered several periods of disagreement with its minister, including the dismissal of one who was unsympathetic to the New Light preaching of the Great Awakening, as well as problems of payment and congregational singing. The town's Scots-Irish formed a Presbyterian church in 1719, and suffered discrimination. Their meetinghouse was torn down by a group of townsmen, and their request for release from taxation was refused. As a result, most left the town.

The presence of the court contributed to a cosmopolitan atmosphere unique in the region. Yearly meetings of the Superior Court in October, and quarterly meetings of the Inferior Court in May, August, November, and February, brought outsiders to the town on a regular basis. Markets often coincided with court days, producing a fair-like atmosphere of buying and selling, socializing, even horse-racing. Judges, lawyers and clerks gathering required inns and taverns for their accommodation. These and other support services expanded the range of nonagricultural employment in the town. Raised to a level of regional importance, the town attracted families of business and political influence, participating at the province rather than the local level. Of particular significance was the formation of the American Political Society in 1773, to consider the "proper methods to be pursued respecting common rights and liberties, civil and religious" (Lincoln, p. 72).

C. Settlement Pattern

Resettlement after King Philip's War was delayed until 1684 and the persistent frontier warfare determined a compact and defensive plan. The area was first divided into a southern section to be settled immediately, and a northern (Holden) undeveloped. Shares in the areas were determined by the available marsh acreage. The newly named town of Worcester gathered its small ca. 100-foot square houselots within a palisade near Lincoln Square, Main Street and the Common. The larger 10- and 25-acre tillage lots were located outside this citadel. Some settlers eventually built their homes outside this protection, as dispersed farmsteads to the east. A second abandonment took place in 1702 during Queen Anne's War.

After the Peace of Utrecht in 1713, the town was settled a third time, permanently, by colonials. The exact division plan at this time is not known, but the 60 early inhabitants reported (ca. 1718) houselots that ranged between 20 and 213 acres, though half

equalled 30 or 40 acres. The town's first meetinghouse was located (1717) at Franklin and Green Streets, but two years later a new one was located on Main Street at the common. Garrisons, numbering four, were constructed, primarily on the unprotected west side of Main Street. When the town was made county seat in 1731, a second institutional focus developed north at Lincoln Square. At the former site of the town jail the county courthouse was constructed. Between these two points on Main Street was a denser settlement pattern of the growing shiretown. Nonagricultural employment opportunities brought clusters of dwellings in the town's center.

D. Economic Base

During the Colonial period the town shared with its neighbors a simple agricultural economy. Mill Brook provided sites for grist and saw mills near the settlement focus. Later potash works (from 1760) were established. Like most early communities in the south and east of the region it is classified by Pruitt as an Egalitarian Farm Town, with moderate corn production resulting in similarly moderate community wealth and propertylessness, plus high agricultural prosperity and low agrarian poverty. In part, this is due to its position as shiretown from 1731, based on location rather than regional importance. As described under Population, this increased the types of employment available in the town beyond those expected in a simple agricultural town. The number of taverns increased rapidly, and men like Salisbury and Waldo established retail stores with a range of imported goods for sale. By period's end, however, the town shared some of the problems of the region's other commercially developed towns, voting in a workhouse in 1763, which was on Front Street by 1772.

E. Architecture

Residential: No buildings appear to have survived from the first two attempts at settlement in 1675 and 1684. Scattered center chimney farmhouses from the 1713 settlement, such as the Benjamin Flagg House (1717) and the Chamberlain-Flagg House (1725) do survive. Hipped-roof, center chimney houses such as the Smith-Thaxter-Merrifield House (pre 1750) are also known. Following the rise of a mercantile and government-based class after Worcester's designation as the county seat (1731), stylish trim on traditional house forms became more evident in period dwellings, such as the Oaks (1774) and the Stephen Salisbury Mansion (1772).

Institutional: With the exception of the second courthouse of 1751 (converted to a residence between 1801-03), no Colonial period buildings are extant. The first meetinghouse (1719) was built near Lincoln Square on the site of the present courthouse. The first courthouse was constructed when Worcester became the county seat in 1731. In 1765, the first schoolhouse was erected. Both are thought to have been one-room, frame structures.

Commercial: Taverns and inns are known to have existed by 1730. No surviving examples.

Industrial: No buildings survive from this period. Early industrial establishments consisted initially of saw and grist mills, followed by fulling mills. By the end of the first quarter of the 18th century, potash was also an industrial concern.

VII. FEDERAL PERIOD (1775-1830)

A. Transportation Routes

The main colonial post road from Boston to Springfield along Main Street, and the existing radial road network leading to the county seat from surrounding towns, continued in use. To these were added three turnpikes: the Boston-Worcester Turnpike (1806), which provides a direct east/west link, terminates at Lincoln Square via Belmont Street. The Holland, Worcester, and Stafford Turnpike (Stafford Street) provided a direct route to the southwest after 1810, beginning at Main Street at New Worcester (later Webster Square). In addition, the Sixth Massachusetts, or Holden, Turnpike (1799) ran across the northern part of town (Mountain Street) to its eastern terminus in Shrewsbury. In the center, Mechanic Street was opened in 1787, and Thomas Street in 1806.

Service on the Blackstone Canal began in 1828, with the head of navigation east of Main Street between Central and Thomas Streets. The canal extends south parallel to Summer and Grafton Streets (part of canal path now Blackstone Street), then southwest parallel to Water Street (canal now Harding Street). A major holding basin was built at what later became Washington Square.

B. Population

The shiretown's growth was moderate during this period, more than doubling from 1,925 in 1776 to 4,173 in 1830. Its position in the county, based on size, rose from fifth to first, though this reflects other towns' late subdivisions. Though other towns were larger and grew more quickly, none equalled Worcester in density. In spite of this, agriculture remained the most important occupational category in the town, employing 218 compared to 126 in manufacturing. The construction of the Blackstone Canal brought Irish laborers to the town, some of the first of the foreign-born to settle in the region. Worcester was also one of the few towns with a black community. During the Revolution they joined with blacks in Bristol to express their concern for liberties for all people. In 1828 an African School was organized.

As the county seat, the town played an important role in Shays Rebellion. The courthouse was the site of an increasing number of debt suits, and the first county meeting on the financial crisis was held here in 1782. In 1786 a prolonged confrontation between Regulators and the militia over the opening of the Court of Common Pleas ended in a retreat by the Shays forces.

With its large and varied population, it is not surprising that a large number of denominations formed societies in the town during

the period. In 1786 the town formed a poll--i.e., nongeographical parish--one of the earliest outside of Boston, for the town's Unitarians. Few area ministers shared this theological position and Bancroft looked to eastern county towns for fellowship; he was the first president of the American Unitarian Association later in the period. In 1790 a class of Methodists was formed in the town. Baptists found followers as early as 1795, and formed a society in 1812. Quakers met with the meeting in nearby Leicester. In 1822 the Evangelical Congregationalists formed a society.

The town's common and grammar schools were supplemented by a private Academy between 1784 and 1801. Other private educational institutions formed during the period include the American Antiquarian Society (1812), an Auxiliary Bible Society (1815), an Odd Fellows, Literary (1820), a Lyceum of Natural History (1825-29), a Lyceum (1829), and an Atheneum (1830). A full complement of voluntary associations operated in the town, including Masons (1793-1827), as well as Royal Arch (1823), a Thief Detecting Society (1795), Fire Societies (from 1793), the protemperance Washingtonian Benevolent Society (1812), and Knights Templar (1825). Specific occupational groups also formed organizations, including a Medical Society (1804) and Agricultural Society (1818).

C. Settlement Pattern

Linear development of the central village intensifies, and eastward expansion is initiated, especially with the industrial development at the head of the Blackstone Canal corridor. Elsewhere, dispersed agricultural settlement remains the rule, although a number of secondary industrial sites do develop. By period's end, Main Street is heavily developed with commercial, institutional, and residential structures from Lincoln Square south to the common.

The northern institutional focus at Lincoln Square was solidified with; the construction of the Unitarian Church (1791), Third County Courthouse (1803), County Jail (1819), and Antiquarian Society Hall (1819-20). The area also remains the main commercial focus with the Salisbury and Waldo stores. The southern end of the village is more clearly defined by the town hall (1825) on the common and the Baptist church (1813) further east. Development of the area between on Main Street includes the Calvinist church (1823), a number of commercial structures, a bank cluster between Central and Mechanic Streets, and the high-income residences of "Nobility Hill," the raised terrace on the west side of Main Street.

Extensions east occur along School Street toward the industrial complex at the head of the Blackstone Canal (1828), and along the common on Mechanic, Front, and South (later Franklin) Streets. The eastern edge of the village is defined by Summer Street. The County House of Correction is built here in 1819. A second industrial focus (including a distillery) develops here at the

canal (later Washington Square), and a brewery is built at the head of Grafton Street. The Mechanic Street burying ground is opened in 1793, and the Pind Plain burying ground, further east, is established in 1828.

Outside the central area, secondary industrial development occurs on a number of small waterpower sites, including the Isaiah Thomas paper mill (1794) on the Blackstone River, and the Stowell fulling (1785) and carpet (1804) mills on Middle River north of Pakachoag Hill. By period's end, small, peripheral residential clusters have developed at the Middle River mills (Chelsea Street area), Tatnuck (Pleasant/Chandler Street intersection), and Webster Square (Main Street).

D. Economic Base

At the close of the Revolutionary War, Worcester was still a relatively small town despite its status as the county seat; it ranked third in population behind Brookfield and Sutton with just over 2000 inhabitants. The town's economic base was primarily agricultural with a number of small craft shops which produced pottery, rope, watches, clocks, shoes, hats, hand cards, and hand woven cloth and carpets. Several taverns and stores, among them the surviving 1790 Salisbury store, provided services to the town and its visitors who attended the county courts. The 1791 Massachusetts valuation returns listed two tanning houses, one slaughter house, three pot and pearl ash works, eight saw and grist mills and four fulling mills. In 1794 Isaiah Thomas erected a two vat paper mill at Quinsigamond Village which continued to operate under several owners until purchased in 1846 by Ichabod and Charles Washburn for their South Works.

The majority of the town's land in 1791 was still in woodland or unimproved, but by the early 19th century increasing quantities of land were improved as tillage, pasture, and mowing. In 1791 forest and unimproved land totalled more than 12,000 acres; by 1831 less than 5000 acres were woodland or unimproved, with the largest amounts of land in pasturage (10,262 acres), English mowing (3932 acres), and tillage (1925 acres). Major crops were Indian corn, hay, and oats. Beef, pork, and dairy products of milk, butter, and cheese, were also important. In 1818, the Worcester County Agricultural Society was organized in Worcester, indicating the progressive nature and increasing market orientation of the town's and county's leading farmers. Their first exhibition was held the next year in Worcester.

The earliest significant industrial growth occurred in the textile and textile machinery industries. As early as 1789, factory-organized textile manufacturing was attempted by the Worcester Cotton Mfg. Co. which established a small factory on Mill Brook near School Street and produced various types of cotton cloth by hand. A small hand card factory was established in 1789, and the earliest wool carding machines were introduced into the town in 1803. Hand weaving of carpets was commenced in 1804 by Peter and Ebenezer Stowell, but it was not until 1810 that the first water powered spinning of cotton yarn occurred at

Trowbridgeville or New Worcester on Kettle Brook at the mill of Joshua Hale. Additional textile manufacturing firms were not established until the late 1820s; by 1832 the U.S. Secretary of the Treasury's Report on Manufacturers listed two Satinet mills on Curtis Pond near Webster Square, a woolen factory on Middle River at South Worcester, and the Clarkeville Cotton Mfg. Co.

The manufacture of textile machinery began about 1811 when William Novey developed and produced a shearing machine. In 1812 Earle and Williams made cotton and wool spinning and carding machines. By 1832 at least seven machine shops produced a variety of carding, spinning, weaving, and shearing machines for the growing textile industry.

The production of textile machinery began a long tradition of metal working in Worcester. On 1825 the first cupola furnace in Worcester Co., and probably the first in the state, was erected by William Wheeler who had operated an iron foundry in Worcester since 1812. Wire drawing was begun about 1815 but it was not until 1831 that Ichabod Washburn and Benjamin Jodard began drawing wire for wood screws and card wire in Northville, establishing a company that was the forerunner of the very large American Wire and Steel Co. and the leading industry in the city.

The McLane Report of 1832 also listed a lead pipe works, Witherbee's plow and farm implement factory which was the forerunner of an important agricultural implement industry in Worcester, a woolen ware manufactory, several shoe and cabinet shops, the Morse cutlery manufactory, a brewery near Washington Square, a hat manufactory, and a twine manufactory.

In 1824 coal was discovered south of Coal Mine Brook near Lake Quinsigamond and the Worcester Coal Co. was formed. The investors hoped this coal would supply the area's industries and be exported on the Blackstone Canal then under construction. Locally it was used in the Trumbell and Ward Brewery situated on the canal basin, but it proved to be of low quality with many impurities and the operations were abandoned several years later.

Perhaps the major event in the economic development of Worcester during this period was the construction of the Blackstone Canal from Providence to Worcester. The opening of the canal in 1828 marked the beginning of changes in the city's character, lowered transportation costs, and provided Worcester with access to new markets and a tide-water port. The canal doubled real estate values within six miles of its bed, created new opportunities for industrial expansion as a transportation corridor and power source, and started a large influx of Irish laborers who worked on the canal, and later on the railroads. As the northern terminus of the canal, Worcester gained influence and importance as a collection and distribution point for goods to and from northern and central Worcester County.

E. Architecture

Residential: While it is certain that the traditional center and double chimney house types continued to be built, no period dwellings are known to survive. Additions made to the Salisbury Mansion in 1818 are the best surviving expression of domestic Federal architecture.

Institutional: No period buildings extant. The third county courthouse was built in 1803 following the conversion of the 1751 structure to a private dwelling. Ten school districts consisting of one-room buildings were established in 1800.

Commercial: By the late 18th century, Main Street had become the commercial center of the town. While residential buildings continued to exist along Main Street between Lincoln Square and the Common, by the end of the period the street was lined with two- and three-story brick blocks and also included a few granite structures. The first brick structures were built at the northern end of Main Street, and the southern end tended to display the granite-front rows.

The only surviving period structures are the Levi Lincoln building, the oldest in downtown Worcester (ca. 1818, 1830), and the Chadwick Inn (1797) and Stearns Tavern (1812), both Georgian plan structures.

Industrial: As in the Colonial period, no buildings survive from this period of Worcester's industrial development due to the significant development during the mid to late 19th century. Major industries that formed following the Revolution were: wool and cotton cardmaking (1798), stage and carriage manufacturing (1808), screwmaking (1809), and the manufacturing of machinery and castings (1812).

VIII. EARLY INDUSTRIAL PERIOD (1830-1870)

A. Transportation Routes

Worcester became the center of a regional rail network, and an intraurban streetcar service was initiated. The initial east/west rail connection is the Boston and Worcester Railroad of 1831. This was followed by the Western Railroad to Springfield (1839), the Norwich and Worcester (1840, with tracks across the common), the Providence and Worcester (1847, along the old canal corridor), and the Worcester and Nashua (1848). The northern road terminal was at Lincoln Square, and the other lines had stations at Foster Street, Green Street, and Washington Square. The main freight yard was east of Washington Square between Shrewsbury and Franklin Streets.

In 1849-50, Main Street was paved with granite stones from Front Street north toward Lincoln Square, and Front Street was paved east to the railroad crossing. The Worcester Horse Railway begins service in 1863, from the Lincoln/Harrington Street intersection south on Main Street to New Worcester, with branches east on Front

and Grafton Streets to the Washington Square depot, and a short-lived branch west on Pleasant Street to West Street.

B. Population

This period is marked by extremely rapid growth of the town. During the 40 years the town's size increased by nearly ten times, from 4,173 in 1830 to 41,105 in 1870. This expansion was particularly rapid during the decades of the 1840s when the rate of growth equalled 127%. An important factor in this growth was the continued migration to the town of foreign-born, particularly Irish, individuals to the town of foreign-born, particularly Irish, individuals. By 1855, the first year for which accurate figures are available, more than 4,000 Irish were resident in Worcester. They were by far the most numerous group within the foreign-born population that equalled over 25% of the total during this period. Other groups within the town included the English, Scots, Germans, and in increasing numbers, Canadians. The town's more complex economy made it an attractive employment center for native Yankees as well. While the foreign-born were concentrated in positions as laborers and domestics, and in the less skilled factory jobs, the Yankees had a wider range of opportunities. The industrial component of the town's economy was varied as well as large, with a number of manufacturers employing skilled workers in large numbers. Manufacturing was the primary employment of the town, but a substantial number remained employed in agriculture supplying the needs for perishables by a large and dense population. In contrast to other county towns, a wider range of both old and new middle class occupations. In 1840, comparatively large numbers of the townsmen were employed in commerce and the learned professions. By 1875, equally exceptional numbers were employed in trade and transportation, as well as government and professional categories. In both size and diversity the town held a unique position in the region.

A clue to the variety of cultures within the town can be found in the increasing number of churches that were formed during this time of rapid growth. The largest number added were in the various Protestant denominations. Congregationalists brought their number to five during this period with the formation of Union in 1836, Salem St. in 1847, and Plymouth in 1869. Most important, however, was the establishment, under the leadership of Ichabod Washburn, of the free Mission Chapel in 1855. Here Washburn and his like-minded fellow reformers worked to use evangelical religion as the core of their effort to bring "order" to the working class and ethnic communities based on their values of thrift, temperance, and hard work. Methodists also added a number of new congregations at this time, including Trinity (1831-34), Laurel St. (1845), Webster Square (1860), and Grace (ca. 1867). Baptists added two societies, in 1841 and 1853, and Unitarians added a second church, Unity, in 1845. New Protestant societies were also formed at this time, including the Episcopal All Saints in 1836, a Universalist (1841), and the town became an important focus for the Society of Friends from 1846 as an alternative site for the Uxbridge Monthly Meeting. The town held a number of Millerites who formed a Second Advent society in

1842. Later (1860) a group of the Disciples of Christ (growing out of reform groups of the early 19th century that emphasized a simple unifying faith) formed a society in the town. The town's blacks organized Zion Methodist church in 1846, a congregation of the African Methodist Zion Church in America.

Of particular importance, however, was the beginning of Roman Catholicism in the region to serve the large Irish-dominated group. By 1834, services were celebrated for the first time, and by 1841 a chapel was constructed. In 1845 the area's first parish was formed and St. John's Church built. Ten years later, the growing population necessitated a second church, St. Ann's. At period's end, a third church, St. Paul's, was built in 1869, and for the French-speaking population, Notre Dame des Candiens in 1870. The community also formed a number of auxiliary voluntary associations, including the Father Mathew Total Abstinence Society (1849), the St. John's Mutual Relief Society, Young Catholic Friend Society (both 1849), as well as the Jackson Guards (to 1855). Of particular note was the establishment of the Mt. St. James Seminary in 1842, for the education of priests, later the core of Holy Cross College.

Apart from the efforts of religion, the most common force for control in the town came from increasing numbers of temperance groups; the issue came before the town and city government repeatedly, and divided the town on class and ethnic lines. Other important issues that revealed the internal divisions were anti-slavery, with a range of positions from conciliatory through garrisonian all in Worcester. With the increasing foreign-born population the nativist Know-Nothing party gained followers here. The fears that led to the acceptance of these views had earlier led the town's elite businessmen and political leadership to promote a shift to a city from a town form of local government, as well as the organization of a police force to provide muscle behind their reform goals for the growing urban community. This elite group continued to use education and voluntary associations to define themselves and their interests. More educationally oriented clubs were formed, including a number of military companies, an Historical Society (1831), Horticultural Society (1840), Law Library (1842), musical groups, the Young Men's Library Association (1852), which merged with the Lyceum (1856) and later formed the basis for an early public library in 1859; the Masons reorganized and formed several lodges as did the Odd Fellows. The most important new organization, however, was the Mechanics Association (1842) formed by manufacturers and some skilled mechanics. They organized fairs, ran summer schools, drawing classes for apprentices, and contributed to the city's atmosphere of encouraging innovation.

Several other developments within the educational sphere took place at this time. The town's system of infant, primary, and grammar schools was capped by the Classical and English High School (1845). A Truant School, located at the poor farm, dealt with that recurrent problem. A Manual Labor High School had been established in 1832. Higher education was provided by the Female

College (1856), Oread Institute (1848) and Worcester County Free Institute of Industrial Science (1862, later Worcester Polytechnic Institute).

C. Settlement Pattern

Expansion and intensification transform the central village area into a complex urban nucleus, as the central valley fills, and settlement pushes up the surrounding hillsides. Peripheral industrial complexes develop on the many rail corridors radiating from the center, and secondary industrial growth takes place on available outlying water power sites. The period sees the development of distinctive commercial and industrial districts, as well as high, middle, and low income residential neighborhoods. Barber (1839) calls Worcester "one of the finest and most considerable inland villages in the New England states." Growth over the next three decades make it one of the nation's important urban-industrial centers.

By period's end, high density settlement covers the central valley, bounded roughly by Main and Southbridge Streets on the west, Summer, Water, and Millbury Street on the east, Lincoln Square to the north, and Lafayette Street to the south. A concentrated residential sector is established up and over the hill west of the valley, bounded by Highland Street on the north, Beacon Street on the south, and extending west as far as West, Fruit, Newberry, and Wellington Streets. To the east, a separate working-class cluster develops north of the Pine Meadow Burial Ground. Less dense settlement surrounds the intensively occupied central area: to the northeast up Lincoln Street and the slopes of Green Hill, to the east up Chandler, Oak, and Union Hills, south between Ward and Millbury Streets, southwest along Main Street, and west between Pleasant and Chandler Streets.

Industrial expansion continues in the established zone east of Main Street and south of Lincoln Square. Major new industrial growth, however, occurs at points around the edge of the central built-up area, especially where the radiating rail lines emerge. These major industrial sites include the Washburn and Moen North Wire Works, north of Lincoln Square; the Washburn Iron Works east on Bloomingdale (Franklin) Street; and the Junction Shops, located where Boston and Albany, Norwich and Worcester, and Providence and Worcester rail lines come together. Further out is the industrial development at South Worcester, in the sector between the Providence and Worcester, and Boston and Albany tracks, with multiple foci at the South Wire Works of Washburn and Moen, the Adriatic Woolen Mills, and the Tainter Machine Shop, and scattered worker housing in the areas between. The Quinsigamond Wire Works (1870) are established even farther south on the Blackstone River corridor, and a secondary settlement develops around them. Textile mill development continues on Kettle Brook (Cherry Valley, Jamesville), Beaver Brook and Middle River (New Worcester), and at Tatnuck in the northeast. All of these outlying areas developed some residential clustering near the mills.

Main Street between Lincoln Square and Madison Street becomes almost exclusively commercial during the period, at first with

two- to four-story brick commercial blocks, and later with larger three- to six-story buildings. While through most of the period the commercial corridor extends only from the common north, in the 1860s a secondary focus develops south of the common at Federal (then Franklin) Square. Commercial development also begins to extend a block to the east and west of the Main Street corridor.

Residential development begins to push out of the valley in the 1830s and 1840s, as commercial activities take over the old Main Street residential corridor. New high income districts develop to the west on Crown Hill, the Lincoln Estate (Elm/Chestnut Streets), and Harvard Street. To a lesser extent, high income residences are established northeast of Lincoln Square, east of Summer Street on Chandler and Belmont hills, and to the southwest along Main Street and some of the cross streets between Main and Beacon. Residential infill in the central valley is primarily cottage and multifamily housing for the growing working class population, dispersed through the area south and east of the common. The main immigrant group is the Irish, with strong clusters in the Green Street/Temple Street area around St. John's Catholic Church (1845), between Shrewsbury Street and Pine Court, and on the west slope of Vernon Hill along the Ward/Millbury Street axis.

The period is marked by expansion and diversification of both religious and secular institutions. The number of churches continues to increase. Although they continue to be built on Main Street, with the intensive commercial development of this area new church construction shifts to side streets (Elm, Pleasant, Chatham) on the hill west of Main (including the landmark St. Paul's Cathedral of 1869), in the common/Salem Square area (1840s), and on Main south of Madison. Smaller, poorer congregations locate in the congested central area east of Main Street. Churches also begin to locate in working class, immigrant neighborhoods of the east side, including St. John's on Temple Street (1835, 1845), the Evangelical City Mission (1854) on Summer Street, and St. Anne's on Shrewsbury Street (after 1855).

As the county seat, Worcester continues to be a center of public institutions, including the State Lunatic Hospital (1831, with additions in 1835-36) on Summer Street, and the fourth County Courthouse (1845) at Lincoln Square. However, the central secular landmark is Mechanics Hall (1857) on Main Street.

A number of educational organizations locate at the periphery of the central area. In the southern Main Street area, Worcester Academy (mid 1830s to late 1840s) operates until its relocation to Union Hill, as does the Oread (Women's) Institute (1848). To the northwest of Lincoln Square, along Salisbury Street, are located the Highland Military Academy and the Institute of Industrial Science (1868, later the Worcester Polytechnic Institute). In the south, on Packachoag Hill, a Catholic seminary (later Holy Cross College) is established in 1842. Elm Park (New Common) is deeded to the city in 1854. Peripheral, Mt. Auburn-type cemeteries are opened, with Rural Cemetery (1838) on Grove Street, and Hope and St. John's cemeteries (both 1852) in the southwest.

D. Economic Base

The period between the opening of the canal and the Civil War marked Worcester's first industrial boom. Between 1835 and 1848 five railroad lines were opened from Worcester to Boston, New York, Albany, Providence, New London, and other cities. The city's population more than quintupled in twenty-five years.

The increased industrial activity led to the development of a distinct manufacturing district, established during the 1820s east of Main Street. An important factor in the development of this area and in the stimulation of new businesses was the erection of rental factories by the local gentry. Between 1829 and 1832 Stephen Salisbury II erected the Court Mills, located just south of Lincoln Square. These mills rented space and power to small manufacturers thus freeing the small companies from the expense of property ownership. This system allowed many mechanics to work in close contact with each other, an important factor in the innovative and inventive character of Worcester's manufacturers. As business developed in the rented quarter, many moved on to build their own factories or into larger quarters built to order for them by Stephen Salisbury II. This pattern of factories with rental space and power was duplicated in 1835 by the erection of the Merrifield Building along Union Street, the Red Mill (pre-1840) on the site of the Crompton Loom Works, and the extant junction and Lower Junction shops in 1851 and 1854 along the Western and Norwich & Worcester rail corridor located to the south and west of the initial manufacturing district below Lincoln Square. The junction shop was one of the largest mill buildings in Worcester when built, provided with power from two 50 horsepower steam engines made by Corliss & Nightingale of Providence, R.I. During the 1850s, the Junction Shop housed manufactures of machinists' tools, water wheels, and metal castings; wood workers; textile and wood-working machinery makers; manufacturers of calliopes, locks, card-setting machines; and the Junction Foundry, which manufactured cast iron architectural ornament. The Lower Junction shop was first occupied by a gun manufacturer and later as a woolen mill.

A disastrous fire in 1854 in the Lincoln Square industrial district and economic slump until the Civil War signalled the end of the first industrial boom in the city during which the major land use patterns and industrial district of the city were established.

A second industrial boom was brought on by the Civil War, stimulating rapid population growth in a pattern that continued into the early 20th century. This period of growth, initially fueled by wartime demands for arms, uniform and blanket cloth, leather, and gun carriages, continued after the war as the manufacturing districts established earlier expanded and came to be dominated by large owner-operated companies in large factory complexes. Space in the rental factories continued to be a breeding ground for new firms, however, as Worcester's manufacturing base greatly expanded.

Important developments and expansion occurred in many of the Worcester's industries making the city second in New England only to Boston as a manufacturing center. Major growth occurred in the metal working industries including wire, guns, machine tools, paper, wood, textile, and metal-working machinery, agricultural tools, railroad cars, structural and architectural iron.

One of the more important metal-working firms in Worcester was that of Ichabod Washburn. The site of the North Works of the Washburn and Moen Mfg. Co. on Grove Street was first occupied in 1835 in a factory built by Stephen Salisbury and powered by the water of Salisbury Pond, nearly created for that purpose. There Washburn produced card wire and fine wire. Washburn expanded the company, purchasing the Northville Works in the late 1830s, a site at South Worcester which became the Central Works in 1840, and in 1846 the site of the South Works in Quinsigamond, where the first rolling mill in Worcester was erected. This growth was stimulated by the development of the telegraph and the demand for telegraph wire after 1847; by the production of fine piano wire in the 1850s; and the production of card wire and crinoline wire for hoop skirts. A cotton mill was built at the North Works (extant) in 1863 to produce the cloth to cover the crinoline wire as the firm continued to branch into new areas of production.

By 1865 the three wire mills employed nearly 700 people and produced goods worth \$1.5 million. In 1869 major expansion at the North Works began, resulting in the complex which remains today. Many technological advancements were made by Washburn during this period: a continuous hardening and tempering process for cast steel, and a continuous annealing, cleaning, and galvanizing process employed in telegraph wire production.

By 1860 Worcester was the leading manufacturer of agricultural tools in the country. Several large firms, including the Ames Plow Co. located in the rebuilt Court Mills (formerly Ruggles, Nourse, & Mason), Walter A. Wood Co., and Richardson Mfg. Co. located on Prescott Street north of Lincoln Square produced large quantities of plows, mowing machines, hay tedders, and manure spreaders.

Eight textile machinery manufacturers, chief among them the Crompton Loom Works, operated by 1865, producing more than \$1 million worth of machinery and employing nearly 600 hands. Although William Crompton, the inventor of the fancy woolen loom, built textile machinery in Worcester as early as the late 1830s, it was not until 1860 that George Crompton Williamson built his own factory for the manufacture of an improved broad fancy loom at the site of the former Red Mill on Green St. Other important textile machinery manufacturers were T.K. Earle & Co., makers of machine cards in what was the largest machine card factory in the country when built in 1857; the Sargent Card Clothing Co. erected the still extant Southbridge Street factory in 1866, one of the most architecturally significant factory buildings remaining in Worcester. This forms the core of the Sargent Street manufacturing district built across the Railroad tracks from the Junction manufacturing center during the 1860s and later. Cloth

manufacturing expanded to eleven woollens mills and two cotton mills by 1865, located mostly in the southern part of the city along Kettle Brook in Cherry Valley, on Middle Brook and at Trowbridgeville.

Worcester's arms industry expanded greatly during the Civil War. Ethan Allen & Co. produced cartridges; W.X. Stevens patented the Stevens Platoon Gun in 1862; Charles S. Coleman invented a breach loading gun; and B.F. Joslyn a new rifle in 1856. Nearly all the iron-working establishments in the city turned to the production of ordinance for the government also. Nathan Washburn of the Washburn carton manufactory produced rifle barrel iron for the Springfield Armory; Osgood Bradley switched from Railroad cars and carriages to gun carriages and forges; and L.W. Pond built rifled cannon with the Jodard, Rice & CO. Machine Shops.

Important growth also occurred in the leather and boot and shoe industries as Worcester became the leading manufacturer of boots and shoes and leather in the county by mid-century. A number of factories were constructed south and west of Washington Square along Water and High Streets (an 1850s factory on Water Street still survives, though in disrepair.).

The manufacture of paper products such as envelopes and greeting cards was launched in Worcester during the late 1850s after the invention of an envelope folding machine by Dr. Russel C. Hares of Worcester. By the mid 1860s, Worcester was the leading manufacturer of envelopes in the country as continued mechanical improvements and expansion increased production.

With the rapid growth in Worcester's industrial sector and population came an intensification of the city's agricultural land use. By the end of the period, Worcester contained more farms than any other town in the county and had more land under tillage, more cows, and led in the production of nearly every agricultural commodity over all the towns in Worcester County.

Market Gardens and small dairy farms supplied the large and growing population with fruit, vegetables, milk, meat, butter, cheeses, and grains.

E. Architecture

Residential: Residential development expanded greatly during the period. Elias Carter, the first of numerous architects to work in Worcester during the 19th century, began his career there in 1829. He remained in Worcester until the 1840s designing Greek Revival style houses. By mid century, six more architects had arrived in Worcester. Elbridge Boyden and Edwin Lamb achieved the widest success. Carter's houses were generally two-story, hipped-roof, Greek Revival dwellings, many with two-story porticos. Examples are the Levi Dowley House (1842) and the Draper Ruggles House (1848). The form remained popular and subsequently adapted Italianate detail later in the period, as evidenced in the HOratio Tower House (1850). Temple-front houses apparently enjoyed a brief popularity.

The predominant house form was the gable-end, side-passage plan which spanned the entire period assuming the details of each current stylistic trend. Carpenter Gothic dwellings were also erected at mid century, although only a few remain in a well-preserved state.

The Italianate influence reached Worcester in the early 1850s; however, few high style examples are extant. None of the stuccoed "villas" designed by Elbridge Boyden for hillside "estates" survive. A few frame villas remain, but the side-passage plan continued to be the most common house plan of the period. The greatest number are found today in the Oxford-Crown Hill District.

Two octagonal dwellings are extant: the Elias Crawford House (1851) and the Barber House (1855).

Post Civil War domestic architecture followed national trends. A significant number of native architects were practicing in Worcester during the period. Of the twenty-three architects in town before 1890, the most popular appear to have been Elbridge Boyden (Boyden and Son), Stephen Earle (a former student of Calvert Vaux and of Boyden), James Fuller (Fuller and Earle, 1867-1896; Fuller and Earle, 1867-1896; Fuller and DeLano, 1879-1901), Amos P. Cutting (1867-1896), Albert Barber (Barber and Nourse, 1880-1905), Walter B. Nourse (in the office of Amos P. Cutting pre-1880; Barber and Nourse, 1880-1905), and John B. Woodworth (1877-1893).

Popular and high-style Second Empire dwellings were erected beginning in the 1850s, and by the late 1860s several Victorian Gothic houses had been built along Main Street South.

Institutional: The first mental hospital in the state was built in Worcester in the 1830s and may have been the work of Elias Carter. The fourth county courthouse was constructed in 1844. The granite, Greek Revival building was designed by Ammi B. Young. Worcester's tremendous growth during this created the need for numerous neighborhood schools. By 1840, there was a shift from the one-room school building to larger, brick structures such as the Oxford Street School (1847) and the Ash Street School (1850). Many of these schools were designed by local architects, such as Elbridge Boyden's Cambridge Street Schoolhouse #1 (1869). A large number of these brick schoolhouses survive.

Numerous other public and private buildings were also erected during the period. Of special note is the late Greek, or classically-inspired Mechanics Hall (1857). Other examples include Fenwick Hall (1852) at Holy Cross College and Boynton Hall (1868) at Worcester Polytechnic Institute. Early "Romanesque" influenced churches are Main Street Baptist (1853, 1855), Mission Chapel (1854), and the Cathedral of St. Paul (1869).

Commercial development continued to increase along Main Street, augmented by the opening of the Blackstone Canal in 1828. Between the Common and Lincoln Square, two- and four-story brick

commercial blocks were erected. The Greek Revival influence was strong between the mid 1830s up until the early 1840s when four- and five-story Italianate blocks with cast iron fronts were being constructed. A smaller number of commercial structures were faced with sandstone or granite. Toward the end of the period, the commercial district began to expand southward toward present-day Federal Square, and the newer buildings displayed the influence of the then prevailing Second Empire and Victorian Gothic styles. While many of the surviving commercial structures of the period have been altered, significant examples are: Harrington Corner (1850), the Stevens Building (1851-78), the Quinsigamond Bank Building (1854), the Babcock and Colton's Blocks (both erected during the 1860s), and the First State Mutual Life Assurance Company Building (1870).

Industrial: The opening of the Blackstone Canal promoted the growth of industry as well as commerce in Worcester. Some of the earliest factories were "rental" factories: the Court Mills (1829), the Merrifield Building (1835-40), and Red Mill (pre 1840) being among the early examples, one of which survives. All these pre 1840 mills were water-powered. Of the post 1840, steam-powered rental mills, the Junction (1851) and Lower Junction Shops survive and are stucco over a stone rubble. The Adriatic Mill (1854) was replaced in 1860 by the first of the Crompton Mills. Post Civil War mill buildings were generally two- or three-story, rectangular brick structures with a stair tower/loading bay on the shorter, gable end. Some of these later period mill buildings were ornate Italianate and Second Empire structures.

IX. LATE INDUSTRIAL PERIOD (1870-1915)

A. Transportation Routes

The Boston, Barre and Gardner Railroad opens service in 1871. In 1873 the steam-powered Worcester-Shrewsbury Street Railway opens service on a line from Washington Square, running east parallel to the Boston and Albany tracks, then looping to Lake View on Lake Quinsigamond, with terminus at Lincoln Park. Electric service begins on this line in 1891, when it becomes the Consolidated Street Railway. The same year service is initiated on Main Street on the Worcester-Leicester Street Railway, and in 1893 the Worcester-Millbury Electric Railway begins service. The Boston and Worcester Street Railway is incorporated in 1901, and has its terminus at Salem Square, following in part the old steam railway right-of-way.

By period's end, a complex radial network of railway lines connects the central city with outlying residential and industrial areas, as well as with surrounding towns. The central foci of this system are the Washington Square railroad depot, Lincoln Square, and the Salem Square/Common area, all connected along major downtown streets. To the southwest, lines run on Main Street to Leicester, Stafford Street to Jamesville, and then south on James and South Ludlow to Auburn. From Webster Square lines run on Webster Street to Hope Cemetery, and on

Cambridge-Canterbury-Hammond-Southbridge to downtown. A line runs south on Southbridge Street to Auburn, with a branch on College Street-Clay Street. A line runs east on Franklin-Green to Kelley Square, where branches run on Millbury Street to Quinsigamond Village, and on Vernon-Upsala-Providence-Ballard-Millbury Street to Millbury. A line from Front Street-Grafton Street runs southeast on Grafton Street, with branches on Hamilton Street, Bloomingdale Road, and Millbury Avenue.

From Washington Square, a line runs on Belmont Street east to Shrewsbury, with several branches. North from Washington Square, lines run on Lincoln Street to Boylston, Burncoat Street-North Avenue-Barber Avenue to West Boylston, Grove Street to Holden (with a West Boylston Street branch) and Salisbury Street to Forest Street. A line runs northwest from Main on Pleasant Street to Tatnuck, with several branches, and on Chandler Street to Park Avenue, then south to Mill Street and Webster Square.

B. Population

Although the city continued to grow rapidly, its pace was considerably slower than during the key Early Industrial period. Second in the region as a whole, the size of the city increased in size by four times from 41,105 in 1870 to 162,697 in 1915. Growth was particularly large between 1895 and 1900 when the city added 20,000 to its population. Immigration remained an important factor in this growth, and during this period, the composition of the foreign-born population changed significantly. Not only did the number of groups coming to the city increase, but their origin, outside Canada and the British Isles, made them particularly unfamiliar to the native population. Early in the period the French Canadians continued to arrive in the city in large numbers. Although the Irish were the most numerous group in the town throughout the period, the number nearly equalled them by period's end. Next in population size were the Swedes, who came in large numbers beginning in the 1880s, and by 1915 nearly equalled the Irish and Canadians in total. Other groups that came in large numbers were Russian Finns, Poles, Italians, as well as continuing important English migration. The city continued to offer a range of occupations to newcomers and residents' children as well. The industrial component remained dominant, with firms growing larger, in both capital invested and labor employed, during the period. Of the total number of men employed in the town in 1915, 56% were employed in manufacturing. Large numbers were also employed in trade and clerical positions, a contrast to most regional communities. Fewer women found employment in factories than in the area's textile towns, and turned to domestic and clerical work for income. Ethnicity continued to bring segregation of the workplace as the Irish and French moved into the more skilled jobs in the boot and shoe industry, Swedes into iron, Yankees in machine, Poles and Finns to the unskilled factory work, while Italians did nonfactory unskilled work and Jews went into small businesses.

The variety of cultures in the city can still be seen most easily through church formation. Although the numbers of this period are

too large to allow individual consideration, some general comments can be made. Protestant denominations continued to add congregations in large numbers: three new Congregational societies in the 1880s alone, as well as a number of chapels in the industrial villages. Baptists also added substantially, with four new churches in just the 1880s. The Episcopalians took up the goal of evangelism, setting and accomplishing the goal of a church in each quadrant--gospel churches--early in the period. The smaller denominations too added churches, including Unitarians, Universalists, and Methodists. New groups also came to the city, including Free Baptists and Christadelphians. The Black community added a third church with the formation of the Mt. Olive Baptist in 1885. The Roman Catholic Church continued to establish new churches as their coreligionists increased in number: in 1874 the city was first subdivided into four geographical and one national (French) parish. In the years thereafter, eleven new churches were formed, both geographic and more national (for example, St. Casimir for Lithuanians, Our Lady of Czestochowa for Poles, and Our Lady of Mt. Carmel for Italians). As the number of Scandinavians in the city increased, new Protestant churches were formed particularly by the Swedes, including Evangelical Congregationalist, Baptist, Lutheran, and Unitarian. Germans and Norwegians also formed a Lutheran church. Armenians formed both the first Armenian Evangelical Protestant and Armenian Apostolic churches in the country here in the 1890s. The Syrian Orthodox formed a church in 1905, the Greek Orthodox in 1914. The growing Jewish community formed two congregations early in the period.

Parallel to church formation the city's ethnic groups formed a full range of voluntary associations and self-help organizations. These organizations helped individuals adjust to the new circumstances of life in the United States, and in some instances kept cultural traditions alive, particularly among the French Canadians where the ideals of surviance were particularly important. However, churches and clubs reinforced language and culture that separated the working class into a number of exclusive communities. For the immigrants of this period were concentrated in the working class: making up 70% of the city's blue-collar occupations, they made up even larger proportions of less skilled employment in iron, steel, wire, and domestic areas. At the same time, the city's diversified industrial base meant workers held dissimilar trades, and little sense of common interests developed. It is not surprising then that Worcester was known as a town with little labor unrest or organizing activities. Ethnicity and trade stifled the development of class identification.

At the same time it would be a mistake to underestimate the power of the city's leaders in controlling the community and directing its future. Consolidation of firms formalized the interlocking relationships of the city's industrialists. Control of the city's government, and the failure of either party to take up the concerns of the worker added political power to economic dominance. The expanding middle class and continuing nativist sentiments among Yankees shared with the elite the goals of

controlling the foreign workers. The primary method remained temperance, as groups came into conflict over the activities of the few leisure hours. Some members of each ethnic group adopted temperance values, for individual advancement and stability, and organizations endorsed it for ethnic solidarity as well as accepting middle class values. The Swedes in particular were successful in adapting to the industrial culture of the period.

This elite continued to use voluntary associations to show their power and interconnectedness. To the range of groups operating in the Early Industrial period were added a Board of Trade, Associated Charities, Young Men's Christian Association, Rotary, and Knights of Columbus. Owner and skilled manufacturers continued to organize together in such associations as the Builders' Exchange, Granite Dealers, Electrical Contractors, Machine Tool Builders, Employers, National Metal Trades associations. Evidence of Gilded Age concern with art and cosmopolitan pursuits were the formation of more musical organizations, more theatres in the city, the Worcester Art Museum in 1898. Paralleling the era's interest in organizing the leisure of the working class was the formation of country clubs, beginning in 1898.

C. Settlement Pattern

Dramatic transformations in the urban landscape continued as a new, larger scale of settlement was achieved, with both an intensification of activities in the central area, and extensive industrial and residential expansion. By period's end, the development of outlying manufacturing districts and the spread of streetcar suburbs had led to growth of the built-up area to the eastern and western borders of the city, and well into the highlands north and south of the central valley. To the east, development spread up Chandler Hill and out along the Belmont Street and Shrewsbury Street corridors, and suburban growth began in the Lake Park area west of Lake Quinsigamond. To the north, the Lincoln Street area extended out to Burncoat Street. Separate, outlying clusters developed further north along West Boylston Street at Greendale, and on the east shore of Indian Lake. To the northwest, suburban expansion took place along Salisbury, Highland, Pleasant, June, and Chandler Streets, and on Richmond Avenue. To the west of the central district, the entire sector between Park Avenue and Main Street was developed, with extensions into Columbus Park east of Coes Reservoir, and west along Main Street toward Cherry Valley. Development spread and intensified in the lowland fringe region between Main Street and Millbury Street southwest to Cambridge Street. East of Millbury Street and Water Street, settlement pushed up Vernon Hill and Grafton Hill and extended on Hamilton Street beyond Plantation Street. To the south, a distinct cluster emerged at Quinsigamond Village.

Intensification and vertical expansion continued in the central district, with the growth and multiplication of banks, office buildings, department stores, and manufacturing establishments. The three- to six-story commercial blocks of downtown were

overshadowed after the late 1890s by a number of ten- to eleven-story steel-frame structures, including the landmark State Mutual (1898), Slater (1907), and Park (1914) buildings on Main Street. The equally imposing Bancroft Hotel (1914) was located on Franklin Street, on the southwest side of the Common. Monumental Union Stations were built east of Main Street in 1875 and 1909. Central civic landmarks were rebuilt on a larger scale, including the City Hall (1898) and the Courthouse (1878, 1898), central high schools were added, and massive brick and masonry churches were built west of downtown and southwest along Main Street.

Institutional development focused at either end of the Main Street commercial corridor, and extended into the highlands to the west. Lincoln Square, at the north end of Main Street, became the primary institutional focus, with North High School (1889, 1916), the Armory (1890), the Worcester Historical society (1890), the Worcester Art Museum (1898), the Worcester Women's Club (1902), and Boys' Trade School (1909). A smaller cluster developed south of the commercial district with the Odd Fellows Building (1906), Worcester Boys' Club (1906), and Masonic Temple (1910). The new American Antiquarian Society building (1910) was relocated far to the west at Park Avenue and Salisbury Street.

Hospitals, colleges, universities, and academies generally located on prominent hilltop sites around the edge of the central district. The first and perhaps most significant development of the period was the relocation of the State Mental Hospital north of Belmont Street (1871-79). City Hospital and Memorial Hospital were located in the 1880s, and St. Vincent Hospital opened on Grafton Hill in the 1890s. The landmark Odd Fellows State Home was constructed in Greendale in 1892. Expansion of Holy Cross College on College Hill, Worcester Polytechnic Institute, and Worcester Academy continued thorough the period. Clark University was located on South Main Street in 1889. Assumption College's main building was opened in the northwest in 1913. A green belt of parks also circled the central area after the 1890s, the largest of which was Green Hill Park east of Lincoln Street.

Industrial development continued in the central district and outward along the radiating valley rail corridors, and major new complexes were built to the north, west, and south. The Norton Company developed a major complex and Greendale. Expansion continued along the Boston and Albany rail corridor, from the Junction Shops to beyond Webster Square. To the southwest the Whittall Carpet complex grew at College Square, and to the south, major development took place at Washburn and Moen's Quinsigamond Steel Works. All of these developments generated considerable construction of multifamily worker housing in the vicinity of the manufacturing establishments, often with distinctive ethnic concentrations, such as the Swedish communities at Greendale and Quinsigamond Village.

During the period, the established central residential districts were more densely developed, and a number of multistory, brick apartment neighborhoods emerged around the downtown area. Wood-frame construction continued to dominate, however, and with

the local development of electric streetcar lines, major expansion of the city's residential zones took place. New, stylish middle and high income, single-family residential subdivisions extended into the highlands north and west of downtown in the Elm Park area, beyond Park Avenue, and in the Woodland/May Street area along southern Main Street. Areas to the south, east, and north of the city center developed as ethnic, middle income and working class, multifamily neighborhoods. After 1890, entire hillslopes were speculatively developed with three-deckers, the dominant housing form of the period. Throughout the city, neighborhood schools, firehouses, stores, churches, and synagogues were built to serve the growing population.

D. Economic Base

E. Architecture

Residential: Late 19th century residential development generally followed the patterns established in the previous period with the side-passage plan remaining the popular form at least during the early years of the period. Approximately 5,700 dwellings were erected between 1898 and 1917. Local architects continued to produce popular dwellings for the middle and upper classes. Sixty-one architects are recorded as practicing in Worcester between 1890 and 1918. George Clemence and Frost, Briggs, and Chamberlain were added to the list of those already practicing before 1890.

Victorian Gothic dwellings remained popular during the early decades of the period. The Franklin Wesson House (1874), designed by Amos P. Cutting; the D. Wheeler Swift House (1879); and the C. H. Fitch House (1878) are major examples of the style. The popularity of the Queen Anne style is evident in the quantity of buildings throughout the city. The houses of the Norcross Brothers (1878-79), local builders, appear to be some of the earliest examples of the style. Stephen Earle was noted for his Queen Anne designs.

Apartment houses began to be constructed in the 1870s and were built around Lincoln Square, Pleasant Street, Chandler Street, and along Main Street South around Wellington Street. Apartment buildings were constructed into the early years of the 20th century and reflected the prevailing stylistic trend. Notable examples are the V. G. Swan and Robinson blocks, the Brightsides designed by Fuller and Delano (1889), and the Bliss Building by Barker and Nourse (1888).

Outnumbering all of the above were the three-deckers which were first built in the 1870s. Increased immigration, linked to the industrial expansion of the post Civil War years, created a demand for reasonably priced worker housing and the multifamily three-decker was the solution. The origin of the three-decker is uncertain. They remain concentrated primarily in the industrial areas south and east of the central business district, although they survive throughout the city. The architects, builders, and developers who erected these buildings embellished them with the

popular stylistic ornament of the day, including bracketted cornices, bands of shingled sheathing, and often elaborate porches. Many of the three-deckers have been demolished, and most of those which survive have undergone exterior alteration which generally involves the stripping of ornament, application of synthetic siding, and in some cases removal of front porches.

Institutional: The majority of surviving institutional buildings date from the late 19th century, when many public and private organizations either put up their first structures or rebuilt/enlarged existing buildings.

Churches of the 1870s tended toward the Victorian Gothic style, while those constructed during the 1880s and 1890s reflect the influence of the Romanesque Revival. Stephen Earle was a popular period church architect. Examples of his work include the 1885 Central Congregational Church, the first major Romanesque Revival church in Worcester; the sandstone and brick Pilgrim Congregational church of 1887; and St. Mark's Episcopal Church, 1888, which was directly influenced by the work of H. H. Richardson. The 1894 South Unitarian Church resembles St. Mark's in severity. Union Congregational Church (1895) is a late Gothic design. Numerous post 1900 neighborhood churches of similar period designs also survive.

A proliferation of public schools and firehouses are also scattered throughout Worcester neighborhoods. Some of the popular local architects of schoolhouses include: George Clemence, Barker and Nourse, J. W. Patson, and William Forbush. Beginning in 1873, the city commissioned the construction of neighborhood firehouses, many designed by the popular local firms. The earliest of these which survives is the 1873 Pleasant Street firehouse. Those designed by Fuller and Delano tended toward the Queen Anne; George Clemence favored the Renaissance Revival; numerous more eclectic structures remain intact.

From the late 1880s through the end of the period, the city's major secondary schools and colleges erected new buildings in the prevailing popular styles. These include O'Kane Hall (1895) at Holy Cross College; Electrical Laboratory (1886-90), Salisbury Laboratories (1888), and Stratton Hall (1894) at Worcester Polytechnic Institute; Clark Hall (1887), Engineering Laboratories (1888), Adams Hall (1892), Dexter Hall (1892), The Magaron (1896-1911), Kingsley Laboratories (1897), and Daniels Gymnasium (1915) at Worcester Academy.

A new, Victorian Gothic complex, which survives largely intact, was built between 1873-76 to replace the earlier Worcester County Hospital for the Insane.

Other period institutional buildings of note are the Georgian Revival American Antiquarian Society (1910) by Winslow, Bigelow, and Wadsworth, the Romanesque Revival Worcester Historical Society, the classical Worcester War Memorial and Worcester Boys Club, three Carnegie libraries of 1913, the Romanesque Revival Armory, a new City Hall (1897-99), an addition to the courthouse

by Stephen Earle in 1878, followed by its rebuilding and enlargement in 1898 in the classical style by the firm of Andrews, Jacques and Rantoul; and the 1900 Colonial Revival Greendale Improvement Society Building.

Commercial: Most of the surviving commercial structures in downtown Worcester date from this period. Early period styles that experienced popularity were the Second Empire, Victorian Gothic, and Queen Anne. By the mid 1890s, Main Street was fully developed as a commercial center. Beginning in the late 1890s, the traditional row buildings gave way to classically-inspired skyscrapers. Significant examples of this new, "corporate" development are the Worcester Consolidated Street Railway Barn (1893-1910) and the Second State Mutual Building (1871), the city's first skyscraper. Other notable period buildings include: the Franklin Building (1872), Odd Fellows Hall (1880), Chase Building (1886), Burnside Building (1887), Lothrop's Opera House (1890), Worcester Five Cents Savings Bank Building (1891), Central Exchange Building (1896-1902), Day Building (1897-1900), Enterprise Building (1900), Union Railway Station (1911), Worcester Market Building (1914), and the Beaux Arts Bancroft Hotel. The density and continuity of the central business district has been drastically diminished since the 1960s chiefly as a result of demolition for urban renewal and the construction of Route 290.

Industrial: Industrial development continued to increase. Mill buildings of the Late Industrial period were generally less ornate and more functional in appearance. Significant period structures include those in the Southbridge and Sargent Streets manufacturing area (1866-92), the Hammond Organ Reed Factory (1868, ca. 1875, ca. 1880), Washburn and Moen manufacturing area which began to develop in the 1860s, Ashworth and Jones (1870), Crompton Loom factories (1880s, 1900), and the Whittall Mill buildings 1, 2, and 3, the Edgworth Mill and Worcester Carpet Mills 1 and 2 (1870s-1910).

X. EARLY MODERN PERIOD (1915-1940)

A. Transportation Routes

Abandonment of interurban electric street railway service occurs by ca. 1930, although central city lines continue in use through the period. By the mid 1920s, Worcester has become the center of a radial, region/interregional automobile highway system, with major local foci at Lincoln, Washington, and Kelley Squares, and at the Main/Chandler/Madison and the West Boy Istan/Grove intersections. As traffic increases, through traffic, originally running through the central city, is rerouted around the congested downtown area, creating new auto oriented commercial/service corridors.

The main pre-1930 corridor is the Boston-New York road (old Route 5, then Route 20, later Route 9), which after crossing Lake Quinsigamond, enters town on Belmont Street, then follows Shewsbury, Front, and Main Streets. The Shrewsbury/Belmont Street

portion of this route is widened ca. 1910 to form a boulevard corridor from the east to the Washington Square focus. Through traffic on this route decreases in the early 1930s, when the Route 20 "Southwest Cut-off" is established along the city's southern border.

A second important early regional route is the north/south Route 12 from Fitchburg through Worcester to Webster and Norwich, Connecticut. This enters the city from the north on West Boylston Street, then follows Grove, Main, and Southbridge Streets. Highways from the northwest are established on Pleasant-Chandler Streets (Route 122) and Grove Street (Route 122A-later Grove/Salisbury Streets). These then continue southeast on Grafton Street (Route 122) and Vernon-Ballard-Millbury Streets (Route 122A).

By the early 1930s, segments of Routes 9, 12, and 122 are rerouted along a four-land Park Avenue corridor and through Lincoln Square, with a new Route 9 connector on Highland-Belmont Streets, a new Route 122 on Summer-Water Streets, and new Route 12 through Webster Square and Webster-Hope Streets. Lincoln Street (Route 70) is established as the northeast highway to Clinton. Local four-land period automobile boulevards are also established on Mill and Hamilton Streets.

B. Population

Worcester's rate of population growth continued to slow down during the first half of the 20th century. The city added only ca. 20% to its total population during this period, expanding from 162,697 in 1915 to 193,694 in 1940. The greatest amount of expansion occurred in the years prior to the Depression, with the total reaching 190,757 in 1925. Restrictive immigration laws enacted during this period severely limited the number of newcomers. This is reflected in the proportion of foreign-born within the city, dropping from 32.3% in 1915 to 20.1% in 1940. In spite of this the town continued to hold an exceptionally diverse ethnic population. Swedes became the most numerous foreign-born group (5,468), but several other groups held nearly equal numbers, including the Irish (4,991) and Italians (4,069). Next in importance of numbers came English Canadians (3,633), Lithuanians (3,573), French Canadians (3,387), Poles (2,677), and Finns (1,300). In smaller numbers there were Armenians, Palestinians and Syrians, Greeks, and Asians.

Church formation continued, though at a slower base. By period's end the Roman Catholics dominated the city's ecclesiastical structure with 24 churches and 15 parochial schools. The expansion included the addition of new national parishes, of particular interest the Assyrian subgroups of Maronites and Melchites. Next most numerous in the city were Baptist churches, which also included ethnic subgroups, including French, Italian, as well as a union Polish, Lithuanian, and Russian group. The Congregationalists had 15 churches. The greatest growth came within the Jewish community, where the number of congregations expanded to ten. Norwegian Evangelical Lutherans formed a society

in 1916 bringing the total to seven, while Methodists had eight. Orthodox groups formed, including Russian, Albanian, and Assyrian Apostolic. Christian Science and Salvation Army groups were also formed, as well as Second and Seventh-Day Adventists and a range of small, independent, and less well known Protestant denominations.

Voluntary associations continued to flourish in the city. Fraternal organizations persisted, with the addition of new civic-oriented groups. The Exchange, Kiwanis, Lions, Civitan, Propus, and Harmony clubs attempted to combine public service with socializing. Organization of leisure activities, particularly among young people, were especially popular and scout groups flourished. Women's groups also were formed, including Altrusa, Quota, Soroptimists, Business and Professional Women, Tuesday Lunch. An extensive range of hobby clubs completed the picture of emphasis on organized leisure.

C. Settlement Pattern

Extension of the built-up area continued in the form of streetcar and later automobile suburb development at the periphery of established residential zones. In the east, infill occurred at the outer edges of the Shrewsbury and Plantation Street neighborhoods, at Lake Park, and along Lake Avenue north of Belmont Street. New suburban growth occurred to the north in the Burncoat Street area and extended beyond the West Boylston Street/Mountain Street intersection. Northern development also concentrated in the Holden Street/Arrarat Street area. In the northwest, suburban development extended along Grove, Forest, Salisbury, Pleasant, and Flagg Streets, and reached beyond Tatnuck. Intensive infill occurred between Pleasant and May Streets. To the west, development took place in the June/Mill Street area. Western growth extended in the area between Main and Stafford Streets. In the southwest, Hope Avenue beyond the cemetery belt, Southbridge Street, and College Street all experienced suburban development. Quinsigamond Village extended south along Greenwood Avenue. In the southeast, Vernon Hill was built over, and the Grafton Hill neighborhood extended out along Heywood Street and between Hamilton and Grafton Streets. Outlying suburbs grew along Massasoit Road.

Expansion and rebuilding of the central district continued at a slower rate during the period. Office buildings and theatres were built, and major civic additions were made such as the Worcester Memorial Auditorium (1933) at Lincoln Square, and the Federal Building (1932) at Franklin Square. Expansion continued into the highland west of Main Street with Horticulture Hall (1923), the New England Telephone Building (1928), and the Commerce High School Annex (1928). Religious edifices continued to be built in the central area, including the Wesley United Methodist Church (1925) on Main Street, and Notre Dame Church (1929) on the Common.

Commercial development continued in areas at the edge of or outside the central business district, particularly along the new radiating automobile corridors. Automobile oriented services

extended along well traveled routes such as Millbury Street, Belmont Street, Shrewsbury Street, Harding-Summer Street, and West Boylston Street. An "Automobile Row" developed on Park Avenue, with a concentration of car dealers, and the Registry of Motor Vehicles.

The industrial boom during World War I stimulated expansion of some existing manufacturing facilities and wartime housing shorages led the Norton Company to design and construct a new worker housing development on Indian Hill near its plant in the northern part of the city. In general, residential decentralization continued through the period, stimulated by expanded electric streetcar service, and then by widespread use of automobiles. New high income development increasingly located in outlying single-family subdivisions and estates on the west side, including; the Hammond Heights and Montvale areas.

Concentrations of middle income, single-family residences developed in the western and northeastern sections of the city, particularly in Tatnuck and Burncoat Street areas. Single- and multi-family ethnic middle and working class residential areas continued to expand to the east, south and southwest, with three-deckers continuing to fill inner areas such as Vernon Hill, and modest cottages and two-family housing in the outer fringe. Community schools, churches, and stores were increasingly located to serve the growing outer residential concentrations. In general, little period residential development occurred after the early 1930s.

D. Economic Base

E. Architecture

Residential: The declining rate of population growth is reflected in the number of buildings erected during the period. All styles of the turn-of-the-century are evident in both popular and high style dwellings: i.e., Colonial Revival, Arts and Crafts, Bungalow, Four Square, and many "period" revival designs. Among the latter is the French-inspired Knollwood Estate (1912) and the Paul Morgan and Aldus Higgins houses of the 1920s which reflect English medieval architecture. The three-decker remained the most widely built house type of the period.

Institutional: The two major period buildings are the 1918 Waldo Street Police Station, a fine example of the Renaissance Revival style with exceptional terra cotta work and a Sullivanesque flavor, and the end-of-period Higgins Armory Museum.

Commercial: Commercial building dropped off from the boom of the previous period. The prevailing style early in the period continued to be the neoclassical.

Industrial: No major architectural development.

XI. SURVEY OBSERVATIONS

XII. SOURCES

MHC Reconnaissance Survey Town Report: Worcester