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A study of the economic history of three marginal farm towns in Massachusetts

Mary J. Foley

University of Massachusetts Amherst

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A STUDY OF THE ECONOMIC HISTORY OF THREE
MARGINAL FARM TOWNS IN MASSACHUSETTS

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**A Study of the Economic History of Three Marginal
Farm Towns in Massachusetts**

By

Mary J. Foley

**Thesis submitted in partial fulfilment of the requirements for
the degree of Doctor of Philosophy
Massachusetts State College, Amherst, Massachusetts**

1933

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A Study of the Economic History of Three Marginal Farm Towns
in Massachusetts

A complete comprehension of any section of rural society is impossible without a knowledge of the factors involved in its economic history, and without a knowledge of the composition of its population. Adequate data on the distribution and composition of the rural population are lacking, yet without this information the student of rural society cannot understand some phases of change, nor give intelligent assistance in rural planning.

There have been studies made in this field, though none in Massachusetts. It would seem worth while to know the answer to questions which perplex the modern Massachusetts town, particularly such questions as have to do with planning for the future. For instance, where are the farming people of the next few decades likely to center their activities, village, town, city? A study in New York State¹ indicated that the young people live on the farms, and the older ones in the villages; this may serve to explain a large part of the village problems in the annual town meeting of certain towns if it is found to be true here in Massachusetts. Furthermore, state assistance may be allocated and utilized much more wisely if the underlying trends are realized and analyzed.

In addition, the virtual abandonment of large areas in a given township, places a large burden on the rest of the town, since, if a few families remain, roads must be kept up and children transported to school. In many cases it would be more economical to relocate certain farm families and use whole sections of the town for forests.

The areas studied were chosen as the result of inquiry and statistical analysis. In view of the fact that there is much discussion of marginal and submarginal areas, and almost no definition of the terms, letters were written to many economists and sociologists asking advice as to the proper method of choosing marginal areas. Excerpts from two of the replies show the justification for choosing the areas, partly on the basis of advice from extension workers.

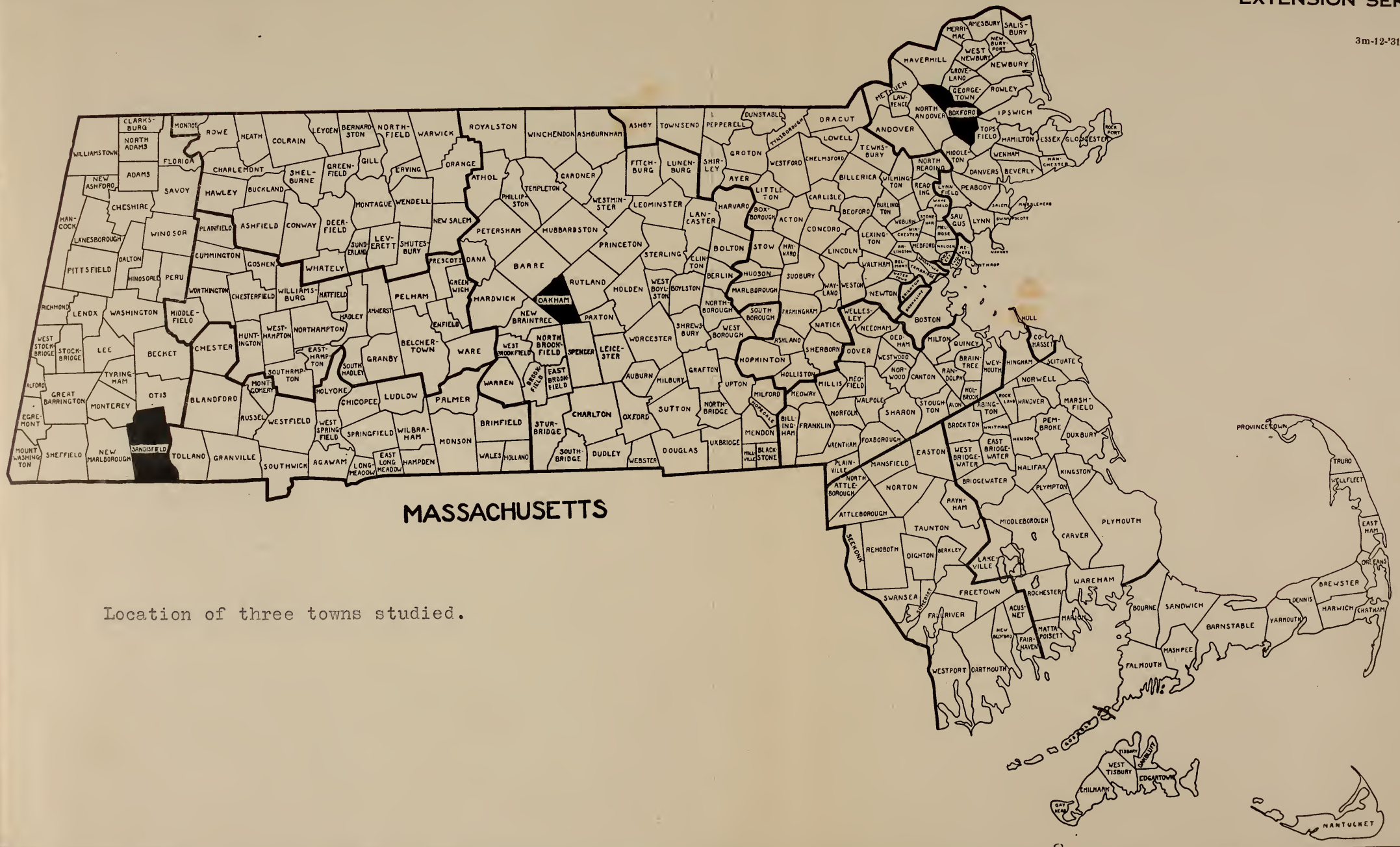
1. Professor Carle C. Zimmerman, University of Minnesota, letter dated March 2, 1928 - "Several characteristics may be true of a marginal area, according to my estimation. Some may be low share rent; low cash rent or absence of cash rent; high percentage of ownership; low physical productivity, etc. I think if you talk with some of the extension men of the state they can tell you the marginal areas from common observation."
2. E. L. Kirkpatrick, Associate Agricultural Economist, United States Department of Agriculture, letter dated February 29, 1928 - "I have no definite suggestions as to choosing the marginal farm areas. We are planning to make some use of land value per acre from the 1925 census for the region along the Ohio River. These will be checked closely against observation of the State workers, however."

By a further process of statistical elimination three marginal towns were selected, as typical of various sections of the state. Sandisfield, in Berkshire County, represents the hill towns of the western part of the state; Oakham, in Worcester County, the rolling land of the central

section; Boxford, in Essex County, the sandy flat section near the coast. Each has been subject also to differing economic factors as will be apparent from the study.

It is customary to call areas in which agriculture is decreasing in importance, marginal farm areas. According to orthodox economic theory, marginal land is land upon which can be produced products which have a value just sufficient to cover the necessary payments for labor and capital used in their production. This stated in the Ricardian theory of rent, which is also a theory of land utilization. This doctrine holds that the area in use tends to reach an equilibrium at the point where output and input are equal, and tends to expand or contract where output exceeds or falls short of input.² Actually on land which is so poor that it seems to preclude any profitable agriculture, it is altogether possible to find some farmers making a profit, while on supposedly super-marginal land some farmers lose money. Ricardo would probably have explained these cases on the basis of variations in the efficiency of labor and capital, but this is of little assistance when one is trying to classify land as the basis of a land utilization program. Further, an area may be marginal over a period of years, and then, because of a new use for land, or a new type of production it may no longer be classifiable as no-rent land.

For these reasons, there should be greater care used in referring to land areas as marginal or submarginal. In a strict sense, one should never make scientific use of the words marginal or submarginal



MASSACHUSETTS

Location of three towns studied.

without first making a detailed study of farm incomes, to see how the income compares with that which prevails for the same grade of labor, and the same amount of capital in competitive agricultural regions which are clearly above the margin of economical use.³ If the farm income is not sufficient to support such a standard of living the land is sub-marginal and will eventually be devoted to some other use such as forestry. Thus, the evidences of marginality are often considered as proof that agriculture will not pay in a given area, even though no detailed study of farm income is made. These evidences are abandoned farms and roads; lands formerly cleared, now growing up to brush and wood; the development of state forests in the township (which in Massachusetts is particularly significant since the law limits the purchase price of land for state forests to \$5 an acre); and the gradual change in the number of acres included in farms in the town.

The problem of what a state should do to aid in reaching the proper relationship between its people and its resources is one which puzzles many conscientious legislators. In order to find what policies are being formulated to handle the marginal land areas, letters were sent to the Commissioners of Agriculture of the six New England states and New York, since their situations are more nearly comparable than those of other areas.⁴ In only one state, New York, has any effort been made to make a land utilization survey. In the laws of 1929 (chapters 194 and 196) the state provides that lands which are definitely

submarginal may be purchased by the state or county for reforestation areas, and as such are exempt from state and county taxes, though they have to pay local taxes. Massachusetts makes provision for the purchase of lands with a \$3 - \$5 per acre valuation for state forests also, although there is no pressure on the State Department of Conservation to buy land in certain areas as the result of a land survey as is the situation in New York. Excerpts from some of the other letters follow:

1. E. H. Jones, Commissioner of Agriculture, Montpelier, Vermont,
Dated April 5, 1933.

"So called abandoned farms have for some time been a real problem with us which has evoked much discussion.....

To my knowledge there has been no change in the relationship of this class of towns to the state in matters of schools, roads, taxation or reforestation policies."

2. H. H. Lewis, Commissioner of Agriculture, Providence, Rhode Island, Dated April 6, 1933.

"this state has made no investigation of towns which might be termed marginal, nor does this state treat such towns different from other towns. We have such towns bordering the Connecticut line but they are given no distinct treatment."

It does seem as though each state government should have a policy to meet the needs of these towns in which agriculture is declining

in importance. Such a policy by no means implies that the agriculture of the state is decadent, but simply that the state recognizes the needs of its citizens and is alert to help them attain the highest standards of living possible. The agriculture of a state should be judged not on the basis of idle land, or land in woodland, but on the basis of land in use for farms; and when the land used for farms is the best available, with areas definitely submarginal being used for non-agricultural purposes, the whole state will benefit.

II. The Locations and Descriptions of the Areas Studied.

Boxford

I. Location

Boxford is located in the central section of Essex County, which is the extreme northeastern part of Massachusetts. It contains 13,500 acres of land.

2. Physical Features

Geologically, the whole of Essex County lies in the glaciated region in which there are deposits of comparatively thin layers of till over the bedrock, which is in Boxford a granite quartz hornblende diorite, occurring in massive and foliated forms. On both sides of Little Pond in West Boxford, there are outcrops of Cambrian sedimentary rocks. Stiles', Spofford's, Perley's, Four Mile and Cedar Ponds are all ice



Topographical Map of Boxford, Massachusetts

block holes showing contracts on their southeast shores.⁵ The surface of the town consists of a rolling plain studded with isolated hills, the height of which averages between 200 and 300 feet.

3. The Soil

The soil is of a large variety of types, prominent among them being the loams, many in sandy or stony phases. There are also large areas of muck and peat around the ponds. The types may be seen on the accompanying map.

4. The Climate

The climate of Essex County is typical of the coastal region of New England. It is humid and marked by long, cold winters with a heavy snowfall, and by medium short summers with rainy and humid warm periods. The average annual temperature at Lawrence (the interior station for the county) is 47.6° F.; the average precipitation is 42.50 inches, well distributed throughout the year. The latest and earliest recorded killing frosts were May 12 and September 29, which provides a growing season ample to mature a wide range of crops.

5. Early History of Boxford.

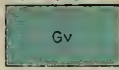
Boxford was first included in that tract of land purchased by the "Rev. Ezekiel Rogers Company" of the towns of Ipswich and Newbury, which was granted an act of incorporation September 4, 1639 under the name of Rowley. The present area included in Boxford was settled about 1650; the first settlers bearing such English names as Andrews, Bixby,

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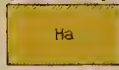
Brookfield
fine sandy loam



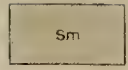
Gloucester
very stony loam



Hinsdale
stony fine-sandy loam



Sutton
loam



Stony phase

Gloucester
stony loam



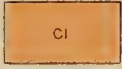
Merrimac
loamy sand



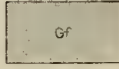
Wenham
fine sandy loam



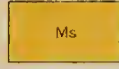
Charlton
loam



Gloucester
fine sandy loam



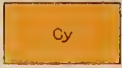
Merrimac
sandy loam



Whitman
loam



Coloma
fine sandy loam



Gloucester
fine sandy loam



Gravelly phase

Merrimac
sandy loam



Gravelly phase

Woodbridge
fine sandy loam

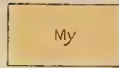


Gravelly phase

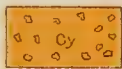
Gloucester
loam



Merrimac
fine sandy loam



Stony phase



Stony phase

Hinckley
loamy sand

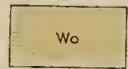


Merrimac
fine sandy loam



Gravelly phase

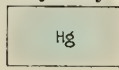
Woodbridge
loam



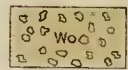
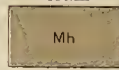
Coloma
loam



Hinckley
gravelly sandy loam



Merrimac
loam



Stony phase

Essex
fine sandy loam



Hinckley
gravelly sandy loam

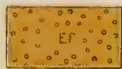
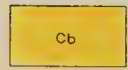


Dark-colored phase

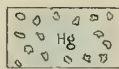
Ondawa
very fine sandy loam



Coastal heath



Gravelly phase

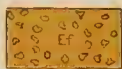


Stony phase

Orono
fine sandy loam

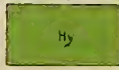


Made land

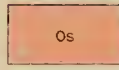


Stony phase

Hinckley
gravelly loam



Orono
silt loam



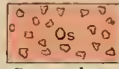
Meadow



Gloucester
stony loamy sand

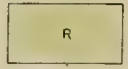


Hollis
fine sandy loam

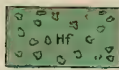


Stony phase

Rough stony land

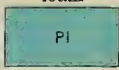


Gloucester
stony fine sandy loam

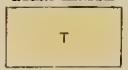


Stony phase

Palmyra
loam



Tidal marsh

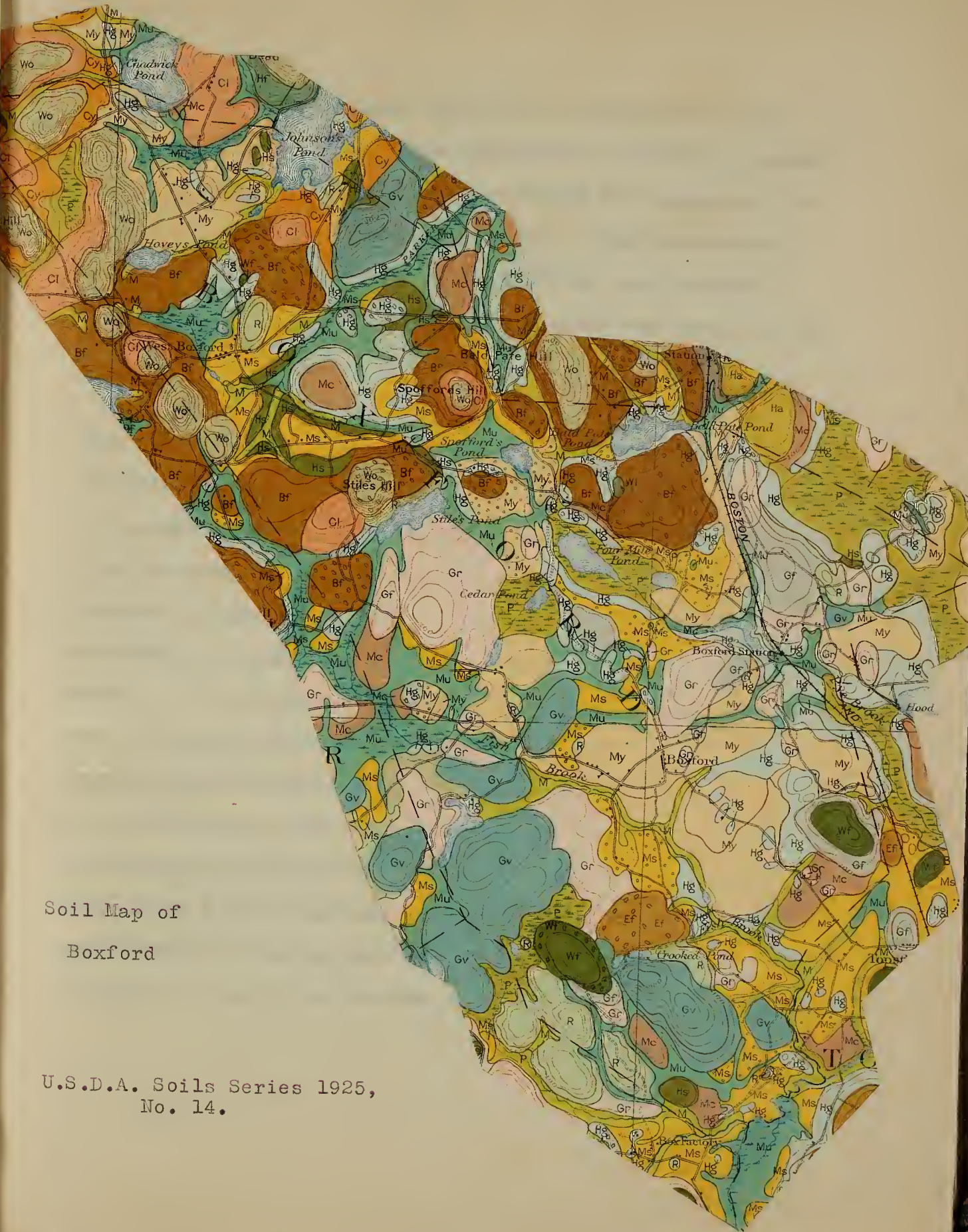


Muck



Peat





Soil Map of
Boxford

U.S.D.A. Soils Series 1925,
No. 14.

Curtis, and Kimball. The undivided lands in the village were laid out in 1666 and 1667 and in 1685 the General Court granted the petition of the inhabitants to change the name to Boxford and incorporate it as a separate town. The name Boxford was chosen because the minister of the Rowley district, Rev. Samuel Phillips had been born in Boxford, England. By 1700, Boxford had built its own church and school, and had developed a vigorous community life.

The eighteenth century was one of gradual development in the town. We may trace this in several lines, first in that of the spiritual interests of the townsfolk. The first minister, Rev. Mr. Symmes had a congregation of about fifty members when he was ordained December 30, 1702. The witchcraft scare had just been ended, one Boxford woman being condemned to death, though she was not executed. Mr. Symmes built up the church and remained for six years as minister before transferring to Bradford. He was succeeded by Rev. Mr. Rogers during whose incumbency the East and West Parishes were set off in 1735. During 1735-36 the West Boxford church was built, and was accepted as complete by the parish in 1745. The original parish, having difficulties within its membership, met irregularly until 1758 when the Rev. Elizur Holyoke of Cambridge became pastor, a post he held until his death in 1806. The most exciting change during his ministry seems to have been a discussion as to the type of hymn to be sung during the church services.

The primary industry in Boxford has always been agriculture, and at the time when Boxford became a separate town, practically all the people were so employed.⁶ However, there were a few scattered industries in the town. The "iron works" were established by Henry Leonard of Lynn in 1669 in that part of the town of Rowley which later became Boxford. The business was carried on in the town until 1673-74 when the Leonards moved on to New Jersey and established the manufacture of iron in that state. The business was continued until 1680 by John Vinton of Lynn, the capital stock being about one thousand pounds.⁷ Several sawmills were begun in 1710, one on the stream between Stetson's and Four Mile Ponds, two more which are still in existence (the present Howe and Andrews Saw Mills) on other streams. The Howe mill was long famous as a source of ship-timbers used by the ship builders of Essex. In 1725, a tannery was begun by Francis Perley⁸ which tanned hides for Boxford farmers until 1800. There are records of other types of employment, of coopers, wheelwrights, blacksmiths, cabinet and basket makers. Probably none of these occupied the exclusive attention of the men employed in them, however, as in most cases they were part-time occupations for farmers.

The inhabitants of Boxford in 1768 took part in the general movement to outwit the English collection of taxes on imported cloths by making their own. In the town meeting on March 22 they voted ".....to take all prudent and legal measures to encourage their own

produce and manufactures, and discour~~age~~ge the unnecessary use of all foreign superfluties."

Even before 1800 many families moved out of Boxford. In 1776, a grant was made to a group of residents of Essex County (including many Boxford people) of the present town of Bridgton, Maine. Four Boxford families were among the first settlers of the new town, three families helped settle Amherst, N. H.; others migrated to Harvard, Hopkinton, Lunenburg, and Brookfield, Mass., Rindge, N. H. and New Brunswick. The trek westward which was to be so important a factor in the development of Boxford had begun.

The period from 1800 to the present, which is to be examined in some statistical detail later, may be sketched in briefly here. The intense religious life of the people - their major interest in the first period - began to wane. Dissension crept into the First Church as early as 1818 and a schismatic group built another meeting house where Unitarianism was preached. After the breach was healed, the new church building was used as an academy. In the East Parish there was also difficulty; the congregation declined to forty members. However, the church is still an important feature in the life of the town.

Some small manufactories were begun during the century; in 1790 a building was erected to serve as an iron smelter. After 1805 it was altered into a gristmill, and in one part of the building the manufacture

of wooden bowls, trays, etc. was carried on. After 1832 the gristmill was converted into a cotton manufacturing plant where cotton yarn, wicking, and batting were made. Some 15 or 20 employees worked in the mill, while much of the simple work was done in the homes. In 1867, the cotton machinery was removed and a match factory begun which required a saw mill and a box-manufactory as adjuncts. A shoe manufactory was begun in 1814 and by 1837 the estimated value of shoes manufactured was \$52,975. About 1850 several shops were started but most of them failed during the Civil War. In 1873, a carriage shop was begun in East Boxford which was prosperous for a short time. However, as Perley puts it - "From the earliest settlement of the town to the present time, the principal occupation of the inhabitants has been that of agriculture; and from the primitive soil of our rocky hillsides they have ever drawn, by their industry and well adapted labor, an independent livelihood." Lately, as a development of agriculture, tree nurseries have become a thriving industry in East Boxford.

The decline in the population of Boxford began after 1855 when there was 1862 people in the town, and seems to have been checked in 1925 when the total number of inhabitants was 561. The 1930 census gives a figure of 652 which seems to be explained by the number of people who have bought homes in Boxford and commute daily to their work in Boston and other cities.

In 1852, a railroad was built from Danvers to Newburyport, through the eastern part of Boxford. This line was joined to the Boston and Maine Railroad in 1859. Service is still given by the railroad which runs one

train a day in each direction.

Since 1900 many well-to-do people have bought homes in Boxford, reconstructing the old colonial houses and building up the run-down farms. The town is within commuting distance of many large cities and it seems altogether likely that this advantage will increase the value of Boxford homes in the future. The townspeople are proud of their historical village and quite willing to discuss it with anyone interested; but there is not a roadside stand, hotel, boarding house, bus line or other inducement to cause travellers to linger, to be found in the town.

For purposes of record the changes in the boundaries of Boxford
10
are inserted at this point.

Town of Boxford

On September 14, 1694, Boxford is named in the Tax Act. Boundary line between Boxford and Topsfield fixed February 25, 1701. Part of Boxford included in the new town of Middleton, June 20, 1728. Part of Rowley annexed to Boxford June 10, 1808. Boundary line between Boxford and Rowley established June 18, 1825. Part of Ipswich annexed March 7, 1846. Part of Boxford annexed to Groveland March 21, 1856. Boundary line between Boxford and Middleton established April 22, 1904. Boundary line between Boxford and Georgetown established April 22, 1904.

Oakham

1. Location

Oakham is located in the west central part of Worcester County. The township, a relatively small one, is bounded on the east by Rutland and Paxton, on the north by Barre, on the west by New Braintree, and on the south by Spencer. It contains 13,565 acres.

2. Physical Features

Geologically, Oakham is composed of two types of carboniferous sedimentary rocks, one, Brimfield schist, which is most widely distributed, the other Paxton quartz schist.

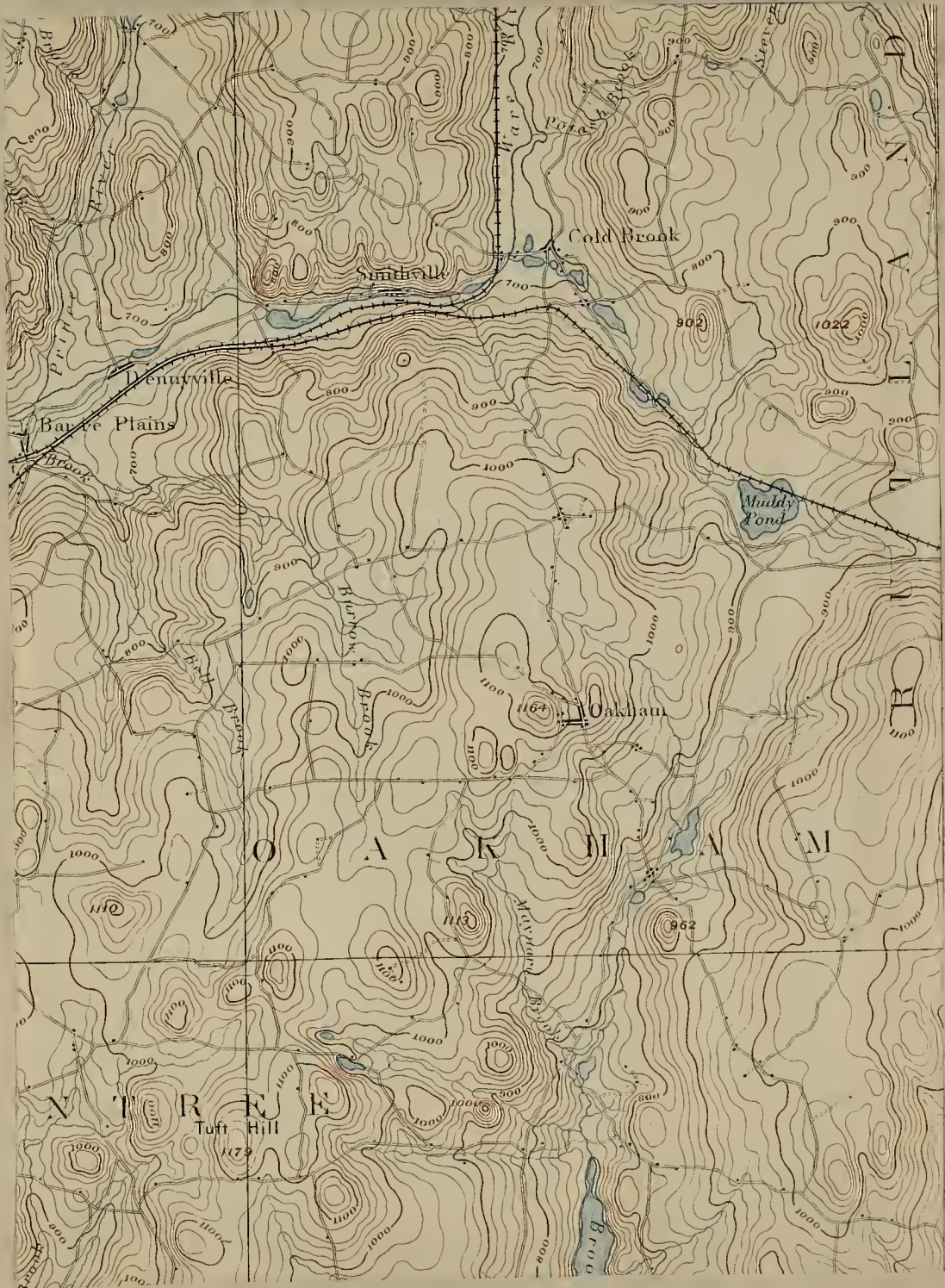
Geographically the Oakham-Barre-Rutland area is made up of high flattened ridges and plateaus. There are several ridges approximating 1200 feet in height. The west half of the township drains into the Ware River, the eastern section into the Swift River; the village of Cold Brook has been evacuated for the Metropolitan Water Project which has taken a large share of the northeastern corner of the town.

3. Soil Types

The soil types are shown on the map taken from the Worcester County Soil Survey. As may be seen the great majority of the soils are loams of various types, with several large and well defined areas of muck.

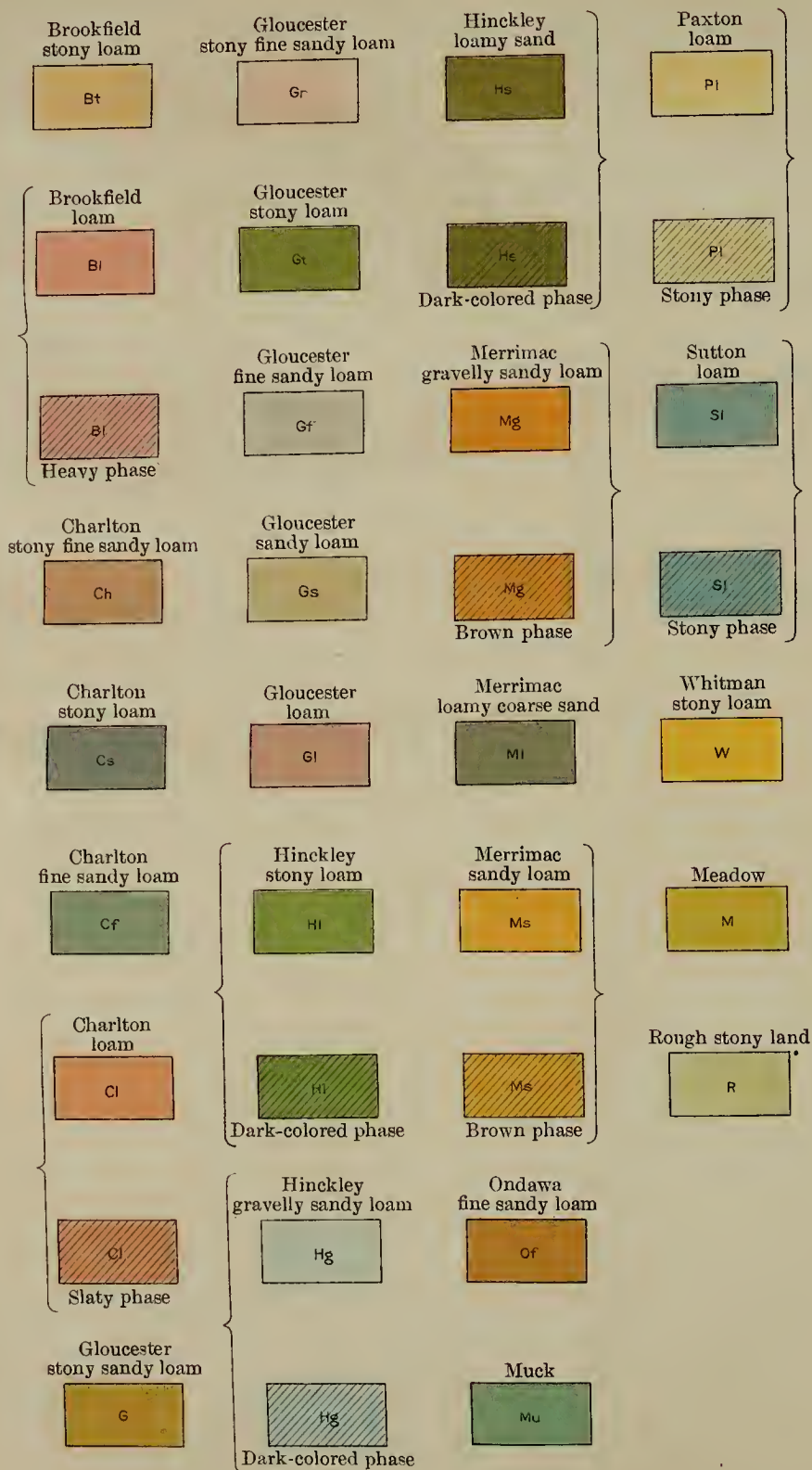
4. Climate

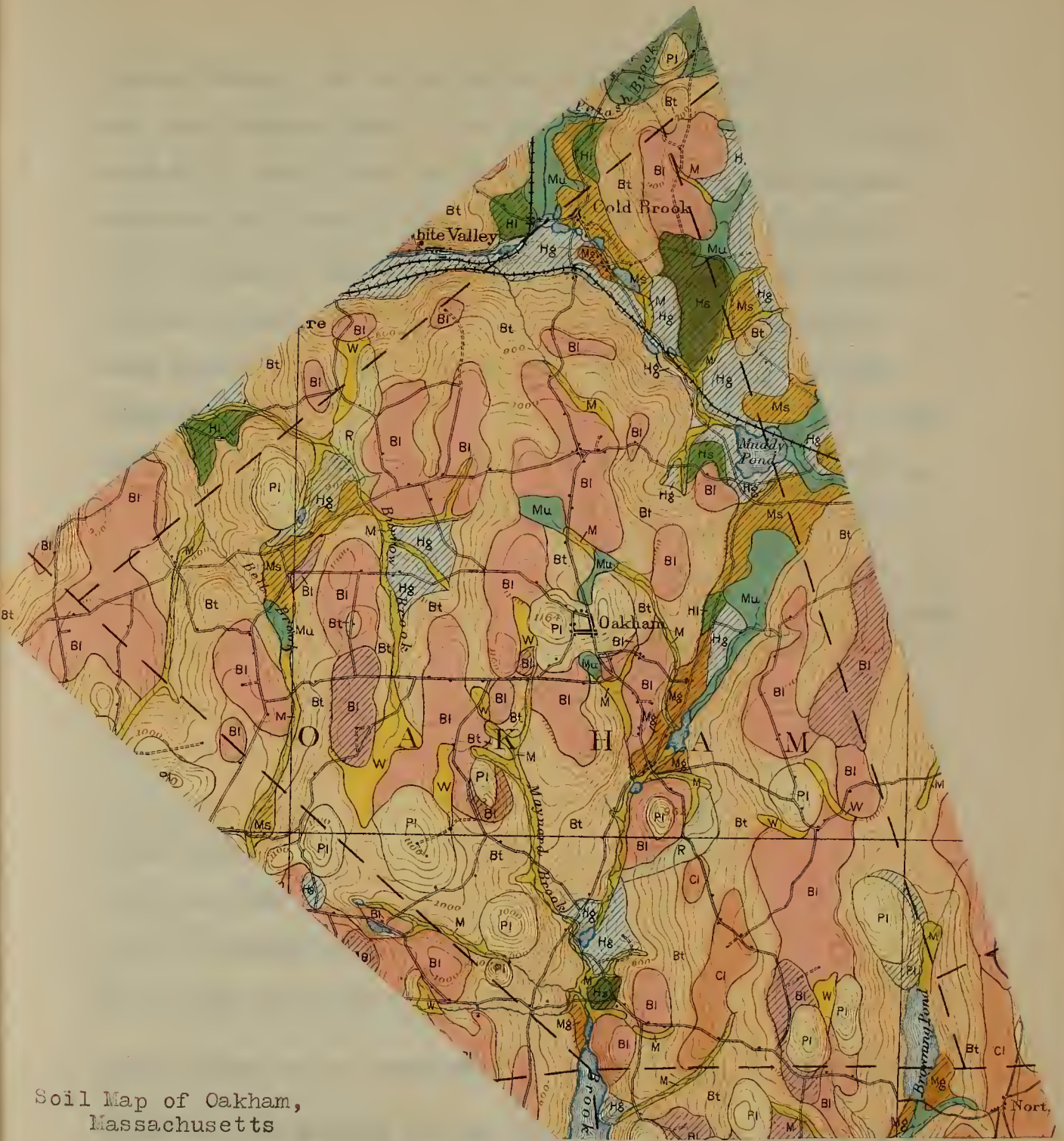
The climate of Worcester County is humid. It varies greatly from one year to another, and also within one season. In general, the



Topographical Map of Oakham, Massachusetts

LEGEND





Soil Map of Oakham,
Massachusetts

U.S.D.A. Soils Survey of
Worcester County.

and New Rutland. That we are not in a capacity of Ourselves to raise any sum of money in order to hire Preaching among us as we are neither a Propriety, Town District nor Parrish. Besides many other inconveniences we labor under to witt for the want of Power to raise money for the Schooling and Educating our children And also money to repair and make Highways and build Bridges And many other Difficulties we Labor under by Reason of being this in a State of Nature. We Humbly apprehend if we were incorporated into a Parrish and Impowered to Raise Money for the Ends and Uses above Mentioned it would greatly Encourage the Settlement of the Place." Upon this petition an act was passed making Rutland West Wing a precinct. In 1761 the precinct voted to erect a meeting house, to repair highways and also "To tax the inhabitance teen pounds to support pritching this present year".

In June 1762, the precinct was changed to a "District" by the name of Oakham, after a town similarly named in England, from which many of the settlers had come. The first settlers of Rutland held the Pine Plains (between Rutland and Oakham) in common, and used the unoccupied land in the West Wing as pasture. It was their custom to set fires here late in the autumn to improve the pasturage. This injured the appearance
14
of the land, and in many cases delayed the sale of farms in Oakham.

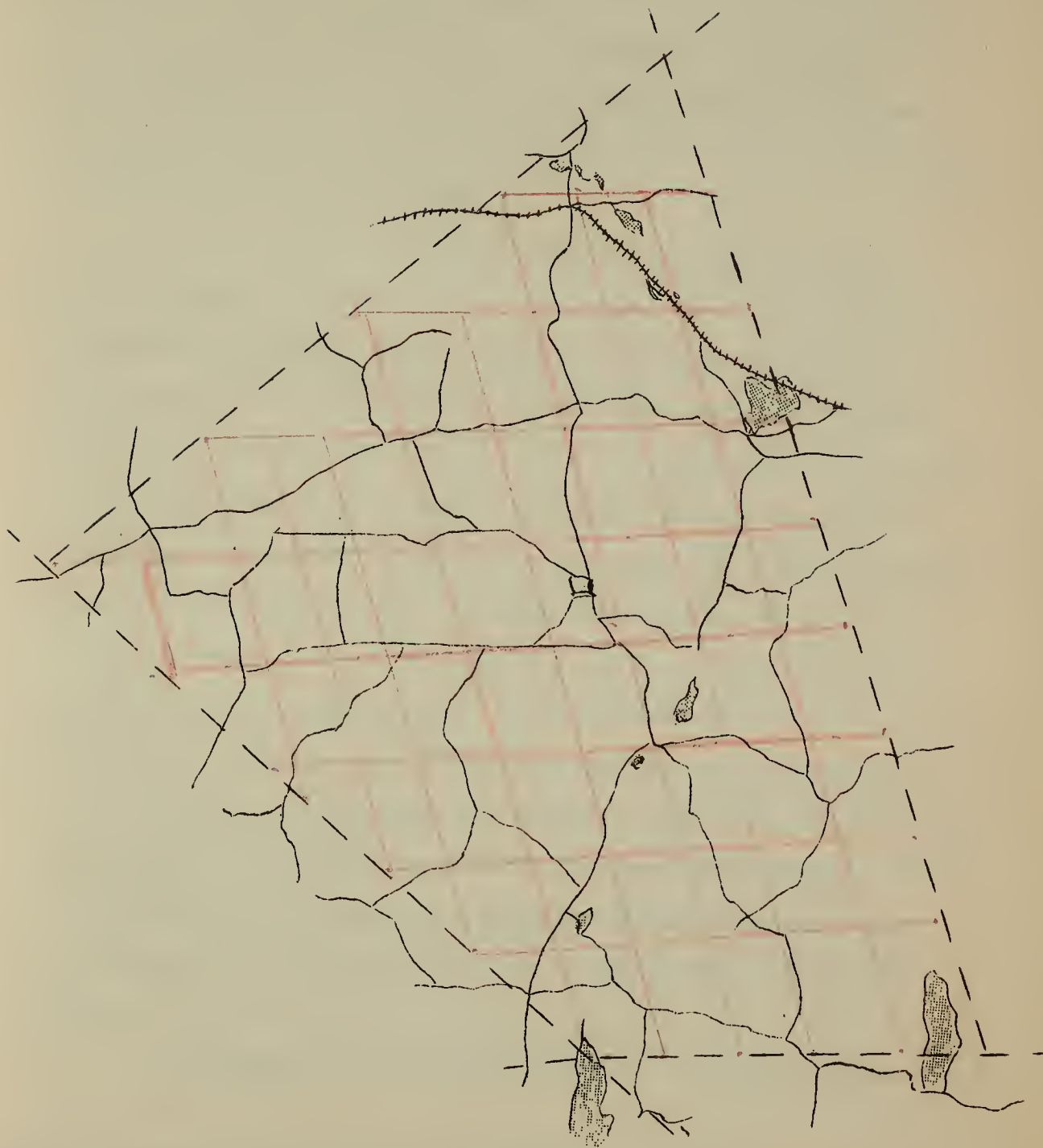
Timothy Dwight was not impressed b the appearance of the town as is shown
15
by the following excerpts from his "Travels": "The country, lying on the

road between Rutland and Brookfield, consists of the eastern skirts of Oakham, and New Braintree; of which we saw little else, besides a wilderness, variegated here and there with a solitary field, and a miserable cottage. The land was lean and very stony; and the road for considerable distance bordered by a swamp; one of the dullest and most forlorn, which I remember. No place could be a fitter spot for an Indian powaw; and hardly any, less desirable for civilized beings. Oakham is said to be one of the least, and New Braintree one of the most fertile townships in the county of Worcester."

The church was the first institution established in Oakham and the first meeting house was built as early as 1761. A Presbyterian minister was ordained in 1767, and for several years the services followed that denominational form. The influx of new settlers brought in a large number of Congregationalists who refused to join the Presbyterians, and in 1773 after several serious, and wordy discussions, the town church was reorganized as a Congregational meeting. The orthodox Presbyterians withdrew, and for a time met together on the Sabbath, but gradually they drifted into the Congregational church, largely because of the dynamic personality of Rev. Daniel Tomlinson who was ordained in 1786.

The Center Schoolhouse was begun in 1769, but not finished until 1793, and the following map shows its location, as well as that of the original town lots. Actually, the town voted in 1769 to build five schools altogether, but only the Center School was begun immediately.

Outline Map of
OAKHAM, MASS.



LOCATION OF THE ORIGINAL LOTS IN OAKHAM.

Wright - Soldiers of Oakham.

In 1790, there were only 3 houses in the center of town, for all the families were farm families and lived out in the country. There were two sawmills in what is now Coldbrook; a fulling mill, and a trip hammer shop on the Boston and Barre Post Road; and several blacksmith shops, but the people were primarily interested in agriculture, no matter what their trades might be.

At the close of the eighteenth century the population of Worcester County was about 57,000. The largest town in the county was Brookfield, with a population of about 3,000; Sutton was second with 2,700 people; while Worcester, the third town in size had only 2,000. Oakham with a population of 775, was about one-third the size of Worcester.

From an economic point of view one of the most interesting incidents in the history of Oakham has to do with the currency inflation during the Revolutionary War. In 1777, when the prices of labor and commodities began to rise very fast, the town voted to fix prices for various common articles of trade. The town regulation was, of course, not sufficient to stem the tide of rising prices, and they continued upward to dizzy heights. For example, a comparison of prices for 1777 and 1779 shows the following differences: 1777 - wheat was valued at 65 per bushel; in 1779 it cost \pounds 8. 1777 - salt was valued at 1456 d per bushel; in 1779 it cost \pounds 12. In 1781 a clergyman received \pounds 120 for his Sunday sermon.

The history of the period from 1800 to the present is interesting

from many points of view. The population reached its peak in 1850, declining steadily from that date. After 1800, the Congregational church became less unified, and new churches came in, the Methodist church being dedicated in 1843.

There were four important roads running through Oakham; one from Petersham and Barre to Rutland and Worcester, a second from Rutland to Brookfield, another from New Braintree, through Paxton, to Worcester, and the fourth from Worcester to Hardwick and Northampton. The last was the most important, and was rebuilt by a private corporation between Amherst and Shrewsbury as the Sixth Massachusetts turnpike, incorporated June 21, 1799. Over this road, Eleazer Barrows, a post rider, made weekly trips from Worcester to Northampton distributing newspapers and letters over a private rural delivery route. After 1818, a stage line ran through Oakham, the first advertisement for which follows. It was printed May 27, 1818 in the Massachusetts Spy or Worcester Gazette.

FIRST MAIL STAGE ON THE OLD TURNPIKE

New Mail Stage.

The subscriber proposes to run a stage coach from Worcester, through Paxton, Rutland, Oakham, New Braintree, Hardwick, Greenwich, Pelham, Shutesbury, Amherst, and Hadley to Northampton, once a week, for the accomadation of passengers; and respectfully solicits the patronage of the Publick. He will leave Worcester every Wednesday, at 9 o'clock A. M. and

arrive at Northampton every Thursday afternoon; returning, leave Northampton every Friday at 8 o'clock A. M. and arrive at Hardwick the same day; leave Hardwick every Tuesday at 8 o'clock A. M. and arrive at Worcester in season to meet the Boston Stage of the same day. Said stage will intersect the Boston Stage at Worcester and the Hartford, Hanover and Albany Stages at Northampton, and will pass the celebrated mineral waters in Shutesbury. --Fare, five cents per mile, and 25 lbs. Baggage allowed to a passenger: 125 lb. extra Baggage equal to a passenger.

Cyrus Stockwell.

May 26, 1818

In October 1873 the Ware River Branch of the Boston and Maine Railroad through Cold Brook was opened; thus adding much to the transportation facilities available to the town. The Central Massachusetts was opened in December 1887, also.

There were several new types of industries begun during the century. They comprised the Parker and Dean sawmills, a sieve manufacturing plant begun in 1832 by Stephen Lincoln which later manufactured other metal products; a carriage shop owned and operated by William Crawford; the A. W. Mathers plant, making plows, seed drills and cultivators, and a wood furnace industry owned by A. J. Holden. None of these

businesses except the Dean sawmill is in operation now. Agriculture continues to be the industry of major importance, with dairying the major agricultural industry.

There are a large number of summer visitors to Oakham, many of whom have purchased farms to use for summer dwellings. The town is away from the beaten path of tourists, and offers seclusion and quiet to the summer residents. It has an active community life, a great interest in its history, and a large number of devoted former citizens who have not forgotten the town, even though they have homes elsewhere.

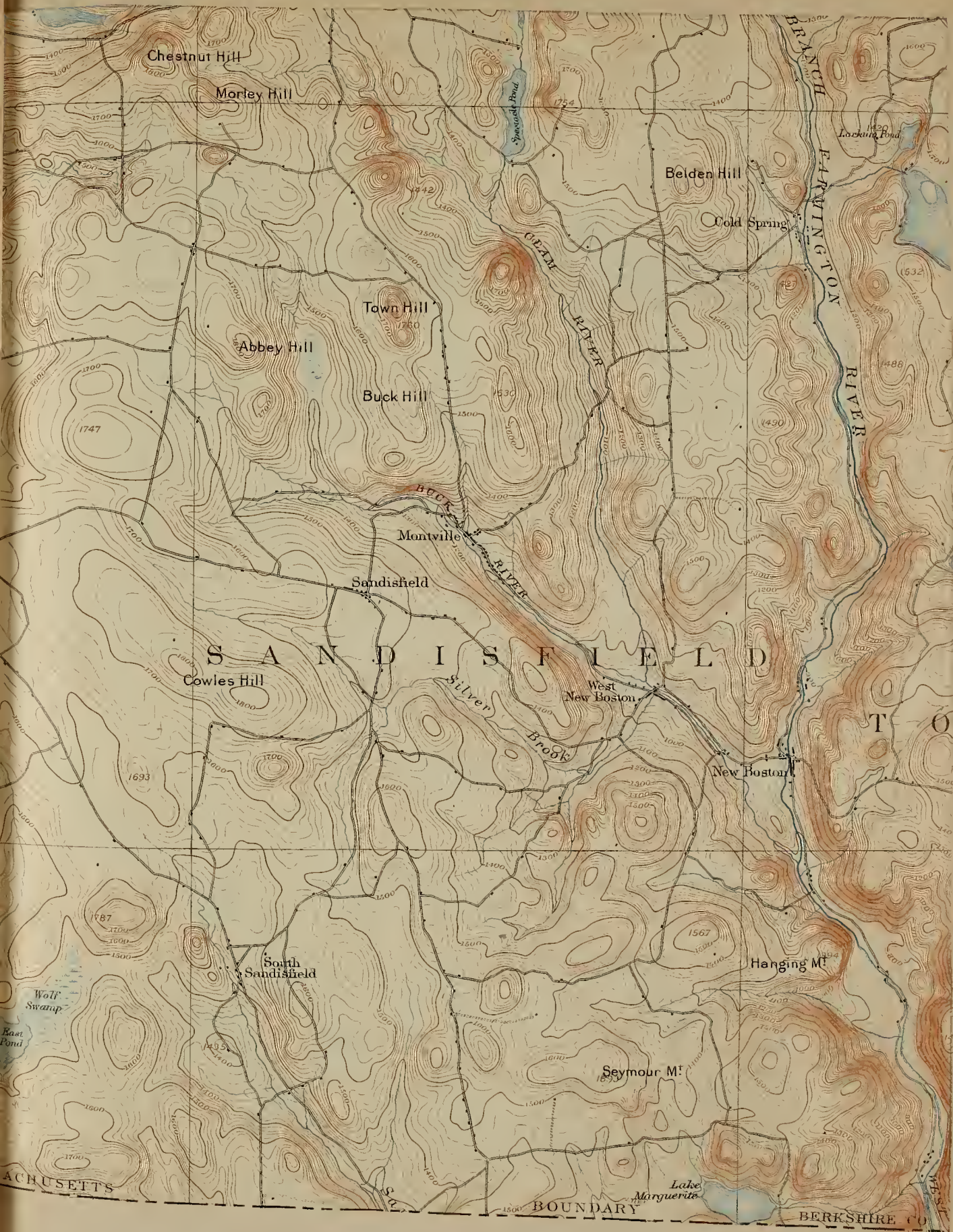
Sandisfield

1. Location

Sandisfield is located in the southeast corner of Berkshire County, as shown on the accompanying map. The township is roughly rectangular in shape, and contains approximately 35,000 acres of land.

2. Physical Features

The surface of the town is hilly, the highest point, having an altitude of about 1800 feet. The Farmington River, which forms the eastern boundary of the town, drains the township. There are several ponds, the largest called Spectacle Pond, covering 190 acres. The contour lines are shown on the accompanying topographical map. Geologically, Sandisfield has large areas of precambrian Washington gneiss. Seymour Mountain is entirely composed of micaceous gneiss with a rusty.



Topographical Map of Sandisfield, Massachusetts

18

coarse, sandy gravel mass.

3. Soil Types.

The soil types are shown on the map taken from the Soil Survey made in 1923. In general, the soils have developed from materials laid down by the action of the ice sheet. They have developed under a dense forest cover, and are light in color, and low in organic matter.

4. Climate

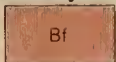
The climate of Berkshire County is characterized by long, cold winters, and short, cool summers. The annual average temperature is 45.5° F.; the winter average is 23.9° F., the summer average 66.5° F. The average annual precipitation is 38.30 inches, and is well distributed throughout the year. The average date of the last killing frost is May 8 and the first is September 29. This is a sufficient period to mature most crops, but is likely to be a little short for corn.

5. History of Sandisfield.

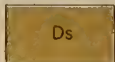
Sandisfield was named in honor of Lord Sandys, the first lord of trade and the plantations. In common with other towns in Berkshire County, it was settled much later than the more eastern areas of the state. The causes for this later settlement, were, briefly, the indefinite location of the western and southern state boundaries during the colonial period, with consequent insecure deeds for land; the natural barrier raised by the Hoosac Mountains and the highlands in the

LEGEND

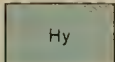
Becket
fine sandy loam



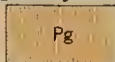
Dutchess
stony loam,
Shallow phase



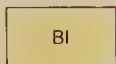
Hoosic
fine sandy loam



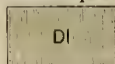
Palmyra
gravelly loam



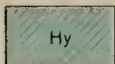
Becket
loam



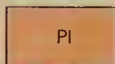
Dutchess
slate loam,
Shallow phase



Hoosic
fine sandy loam

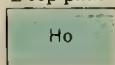


Peru
loam

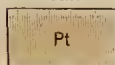


Deep phase

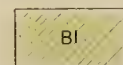
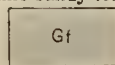
Hoosic
loam,
Deep phase



Pittsfield
loam

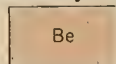


Gloucester
fine sandy loam

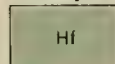


Shallow phase

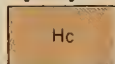
Berkshire
fine sandy loam



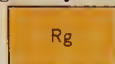
Hermon
fine sandy loam



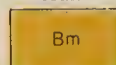
Hudson
silty clay loam



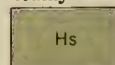
Rodman
gravelly loam



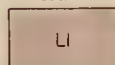
Berkshire
loam



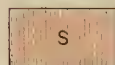
Hinckley
loamy sand



Lenox
loam

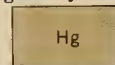


Saco
loam

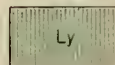


Shallow phase

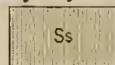
Hinckley
gravelly loam



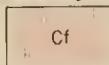
Lyons
loam



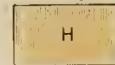
Saco
silty clay loam



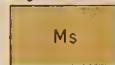
Coloma
fine sandy loam



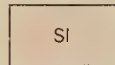
Hinsdale
fine sandy loam



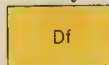
Merrimac
loamy coarse sand



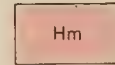
Stockbridge
loam



Dover
fine sandy loam



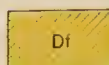
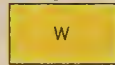
Hoosic
gravelly loam



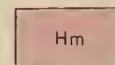
Merrimac
fine sandy loam



Whitman
stony loam

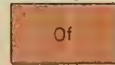


Shallow phase

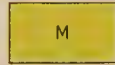


Rolling phase

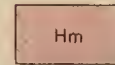
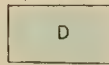
Ondawa
fine sandy loam



Meadow

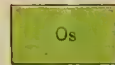


Dover
loam

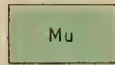


Deep phase

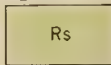
Ondawa
silt loam

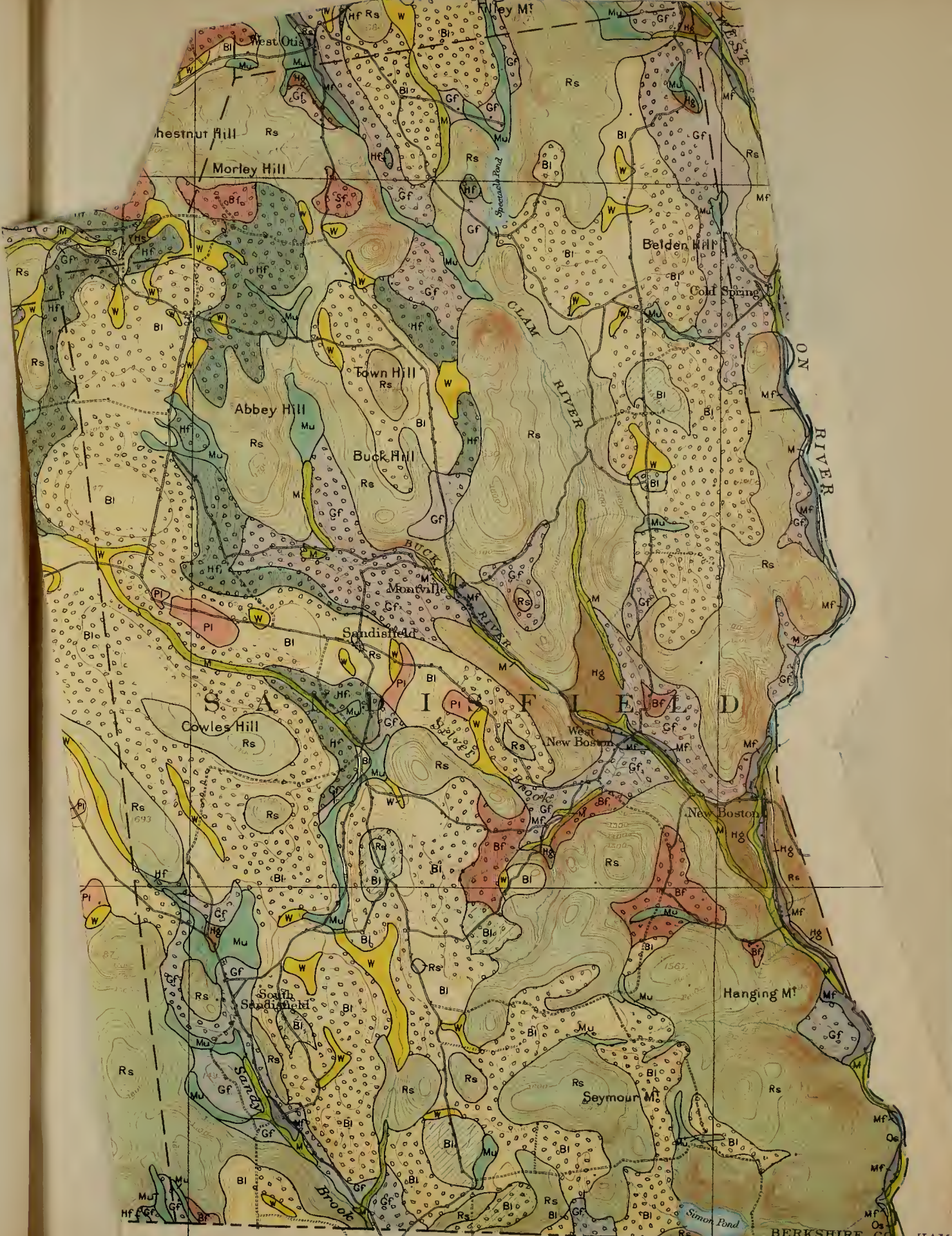


Muck



Rough stony land





the eastern end of the county, and the exposure to Indian raids.

It was the official practise in founding towns in Massachusetts to obtain a charter from the General Court. On the 15th of January, 1735, Edmund Quincy made a report to both Houses on the petition for a grant of land lying between Westfield and Sheffield.¹⁹ His committee was of the opinion that there should be four townships set up upon the road between those two towns and that "They be contiguous to one another ----- and each of the contents of six miles square ----- that they be situated as near the road as the land will allow, and that there be 63 home lots laid out in each township, one of which is to be for the first settled minister, one for the second settled minister, one for the school and one for each grantee who shall draw equal shares in all future divisions." Of the four townships, Tyringham was number 1, New Marlborough number 2, Sandisfield number 3, and Becket number 4; they were sometimes called the "Housantonic Townships". Sandisfield was incorporated in 1762, and subsequently an area called the "South Eleven Thousand Acres", which was purchased from the Stockbridge Indians by Colonels Ephriam Williams and Nahum Ward, was annexed in 1819; hence the present area is roughly nine miles by six miles rather than six miles square as was planned originally. The petition to the General Court concerning this purchase is printed in full in Holland's "History of Western Massachusetts", Vol. II, pages 570 and 571.

The town was not permanently settled until 1750. The original settlers came from Enfield and Weathersfield, Connecticut, and were followed by others from Plymouth County and Cape Cod, Massachusetts. The names of the prominent early families in Sandisfield include Mills, Hall, Bosworth, Sears, Allen, Brown, Hull, Agrault, Barton and Sage. Most of them were of genuine Puritan stock, with a few families of Huguenot origin.

The first institution in Sandisfield, as elsewhere in Massachusetts, was the church. The first church, Congregational, was organized in 1756, the church building being erected in 1757. This was replaced by another built in 1796. The early pastors had a difficult time in Sandisfield; the Rev. Eleazar Stores was installed in 1766 and dismissed in 1797 because he sympathized with Shay's Rebellion. The next pastor, the Rev. Levi White, was ordained in 1798 and was replaced in 1832 when a faction in the church turned against him and "bought him off" for \$756.00 and a subscription of \$300.00. Rumor has it that he indulged in strong drink; in fact Lieut. Gov. Hull, who kept the store, admitted that he bought his liquor by the quart! The Baptists organized a church in 1779 and built a church building in 1802; in 1788 a second group of Baptists organized a church, and the two joined in 1830 at Montville.

A school was established very early, and for a few years the town tried to maintain a high school but was forced to give up the

undertaking. A library association was formed in 1808 with joint headquarters at New Boston and at Sandisfield.

During the early period of the town's history business was more evenly spread over the country than it is now. The Farmington River forms the eastern boundary of the town, furnishing waterpower for a variety of industries. Up to 1800 there were grist mills, oil mills to extract linseed oil from the flax produced on the farms; cloth dressers, scythe makers and a variety of small industries which tied in well with agriculture, the industry of prime importance. There was much trade in the town also, for Sandisfield was a center for south-eastern Berkshire and for adjoining towns in Connecticut.

The period from 1790 to 1840 marks the period of Sandisfield's greatest prosperity. All the town's institutions were affected by it. The churches conducted revivals adding hundreds to their membership under the leadership of young and enthusiastic ministers. An Episcopal church was organized in 1837 and lasted until 1845; the Methodists held regular services in the town also. Many district schools were added for the convenience of children in outlying districts, and the community evidenced great interest in the welfare of its pupils. There were a large number of professional men in town, many of whom taught apprentices or clerks; in 1829 according to the Rev. Levi White ²² there were nine physicians and five lawyers practising in Sandisfield.

Agriculture flourished in every section of the town; the annual maple sugar production exceeded that of any town in the county; a mill to distil essential oils from birch trees during the winter was located in West New Boston; and the farm population was prosperous. The other industries expanded also. At various periods there were cloth dressers, cabinet makers, wagon makers, shoe makers, hatter and coopers, a silk mill, a woolen mill, six tanneries, rake factories and shops for turning wooden ware begun. Trade in the stores was large; in one year the Hull store at Sandisfield Center took in trade a hundred tons of cheese which was freighted to Hudson, New York and to Hartford, Connecticut. ²³ The people of Sandisfield had money to lend, and gave Pittsfield \$300. to help build a meeting house.

From 1850 on, however, Sandisfield rapidly declined in importance. Prior to this time people had been moving out, but the movement accelerated after the middle of the century. There were several reasons for this, the most important being the better new lands opened to settlement further West. The movement first led Sandisfield settlers to New York and the "eastern Reserve" now Ohio and then further west into Illinois. A second stream of migrants from the town settled in nearby industrial areas like Springfield, Hartford, and Pittsfield where larger opportunities existed. The great distance of Sandisfield from railroads worked to the disadvantage of the town, for the farmers

had no access to a local market for their milk, and manufacturers preferred to be nearer good transportation facilities. To overcome this handicap, ²⁴ the town bonded itself for \$24,000 at 7 per cent interest to help pay for the projected Lee and New Haven Railroad which was never completed because the state failed to fulfill its contract to subsidize the road. The town was left without a railroad, and with a heavy bonded debt to pay off by taxation. A near panic was created; many people sold their hay, cut off timber and did almost anything to raise the money. Many simply gave up and moved out of town; between 1870 and 1875, 301 people left. After ten years the town was reimbursed by the state, and the repaid bonds were burned in town meeting with great rejoicing. The result of these forces has been that the town has gone steadily downhill. As Field puts it ²⁵ "In the settlement and growth of our country, certain localities have fallen into decadence..... especially in New England. Many of these towns, once thickly inhabited, prosperous in business and possessing flourishing educational and religious institutions, have greatly deteriorated. One of the saddest illustrations of this fact is the town of Sandisfield, Massachusetts."

The industries of the town from 1850 to the present have declined steadily. A box shop, the O. D. Case and Co. Schooldesk manufactures, and a shingle mill have all disappeared. Agriculture persists on a smaller scale than was the case a century ago. Most of the present

land owners are non-residents of the town, and the farmers do odd jobs, or take summer boarders to make ends meet. Even though the town may not have flourished industrially, since 1850 it has continued to send natives of Sandisfield to all parts of the country. Gen. Dwight May, a Lieutenant Governor of Michigan; Giles Spring, Supreme Court Judge of Illinois and many other prominent citizens have been natives of Sandisfield.

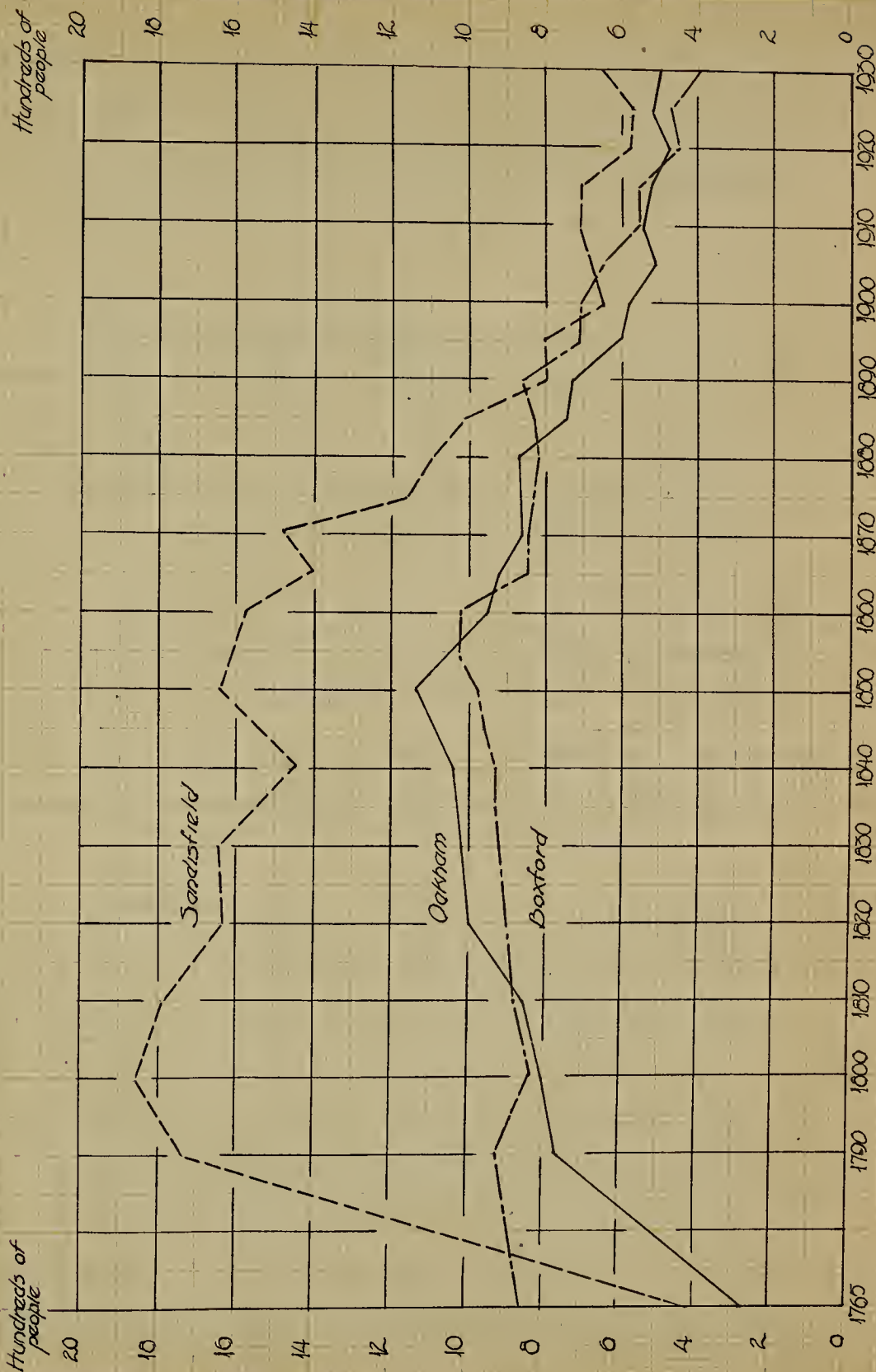
An Analysis of Population Changes in Sandisfield,

Boxford and Oakham

The first consideration in any study of human institutions should be the people themselves; and no fundamental analysis of a group of towns can be made without a searching investigation of the human element in each of them. Massachusetts is a particularly tempting field for regional studies of population, for contrasts are strong and close together. The state has been affected by such a variety of economic and sociological factors in rapid succession that the dynamic aspect of the population problem is most pronounced.

For this reason, the population of the three towns studied has been the subject of careful research. The statistical data are derived from the Federal and State Census documents, as far back as they are found. The Federal material is arranged by counties, except for the number of people in each town in the census year; so it is impossible to get any specific town data from it. The State Census after 1855 gives detailed information on some points in each census year; the difficulty with it arises from the fact that there is no continuity in the type of material collected, and no general method adhered to in the statistical analysis. In 1915, the State Census appropriation was materially cut, and several classifications (including agriculture) completely omitted. The 1925 Census is no more than a population enumeration, with none of the general features which made the previous Census volumes so valuable.

CHART I
POPULATION IN OAKHAM, BOXFORD, AND SANDSFIELD
1765—1930



For this reason, the available information about the population varies widely in its scope and usability; and the most detailed information is available for the years from 1855 to 1915. With these limitations in mind, a rather clear picture of population changes in the town can be drawn.

The first analysis of importance is, of course, that of total population in each township. In order to provide a basis for comparison, the appropriate county and state figures are tabulated with each township, in the accompanying tables. The significant differences in trend between the population growth of the state, which has increased 1764 per cent in the period from 1765 to 1930, the counties, whose proportionate increase lies between 1150 and 1450 per cent and the towns, the populations of which vary from 75 to 185 per cent of their 1765 figure, show that important factors have been operating in the case of the larger units, which have been lacking in the smaller.

The chronological point at which the town of Sandisfield reached its numerical peak comes half a century before the same point was reached in either of the other towns. It was settled with great rapidity, for the increase in population between 1765 and 1800 was 454 per cent. Soon after the Revolution, many people were anxious to obtain land, and they settled on practically all types of land regardless of its quality. While the land was being cleared, some income was obtained from the sale of timber. Abandonment of the land began almost as soon as settlement was completed, due primarily to the

Table I
Population Changes in Massachusetts, Essex County and Boxford,
1765-1930

Year	Massachusetts		Essex County		Boxford	
	Total	% Change : 1765 = 100	Total	% Change : 1765 = 100	No. of Personlet census periods	% Change : 1765 = 100
1765	236,195	100.00	43,524	100.00	851	100.00
1790	376,767	259.02	57,913	133.06	925	108.69
1800	422,845	277.52	61,196	140.60	852	100.11
1810	472,040	298.17	71,888	165.17	880	103.41
1820	523,287	319.69	74,655	171.53	906	106.46
1830	610,408	356.26	82,859	190.37	935	109.87
1840	737,699	409.70	94,967	218.24	942	110.69
1850	994,514	427.52	131,300	301.67	962	115.39
1855	1,132,369	475.44	151,016	346.96	1,034	121.50
1860	1,231,066	516.83	165,611	380.50	1,020	119.86
1865	1,267,030	531.93	171,034	392.96	868	101.99
1870	1,457,351	611.83	200,843	461.45	847	99.53
1875	1,651,912	693.51	223,342	513.15	854	98.00
1880	1,783,085	748.56	244,535	561.84	824	96.63
1885	1,942,141	815.36	263,727	605.93	840	98.70
1890	2,238,943	939.96	299,995	689.26	864	101.53
1895	2,500,184	1,049.63	330,393	759.10	727	85.43
1900	2,805,346	1,177.75	357,030	820.30	704	82.73
1905	3,003,680	1,261.02	381,181	875.79	665	78.14
1910	3,366,416	1,413.30	436,477	1,002.84	718	84.37
1915	3,693,310	1,559.54	463,662	1,065.30	714	83.90
1920	3,852,356	1,617.31	482,156	1,107.79	588	69.09
1925	4,144,205	1,739.84	496,832	1,141.51	581	68.27
1930	4,249,614	1,784.09	498,040	1,144.29	652	76.62

Table 1A

Population Changes in Massachusetts, Worcester County and Oakham,
1765-1930

Year	Massachusetts		Worcester County		Oakham	
	Total	% Change : 1765 = 100	Total	% Change : 1765 = 100	No. of People	% Change between: census periods: 1765 = 100
1765	238,195	100.00	34,167	100.00	270	100.00
1790	378,787	259.02	56,807	166.26	772	285.93
1800	422,845	277.52	61,192	179.09	801	296.67
1810	472,040	298.17	64,910	189.98	848	314.07
1820	523,287	319.69	73,625	215.49	986	365.18
1830	610,408	356.26	84,355	246.89	1010	374.07
1840	737,699	409.70	95,313	278.96	1038	384.45
1850	994,514	417.52	130,789	382.79	1137	421.11
1855	1,132,369	475.44	149,516	437.60	1062	393.34
1860	1,231,066	516.83	159,659	467.29	959	355.19
1865	1,267,030	531.93	162,912	476.81	925	342.59
1870	1,457,351	611.83	192,716	564.04	860	318.52
1875	1,651,912	693.51	210,295	615.49	872	322.96
1880	1,783,085	748.58	226,897	664.08	869	321.85
1885	1,942,141	815.36	244,039	714.25	749	277.41
1890	2,238,943	939.96	280,787	821.81	738	273.33
1895	2,500,183	1,049.63	306,445	896.90	605	224.07
1900	2,805,346	1,177.75	348,358	1,015.48	588	217.78
1905	3,003,680	1,261.02	362,668	1,061.46	519	192.22
1910	3,366,416	1,413.30	399,957	1,170.59	552	204.44
1915	3,693,310	1,570.54	430,703	1,260.58	527	195.18
1920	3,852,356	1,617.31	455,135	1,332.09	477	176.67
1925	4,144,205	1,739.84	489,697	1,433.25	525	194.44
1930	4,249,614	1,784.19	491,242	1,437.77	502	185.92

Table IB
 Population Changes in Massachusetts, Berkshire County and Sandisfield,
 1765-1930

Year	Massachusetts		Berkshire County		Sandisfield	
	Total	% Change 1765 = 100	Total	% Change 1765 = 100	No. of People	% Change between 1765 = 100
1765	235,195	100.00	11,306	100.00	409	100.00
1790	378,787	259.02	30,213	267.23	1,742	425.92
1800	422,845	277.52	33,670	297.81	1,857	454.03
1810	472,040	298.17	35,787	316.53	1,795	438.87
1820	523,287	319.69	35,570	314.61	1,646	402.44
1830	610,408	356.26	37,706	333.50	1,655	404.64
1840	737,699	409.70	41,745	369.23	1,484	357.95
1850	994,514	417.52	49,591	438.63	1,649	403.18
1855	1,132,369	475.44	52,791	466.93	1,615	394.86
1860	1,231,066	516.83	55,120	487.53	1,565	387.53
1865	1,267,030	531.93	56,944	503.66	1,431	344.99
1870	1,457,351	611.83	61,827	573.39	1,482	362.35
1875	1,651,912	693.51	68,270	603.84	1,172	286.55
1880	1,783,085	748.58	69,032	601.58	1,107	270.66
1885	1,942,141	815.36	73,828	652.99	1,019	249.14
1890	2,238,943	939.96	81,108	717.39	807	197.31
1895	2,500,183	1,049.63	86,292	763.24	802	196.09
1900	2,805,346	1,177.75	95,667	846.16	661	161.61
1905	3,003,680	1,261.02	98,330	869.72	657	160.64
1910	3,366,416	1,413.70	105,259	931.00	566	138.39
1915	3,693,310	1,590.54	114,709	1,014.56	564	137.87
1920	3,852,356	1,617.31	113,033	999.76	460	112.47
1925	4,144,205	1,739.84	121,255	1,144.96	480	117.36
1930	4,249,614	1,784.09	120,700	1,140.01	412	100.73

to the natural characteristics of the soil. Further, when this land was settled, there was no easy method of transportation into the Middle West. Population was dense on the Atlantic Seaboard, and the pressure of the population on the food supply was greater than we ordinarily think of it as having been. This caused much land to be cleared which should have been left in forest. Boxford, which reached its peak in 1855, and Oakham, with its maximum population in 1850, resemble more nearly the mid-century trend which is thought of as being typical for Massachusetts. The 1875 Massachusetts Census lists the geographical objectives of a quarter of a million emigrants from the state during the years 1860 and 1870. This exodus was due to the opening of the West which made available large areas of fertile level land with which the poorer hilly land of this state could not compete in food production because of its soil and its inadaptability to labor saving machinery.

In addition to the movement of population out of the state, there was a concomitant drift of population out of the inaccessible towns to the nearby industrial areas which were rapidly developing throughout the state. The Industrial Revolution, which will be discussed in some detail later, took place during the early nineteenth century, and caused a further diminution in the number of inhabitants of these three as well as many other townships.

Since the trend of population away from the towns was so steadily maintained over a long period of time, it is worth while noting whether it was a selective migration, i.e., whether it resulted in any peculiar distribution of population by sex or age. The data^a by sex for 1810, from 1855 to 1915, and for 1930 is presented in table 2. There is no great disparity between the number of men and women, although both Oakham and Sandisfield seem to have increased their male population since 1915. In 1930 each of these towns had a male population of approximately 53.6 per cent, while in Boxford there was almost an even division, the female population being slightly in excess of 50 per cent.

We are in the habit of taking the age distribution of our population for granted, as if it was fixed by natural law. The proportion of persons in the various age groups is, however, a variable phenomenon which is a deciding force in many situations in the economic and social life of a town. According to Louis I. Dublin, the expert population statistician,²⁷ some of the inevitable effects of an aging population are conservatism in social and economic life, a realignment in production because of a change in demand and a disproportion in population between men and women because women have a much lower mortality rate than men. In studying the age distribution of the population in Sandisfield, Oakham and Boxford it is at once apparent that the age data are not entirely comparable since the available figures are on somewhat

Table II
 Town Population by Sex, 1810-1930
 (Source - State and Federal Census)

Year:	Sandisfield		Oakham		Boxford	
	Total:	%	Total:	%	Total:	%
1810:	1,648	795	824	408	434	445
1855:	1,615	835	780	513	512	522
1869:	1,411	725	686	479	447	51.50
1875:	1,172	603	569	432	413	49.88
1885:	1,019	517	502	365	433	51.55
1895:	802	401	401	297	386	50.62
1905:	657	340	317	255	356	53.53
1915:	564	301	263	255	364	50.98
1925:	census had no classification					
1930:	412	221	191	231	322	370

- 1 - 29 'other'
- 2 - 5 'other'
- 3 - 1 'other'

Dissimilar bases. There is no way of reclassifying the data so they are presented as gathered by the Federal and State Censuses. The figures from 1855 to 1915 are comparable however and they indicate that the towns have a large proportion of their population in the more advanced age groups. This is in line with the general trend of population development throughout the state, and indeed with that throughout the country. By using a somewhat different grouping the proportion of the population over 50 for these towns and the state is shown in the following table:

Table IV

	Percentage of the Population Over 50 Years of Age	
	<u>1855</u>	<u>1915</u>
Boxford	20.04	25.48
Oakham	20.06	32.26
Sandisfield	16.81	24.45
Massachusetts	12.52	16.54

A table prepared by Dr. Dublin for the United States shows the following percentual distribution:

<u>Age Groups</u>	1850	1920	1950 (estimate)
Under 20 years	52.5	40.7	32.7
20 - 50 "	38.6	43.9	43.7
Over 60 "	8.9	15.4	23.6

Table III

Age Data by Percentages,
1810-1930

(Source - Federal and State Census)

	Sandisfield									
	1810	1855	1865	1875	1885	1895	1905	1915	1930	
0 - 10	29.55	12.94	9.57	9.98	9.91	6.86	7.46	11.17	9.71	Under 5
10 - 16	15.47	10.46	12.33	10.49	11.97	9.97	8.52	9.57	23.78	5 - 14
16 - 26	20.33	10.28	12.26	10.32	7.85	8.85	8.67	8.15	12.38	15 - 24
26 - 45	17.72	8.61	8.93	9.98	9.03	9.35	9.59	9.04	5.83	25 - 34
Over 45	14.93	16.66	12.69	12.12	13.54	15.09	11.41	13.30	15.29	35 - 44
All Others	1.76	13.93	12.54	11.18	10.70	12.47	12.94	12.94	22.57	45 - 65
		10.22	11.41	11.09	10.70	10.60	12.63	11.35	10.44	Over 65
		7.86	9.71	11.35	9.22	10.22	11.26	11.70	56.80	Over 71
		4.89	6.24	8.02	9.81	7.98	7.91	6.38		Over 76
		2.97	3.26	3.92	5.79	7.11	5.68	4.42		Over 81
		.99	1.06	1.19	1.27	1.50	3.96	1.95		Over 86
		.18		.34	.20					Unknown

The facts seem to indicate that the Massachusetts figure for population over 50 years in 1915 agrees rather closely with the general United States figure in 1920, although the two were not at all alike in 1650-55. The interesting point is that the town trend anticipates Dr. Dublin's prediction of a stationary population in 1950, at least insofar as it is based on the proportion of persons in the upper age group. Of course it is not difficult to understand the selective process which has been going on. The younger people have gone to other places to work leaving fewer people of child bearing age in the towns, and the older people, as they retire, have come back to the peace and rest of these small hamlets which are far from great centers and untouched highways. The increasing conservatism of many towns can be perhaps explained on the bases of an aging population also. In fact a large portion of older people and an increasingly smaller proportion of younger ones acts as a brake on radical experiments, and to many people that seems altogether a good thing. One further problem in these towns should be noted, and that is the difficulty with which an older population adapts itself to newcomers of a different race or religion such as the Jewish Colony which is coming to Sandisfield. Such a large infiltration would make a problem in any town, but is particularly hard to adjust under these conditions.

Another factor of great importance in any community is the family. The most efficient method of providing for human reproduction and fundamental education is by the organization of monogamous families.

From the very beginning of Massachusetts, the family has been a social unit of supreme importance. Families were large because of the great amount of work to be done on a farm; everyone helped as soon as he was able. They were closely knit, because of the community of interest which the members felt in the success of their joint business undertaking, the farm. The family also provided a life which was rich in experience and in spiritual values even though it might be lacking in material goods. As the numbers of people in the Massachusetts agricultural towns declined steadily toward the end of the nineteenth century it became apparent to students of population statistics that another factor had entered the situation. Together with the migration of the townspeople to industrial and new agricultural areas there was a gradual decline in the size of the family. This is shown in the following table.

Table VI

Size of Families in Three Massachusetts Towns.

Massachusetts State Census 1855 - 1915

Year	<u>Sandisfield</u>		<u>Oakham</u>		<u>Boxford</u>	
	Number of Families	Persons per Family	Number of Families	Persons per Family	Number of Families	Persons per Family
1855	336	4.81	225	4.69	213	4.85
1865	306	4.61	213	4.34	187	4.64
1875	264	4.44	219	3.99	212	3.93
1885	252	4.04	205	3.65	201	4.18
1895	213	3.76	161	3.76	186	3.91
1905	176	3.71	147	3.53	168	3.96
1915	153	3.69	142	3.71	189	3.78

There are obvious reasons for this decrease in the size of the family during the years 1855 to 1915. A fundamental reason is the decreasing number of men and women in the child bearing age groups. Further, the economic pressure lessened in these towns by 1850, and with a rising standard of living there is almost always a decrease in the size of family. The population history of the whole country shows this same trend; the number of persons to a family in the United States has decreased in every Federal Census since 1850.

Table VIII

Number of Persons per Family in the United States.

1850 - 1930*

<u>Year</u>	<u>Persons per Family</u>
1850	5.6
1860	5.3
1870	5.1
1880	5.0
1890	4.9
1900	4.7
1910	4.5
1920	4.3
1930	4.1

*Source, Federal Census

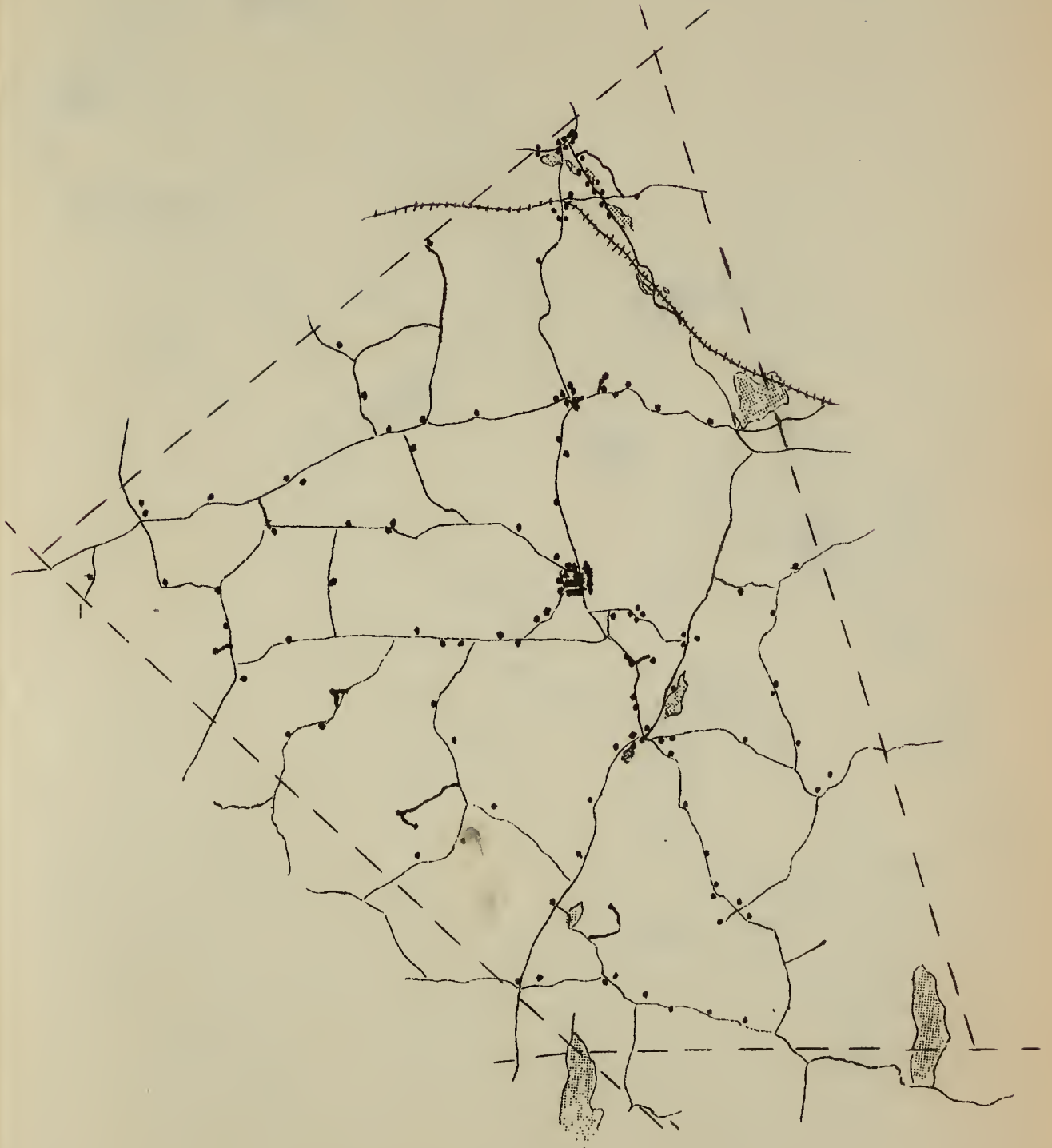
The density of population per square mile in the towns has also been decreasing steadily from 1855 to 1930, as shown in Table both in terms of population and in number of families. In the state census up to 1915 a count was made of the number of occupied dwellings. There has been a striking decline in these, especially in Sandisfield where the change was from 349 in 1855 to 149 in 1915. Since a house was considered to be occupied if it had inhabitants for a part of the year, most of the lost represents abandonment. Boxford, however, has a steady increase in the number of occupied dwellings which probably would have reached its peak in 1905 had the enumeration been made that year. According to Mr. W. K. Cole, whose father was an assessor in Boxford for many years at the close of the century, a unique situation gave rise to the increase in the occupied dwellings. Boxford is near many large industrial areas like Salem, Beverly and Lynn where taxes were high, while those in the town stayed on the \$10 to \$14 level for many years. Tax dodgers bought houses in Boxford and used to take residence in the town during April when the assessors were at work. They would then fail to declare their holdings of intangibles and would have only nominal real estate taxes to pay. It was customary for the assessors to try to outguess the new residents of the town by assessing them on a hypothetical number of shares of a given stock which they were known to own. If a taxpayer objected, he was forced to swear under oath, in court, that he did not possess the stocks or bonds for which he was assessed. The assessors, therefore, regularly increased the number of

Outline Map of
OAKHAM, MASS.



LOCATION OF HOUSES, OAKHAM, 1875

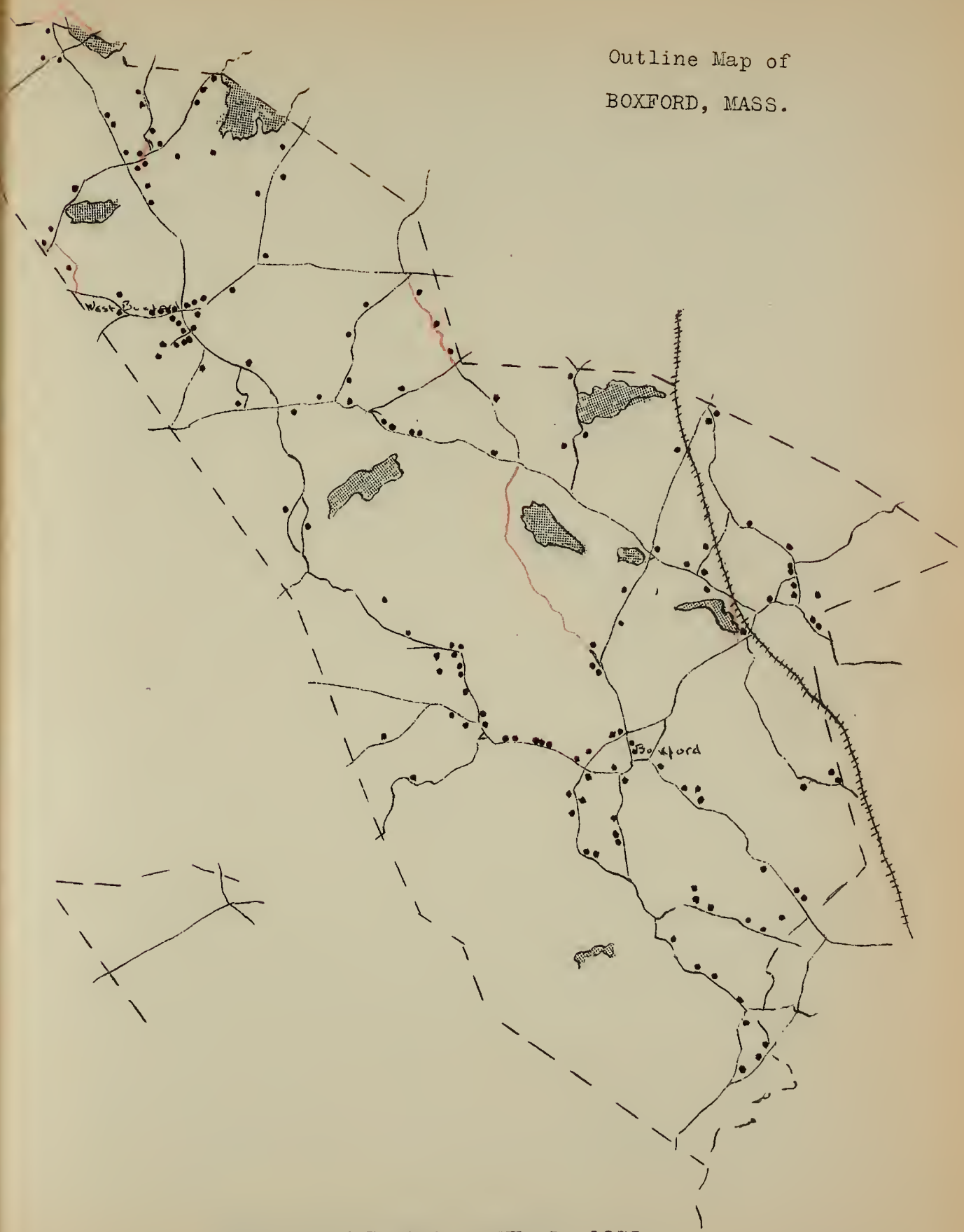
Outline Map of
OAKHAM, MASS.



LOCATION OF HOUSES IN OAKHAM, 1925

Lanphear - "Soils Survey of Worcester County".

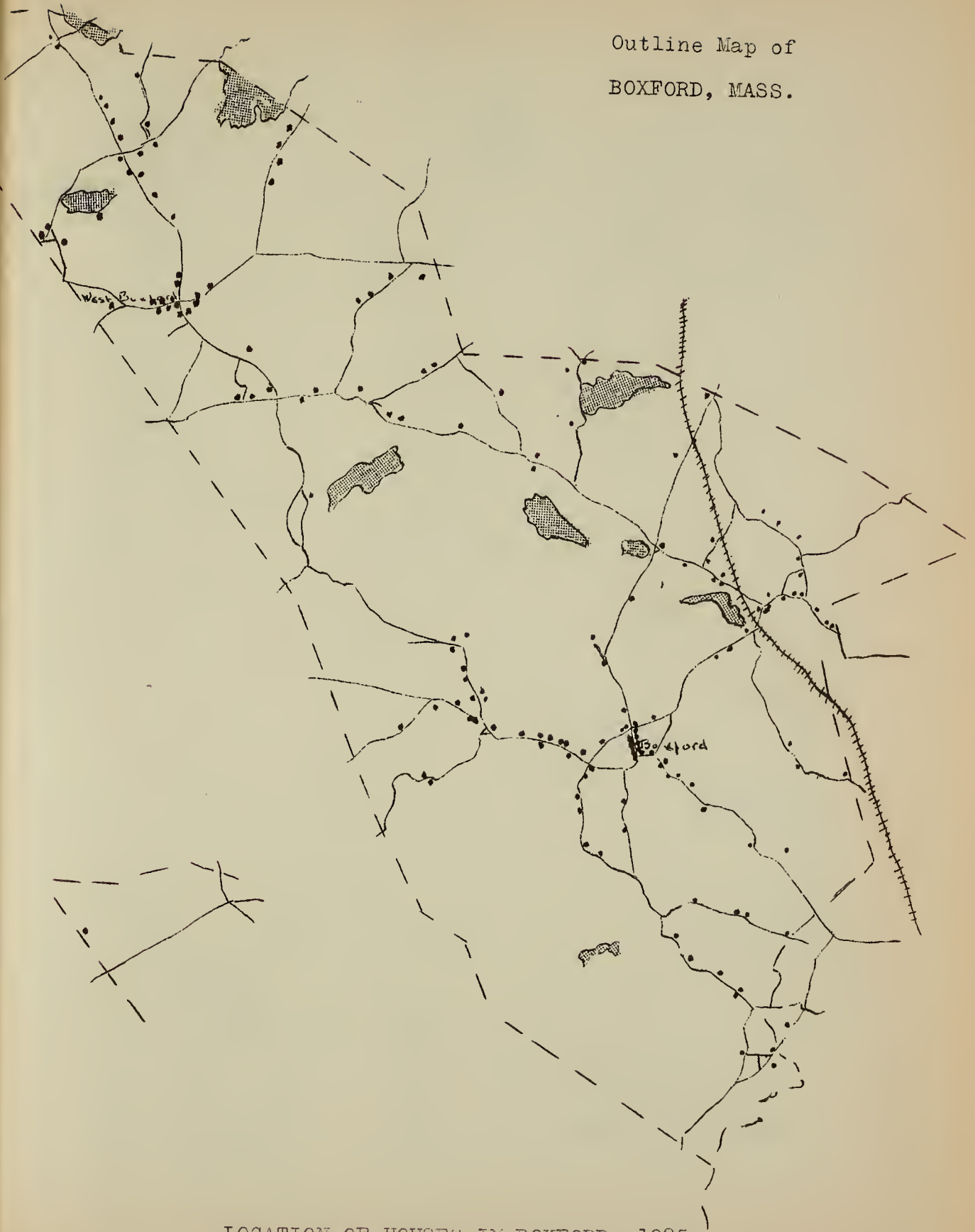
Outline Map of
BOXFORD, MASS.



LOCATION OF HOUSES, BOXFORD, 1875.

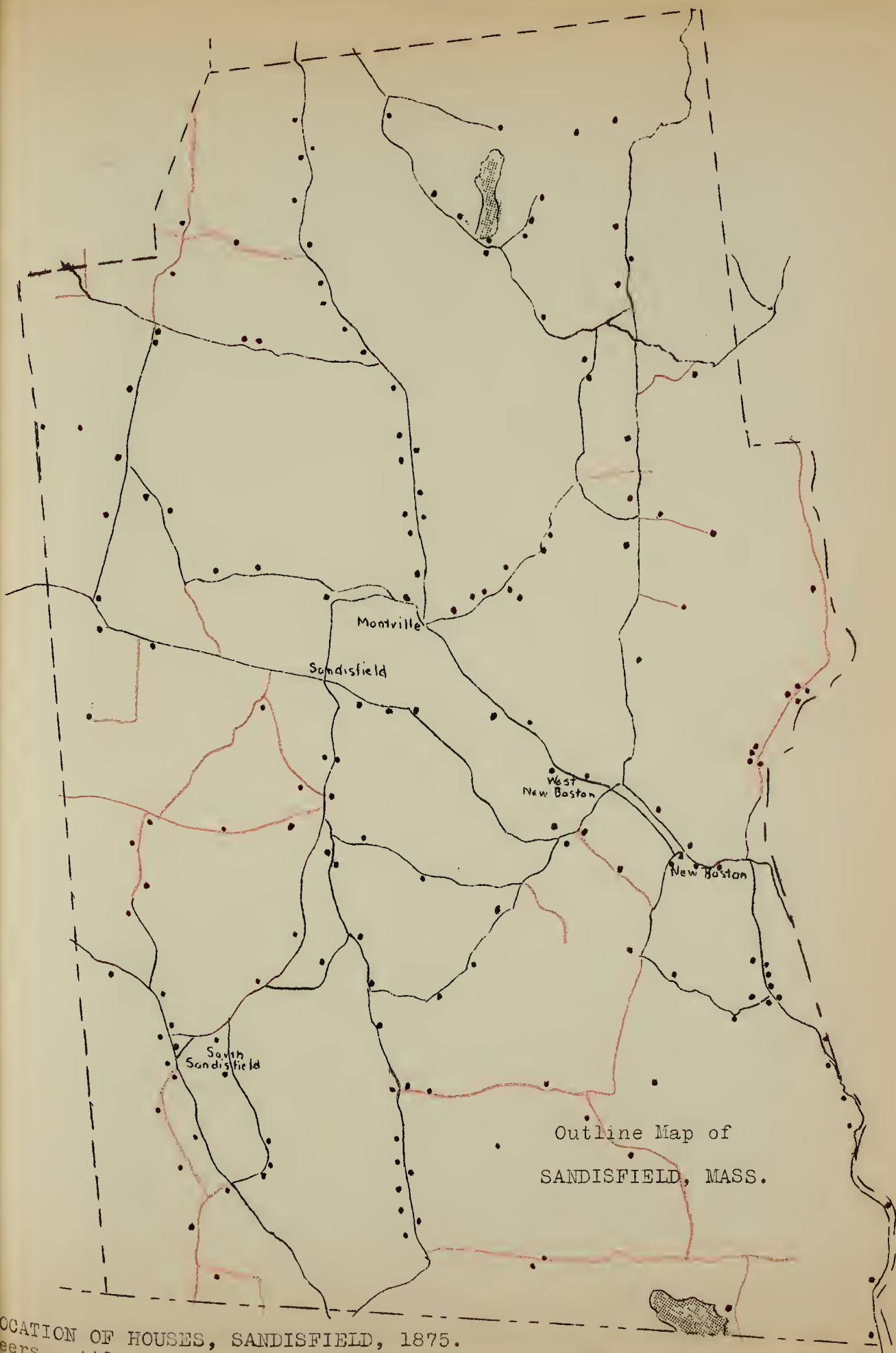
Beers - Atlas of Essex County.

Outline Map of
BOXFORD, MASS.



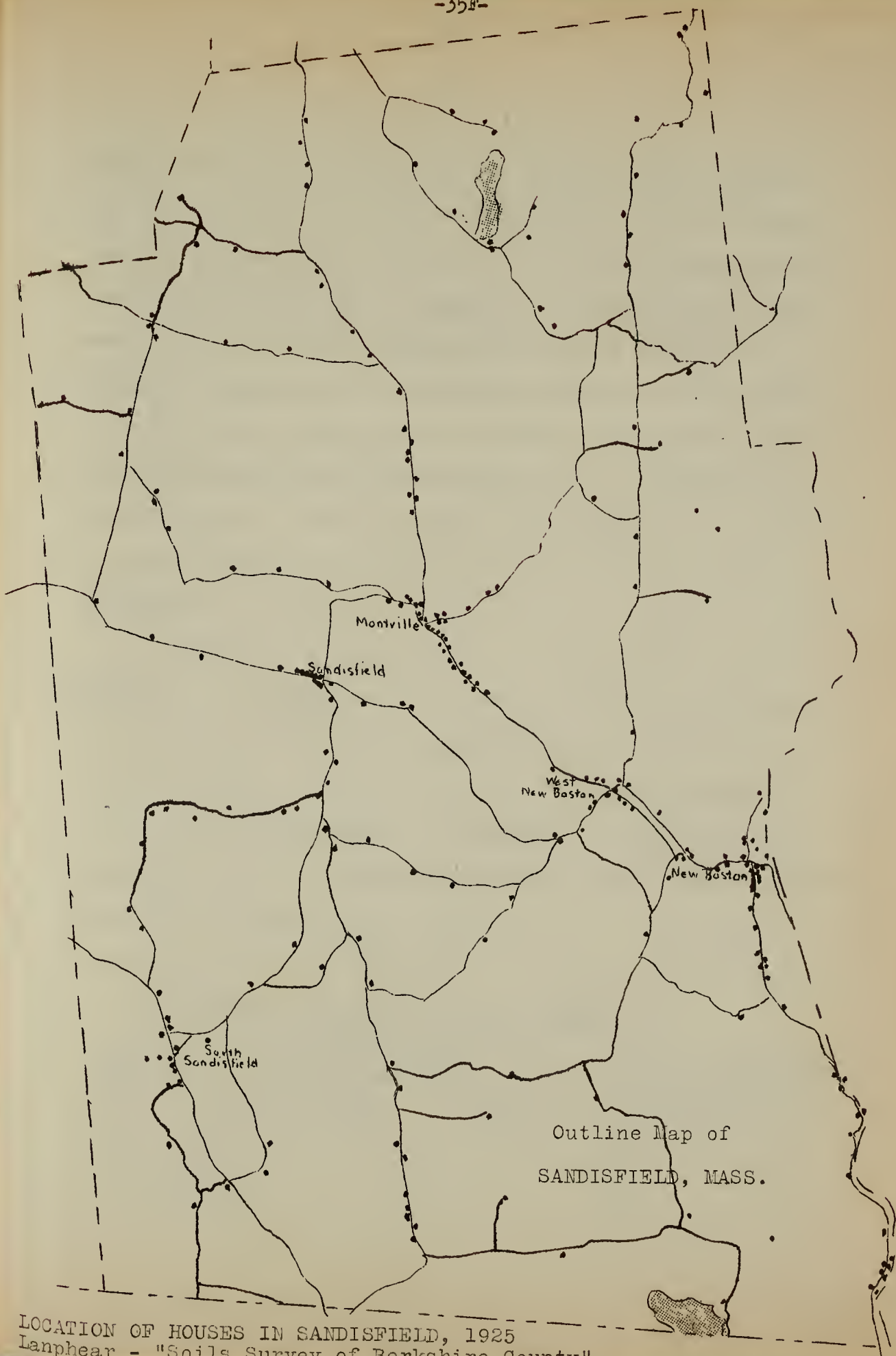
LOCATION OF HOUSES IN BOXFORD, 1925

Lanphear - "Soils Survey of Essex County".



Outline Map of
SANDISFIELD, MASS.

LOCATION OF HOUSES, SANDISFIELD, 1875.
Beers - Atlas of Berkshire County.



Outline Map of
SANDISFIELD, MASS.

LOCATION OF HOUSES IN SANDISFIELD, 1925
Lanphear - "Soils Survey of Berkshire County".

shares on which each April resident was assessed, until a taxpayer was ready to go the court about the matter, whereupon it was assumed that a good guess had been made, and the tax was not increased beyond that point. In 1907, the state began to tax these revenues at their source, and the erstwhile tax Dodgers withdrew from the town. The results are apparent in the decline in the number of occupied houses from 210 to 168 in twenty years. The change in the location of the dwellings between 1875 and 1925 is shown on Map 7. This is a very interesting bit of evidence as to the migration which goes on constantly in farming areas, especially as they are in process of partial abandonment.

There is no regular trend in the number of families per dwelling. There never was a time in any of the towns when the fraction over one family per dwelling was large, while the rule now seems to be about one family to a dwelling. For purposes of comparison on the number of families per dwelling in the United States is included, but the trend is of a very different sort because of the increasing number of multiple dwellings in large cities.

Table IX.

Number of Families and Persons per Dwelling
in the United States 1850 - 1920
(Censusal 1920, II, 1266)

<u>Year</u>	<u>Persons per dwelling</u>	<u>Families per dwelling</u>
1850	5.9	.07
1860	a	a

a - no data

Table VIII

Family and Dwelling Data for Boxford, Sandisfield, and Colcham, 1855-1915.

(Source - State Census)

Town	Year	Net Land: (sq. mi.)	Area: Families	per sq. mi.	Population: Families	per sq. mi.	Inhabitants: sq. mi.	per sq. mi.	Dwellings	No. of Families to a Dwelling
Sandisfield	1855	52.5	336	30.76	6.40	5.88	309	1.08		
	1865		306	26.88	5.83	5.35	281	1.08		
	1875		264	22.32	5.03	5.26	278	.94		
	1885		252	19.41	4.80	5.16	271	.92		
	1895		213	15.28	4.06	4.84	254	.84		
	1905		176	12.51	3.35		149			1.02
	1915		153	10.70	2.90					
Colcham	1855	21.0	225	50.57	10.71	8.99	189	1.19		
	1865		213	44.04	10.14	8.66	182	1.17		
	1875		219	41.52	10.43	8.81	185	1.18		
	1885		205	35.67	9.76	9.38	197	1.02		
	1895		161	28.81	7.67	7.90	166	.96		
	1905		147	24.71	7.00		136			1.04
	1915		142	25.10	6.80					
Boxford	1855	23.8	213	43.45	8.95	7.61	181	1.17		
	1865		187	36.47	7.86	7.65	182	1.02		
	1875		212	35.04	8.91	7.82	186	1.13		
	1885		201	35.29	8.45	7.94	189	1.06		
	1895		186	30.55	7.81	8.82	210	.88		
	1905		169	27.94	7.10					
	1915		189	29.90	7.90		168			1.11

<u>Year</u>	<u>Persons per dwelling</u>	<u>Families per dwelling</u>
1870	a	a
1880	5.6	1.11
1890	5.5	1.11
1900	5.3	1.12
1910	5.2	1.14
1920	5.1	1.16

a. - no data

Another phase of population development in Massachusetts has been the infiltration of a number of racial groups which were unknown in the early days of the state as shown in Table X. The state census gives a careful analysis of the nations of origin of the foreign born population. These have been classified into the following five major groups for better analysis.

1. British America - including Canada, New Brunswick, Nova Scotia, Labrador, Newfoundland
2. Northern and Western Europe - including England, Ireland, Scotland, Germany, Holland, France, Switzerland, Sweden and Norway, Belgium, Denmark.
3. Southern Europe - including Italy, Austria, Portugal and Greece
4. Poland and Russia
5. All others

An interesting selection appears from an examination of the data in table XI. Boxford, nearest the industrial section of the state has only

Table X

Total Foreign Born Population in Three Massachusetts Towns

(Source - Massachusetts State Census)

Year	Sandisfield			Orkhan			Boxford		
	Total No.	% of Total	% of Foreign Born	Total No.	% of Foreign Born	% of Foreign Born	Total No.	% of Foreign Born	% of Foreign Born
1855	136	8.42	37	37	3.48	46	4.45	46	4.45
1865	93	6.59	44	44	4.76	31	3.57	31	3.57
1875	91	7.76	76	76	8.71	52	6.24	52	6.24
1885	74	7.26	77	77	9.88	84	10.00	84	10.00
1895	61	7.61	64	64	10.58	80	11.00	80	11.00
1905	97	14.76	42	42	8.09	65	9.77	65	9.77
1915	146	18.55	64	64	12.33	77	10.79	77	10.79
1930	108	26.21	92	92	18.33	87	12.18	87	12.18

Table XI

Countries of Origin of Foreign Born Population in Three Massachusetts Towns

(Source - Mass. State Census)

Town	British America		Northern and Western Europe		Southern Europe		Poland and Russia		All Other.	
	No. Born	% of Popul.	No. Born	% of Popul.	No. Born	% of Popul.	No. Born	% of Popul.	No. Born	% of Popul.
Sandisfield										
1855:	4	2.94	130	95.59					2	1.47
1865:			92	98.92	1	1.07				
1875:	7	7.69	84	92.31						
1883:	4	5.40	65	87.84					5	6.75
1895:	9	14.75	48	78.69					4	6.56
1905:	1	1.03	24	24.74			70	72.16	2	2.06
1915:	2	1.37	21	14.38	29	19.86	92	66.30	2	1.37
Oakham										
1855:	3	8.10	34	91.89						
1865:	12	27.27								
1875:	39	51.31	33	43.42					4	5.26
1885:	33	42.86	44	57.14						
1895:	21	32.81	43	67.18						
1905:	18	42.86	23	54.76					1	2.38
1915:	27	42.19	20	31.25	4	6.25	13	20.31		
Boxford										
1855:	3	6.52	39	84.78					4	8.69
1865:	4	12.90	26	83.87					1	3.22
1875:	22	42.31	30	57.69						
1885:	37	44.05	44	52.38					3	3.57
1895:	34	42.50	35	43.75					11	13.75
1905:	34	52.31	28	43.08					3	4.61
1915:	40	51.94	29	37.66	3	3.90			5	6.49

about one-eighth of its total population classified as foreign born, Oakham, 14 miles from Worcester, has about one-fifth, while Sandisfield has one-fourth. The reason seems to lie in the per acre value of the land. Boxford is near enough to Boston so that many commuters go into the city daily; for instance, the Boston City Librarian has his home in Boxford. Though it is not particularly good farm land, it has value because of its location. Then, too, the people are clannish and they are not interested in newcomers. They look upon tourists as an unnecessary nuisance, and do nothing to encourage them to stay in town. In Oakham more of the land has been for sale, and some of the vacant houses have been filled by foreigners. In Sandisfield the influx of newcomers has been from New York. An enterprising real estate man has been encouraging the land hungry immigrants to buy abandoned farms, and also has been selling them to Jewish people who take summer boarders. Many of the houses are desolate dwellings; and not too much is to be expected in the way of agriculture from a group who have little capital, and little or no training. As the county agent says - "There is not a good farm in the town." Further, the Jewish social agencies in New York are concerned about their group in Sandisfield. "They stagnate", as one of the woman workers put it. In any case, the foreign born constitute much more of a problem in Sandisfield than in either of the other towns. They are more unlike the original settlers than are the British Americans who constitute the largest single group in Boxford and Oakham. They have been unable to make the expenditures necessary to a well organized community

life; they have a different religion, and such different living standards that there is no evidence that the "melting pot" tradition is of great effect.

The last analysis of the population is that of the occupational interests of the people. This study of the means by which the people earn a living has been made from the State census data. The 1855 data are for counties only, but from 1865 to 1915 the occupational statistics are given in some detail by towns. Unfortunately the classification used varied from year to year, so that an arbitrary classification, similar to the one used by the Federal Census was made and is shown in table XII. The leading occupation among the men has at all times been agriculture. From earliest times in these towns we know that practically every man was a farmer in addition to any other vocation which he might have. Doctors, lawyers and ministers lived on farms and derived part of their income from their own work on them. After frontier days were over, there was some occupational differentiation but the storekeepers, cobblers, etc. were fundamentally farmers. J. P. Brisset de Warville says ³⁰ - "Almost all the houses in the village are inhabited by men who are both cultivators and artisans; one is a farmer, another a shoemaker, another sells goods, but all are farmers." The same condition obtained throughout the 19th century; even with the many local manufacturing industries, the industry of agriculture remained of paramount importance.

The employed women were for the most part employed in domestic service. One of the most striking facts brought out in the occupation analysis

Table XII
Occupations of the Employed Inhabitants of Roxford, Mass.

1865 - 1915
(Source - State Census)

	1865	1875	1885	1895	1905	1915
Total Employed	No.	No.	No.	No.	No.	No.
Total	165	100	100	100	100	100
Agriculture, For. An. Hus.	93.93	107	22.06	194	36.92	175
Mining						
Mfg. & Mech. Ind.	10	6.06	20.41	69	12.06	31
Transportation						
Trade						
Public Service						
Professional Service						
Domes. & Pers. Service						
Clerical						

Table XII, Continued - 2

Occupations of the Employed Inhabitants of Boxford, Mass.

1865 - 1915

(Source - State Census)

Males Employed	1875		1885		1895		1905		1915	
	No.	%	No.	%	No.	%	No.	%	No.	%
Total	225	100.	275	100.	225	100.	207	100.	228	100.
Agriculture, For., An.Hus.	107	47.56	194	70.54	175	77.78	134	64.73	129	56.14
Mining										
Mfg. & Mech. Inds.	89	39.55	55	19.99	28	12.44	40	19.32	56	24.56
Transportation	21	9.33	5	1.81	4	1.78	11	5.31	6	2.63
Trade										
Public Service	7	3.11	2	0.73	6	2.67	13	6.28	17	7.46
Professional Service										
Domes. & Pers. Service										
Clerical	1	.44	2	0.73	3	1.34	6	2.90	12	5.26

Table XII, Continued - 3

Occupations of the Employed Inhabitants of Roxford, Mass.

1865 - 1915

(Source - State Census)

Classes Employed	1875		1885		1895		1905		1915	
	No.	%	No.	%	No.	%	No.	%	No.	%
Total	260	100.	297	100.	251	100.	218	100.	38	100.
Agriculture, For. An. Hus.										
Mining										
Mfg. & Mech. Inds.	10	3.85	14	4.71	3	1.20	5	2.29	2	5.26
Transportation										
Trade										
Public Service										
Professional Service	6	2.31	8	2.69	13	5.18	7	3.21	11	28.94
Domestic & Pers. Service	244	93.85	274	92.26	233	92.83	200	91.74	17	44.74
Clerical									6	15.79

Table XIII - Continued 2

Occupations of the Employed Inhabitants of Oakham, Mass.

1865 - 1915

(Source - State Census)

Males Employed	1875		1885		1895		1905		1915	
	No.	%	No.	%	No.	%	No.	%	No.	%
Total	310	100.	256	100.	219	100	181	100.	173	100.
Agriculture, For. An.Hus.	177	57.10	162	63.29	138	63.01	125	69.06	113	65.31
Mining										
Mfg. & Mech. Inds.	114	36.77	72	28.13	43	19.63	22	12.15	32	18.50
Transportation	13	4.19	5	1.95	9	4.11	5	2.76	4	2.31
Trade			11	4.30	21	9.59	19	10.50	12	6.94
Public Service	3	.97	3	1.17	1	.46	1	.55	3	1.73
Professional Service							2	1.10	2	1.11
Domes. & Pers. Service	3	.97	3	1.17	7	3.20	7	3.87	5	2.89
Clerical									2	1.16
Fisheries					1	.46	1	.55		

is the actual decline in the number of women so employed between 1875 and 1915. In Boxford, the number doing housework declined from 244 in 1875 to 17 in 1915; in Oakham a similar comparison shows 266 in 1875 and 8 in 1915; in Sandisfield the decrease during the same period was from 328 to 7. Since during the same period there is no concomitant increase in the number of women in other industries these towns, the logical conclusion is that they were drawn into industry in the nearby cities of Boston, Salem, Worcester, Pittsfield or Springfield.

This brief occupational analysis offers a ready transition to the next subject, that of the economic aspect of the towns down to the present. With a knowledge of the kind of people in the towns it is important to understand how they earned a living and supported the institutions which they founded.

The Agricultural Industry in Boxford, Oakham and Sandisfield

The methods which a group of people employ to earn a living often give a clue as to the times in which they live, the area in which they find themselves, and their ingenuity in making the environment supply their needs. As was shown by the occupational statistics of the towns, the primary economic interest of the people has always been agriculture. Doctors, lawyers, shopkeepers, ministers - all were farmers, too. This probably accounts for the scattered way in which the people settled a town; each farmer had his own land, lived on it, and worked it by himself. For a long time after the settlement of Massachusetts, the roads were simply trails marked by blazed trees; this made transportation costs so very high that the towns were largely self-sufficing. A few farm products like potash, salt meat, cattle and cider were transportable because of their high intrinsic value; all others had to be produced where they were consumed.

Although statistical facts about the early days of agriculture in the state are limited, from contemporary accounts we do know a good many things about the way in which agriculture was carried on. Thus, while there are few specific details about the early agricultural history of Boxford, there are several rather detailed studies of farming in Essex County. Since Boxford has no unusual features which would make it markedly different from the rest of the country, it is a fair assumption that these general data indicate the type of farming followed in Boxford during

the period of its early settlement. It will be remembered that Boxford was settled almost a hundred years before either of the other two towns.

The chief grain crop in the North Atlantic colonies generally was Indian corn or maize, which was completely unknown to the settlers when they came. It had many advantages as a pioneering crop, however, and took precedence over the cereals with which they were acquainted. In Bidwell and Falconer's "History of Agriculture in the Northern United States, 1620-1860", the source from which suggestions for much of the following discussion were taken, the following table (p.9) is presented which was made from the inventories of sixteen estates in Essex County in which 666 bushels of 6 kinds of grain were listed:

Crop	Times Mentioned	Quantity (bushels)
Indian Corn	15	275
Wheat	12	152
Barley	7	71 $\frac{1}{2}$
Peas	4	56 $\frac{1}{2}$
Oats	2	60
Rye	6	51
Flax	3	
Hay	4	
Hemp	1	

It will be noticed that 15 of the 16 mentioned Indian corn. The following
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extracts from inventories give a picture of the crops on specific farms.

"Estate Henry Reffe, Newbury: 12 bushels Indian corn, 9 bushels wheat, 2 bushels pease.

Estate Hugh Churchman, Lynn: 20 bushels wheat, 4 bushels Indian corn, 2 bushels barley, corn on the ground."

Another proof of the predominance of corn lies in the accounts of the food of the early settlers. Indian meal or samp was a common article in their diet. Among other grains wheat was the most important; it was receivable for taxes as early as 1640 in Ipswich. By 1660 "wheat blast" now called black stem rust had appeared; John Winthrop, Jr. wrote in 1668 that it had damaged the wheat crop for several years. Rye was widely grown on light sandy and gravelly soils because on them it gave better yields than wheat; so although the colonists would have preferred to eat white bread, between the blast and the poor soil, it was too much of a luxury for them. Barley was grown for malting, and oats for horse feed. Vegetables, mostly pumpkins, squash and beans, were grown Indian fashion, though early accounts mention cabbages, turnips, onions, radishes, carrots and parsnips. The fruit in most general use was the apple because of its hardiness, and cider was popular as a farm beverage before 1700.

Livestock was scarce in the early settlements, but by the time Roxford was settled each new town was well equipped with the necessary cattle, horses and swine. The native pasturage, mostly wild rye or broom straw, was very poor, so that English grasses were brought in.

These spread rapidly, and in a few generations were so common that later comers often thought of them as being indigenous. It was customary to pasture the cattle together in the care of a herdsman during the summer months, and for each farmer to provide shelter for his own cattle during the winter.

The work on the pioneer farms was arduous and had to be accomplished with primitive tools. In the inventories of Essex County estates³² 1635-1664 the following tools were mentioned - "bills, broad hoe, carts, colter, dung fork, fans, flail, fork tines, grubaxe, hambills, harrow tines, harrows, hay knife, hoes, reaping hooks, mattocks, pickaxes, pitchforks, ploughs and ploughirons, rakes, scythes, shovels, sickles, sleds, spades, wheel barrows, wheels." Farm labor was scarce and wages were high, so that the chief reliance was on the family. In Essex County the average size of farms until 1700 was probably about fifty acres.

By 1750 both Sandisfield and Oakham had a few pioneer families in them; in 1731 when it was proposed in the General Court to constitute the county of Worcester, Thomas Hutchinson (afterward Governor) opposed it on the grounds of "the utter improbability of its ever making any figure";³³ Oakham was settled thirty-four years after the settling of Rutland, only five miles to the East. Massachusetts, and indeed the colonies generally, tried to settle their back areas from 1700-1775, so that there was at the same time in the state two kinds of agriculture

going on; pioneering, the agriculture of the new settlements like Sandisfield and Oakham on the frontier, and the agriculture of the older communities like Boxford.

The kind of agriculture carried on in Boxford during the period from 1700 to 1830 continued to be a combination of cultivation of small areas of cereals with the raising of livestock. It was a simple, crude agriculture, however, carried on on farms which were wearing out from poor tillage. Little fertilizer was used, the implements were rough and clumsy and there was little attempt at crop rotation. Dwight said "the husbandry of New England is far inferior to that of Great Britain ---The principal defects in our husbandry, so far as I am able to judge, are a deficiency in the quantity of labour necessary to prepare the ground for seed; insufficient manuring; the want of a good rotation of crops; and slovenliness in clearing the ground. The soil is not sufficiently pulverized; nor sufficiently manured. We are generally ignorant of what crops will best succeed each other; and our fields are covered with a rank growth of weeds".

Indian corn continued to be the chief crop; Dwight wrote that "Maize is nearly as valuable to this country as all other kinds of corn united, and yields a crop much more certain and much more extensively useful than any other"³⁵ It indicates that even when pioneering days were over, the comparative advantage of maize was not entirely wiped out. Wheat had almost completely disappeared from Essex County by 1801,

Table XIII

Relative Importance of Five Cultivated Crops - Three Counties in Massachusetts, 1801.

(Bidwell and Falconer, p. 90)

Grain	Berkshire County		Worcester County		Essex County		Summary	
	Bushels	% of Total	Bushels	% of Total	Bushels	% of Total	Bushels	% of Total
All grains	309,356	100.00	599,799	100.00	239,369	100.00	1,148,524	100.00
Indian corn	156,312	50.50	386,130	64.40	200,618	83.80	743,060	65.70
Rye	56,479	18.30	75,932	12.70	14,512	6.1	146,923	12.80
Barley	933	.30	9,053	1.50	14,634	6.1	24,620	2.10
Oats	66,308	21.40	105,324	17.50	7,890	3.3	179,522	15.60
Peas and beans	2,962	1.00	4,669	.80	630	.3	8,261	.70
Wheat	26,362	8.50	18,691	3.10	1,085	.4	46,138	3.10

although in 1754 the legislature associated the incidence of black stem rust with the prevalence of barberry bushes and ordered "That whoever, whether community or private person, hath any barberry bushes standing or growing in his or their land within any of the towns in this province he or they shall cause the same to be extirpated or destroyed on or before the tenth day of June, Anno Domini, one thousand seven hundred and sixty." Since there was no penalty for non-compliance, the law was not effective. Rye and barley were grown in small amounts, though some of each crop was found on practically every farm. The barley was used for brewing to some extent, even though cider had replaced beer as a drink. According to Adams, cider was "the common drink of all inhabitants, rich and poor alike.....In the cellars of the well -to-do houses a barrel of cider was always on tap, and pitchers of it were brought up at every meal and in the morning and evening." Apples were not carefully grown until after 1800; before that time trees once set out were allowed to grow without attention to pruning or grafting.

Hay was an important crop in Essex County, and indeed throughout the state as is shown in table XIV . Since this table is taken from valuation returns, it is probably an understatement; yet it does indicate the early interest of Massachusetts farmers in the production of livestock. The animals on typical eastern Massachusetts farms seem to have been "1 or 2 horses, 1 or 2 yoke of oxen, 15 head of cattle, including 5 dairy cows, about as many swine as cows, and on half the farms a flock of 10 to 20 sheep."

Table XIV

Hay-Acre age, tonnage and yield per acre, three counties
in Massachusetts, 1801.

(Bidwell and Falconer)

	Acres	% of acreage	Tons	Tons per acre
Berkshire County				
Total hay crop	39,275	100.00	33,999	.87
English upland	26,558	72.70	25,774	.90
Fresh meadow	10,717	27.30	8,225	.77
Worcester County				
Total hay crop	101,291	100.00	83,084	.82
English upland	47,680	47.10	39,748	.83
Fresh meadow	53,611	52.90	43,336	.81
Essex County				
Total hay crop	54,901	100.00	39,416	.72
English upland	22,826	41.06	14,584	.64
Fresh meadow	17,463	31.80	12,270	.70
Salt marsh	14,612	26.60	12,562	.86
Summary				
Total hay crop	195,467	100.00	156,499	.80
English upland	99,064	50.70	80,106	.61
Fresh meadow	81,791	41.08	63,831	.77
Salt marsh	14,612	7.05	12,562	.85

Cattle were housed during the winter, but in Massachusetts they were never pampered as they were in the Middle Colonies. They furnished motive power, as well as meat and dairy products. The animals slaughtered were chiefly old cows and oxen so that the ordinary meat products were poor in quality. The butter was usually of poor grade, also, and had to be highly salted because of the lack of refrigerating facilities; the cheese, made in small amounts, was usually consumed at home in eastern Massachusetts. Sheep were raised for their wool primarily, and many farmers owned small flocks of them. Every farmer raised swine and fattened 4 or 5 hogs, which supplied his family with salt pork and left a small surplus for sale. The proportion of oxen during this period did not vary widely; in 1767 the assessors' lists for Essex County show 143 oxen to 100 horses and in 1801, 142 oxen to 100 horses.

Little if any improvements was made in farm implements until about 1830. The implements were crude; the wood work made at home, the iron work hammered out by the blacksmith. Four-wheel carts were practically unknown before the Revolution. Plows and harrows were the only implements to which animal power was applied.

Even in established townships like Boxford, self sufficiency was an important characteristic of the colonial farm; the farm family produced all that was needed to maintain itself. Important exceptions to this rule were salt and rum. While the use of molasses, tea and

coffee increased after the Revolution, it is unquestionably true that farmers were more self-sustained during this period than they ever have been since in New England, at least.

On the farms of Oakham and Sandisfield pioneering conditions were the rule during the period from 1700 to 1800. By 1763 a Coastal Plain area 100 miles wide had been settled and according to Turner the New England frontier was found in the western counties of Massachusetts and Connecticut. The settlers went through the process of clearing ground; of planting corn Indian fashion, and in general of carrying on a type of agriculture much like that which was carried on in Saxford before 1700. In Worcester County generally, though rye and corn were better crops than wheat, grass was the product. Dwight says "The hills are well suited for pasture up to their summits because water is found in them at a slight depth. Beef and pork have long formed the staple products of Worcester County. Excellent neat cattle abound in the County and beef is perhaps nowhere better fattened upon grass." Table XIV shows that the hay production of Worcester County was the greatest of any county in the state in 1801; it supported a thriving livestock industry which was important in Oakham, as in every other town where pastures were cleared. In Sandisfield, a considerable part of the income of the town came from by-products, such as potash, lumber, and maple sugar. It will be noted that these are all industries which depend on the forests which the first settlers found growing thickly over the whole town.

One problem which all towns in Massachusetts had to meet at the end of the century was that of currency inflation which sent prices of all kinds to dizzy heights. Oakham tried to fix the price of farm products and failed to accomplish it, as might have been expected. The whole story of this hectic period of inflation around 1780 might provide a worth-while lesson concerning the ultimate value of currency inflation as a way out of hard times.

The way in which land is used is, of course, the most important indicator of the type of agriculture practised. Table XV, showing land utilization for Essex, Worcester, and Berkshire counties in 1801 gives important information as to the agriculture of the time. One general tendency was for the land in tillage to be limited, principally because of the scarcity of labor. The amount of woodland in Essex County was about $1/4$ of all the taxable land, while in Berkshire and Worcester County it made up about $3/5$ of the land; i.e., in the newer areas the amount of land cleared was appreciably less.

By the end of the century, there began to be a constant movement of farmers away from Massachusetts. As has been noted, the peak of population for Sandisfield was reached in 1800, while Oakham and Boxford showed no diminution in numbers until after 1850, though there were people constantly going out of the towns, and others moving in to take their places. The papers and books of the time are full of allusions to this migration of population. For instance, de Warville in 1788 noted that

only one third of the land was under cultivation in Massachusetts (which must have been an over estimate) and remarked that it was difficult to say when the rest would be, considering the emigration to the West and Maine. It is unfortunate that no contemporary statistical records were made of this movement, but that it had an influence on the future history of agriculture in the state there can be no question. The people who left were the young and energetic as well as the most unruly of the younger generation. Dwight in his "Travels" enumerates some of the reasons why people migrated to new lands:

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"In the formation of Colonies, those, who are first inclined to emigrate, are usually such as have met with difficulties at home. These are commonly joined by persons, who having large families and small farms, are induced, for the sake of settling their children comfortably, to seek for new and cheaper lands. To both are always added the discontented, the enterprising, the ambitious and the covetous. Many of the first, and some of all the classes, are found in every new American country, within ten years after its settlement has commenced. From this period, kindred, friendship, and former neighborhood prompt others to follow them. Others, still, are allured by the prospect of gain, presented in every new country to the sagacious, from the purchase and sale of new lands; while not a small number are influenced by

Table XV
 Land Utilization, three counties in Massachusetts, 1801
 (Bidwell and Falconer)

County	Total Acres	Village Acres	English Upland Mowing	Fresh Meadow and Salt Marsh	Pasture Acres	Woodland and Waste Acres
Berkshire	475,147	28,320	6.4 : 28,556	6.0 : 10,717	2.2 : 86,827	18.3 : 320,725
Worcester	811,122	31,786	3.9 : 47,680	5.9 : 53,611	6.6 : 188,624	23.3 : 489,421
Essex	241,133	14,416	6.0 : 22,826	9.5 : 32,075	13.3 : 106,590	44.2 : 65,226
Summary	1527,402	74,522	4.9 : 99,064	6.5 : 96,493	6.4 : 382,041	25.0 : 875,372

the brilliant stories, which everywhere are told concerning most tracts during the early progress of their settlement."

From 1800-1840 Massachusetts agriculture was making the shift from a self-contained, self-sufficing type to a commercial agriculture. Periods of adjustment are always difficult, and this one was no exception; in retrospect, its eventual accomplishment foretold the economic downfall of the three towns, though at the time, the farmers did not grasp the significance of the movement which was sweeping them along. Among the important forces in this movement were the farm organizations which were joined by all kinds of professional men who wished to disseminate the knowledge of foreign and local progress in scientific agriculture. In Pittsfield, in 1807, Elkanah Watson exhibited two Merino sheep on the village green; in 1810 twenty-five of his fellow farmers joined him in a cattle show and these exhibitions formed the nucleus of the Berkshire Agricultural Society which was incorporated in 1811. There was also a Cattle Fair at Hardwick at which Oakham farmers doubtless exhibited. One of the first results of these shows was to improve the livestock of the farmers by offering premiums to successful exhibitors. The results of these privately donated awards was so great that the Massachusetts General Court granted State aid to the societies annually after 1819. Each society which raised and invested \$1,000. was to get \$200. a year and a proportionally larger sum for larger investments up to \$600. a year. From 1819 - 1845 Massachusetts distributed \$116,000 to the agriculture societies.

The effects of these societies on farming can well be seen in the Merino sheep craze which began in 1800 with the increased demand for high grade wool, and which was accentuated by the premiums offered by the agricultural societies. In 1815 there were reported to be 8,000 sheep within a mile of Pittsfield, at least half of which were three quarters Merino or better.⁴² This shows the effects of the speculative mania, the existence of which is further shown by the fact that in 1807 a full blooded Merino lamb was valued at \$100; but by 1809-1810 rams of this type cost \$1,000 to \$1,500 and ewes sold for \$1,000.⁴³ In 1810 the United States Consul to Portugal bought 4,000 Merinos and shipped them to this country, thus lowering the price of Merinos very effectually; but long after 1810 the results of this Merino craze were seen. In 1818 Saxony sheep were introduced and received so well that by 1826 2,500 were imported; they were grown in all three of the towns; Sandisfield, like other hill towns in the Berkshire County, was particularly adapted to sheep and by 1838 it became evident that wool growing was causing farmers to pay less attention to cows and swine.⁴⁴ Nevertheless dairying was important, and Berkshire butter and cheese were well known in the New York Market. Worcester County continued to put most of its energies into stock raising, and many observers noted the advantages of pasturage which it had to offer. For instance, J. C. Gray, writing in the New England

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Farmer stated that beef cattle made up the greatest staple of the interior districts, and that corn, rye, oats and grasses were grown to feed the cattle during the winter. Dairying was carried on in almost every town in the state, and the milk production per cow was increasing all the time. In 1800, 70 to 100 pounds of butter, or from 50 to 150 pounds of skim milk cheese were considered fair productions for ordinary Massachusetts cows, while in 1830 the amounts had increased to 166 pounds of butter or between 300 and 400 pounds of cheese. ⁴⁶ Swine improved very rapidly, too, and were found in all dairy regions, where they were fed on cheese whey and skim milk. After the opening of the Erie Canal western competition in swine and salt pork was keenly felt in Massachusetts; in 1830 Worcester County sold 2,000,000 pounds of pork to Boston, while in 1836 it was buying western ⁴⁷ pork.

The crops of this period were varied and by 1830 many of them were being sold off the farms especially in Boxford which was near to growing industrial centers. Hay in Essex County was bought for the New York market at a price of about \$16 a ton. ⁴⁸ Wheat had practically disappeared because of the western competition, and Field ⁴⁹ in 1829 stated that rye was grown in "the middle and western part of the County (Berkshire) but not enough to supply the eastern and higher part, where the grains are not easily cultivated." Corn production did not keep up with consumption, but farmers everywhere in the state continued to

grow it, using a cultivator instead of hoeing it by hand. Potatoes were raised in large quantities, as were other root crops. Apples and other hardy fruits were widely grown; though without much intensive care.

By 1840, it began to be apparent that the road to successful commercial agriculture was a long hard one. The competition of factories was raising the wages of farm labor at a time when farm prices were stationary; the farmers were hampered by their self-sufficing traditions; and the home markets were most uncertain because of western competition. Only a few people saw the inevitable march of events and one of them, William Buckminster in speaking to the Concord (Mass.) Cattle Show in 1838 put it succinctly.

"if more fertile regions can supply our cities with grain at a cheaper rate than we can, let us not lament. We shall find full employment in furnishing what cannot so well be transported from a distance. Fresh meats, butter, hay and the small market vegetables must be supplied by the farmers of New England.....It is believed that the raising of grain of any kind is the most laborious and the least profitable employment we engage in; and we should bear in mind that grain is the greatest exhauster of the soil. The times are changed and we change with them; we cannot now, as formerly, raise much grain for the market.

The virgin soils of the west and the increasing facilities of intercourse with that region render it probable that much of

Our grain will be imported thence; and when no obstacles are thrown in the way of commerce, there is no evil. We purchase not because we cannot produce the same commodity, but because we can produce others to more profit.

Let them supply our cities with grain. We will manufacture their cloth and their shoes. Our artists may eat bread from the West - we will supply them with what cannot be bought from a distance."

This economic prophecy (which besides being an excellent statement of the law of comparative cost, is a piece of inspired common sense) makes a fitting end to the general discussion of early Massachusetts agriculture and a good introduction to the more specific history of the agricultural industry in Duxford, Oakham and Sandisfield. It is to be regretted that the Massachusetts agricultural statistics are so sketchy, and in so many cases obviously inaccurate. There are no figures for such an important consideration as the number of farms given in any analysis of the industries of Massachusetts until 1865. Even the State Valuation Committee of 1860 neglected this fact (which would seem to be of primary importance) in its report. The data for 1837 and 1845 in the volumes entitled "Statistics of Industry, 1837" and "Statistics of Industry in Massachusetts, 1845" are for the most part concerned with products rather than instruments of production. Another fundamental difficulty with the data is found in the changing bases for its collection,

and the changing definitions (as for 'unimprovable land') at various periods. The latter difficulty makes the 1895 data incomparable, as the material in Table XVI shows. Further, the state census act of 1915 contained no provision for enumerating agriculture, and the 1925 state census concerned itself only with a brief population analysis of the state. The figures for 1925 from the Federal Census of Agriculture, and for 1930 from the Federal Census, are the only ones which are available, but it will be noted that there was no enumeration of some things which the state census did include. For 1915, 1925 and 1930 some of the figures had to be taken from the assessor's reports. With these limitations in mind, the data are presented in the following tables which are as complete as they could be made under the circumstances.

In Boxford, the diversity of products listed in the returns of the census in 1845 indicates that a general type of agriculture was carried on throughout the town. Hay was worth three times as much as any other crop, and by 1845 it was being produced much more carefully than had previously been true. Improvements were coming into the field system; the use of clover had spread; a rotation was practised commonly, which included, corn, potatoes and oats; lowlands were manured. Hay was an important cash crop and farmers tried to increase their production as much as possible. It was still cut with a scythe, and in most places raked by hand, though the horse rake was more common than it had been. Potatoes were an important crop too, they were usually grown

Table XVI
 Agricultural Statistics for Boxford, Massachusetts,
 1865-1930

(Source - State and Federal Census, Assessor's Lists)

	1865	1875	1885	1895	1905	1915	1925	1930
Total Number Farms	125	98	105	220	127	62	104	64
All Land in Farms	10,570	9,114	12,980	14,141	18,587	13,212	9,718	6,732
Average Size of Farms	84.5	93.0	123.6	64.3	146.6	161.1	93.4	105.2
Total Cultivated Land	2,655	2,513	2,945	3,209	3,137	2,961	2,758	1,292
Woodland	4,487	3,206	4,822	5,939	8,728	10,467	6,238	3,508
Value of Farm Land and Buildings	\$418,579	\$398,850	\$538,653	\$578,927			\$761,043	\$539,146
Number of Farm Animals								
Horses	255	191	198	214	202	193	153	102
Cows	1,370	488	734	1,245	686	433	387	322
Sheep	627	157	492	139	10	8	72	86
Swine	245	98	484	443	152	16	4	7
Oxen	323	115	61	23	8			
Poultry		2,095	3,400	7,728	8,480	4,857	5,866	4,339

in the second year of the rotation, and were planted and harvested with the help of a plow. Many of the potatoes were fed to livestock, some were consumed at home, the rest were sold in nearby cities. In 1843 "potato rot" was first noticed and in that year the crop was cut 20 per cent by it. Fruit continued to be important, but with 27,000 bushels worth only \$3,000. it is evident that the production was not of high quality. Most of the trees were of native stock, and the surplus fruit was used to make cider. The production of 30,000 pounds of butter and cheese showed that Boxford, near many industrial centers, was not yet producing market milk for them. Other products like honey and wool were also raised to sell. By 1865 some changes in farm production are apparent on the 125 farms which the census records for that year. The number of cows increased rapidly, although probably not as rapidly as the census figures seem to indicate. The hay grown decreased by a hundred tons, but increased \$7,000 in value - due to a higher price level primarily. The production of butter and cheese was cut enormously, but for the first time the census records the production of 10,000 gallons of fluid milk for market; better transportation facilities, and larger nearby markets accounted for the change. The production of most other products dropped off during this period, though it is worth noting that meat production increased, probably under the stimulation of Civil War demand; while for the first time the production of eggs is mentioned,

Table XVII, Continued -3

Agricultural Products of Boxford, Massachusetts, 1837 - 1925

(Source - "State and Federal Census")

Year	Milk		Animal Products		Poultry		Eggs	
	Am't	Value	Am't	Value	Am't	Value	Am't	Value
	Gals.	\$	lbs.	\$	lbs.	\$	Doz.	\$
1837	:	:	:	:	:	:	:	:
1845	:	:	:	:	:	:	:	:
1855	:	:	:	:	:	:	:	:
1865	10,689	1,710.	80,975	11,392.	:	1489.	:	:
1875	53,032	7,469.	71,680	7,302.	3413	826.	10,159	1043.
1885	153,517	20,788.	97,123	7,167.	5397	946.	13,730	2651.
1895	:	35,250.??	:	11,041.	:	15079.***	:	3422.
1905	:	46,937.??	:	10,915.	:	18891.***	:	:
1925	157,964	:	:	:	:	:	48,937	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:

* Includes Indian Corn and Cereals
 ** Includes All dairy products
 *** Includes poultry and eggs

their value exceeding \$1,000.

By 1875, the number of farms recorded in the Census dropped although the average size of each increased slightly. For the first time total valuation figures were given for all farm property, the large figure of \$480,000 representing the amount assessed in the town. \$10,000 of this was accounted for by the value of implements and machinery which meant that the average investment was about \$80. per farm. This probably indicated that each farm had at least a plow, cultivator, mowing machine and hay rake. The number of animals of all kinds was declining, though poultry (enumerated for the first time) totalled about 2,100 and produced 10,000 eggs. Other kinds of production either remained stationary or decreased a little, with the exception of milk which multiplied five times from 1865 to 1875. This indicates that the 1875 census figures for the number of cows is probably inaccurate; it should probably be a figure between 734 and 1370, rather than 488. Although at this time milk production per cow was slowly increasing, the amount of milk necessary to provide the fluid milk, butter and cheese listed could not have been produced by such a small number of animals. By 1875 many farmers in Massachusetts were debating the age old question "Does farming pay?" and to try to find a decisive answer, the United States Commissioner of Agriculture wrote to his correspondents in Massachusetts
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and the other New England States. Mr. William Sutton of Ipswich, Essex

County wrote to him...."I think that in New England, as elsewhere, the industrious, economical and ambitious farmer is repaid for his toil. We may not here be able to boast of the remarkable crops which are sometimes exhibited in sections where a more generous soil awaits the labor of the husbandman, but steady unremitting cultivation of our better class of farms has in repeated instances resulted in prosperity and wealth". The significance of this remark lies in his phrase "the better class of farms"; already abandonment of the less well situated areas was going on, in Boxford as well as in Ipswich.

By 1905, the average size of farm in Boxford had increased to 114.6 acres. There was no particular type of specialized agriculture found in the town as was the case in other sections of the state where high grade apples or quality milk were found highly localized in a given township. Dairy products, especially fluid milk for the nearby markets, poultry products, vegetables and fruit were produced on every farm. The number of animals of all kinds declined, the greatest decreases being in sheep and swine. Poultry increased in numbers, and the value of poultry products showed a concomitant increase. The most striking change at this time was the increase in woodland, which was the result of cleared pasture lands being allowed to go back to brush and woodland. This trend continued steadily. In 1915 the State Forester in surveying the forest reserves of the state listed 10,466.8 acres of forest in Boxford, although there is no state forest in the town.

The 1925 and 1930 figures are from the Federal Census and they show the same trends noted previously; fewer farms, less cultivated land, a declining value for all farm property, fewer animals and poultry. The products are still those of an area of general farming, fluid milk, eggs, fruit, potatoes, hay, with the only noteworthy increase in the production of eggs. By 1925, the fluid milk from Boxford was going by truck into Lawrence and Haverhill. The Federal Census does not show an increase in woodland, the figures must be inaccurate, because the townspeople generally make the observation that woodland is increasing in acreage. In a letter from F. C. Smith, the Essex County Agent, dated April 4, 1933, he says, "The land is poor, much of it sandy and some rocky. Probably continued reforestation of this area either natural or planned will produce excellent results. Many of the back farms, once operated, are now largely idle or growing to forest. Talk with whose Mother's farm is growing into forests."

The agriculture of Boxford has probably reached a stationary point now. No more land is likely to be cleared; nor is there much prospect that abandoned farms will be repurchased for agricultural purposes. In general, the County Agent's definition of a farm in Essex County as "a small body of cleared land entirely surrounded by estates" points one way out for the land owning interests of the town; the other solution to a declining agriculture lies in the increased use of land for forests. Both of these possible courses will be discussed later.

Agriculture in Oakham since 1840 has followed the same general pattern as that in Boxford. The agriculture has been general in type with the major interest in the production of hay and animal products because of the special advantages of Worcester County for this type of farming which have been mentioned. In 1845 hay was the most valuable product, with dairy products second. It is interesting to note that cheese production was much larger than the production of butter, a further indication that Oakham was a rather isolated area. Wool was not important in the township, though in 1845 there were 312 sheep assessed. Other products of a system of general farming are also found, as potatoes, cereals and Indian corn each showed a return of about \$3,000 to the farmers that year. Most of the farming was extensive in character, and during the winter the farm family engaged in a variety of pursuits which will be discussed in detail in the next chapter.

By 1865 there were 132 farms in the town with an average valuation for land/^{and} buildings of \$1734. The town was interested primarily in dairying at this time, with butter production increasing while cheese making declined. Together butter and cheese represent a value almost equal to the value of hay. The production of corn, wheat and rye continued to decrease, as western competition made the production of these products unfavorable in Massachusetts generally. The poultry and egg valuation was \$750, a relatively small figure which was significant because 1865 was the first time the census took note of it. There had been another

Table XVIII
 Agricultural Statistics for Oakham, Massachusetts,
 1865-1930

(Source - State and Federal Census, Assessor's Lists)

	1865	1875	1885	1895	1905	1915	1925	1930
Total Number Farms	132	120	198	196	128	80	71	73
All land in Farms	12,615	10,971	11,848	13,265	13,698*	13,304	7,924	7,578
Average Size of Farms	95.6	91.4	59.8	67.7	96.5	166.3	111.6	138.1
Total Cultivated Land	2,463	2,566	2,522	2,486	2,308	1,995	2,341	1,993
Woodland	2,608	2,204	4,097	6,714	5,956	8,652	9,917	9,702
Value of Farm Land and Buildings	\$228,930	\$261,188	\$270,195	\$249,425			\$265,750	\$334,005
Number of Farm Animals								
Horses	124	144	155	154	148	175	146	113
Cows	453	646	706	901	822	529	538	428
Sheep	196	237	107	27		96	103	129
Swine	93	142	224	165	65	38	19	16
Oxen	167	84	73	30	4			
Poultry		3,227	3,183	3,393	2,905	1,230	3,336	2,917

agricultural craze for poultry in Massachusetts similar to that for Merino sheep, though less extensive. Practically every one, including the Governor, had begun to keep a flock of hens and this influence spread into the farming areas of the state from Boston where it began, to cause a general increase in the number of farm flocks and poultry products after 1850.

The 1885 census showed an increase in the number of farms, although the average valuation of each farm was declining. Instead of the 1865 figure of \$1734, the average value for farm land and buildings in 1885 was \$1364. This, with the increase in woodland which is shown in table XVIII, meant that land was cheaper and more people could afford to buy farms. This census also made a division for the first time between farm owners and tenants; there were 168 owners, and 30 tenants which also indicates that land was comparatively cheap in the town by 1885. The number of cows was increasing steadily at the close of the century, but the type of dairy production was changing. Although butter maintained its position, cheese production fell off; and market milk was the most valuable dairy product sold. This was due not only to the increasing demand for market milk, but also to the better transportation facilities of the town, for by 1885 it was possible to ship fluid milk by the Central Massachusetts railroad which had a station in Coldbrook. Hay continued to be the most valuable single product.

Table XIX, Continued - 3

Agricultural Products of Oakham, Massachusetts

1837 - 1925

(Source - State and Federal Census)

Year	<u>Honey</u>		<u>Animal Products</u>		<u>Poultry</u>		<u>Eggs</u>		<u>Milk</u>	
	Am't	Value	Am't	Value	Am't	Value	Am't	Value	Am't	Value
	lbs.	\$	lbs.	\$	lbs.	\$	Doz.	\$	Gals.	\$
1837	:	:	:	:	:	:	:	:	:	:
1845	400	80.	:	:	:	:	:	:	:	:
1855	:	:	:	:	:	:	:	:	:	:
1865	:	:	105,405	14,874.	:	500.	:	250.	:	:
1875	163	49.	124,653	12,637.	5226	1,192.	8405	2,539.	:	:
1885	835	151.	127,898	8,918.	5503	989.	80374	2,305.	158,484	14,564
1895	:	:	:	7,992.	:	:	:	6,488.**	:	28,300
1905	:	:	:	15,496.	:	:	:	6,164	:	46,400
1925	:	:	:	:	:	:	20165	:	252,035	:
:	:	:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:	:	:

* - Includes Indian Corn and Cereals

** - Includes Poultry and Eggs

*** - Includes all Dairy Products

while of tilled crops potatoes were the most widely grown single vegetable in the town. Agriculture machinery listed in 1865 for Oakham includes 91 plows, 75 harrows, 63 cultivators, 46 horse rakes, 47 mowing machines, 21 feed cutters, 14 seed sowers, 12 horse hoes, 11 hay cutters, 7 tedders, 1 horse power, and 1 threshing machine; so it is evident that a large share of the \$12,823 investment in farm machinery was for implements used for the production of hay.

By 1905, the number of farms had declined appreciably, as had the cultivated land, and the number of farm animals. For the first time, the value of dairy products exceeded the value of hay, and the two together were worth four times the value of all the other farm products of the township. Fruit production increased in value during this time, for farmers were paying much more attention to pruning and spraying. Farms were being abandoned, and woodland was increasing in acreage, though according to the 1905 census the woodland acreage declined. In 1915, however, when the state forester surveyed the lumber resources of the township the total acreage of woodland was 8,562; so the 1905 census figure is probably low. The Federal Census figures for 1925 and 1930 enumerate simply the woodland in farms, so the figures fall short of the total acreage of woodland in the town by several thousand acres. The figure for "all land in farms" declined from 13,254 acres in 1895 to 7,578 in 1930, and since the total acreage of the town is 13,532 acres the difference or

5,687 acres should probably be added to the 4,015 acres of woodland which the census enumerates, making a total of 9,702 acres of woodland in 1930. The number of cows from 1905 to 1925 declined by 300, but the figures on production are not comparable; so the change in value of the product is not apparent. Dairy production apparently is not altogether advantageous in the town, for the County Agent, Mr. G. F. E. Story, in a letter dated April 8, 1935 stated "Oakham has been a real problem for us since the agricultural production has been declining, for a number of years. We find that there are some able young men coming along who may possibly develop something in the way of poultry to advantage, although markets are not as satisfactory there as in some other sections of the country. We feel that orcharding, and to some extent, dairying, do not have as bright a future in that locality as in many other sections." The reason why dairy production seems to be somewhat less advantageous than was formerly true lies in the fact that the Worcester milk shed is very large, and that towns near to the city have a decided location advantage over those at some distance. At present, the farmer who can develop his own milk route is the one who makes a profit in dairying, and Oakham is too far from Worcester for that to be possible. Country sale to wholesalers is not profitable in competition with areas which have better dairy conditions than Oakham, so that the farmers in casting around for something to substitute have decided to try poultry production. W. C. Monahan, Poultry Specialist of the Extension Service, suggests that turkey production is one possible

solution of the poultry problem; for the town is cold, the land heavy and the comparative advantage for egg production is not very great. It seems certain that agriculture is in a static situation in the town, and that future changes will be gradual and in the direction of a return to a more or less self-sufficing agriculture with the cash income derived from the sale of lumber, or the care of summer visitors.

Sandisfield has had a history not unlike that of the other two towns, although its agricultural decline has been even more marked. In 1845 the leading product was hay with cheese and maple sugar ranking next in importance. Cheese has always been a product of farms which are in relatively poor locations, and for years Sandisfield sold many tons of cheese each year to dealers in Hartford, Connecticut and Hudson, New York. Sandisfield had for many years the largest production of maple sugar of any town in the state, and even back in 1845 the annual value of maple sugar exceeded \$10,000. This indicates that many areas in the township were never fully cleared of trees, and that the woodland on farms has always been an important adjunct to general farming operations in Sandisfield. The wool production from approximately 2,500 sheep, 978 of which were Merinos, was also an appreciable factor in farm income.

By 1865, the Census enumerated 189 farms with an average size of 163.5 acres. The same general type of extensive agriculture was still predominant with the same products (hay, cheese and maple sugar) in the first three places; the number of farm animals was steadily declining.

Table XX

Agricultural Statistics for Sandisfield, Massachusetts,
1865-1930
(Source - State and Federal Census, Assessors' Lists)

	1865	1875	1885	1895	1905	1915	1925	1930
Total Number Farms	189	195	161	294	144	75	98	53
All Land in Farms	30,895	29,968	31,433	32,755	24,443	11,017	16,163	11,076
Average Size of Farms	163.5	153.6	207.6	128.9	192.8	147.0	164.9	209.0
Total Cultivated Land	4,604	5,238	5,663	4,538	4,843	3,159	2,307	1,721
Woodland	4,487	5,158	10,424	10,503	21,575	22,410	29,953	33,909
Value of Farm Land and Buildings	\$416,579	\$366,515	\$443,350	\$307,087			\$330,200	\$274,900
Number of Farm Animals								
Horses	255	235	243	229	174	200	160	97
Cows	1,370	1,044	1,283	1,219	869	556	427	446
Sheep	627	832	526	336	106	71		14
Swine	245	108	300	500	189	33	22	18
Oxen	323	272	276	86	40			
Poultry		3,413	3,416	3,443	4,305	2,725	1,219	1,347

as were the quantities of animal products; and since no concomitant increase in other products appears which would have enlarged the income of the farmers, the probabilities are that even in 1865 they were beginning to have a decided decrease in farm income and prosperity. One handicap was the lack of good transportation; railroads were built by 1865 but none of them touched Sandisfield.

By 1885 the number of farms had declined to 161 while the average size increased to 208 acres, a natural kind of expansion on cheap land. In the previously mentioned article - "Does Farming in New England Pay?"⁵² the Berkshire County correspondent reported "Much of our land, especially in the hill towns, has been hard run, without anything being done to keep up the soil. Such lands are very cheap. The only objection to them is, first, we have later springs, which make plowed crops more uncertain, but for grass they are excellent. Then when they are away from railroads a disadvantage is seen." Hay on these farms was not only the best crop, in many cases it was the only crop which could be produced; and so hay and animal products continued to be the largest sources of farm income. Cheese decreased enormously between 1865 and 1885, while fluid milk production increased at a very rapid pace. The milk was carried to nearby towns and shipped to Springfield and Hartford, but the very fact of the extra haul made its production less advantageous than that in towns through which the railroad passed. Another aspect of farm production is shown by the equipment owned by the farmers, which had its highest valuation in

Table XXI, Continued - 3

Agricultural Products of Sandisfield, Massachusetts

1837 - 1925

(Source - State and Federal Census)

Year	Maple Sugar		Animal Products		Poultry		Eggs		Milk	
	Am't	Value	Am't	Value	Am't	Value	Am't	Value	Am't	Value
	lbs.	\$	lbs.	\$	lbs.	\$	doz.	\$	Gals.	\$
1837	:	:	:	:	:	:	:	:	:	:
1845	146,271	10,239.	:	:	:	:	:	:	:	:
1855	76,055	6,080.	:	:	:	:	:	:	:	:
1865	81,973	14,755.	29,030	3,116.	:	130.	:	355.	:	:
1875	69,300	7,421.	124,049	10,233.	2179	932.	8,391	2,254.	:	:
1885	54,264	5,462.	151,728	10,427.	7581	949.	12,489	2,895.	240,240	21,500
1895	:	:	:	10,624.	:	:	:	5,861.	:	50,900
1905	:	:	:	24,459.	:	:	:	7,797.	:	38,800
1925	:	:	:	:	:	:	10,881	:	152,350	:
:	:	:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:	:	:

⊙ - Includes Indian Corn and Cereals

- Includes All dairy products

⊙ - Includes Poultry and Eggs.

1865. There were 227 plows, 137 harrows, 75 hay cutters, 61 horse rakes, 57 mowing machines and 33 cultivators owned in the town besides a variety of implements such as 1 horse tedder, etc. The overwhelming importance of hay in the town is shown by the large number of machines exclusively devoted to it which were owned. The production of fruit was increasing, while that of maple sugar was declining in 1865. The decreasing production of sugar orchards was due to the poor condition of the trees; the change in production from 146,271 pounds in 1845 to 54,254 pounds in 1865 is very striking. It meant much lower incomes to some farmers whose incomes had not been unusually high anyway.

By 1905, the number of acres of all land in farms had declined about 25 per cent, while the acres of woodland practically doubled in 10 years. The general tendency to a downward change is marked by the decrease in the number of farms and the number of farm animals although the value of farm products increased due to the rising price level which appeared by 1896. The acres of woodland enumerated in 1915 by the state forester included 22,490 acres with about 6,000 acres of brush, swamp and idle land. By 1930 the number of farms had declined to 53, and the farm acreage to 11,076 although in 1895 it had been 32,755. Products were declining although poultry and egg production and dairy production held up somewhat better than might have been expected. The County Agent, H. J. Falmage, in a letter dated April 4, 1933, explains this by saying "There is some dairying and poultry keeping going on and the Jewish people

use quantities of chickens and eggs for home consumption. The amount of dairying was on the increase several years ago and the price of milk advanced and at that time and at the present time a truckman picks up milk through the towns of Sandisfield, Otis, Washington and Becket and trucks it into Springfield. As far as I know there is not a single first class, up-to-date farm in the townIt is unfortunate that so much of this land in the first place was cleared of woods and I believe that much of it will have to return to woods." The extension specialists when asked about the agricultueal possibilities of the town, shake their heads and confess that they can see no way out except through reforestation or recreational use of the land. That this is actually what is occurring is shown by the fact that Sandisfield ranks ninth of all the towns in the state as to the percentage of land held for recreational purposes. It has 60.9 per cent of its total land resources used for this purpose, and it is interesting to note that among the 12 towns which ranked first as to the percentage of recreational property in the state it is the only town off the seacoast.

Non-Agricultural Methods of Getting a Living in Boxford, Oakham
and Sandisfield

It was the intention of Great Britain in founding the colonies to make them the source of agricultural raw materials for her industries. The early settlers of Boxford worked hard on the land, but the poor soil and harsh climate were not favorable to large scale agriculture. They had to find other products, and the great abundance of lumber, an immediate natural resource, provided them with a raw material for making potash, lumber, and ships. After 1710 Essex County shipbuilders used ship timbers which were cut at the saw mills in Boxford. These small sawmills were operated with water power, and were used particularly to cut the white pine which grows so luxuriantly on the soil of the township.

In 1669 a small iron working plant was built and operated by the Leonards, a famous family whose name is still associated with iron works, though no longer in Massachusetts. The ore found was bog ore, a type well adapted to supply castings and hollow ware, which were among the first necessities of the colonists. In 1725 a tannery was begun which supplied local needs until 1800. Because of the cost of woollens it was customary to make clothing of animal skins, especially the waistcoats and breeches of the men. So far as can be discovered the other industries depended upon natural resources, also: there was a town cooper who used the hard woods which were unsuitable for ship building, a cabinet maker who constructed furniture from wood locally cut, wheelwrights and blacksmiths who probably made crude farm

implements from the cast iron made in town; and a basket maker whose raw materials were also to be had from the woods.

During the Revolution economy and patriotism combined to encourage even greater efforts at self sufficiency on the part of farm families. Nevertheless, the industries mentioned continued down to about 1800 without much change in set up or amount of product, and although some of the products made were sold, by far the largest number were used within the town. By 1800 both Oakham and Sandisfield were well established and they, too, had sawmills and gristmills, potash makers and basket makers. In Oakham there was a fulling mill on the Rutland-Barre road which contained simple machinery for shrinking and dressing the cloth which had been spun and woven in the farm houses. Combined with this was a set of carding machines which prepared the wool for spinning. Although in many places, the business carried on by these mills was interrupted in summer by the failure of the streams on which they depended for water power, the Oakham stream supplying the fulling mill was said to be "as durable a stream as in the county". In all probability, each town also had an itinerant shoemaker, although the day when the farmer made up the year's supply of boots, and shoes during the winter was not entirely over. This itinerant cobbler

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was a fixture in Oakham by 1790; he visited each family in town and stayed long enough to make its annual supply of shoes. Each member of the family in turn stood on the floor and had the length of his foot marked off with

charcoal. The shoemaker then selected from his supply of lasts the one nearest that measure and made up the style desired. The matter of choice was decidedly limited, although one could have low shoes or brogans, or high boots.

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Most of the people who worked in other industries were also farmers.

As Tench Coxe observed in 1794 -

"Those of the tradesmen and manufacturers, who live in the country, generally reside on small lots and farms, from one acre to twenty; and not a few upon farms from twenty to one hundred and fifty acres; which they cultivate at leisure times with their own hands, their wives, children, servants and apprentices, and sometimes by hired labourers, or by letting out fields, for a part of the produce to some neighbor who has time or farm hands not fully employed. This union of manufactures and farming is found to be very convenient on the grain farms; but it is still more convenient on the grazing and grass farms, where parts of almost every day, and a great part of every year, can be spared from the business of the farm, and employed in some mechanical, handycraft, or manufacturing business. These persons often make domestic and farming carriages, implements, and utensils, build houses and barns, tan leather, and

manufacture hats, shoes, hosiery, cabinet work, and other articles of clothing and furniture, to the great convenience and advantage of the neighborhood." ^{B5}

It is evident that these industries which were largely part-time occupations for farmers were not "manufacturing" industries in the ordinary sense; that is they did not produce articles for a wide market, nor did the people engaged in them depend entirely upon the income derived from them for support. In this sense there was little manufacturing in the three towns, or elsewhere in New England by 1810. By far the largest number of products listed as manufactures in the reports of the period from 1790 - 1810 were produced in farm houses for family consumption as homespun cloth, soap and candles, or were made by village tradesmen for local demand such as lumber or leather.

In the period from 1810 to 1860 there took place in New England an industrial revolution, comparable in many ways to that which took place in England about 1750. Power machinery replaced hand tools, the place of manufacture was transferred from farmhouses and craftsmen's shops to factories, and railroads were instrumental in breaking down the isolation of rural communities. As has been noted, this period also marked the development of a different type of agriculture and, indeed it was largely because of the increased home market in industrial towns that agriculture was able to change from a self-sufficing to a commercial type. An interlocking feature of the industrial and agricultural revolutions in New

England, was the transfer of the so-called "homespun" industries from the farm households. As soon as a cash income was available from the sale of wool, pork or butter, the farmers began to buy goods which they formerly produced themselves. This was particularly true of woolen cloth, which had entailed much hardship upon the women of the household. However, this very shift caused a further depopulation of the towns, for there no longer were home occupations, especially for the daughters of the farm family. These women either moved to urban centers or undertook new industrial occupations such as sewing shoes, plaiting straw hats, or working on the production of ready-to-wear clothing, at home. Most of these products had been made at home for a long time, but the sale of them was new. In the *New England Farmer* for 1824, there is a discussion of the methods of the Slater and Webster who "give employment of hundreds of storekeepers who send their wagons to take the yarn, colored and white, which they give out to the farmers, as far as forty miles away where it is woven into checks, stripes, ginghams, and they are paid in West India goods." This illustrates the lengths to which the people went to utilize the surplus labor force on farms, for habit and tradition required that all well persons should be producers as well as consumers. It also indicates a transitional type of production which sometimes occurs between the domestic and the factory system, and is known as the "commission system". The employer was a merchant who provided the raw materials and

56

57

and sold the finished product, paying the workers on a commission basis.

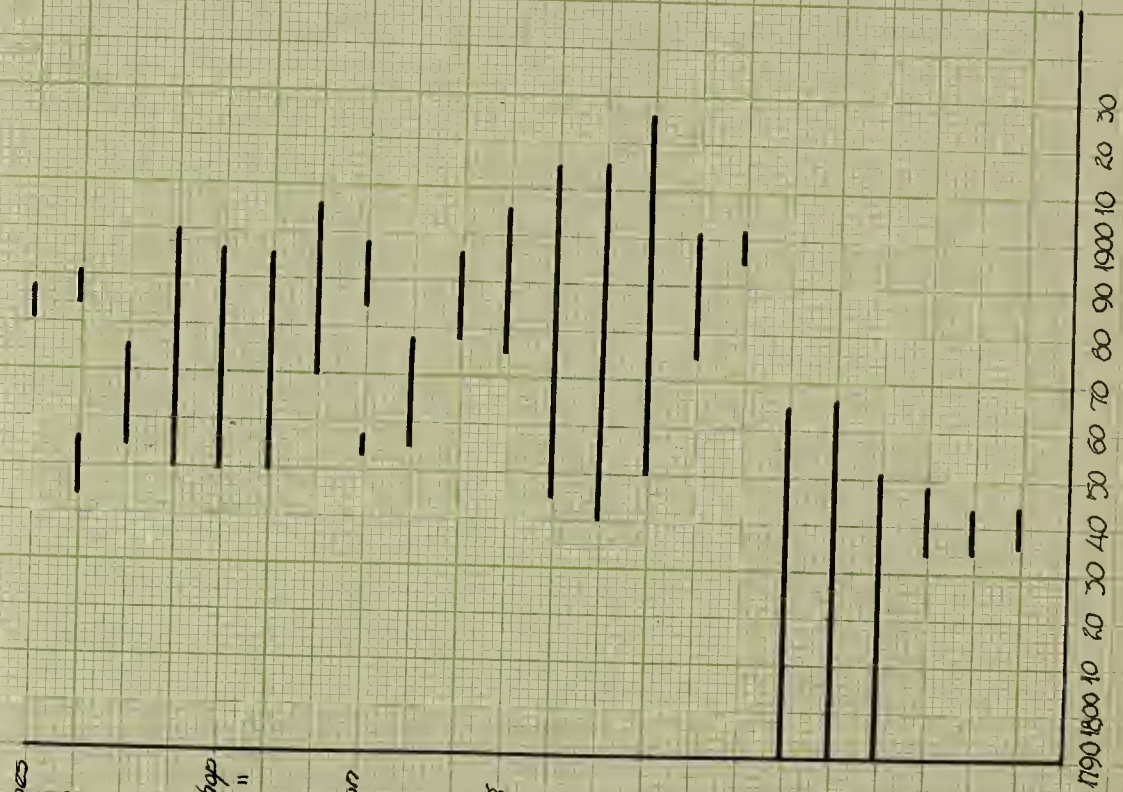
After 1830, a gradual development of factory industries in each of the three towns is shown in the state census. Even though industrial cities were growing rapidly nearby, the towns continued a diversified manufacturing for half a century. For the most part the industries were those based on nearby resources such as tanneries, sawmills or sash shops or those with a small local market such as horse shoe, or plow making.

An attempt has been made to approximate the length of time which the various industries lasted on charts II, III and IV. Since the few written accounts of the towns do not indicate exactly when the colonial businesses began or ended, the early data are approximate only. For the years after 1834 the dates of any industry are considered to be those of the first and last census in which mention of the industry is made, except in cases where townspeople with exceptionally long memories were able to supply dates between the census years. In a few cases, when an industry was mentioned only once it was omitted from the chart; but the diversity of manufacturing interests is clearly shown. Before discussing the manufacturing interests as such it is worth noting that up to 1865 the census enumerated a variety of products which were still made by families at home.

In 1845 the boot and shoe industry was being carried on at home in each of the towns; Oakham reported 3,650 pairs of boots and 150

CHART 2
PERIODS OF VARIOUS INDUSTRIES, SANDSFIELD MASSACHUSETTS

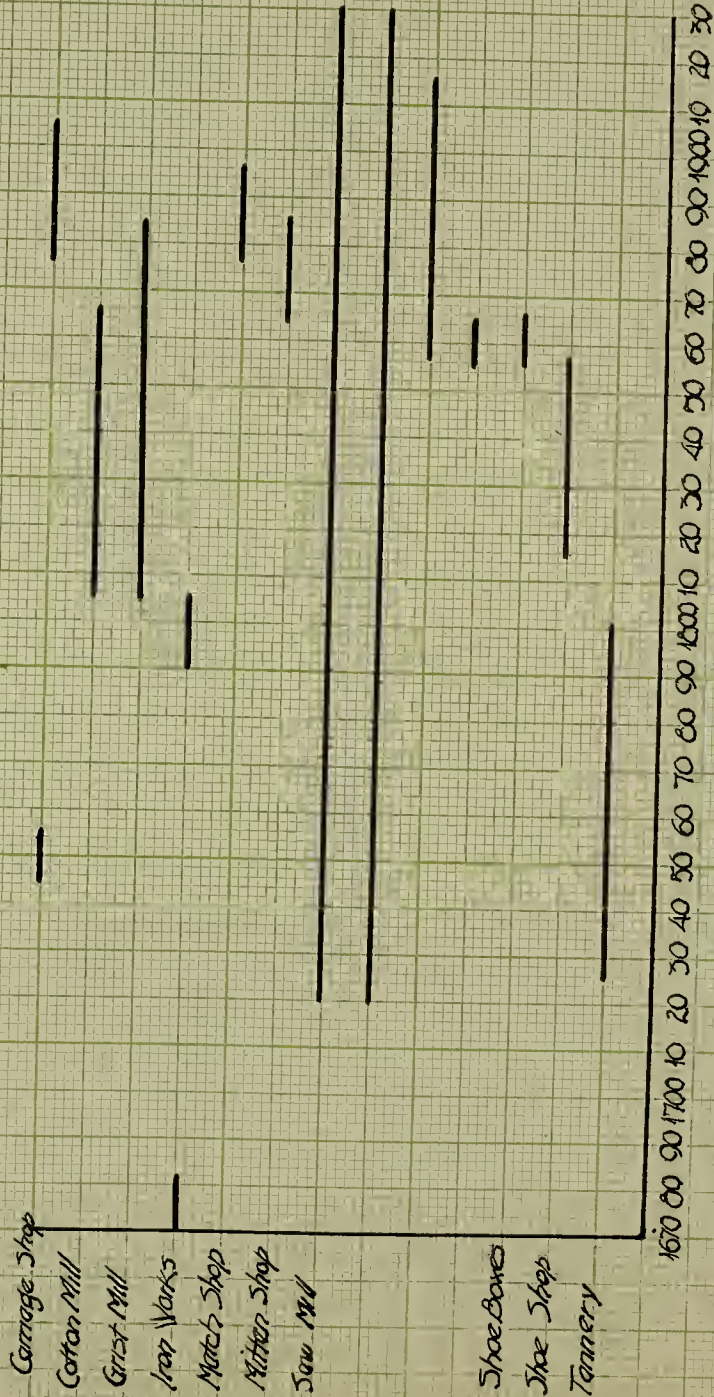
- Boots and Shoes
- Carrriage Shop
- Casric Shop
- Chair Shop
- Cheese Box Shop
- " "
- " "
- Drugs
- Food Preparation
- Harness
- Liquor Mfg.
- Mens Clothing
- Plow Shop
- Saw Mill
- " "
- " "
- " "
- Tannery
- " "
- " "
- " "
- Woolen Mfr.



1790 1800 10 20 30 40 50 60 70 80 90 1900 10 20 30

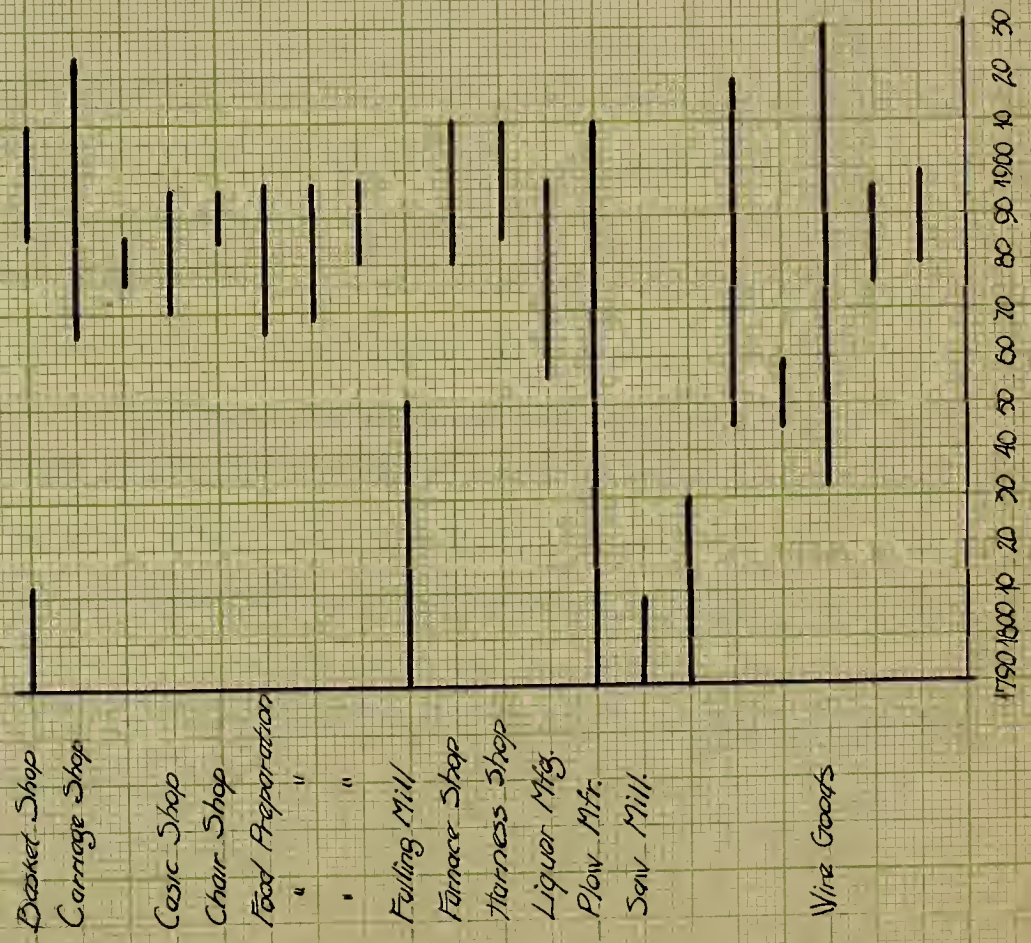
CHART D

DURATION PERIODS OF INDUSTRIES IN DUXFORD MASSACHUSETTS



CHAR. 4

DURATION PERIOD OF INDUSTRIES OF OAKHAM MASSACHUSETTS



pairs of shoes valued at \$5,570, while Boxford had 925 pairs of boots and 15,400 pairs of shoes valued at \$11,241 and Sandisfield made 4,768 pairs of boots and 820 pairs of shoes valued at \$9,303. By 1855 Boxford produced 61,350 pairs of shoes valued at \$52,550 with the labor of 50 men and 47 women; Sandisfield made 5,700 pairs of boots and 1,100 pairs of shoes valued at \$18,650, and Oakham failed to report any shoes made at home at all. In the 1865 State Census none of the towns reported the manufacture of boots and shoes. (Civil War - shoes were for slaves

The early part of this period marks the end of the second phase of the "domestic stage" in the production of shoes. The extra capital which was tempted into the shoe industry brought severe competition for orders, and brought about specialization to secure rapid work. The standards were lower, and unskilled labor was hired to do the cheaper work. As the workers multiplied the number of "ten-footers" or small shoe shops, which were approximately ten feet square, increased in number also. It was customary for each man to cut uppers and soles out of skins and sides supplied to him. If he cut unwisely he had more leather scraps to sell to the scrap buyer - which meant a profit for the shoemaker and a loss to the capitalist. To offset this the central shop system developed; the stock was cut out at one central point and was given to workers to do the necessary work on the uppers, that is, the stitching of seams, binding, etc.; then these uppers were returned to the central shop. They were again

Table XXII

Types of Manufacturing Establishments in Boxford, Oakham and Sandisfield, Massachusetts, 1837-1905

(Source - Massachusetts State Census.)

Types	1837	1845	1855	1865	1875	1885	1895	1905
	S.B.O.	S.B.O.	S.B.O.	S.B.O.	S.B.O.	S.B.O.	S.B.O.	S.B.O.*
Boots and Shoes	:	:	:	:	:	:	:	:
Cask Shop	:	:	:	:	:	1	:	:
Carriage Shop	:	4 1	1 1 1	1	1	3 1 2	1 1	:
Chair Shop	:	1 1	1	1	1 1	1	1	:
Cigar Shop	:	:	:	1	1	:	:	:
Drugs and Medicines	:	:	:	:	:	1	:	:
Flour Mill	:	1	:	:	1	1 1 3	1	3
Furnace Shop	:	:	:	:	:	:	:	1
Harness Shop	:	:	1	:	1	1	:	:
Liquor	:	:	:	:	:	:	1	:
Match Shop	:	:	:	:	1 1	1	1	1
Men's Clothing	:	:	:	1	1	1 1	1	:
Metals and Metallic Ware	:	:	:	:	:	:	3	:
Mittens	:	:	:	:	1	:	:	:
Paper Mill	:	:	1	:	:	:	:	:
Planing Mill	:	:	:	:	2	:	1	1
Plow Manufactures	:	1	1	1 1	2 2	1 2	1 1	1
Powder Keg.	:	1	1	1	:	:	:	:
Saw Mills	:	:	:	6 6 3	4 4 2	2 2 1	3 2 1	3 2
Shoe Shop	:	:	:	:	1	1	1 1	:
Shoe Pegs	:	:	:	1	1	:	:	:
Tanneries	3	1	5	2	2	:	:	:
Wool	1 1 1	1 1	1	:	:	:	:	:
Cotton	1	1	1	:	:	:	:	:
Tobacco	:	:	:	:	:	1	1	1
Wire Goods	:	:	1	1	:	1	3 4	1 3 1 1
Wooden Boxes	:	:	3 1	2 1 1	:	1	:	:
Totals	4 2 4	12 2 6	11 3 4	15 8 9	11 10 6	14 10 12	12 6 11	4 4

* No figures for Oakham.

given out with the proper number of soles, and the right amount of thread, to "makers" who would finish the shoes. After 1830 shoes were made without heels, or with but one lift. Up to the forties the shoemaker had used tools similar to those in use for hundreds of years. His kit had knives, a lap stone and hammer, awls, a stirrup to hold the shoe in place on the knee, pincers to pull the leather over the last, nippers to remove tacks, needles and hemp thread, and a shoulder-stick for polishing soles. After 1845 machinery came into general use, the "skiving" machine, sole cutter, pegging machine, and sewing machine, followed each other in rapid sequence. The lasting and bottoning of sewed shoes continued to be done by domestic workers until the McKay machine (for sewing soles) and the Goodyear welting machine put an end to the Domestic System.

Besides boots and shoes, the Census enumerates some other domestic industries. Oakham in 1837 was making straw bonnets and palm leaf hats valued at \$7486, the plaiting and sewing of which were done at odd times by the farmers' daughters. In 1845, Sandisfield produced "wooden ware" valued at \$16,699, and in 1865 at \$600. The New England Yankee was famous as a whittler, and this rough classification probably included such products as rolling pins, towel rollers, twine reels, match boxes and pen holders. Other quasi industrial pursuits existed, for instance - Sandisfield reports the manufacture of bricks valued at

\$245, and the quarrying of building stone valued at \$400 in 1845. These by-industries supplied an important part of the farm income up to 1850, though as late as 1875 the Census reports 20 women in Sandisfield working at home on men's clothing, and 1885 when 2 women in Boxford, and 5 women in Oakham were reported as working at home also on clothing, some people were engaged in the domestic industries.

The industries carried on within factories have been classified as to number of establishments, number of employees, value of goods produced and amount of capital invested for the years when data were available in table XXIII. The number of establishments as given by the State Census varies rather widely in some cases from that which was presented in table XXII, which classified the establishments by types, because the Census "number of establishments" includes wheelwrights and other occupations as well as the small factories which existed at the time. The Census data are also inadequate in that not every concern made a complete return every year. For instance the cotton factory in Boxford, 1845, reported 436 spindles and a product valued at \$5,120. while in 1855 with 612 spindles it made no return of the value of the product, thus making the total value of the goods produced for 1855 much less than would otherwise have been the case.

It is evident that the movement toward decentralized, small-scale manufactures reached its apogee in 1875. In every case that year marked the

Table XXIII

Manufacturing Industries in Sandisfield, Boxford, and Oakham,
1837-1905

(Source - State Census)

Town	Year	Number of Establishments	Amount of Capital Invested	Value of Goods Produced	Number of Employees		Total Wages (Estimate)
					Male	Female	
SANDISFIELD	1837	3	\$ 8,925	\$ 24,000	16		
	1845	12	18,470	57,330	48	4	
	1855	11	22,075	73,430	52		
	1865	13	12,500	42,840	24		
	1875	30	22,050	22,050	31		
	1885	16	21,260	24,647	37		
	1895	12	19,645	42,888	11	15	\$ 86,510 ¹
	1905	4	12,041	25,768	10		12,540
BOXFORD	1837	2	8,984	45,105	7	8	
	1845	2	3,700	25,300	7	6	
	1855	3	3,700	66,902	5		
	1865	8	7,380	23,000	10		
	1875	23	52,590	67,590	50	6	17,199
	1885	13	23,465	60,140	40	5	11,746
	1895	7	18,185	20,147	18		2,330
	1905	4	17,052	34,255	16		6,955
OAKHAM	1837	4	5,500	7,590	4		
	1845	6	2,275	19,053	12	2	
	1855	4	7,000	23,750	31		
	1865	10	14,100	46,560	20	27	
	1875	14	18,941	47,831	27		14,740
	1885	12	27,657	38,033	22	5	7,470
	1894	14	28,420	30,280	21	2	5,265
	1905	3					

¹ This figure is obviously too high, but is given by the State Census, 1875, Vol. II, p.759.

² Figures omitted to prevent disclosure of private business.

maximum number of establishments and in Sandisfield and Boxford it also marked the largest capital investment in industry. The Boxford figure for 1875 was increased \$30,000 by the investment in the Diamond Match Factory. The value of goods produced was largest in 1875 in Boxford and Oakham, although in Sandisfield it reached the highest point in 1855 and declined thereafter. The Sandisfield situation in 1855 was unique because in that year a paper mill was operating, the output of which was valued at \$23,000; and too, the forest was cut off earlier in Sandisfield than in Boxford or Oakham. The proportion of manufactured products in each year which is accounted for by the production of lumber and other products of the forest, as well as that of wooden articles, is seen in table XXIV. It will be observed that a large share of the total products of all industries is derived from the direct or indirect output of the forest. This indicates that the wood resources of these towns have been one of their major assets. It is worth noting that the period from 1855 to 1875 marked the peak of lumber production in these three towns as it did throughout New England. Massachusetts and Connecticut doubled the value of their lumber output between 1850 and 1860. In 1865 the number of sawmills in Sandisfield was 6; there were 3 in Oakham and 6 in Boxford, although in each case the previous census does not report any sawmills. This was an omission, for when the Census in 1865 reported the date at which industries then operating were begun, sawmills were reported preceding 1865 in each town. In Boxford one of the older mills was equipped with an "up and down" saw which was a

Table XXIV

Lumber and Wooden Products (Including Maple Sugar) Manufactured in Three Massachusetts Towns, 1845-1885

(Source - Massachusetts State Census)

Town	Year	Lumber Amount (000ft.)	Lumber Value	Firewood		All Other: Total Wooden		Total Value all Manufactures	% of Total Value in Wooden Manufactures
				Cords	Value	Wooden Products	Products (Value)		
SARDISTFIELD	1845:	473	\$ 2,407	1,885	\$ 5,025	\$ 36,338	\$ 43,770	\$ 67,330	65.00
	1855:	940	6,200	300	600	9,730	16,170	73,430	22.02
	1865:	575	5,750	3,190	7,713	14,905	28,368	42,840	66.22
	1875:		2,450			1,000	3,480	22,055	15.78
	1885:					20,913	20,913	24,647	84.85
BOXFORD	1845:	148	4,566	1,081	3,573	2,200	10,339	25,300	40.87
	1855:	189	4,507	1,570	5,545	3,800	13,852	66,902	20.70
	1865:	625	12,000	1,900	7,000	4,000	23,000	23,000	100.00
	1875:		5,757				5,757	67,590	8.52
	1885:					35,046	35,046	60,140	58.27
OAKHAM	1845:	200	2,500	800	1,600	2,800	6,900	7,590	90.91
	1855:	870	8,400	481	1,443	1,410	12,253	19,053	59.06
	1865:	475	8,025	254	1,016	10,000	19,041	23,750	80.17
	1875:		11,500				11,500	46,560	24.70
	1885:					17,200	17,200	47,831	35.96

1 Includes lumber

2 No reports on industries other than lumber

a rarity; it was operated in an up and down motion by means of water power. The saw was attached to a wooden beam which in turn was joined to a crank on a water wheel. The other end was held taut by attaching it to a spring pole. The beam traveled up and down between side blocks which tended to steady the motion, while the log which was mounted on a crude carriage, was moved forward against the saw by a ratchet. Such a saw was able to turnout between five hundred and a thousand feet of lumber in a day. This saw was purchased by Henry Ford for his Wayside Inn Museum because of its unique construction. The other products made of wood varied with the town. Oakham in 1865 made \$10,000 worth of sashes and doors; Saxford in 1845 made 2,200 bushels of shoe pegs, 800 bushels of them were made in 1855, and in 1865, the last year for which they were reported, 1,000 bushels were enumerated; all three towns reported the making of powder kegs, butter casks or cheese boxes. In New Boston (a part of Sandisfield) a Hartford firm did a thriving business in manufacturing seats for school rooms, while a chair and furniture shop was found in Oakham in 1845.

The textile industries were not begun in the towns to any extent; although Oakham and Sandisfield each had a wool manufacturing plant which utilized the wool of nearby sheep in manufacturing broadcloth or satinet. In 1837, the value of woolen cloth made in Sandisfield was \$3,200. In Oakham the value of the product was not given, although it was stated that the woolen mill had 6 looms; and in 1845, the value of the woolen cloth

produced was valued at \$400. The same year Sandisfield reported a valuation of \$1,000 for broadcloth, and \$4,000 for satinet. In 1855 neither of the mills was reported as being in operation. Mention has been made of the cotton mill in Boxford which was begun in 1832 to manufacture cotton yarn, wicking and batting. In 1835, the mill reported 372 spindles and a product valued at \$45,000; in 1845, it had 456 spindles and reported the value of cotton yarn manufactured as \$5,120; in 1855, the number of spindles was reported as 612, although no value for the product was given. There is no report for the mill in 1865. One other similar industry should be mentioned, that of men's clothing which was carried on after 1875 in Sandisfield, and 1885 in Boxford. In each case, this was an industry which had a small headquarters where work was given out to be done at home.

Another common type of manufacturing activity was the making of equipment for agriculture. Plow manufactories were reported in Sandisfield from 1855 to 1905, and from 1857 to 1865 two were being operated. Oakham lists a plow manufacturing plant in 1837 and in every subsequent Census date through 1865; in 1865 two agricultural implement plants are noted. In Oakham only one man was employed and only plows were made in each plant; in Sandisfield the factory made hay rakes as well and in 1855 employed 12 men; although the number declined to two in 1865. The value of the agricultural implements made from 1837 to 1875 is as follows:

<u>Year</u>	<u>Oakham</u>	<u>Sandisfield</u>
1837	800	
1845	800	
1855	800	4,000
1865	300	3,600
1875	14,400	3,200

After 1875 no separate classification was made for agricultural implements so we may judge that since the shops were discontinued in 1895 they were becoming less profitable. The day when every country furnace made cast plow irons, and the function of the crossroads blacksmith was to make or repair his neighbor's implements was over. Plowmaking first became a separate industry in Worcester County before 1830; and with large shops, firms made their plow parts more uniform, so that they could be replaced in the field. This movement, added to the economics of large scale production, drove the small factories out of business. Carriage shops were operated in all three towns; there were 4 in Sandisfield in 1845 with a product valued at \$5,170; in 1865 there were 3 although no value for the product was given. Oakham had one carriage shop in 1855 which was owned by William Crawford, which reported a product valued at \$2,000. In 1865, this shop made patent water wheels; in 1895 it manufactured carriages again, and indeed continued in business until 1930. In 1845 a carriage shop was begun in Boxford which turned out a product valued at \$600 in that year, and at \$500 in 1855. No mention of a similar type

of business was made in the 1865 Census, but in 1873 F. Perley opened a carriage shop in East Boxford which ran intermittently for 20 years. Another industry which was operated as an adjunct to agriculture was the harness business. Oakham reported a value of \$1,200 for saddles, harnesses and trunks in 1845, and Sandisfield one of \$180 in 1845 and \$450 in 1875.

A thriving wire sieve business was begun in 1832 in Oakham by Stephen Lincoln, and was continued after 1852 by his son, William Lincoln, who patented other wire products such as dish covers, etc. After the World War the shop was used to Manufacture Crane Manifolds for Fords, but it is now closed. Several other shops were opened in 1865 and 1865 for the same general kind of manufacturing. Grouping them all together the following values of wire goods have been produced:

1837	-	\$1,200
1845	-	1,000
1855	-	20,000
1865	-	22,000
1875	-	8,780
1885	-	5,000

After 1885 there is no available data, for in 1895 the town products were not given, and in 1905 there were less than 3 plants in Oakham so that no information was given about them, to prevent infringing on their rights by publishing private information.

Other miscellaneous manufactures were found in the towns, for instance, liquor was made in Oakham and in Sandisfield; tobacco was made into cigars in Sandisfield in 1895, and matches were made in Sandisfield and Boxford; but the principal manufacturing industries have already been discussed. By 1895 manufacturing was definitely declining in the towns; a comparison of the 1865 and the 1895 State Census of Manufactures with the "Directory of Massachusetts Manufactures" for 1925 or 1930 is a most illuminating indication of the extent to which factories were being concentrated. Machinery was more intricate, a larger amount of capital was necessary and the necessity for keeping down the cost of distribution made good transportation vital. Although both Boxford and Oakham had some access to railroads, Sandisfield had none; their roads were not good, and transportation and other costs were too high to make production in towns economical. In 1895 Sandisfield which ranked 288th in population was 274th in production of goods; Boxford which was 299th in population was 305th in value of production, and Oakham which was 207th in population ranked 292nd in manufactures. In 1915, the state forester in noting the industries of the towns mentioned sawmills as being the principal going organizations.

The Development of Town Institutions in Sandisfield, Boxford and Oakham.

After the study of how the people in the towns of Boxford, Oakham and Sandisfield made a living, our next interest is in the way in which the towns have developed. In the long run, all human institutions depend for their success or failure upon the enthusiastic spiritual support of the individuals who are concerned in them, and upon the financial means which they are willing and able to provide for their support. It has been shown that in the beginning, all the people in the towns had similar cultural backgrounds and similar practical interests, but that as some of the inhabitants left the towns during the nineteenth century, and new types of people came in the similarity of the people in race, religion and occupation changed markedly. Since this eliminated one prop, wholehearted community support, from many civic enterprises, the other, adequate financial support, became more important. One of the most direct means of investigating this is to discover how the town spent its money, that is, how the community in the annual town meetings voted that the town money should be spent. In table XXV, an analysis has been made of the expenditures of the town of Oakham, for five five-year periods at twenty years intervals, including the years 1846-1850, 1866-1870, 1886-1890, 1906-1910, and 1926-1930. Oakham was chosen for analysis because after looking through town records for all three towns, there seemed to be enough likeness to justify using the centrally located town with the most easily accessible records to show

Table XXV

Municipal Finances of Oakham, Massachusetts for Specified Years

(Source - Town Records)

Year	Municipal Revenue					
	Taxes		Balance on Hand		Total Revenue (all sources)	
	Amount	Per Capita	Amount	Per Capita	Amount	Per Capita
1846	\$1,911.21	\$ 1.84	\$1,205.29	\$ 1.16	\$3,272.16	\$ 3.15
1847	2,000.00	1.93			3,511.71	3.38
1848	1,300.00	1.25	478.19	.46	2,799.92	2.70
1849	1,332.97	1.28	638.24	.61	2,537.75	2.44
1850	1,843.76	1.78	812.28	.78	3,554.61	3.42
1866	2,225.15	7.81	2,768.68	2.99	14,960.63	16.17
1867	3,500.00	3.78	5,210.29	5.63	11,952.50	12.92
1868	3,600.00	3.89	3,689.44	3.99	10,630.75	11.49
1869	3,600.00	3.89	2,819.34	3.05	8,354.43	9.03
1870	4,500.00	4.86	1,561.25	1.69	9,744.59	10.53
1886	5,195.00	5.47	2,341.01	2.47	12,271.69	12.93
1887	5,020.00	5.29	2,515.24	2.65	11,572.24	12.19
1888	5,816.25	6.13	1,997.88	2.11	14,870.18	15.67
1889	5,440.00	5.73	401.55	.42	14,735.27	15.53
1890	4,740.00	4.99	292.89	.31	10,981.16	11.57
1906	4,227.06	8.14	1,775.76	3.42	8,856.53	17.06
1907	4,629.54	8.92	1,214.25	2.34	9,801.36	18.89
1908	5,152.80	9.93	1,077.78	2.08	9,609.33	18.53
1909	4,690.02	9.04	2,000.79	3.86	10,937.83	21.07
1910	5,203.02	10.03	1,214.27	2.34	10,723.48	20.66
1926	13,534.94	25.78	5,186.71	9.88	43,545.33	82.94
1927	12,502.22	23.81	5,697.21	10.85	63,271.86	120.52
1928	14,913.74	28.41	4,243.69	8.08	76,291.62	145.32
1929	14,494.50	27.71	26,470.41	50.42	68,995.19	131.42
1930	15,063.80	30.00	9,787.81	19.48	49,084.06	97.77

Table XXV Cont'd.

Municipal Finances of Cakhan, Massachusetts for Specified Years
(Source - Town Records)

Year	General Government		Highways		Municipal Expenditures		Charity		Total Payments	
	Amount	Per Capita	Amount	Per Capita	Amount	Per Capita	Amount	Per Capita	Amount	Per Capita
1846	\$ 73.29	.07	\$ 238.02	.23	\$ 748.58	.72	\$ 569.58	.55	\$ 2,091.29	2.01
1847	83.52	.08	219.38	.21	568.15	.55	525.88	.51		
1848	91.92	.09	122.88	.12	744.91	.72	437.74	.42	2,068.68	1.99
1849	87.50	.08	193.90	.19	768.21	.74	475.36	.46	1,899.51	1.74
1850	112.05	.11	270.04	.26	753.39	.73	292.89	.28	2,742.33	2.64
1856	161.84	.17	141.91	.15	1,114.60	1.20	1,018.71	1.10	9,750.63	10.54
1857	153.04	.17	10.04	.01	1,474.13	1.59	933.96	1.01	8,263.06	8.93
1858	158.45	.17	1,028.82	1.11	1,641.28	1.77	1,147.28	1.24	7,811.41	8.44
1859	172.91	.19	549.40	.59	1,387.46	1.50	1,041.17	1.13	6,793.18	7.34
1870	205.54	.22	1,082.27	1.17	1,441.25	1.56	1,107.50	1.20	8,868.40	9.59
1886	209.68	.22	1,082.93	1.14	1,657.19	1.75	802.59	.85	9,756.45	10.28
1887	191.61	.20	785.03	.83	1,788.96	1.89	1,202.94	1.27	9,574.36	10.09
1888	211.81	.22	917.97	.97	1,260.36	1.33	1,245.39	1.31	14,468.63	15.25
1889	313.60	.33	1,762.37	1.86	1,355.72	1.43	1,338.94	1.41	12,866.54	13.56
1890	299.72	.32	871.08	.92	1,597.04	1.68	1,192.67	1.26	9,750.63	10.27
1906	530.59	1.02	1,438.98	2.77	2,466.28	4.75	410.81	.79	7,641.28	14.72
1907	553.70	1.07	1,456.96	2.81	2,501.31	4.82	531.95	1.02	8,598.58	16.57
1908	505.96	.97	1,232.07	2.37	2,462.53	4.74	585.34	1.13	7,403.47	14.26
1909	564.72	1.09	1,493.91	2.88	2,886.18	5.56	435.15	.84	9,723.56	18.74
1910	619.26	1.19	1,319.33	2.54	2,808.86	5.41	653.05	1.26	10,454.61	20.14
1926	1,369.22	2.61	7,782.57	14.82	12,130.17	23.11	1,760.80	3.35	38,134.57	72.64
1927	1,396.90	2.66	7,428.04	19.15	12,023.23	22.90	1,279.87	2.44	59,027.87	112.43
1928	1,822.61	3.47	6,625.06	12.62	11,686.92	22.20	629.76	1.20	99,821.21	94.90
1929	1,826.72	3.48	9,005.84	17.15	11,518.43	21.94	1,646.05	3.13	59,213.38	112.78
1930	1,975.09	3.94	8,390.16	16.71	11,272.89	22.45	2,396.73	4.77	43,957.41	87.56

what the general development has been. The Cakham records used have been kept in different fashions at different periods, and in some cases new groupings have had to be made to provide an opportunity for comparison between different periods. In every case, however, the expenditures for the purpose of providing funds for school, highways, charity and general government was obtainable. More carefully analysed data is presented for the years 1926-1930 in Table XXVI so that a clear picture of present town finances can be had. The state now requires careful town accounting, and an entirely adequate presentation is made in the annual report - "Statistics of Municipal Finances". All the data have been analyzed as to per capita expenditures, since that is perhaps the most telling comparison about town expenditures which can be made.

The tremendous increase in town expenditures during this eighty year period is shown in table XIV. The striking increase in taxes is shown in the per capita increase from \$1.84 in 1846 to \$30.00 in 1930; and the increase in total revenue from \$3.15 per capita in 1846 to \$97.77 in 1930 is equally arresting. The great increases in expenditures have been for education and for highways, which has been the current trend for all towns in the state. Dr. Rozman in his tax bulletin which had figures for 1929 showing that the Massachusetts town revenue dollar was spent in the following way:

education - 32.1 cents

highways - 20.9

Table XXXI A.

Municipal Finances of Oakham, Massachusetts,
1926-1930

(Source - "Massachusetts Municipal Finances")

Payments	1926		1927		1928	
	Total	Per Capita	Total	Per Capita	Total	Per Capita
Maintenance	\$ 25,564.72	\$ 48.69	\$ 25,281.93	\$ 48.16	\$ 25,974.25	\$ 49.47
Departmental	25,150.76	47.91	24,191.98	46.08	23,127.88	44.05
General Gov- ernmental	1,369.22	2.61	1,396.90	2.66	1,822.61	3.47
Protection	303.40	.58	613.33	1.175	593.70	1.13
Health	316.35	.60	311.75	.59	388.89	.74
Highways	7,782.57	14.82	7,428.04	14.15	6,625.06	12.62
Charities	1,760.80	3.35	1,279.87	2.44	629.76	1.20
Schools	12,130.17	23.11	12,023.23	22.90	11,656.92	22.20
Cometeries	413.96	.79	554.45	1.06	672.82	1.28
Interest	112.25	.21	332.50	.63	555.63	1.63
Outlays	3,841.00	7.32	24,630.27	46.91	11,705.38	22.30
Departmental	3,841.00	7.32	8,327.48	15.86	7,598.71	14.47
School			45.00	.09		
Highways	3,841.00	7.32	7,964.90	15.17	7,500.00	14.29
Municipal in- debtedness	6,000.00	11.43	6,000.00	11.43	9,000.00	17.44
Agency, trust, investment	2,613.00	4.98	2,668.53	5.08	2,285.95	4.35
Total Payments	38,134.57	72.64	59,027.87	112.43	49,821.21	94.90
Balance on Hand	5,410.96	10.31	4,243.69	8.08	36,470.41	50.42
Grand Total	43,545.53	82.94	63,271.56	120.52	76,291.62	145.32

Table XXVI A, Cont'd.

Municipal Finances of Oakham, Massachusetts,
1926-1930

(Source - "Massachusetts Municipal Finances")

Payments	1929		1930	
	Total	Per Capita	Total	Per Capita
Maintenance	\$ 27,350.35	\$ 52.09	\$ 26,734.15	\$ 53.25
Departmental	26,898.40	51.23	26,217.95	52.23
General Governmental	1,826.72	3.48	1,978.09	3.94
Protection	311.10	.59	646.95	1.29
Health	501.84	.96	378.52	.75
Highways	9,005.84	17.75	8,390.16	16.71
Charities	1,646.05	3.13	2,396.73	4.77
Schools	11,518.43	21.94	11,272.89	22.45
Cemeteries	451.95	.86	516.20	1.03
Interest	602.47	1.15	12.60	.02
Outlays	8,810.85	16.78	12,766.76	25.43
Departmental	6,911.04	13.16	12,766.76	25.45
School			775.08	1.54
Highways	5,832.44	11.10	11,991.68	23.89
Municipal Indebtedness	19,000.00	36.19	2,500.00	4.98
Agency, trust, investment	3,132.43	5.96	1,863.22	3.71
Total Payments	59,213.38	112.78	43,957.41	87.56
Balance on Hand	9,781.81	18.63	5,126.65	10.21
Grand Total	68,995.19	131.42	49,084.06	97.77

Table XXVI B

Municipal Finances of Oakham, Massachusetts,
1926-1930

(Source - "Massachusetts Municipal Finances")

Receipts	1926		1927		1928	
	Total	Per Capita	Total	Per Capita	Total	Per Capita
Revenue						
General	\$ 25,646.41	\$ 48.85	\$ 24,536.06	\$ 46.74	\$ 27,593.26	\$ 52.56
Taxes	13,534.94	25.78	12,502.22	23.81	14,913.74	28.41
Business permits	3.00	.01	3.00	.01	8.00	.02
Fines and forfeits	77.70	.15	298.00	.57	405.65	.76
Grants and gifts	12,030.77	22.92	11,732.84	22.35	12,270.87	23.37
Commercial	2,054.02	3.91	3,088.16	5.88	5,461.38	10.40
Departmental	722.28	1.38	797.06	1.52	344.97	.66
General Government	53.00	.10	59.00	.11	60.00	.11
Highways	39.25	.07				
Charities	320.88	.61	330.85	.63	10.00	.02
Education	137.61	.26	224.29	.43	148.78	.28
Cemeteries	368.77	.70	299.88	.57	345.54	.66
Interest	962.97	1.83	899.87	1.71	946.47	1.80
Non-Revenue	10,658.39	20.30	29,950.13	57.05	38,993.29	74.27
Offsets to outlays	2,000.00	3.81	6,005.42	11.44	28,705.24	54.68
Municipal indebtedness	6,000.00	11.43	21,054.49	40.10	8,000.00	15.24
Refunds	3.00	.01				
Agency, trust, investment	2,655.39	5.06	2,775.58	5.29	2,288.05	4.36
Total Receipts	38,358.82	73.06	57,574.35	109.67	72,047.93	137.23
Balance on Hand	5,186.71	9.88	5,697.21	10.85	4,243.69	8.08
Grand Total	43,545.53	82.94	63,271.56	120.52	76,291.62	145.32

Table XXVI B, Cont'd.

Municipal Finances of Oakham, Massachusetts,
1926-1930

(Source - "Massachusetts Municipal Finances")

Receipts	1929		1930	
	Total	Per Capita	Total	Per Capita
Revenue				
General	\$ 26,341.04	\$ 50.17	\$ 25,325.94	\$ 50.45
Taxes	14,494.50	27.61	15,063.80	30.00
Business permits	6.00	.01	16.17	.03
Fines and forfeits	471.85	.89	38.85	.07
Grants and gifts	11,358.69	21.64	10,207.22	20.33
Commercial Privileges	2,505.40	4.77	2,623.88	5.23
Departmental	969.36	1.85	1,268.04	2.53
General Governmental	348.76	.66	386.04	.77
Education	73.50	.14	70.50	.14
Cemeteries	165.00	.31	162.00	.32
Interest	51.00	.10	314.22	.63
Interest	1,027.83	1.96	655.58	1.31
Non-Revenue	13,678.34	26.05		
Offsets to outlays	5,757.16	10.97	6,908.53	13.76
Municipal indebtedness	5,000.00	9.52	2,500.00	4.98
Refunds	77.29	.14	37.68	.07
Agency, trust, investment	2,603.90	4.96	1,863.22	3.71
Total Receipts	42,524.78	81.00	39,302.25	78.29
Balance on Hand	26,470.41	50.42	9,781.81	19.48
Grand Total	68,995.19	131.42	49,084.06	97.77

interest and debt - 10.9
public service enterprises - 8.8
fire and police - 8.5
health and sanitation - 7.8
general government - 4.6
public welfare - 4.0
miscellaneous - 2.4

In order to meet these large expenditures the towns have had to raise their valuations, and their tax rates. The changes in town valuations are shown in Table XXVII, and the increases, especially in Sandisfield, are large after 1910. This is because of the influx of summer people who are non-resident taxpayers. It is customary to assess summer places at a fairly high rate. The tax rates have also been raised as is shown by the following figures:

	<u>1890</u>	<u>1930</u>
Sandisfield	17.63	29.00
Boxford	9.00	28.50
Oakham	16.80	29.00

And yet even with the increases in valuations and in the tax rate, the towns have become increasingly less able to cope with the great expenditures necessary for a proper upkeep of the fundamental institutions of a modern town. In order to indicate how the group effort to provide proper education, adequate highways and satisfying churches has been aided by the

Table XXVII

Valuations of Three Massachusetts Towns

(Source: 1810 - Statistical View of Massachusetts, Melanson 1813
 1850 - 1930 Valuation Figures in Annual Report of Massachusetts
 Department of Education.)

Year	Sandisfield		Hartford		Oakham	
	Total Valuation	% change 1850-100	Total Valuation	% change 1850-100	Total Valuation	% change 1850-100
1810	\$ 12,382.13		\$ 13,704.36		\$ 5,070.68	
1850	463,328.00	100.00	538,288.67	100.00	413,351.00	100.00
1860	544,922.00	117.61	649,331.00	120.63	323,843.00	78.34
1865	612,943.00	132.29	631,942.00	117.40		
1870	541,272.00	116.82	835,250.00	155.17		
1875	494,898.00	106.81	619,045.00	115.00	361,624.00	87.46
1880	385,597.00	83.22	559,722.00	105.84	352,123.00	85.19
1885	392,205.00	84.65	645,865.00	119.98	344,744.00	83.40
1890	367,771.00	79.37	686,271.00	127.49	323,598.00	78.28
1895	357,490.00	77.15	735,237.00	136.59	317,710.00	76.86
1900	320,292.00	69.12	688,720.00	127.95	350,137.00	84.71
1905	306,690.00	66.19	1,091,737.00	202.82	371,508.00	89.88
1910	362,397.00	78.22	1,424,995.00	264.73	386,087.00	93.40
1915	434,528.00	93.78	1,353,713.00	251.46	440,294.00	106.52
1920	520,761.00	112.39	994,102.00	184.68	500,503.00	121.08
1925	651,174.00	140.54	1,059,288.00	198.65	470,795.00	113.84
1930	706,795.00	152.53	1,094,993.00	203.42	447,486.00	108.26

outside world as represented by the State or by smaller groups as the Home Missionary Society of the Congregational Church an investigation has been made of the three institutions involved. The investigation of the school situation has been especially detailed as that represents the largest expenditure, as well as being the most fundamental institution of a democracy.

The schools of Boxford, Oakham and Sandisfield were among the first interests of the early settlers. They were planned for soon after the towns were established, and have always been looked upon as an absolute necessity. It is safe to say that the educational facilities of the towns have been equal to those of towns of similar size throughout the Commonwealth. The data for the schools from 1846 to 1931 are contained in table.

In general the common educational trends are apparent. The number of schools has been slowly declining during the period from 1846 to 1931. In Sandisfield the change has been from 16 to 6 schools; in Oakham from 8 to 1, and in Boxford from 7 to 2. This is due to the desire for graded consolidated schools, and has been made possible by the use of school buses. As was to be expected from the figures on population, the number of children declined between 1846 and 1931 from 251 to 102 in Boxford, from 292 to 78 in Oakham and from 298 to 87 in Sandisfield. At the same time the cost per pupil has been rapidly increasing because of the better type of teachers hired, the rise in the cost of school supplies, and the greater number of services performed by the schools. In Boxford the school

Table XXVIII A
Expenditure for Schools in Sandisfield, Massachusetts,
1846-1931

(Source - Annual Reports of the Massachusetts Department of Education)

Year	Number of Schools	Number of Pupils	Number of Teachers	Amount of Money raised by Board	Amount of Money raised by Taxes	Amount of Money raised by Fuel and Local Funds	Amount of Money raised by Other Funds	State Reimbursement	School Outlay	Total Expenditure	Total Expenditure per Pupil
								Amount	Amount	Amount	Amount
1846	16	296	8	\$ 622.00	\$ 103.25	\$ 242.10			\$ 864.10	\$ 2.90	100
1851	16	342	16	900.00	600.00	279.26		78.02	1,257.25	3.68	127
1856	14	321	13	800.00	850.00	141.75		64.25	1,006.00	3.13	108
1861	14	357	13	1,000.00	738.00	205.40		61.81	1,267.21	3.55	122
1866	14	342	13	1,400.00	1,400.00	77.40			1,477.40	4.32	149
1871	13	365	17	1,500.00	393.00	77.40		158.03	1,735.40	4.75	164
1876	12	221	13	1,500.00	173.00	160.16		234.86	1,894.98	8.57	296
1881	12	225	13	1,250.00	65.00	395.56		220.96	1,856.52	8.25	284
1886	12	223	13	2,000.00	50.00	119.50		313.56	2,483.11	11.14	388
1891	10	154	10	1,297.15		77.40		359.56	1,734.11	11.26	388
1896	10	167	10	1,535.76		169.29		430.06	2,135.11	12.79	441
1901	8	120	8	1,165.83		154.56		780.46	2,100.85	17.51	604
1906	8	136	8	1,782.35		191.40		575.00	2,548.75	18.74	646
1911	6	100	6	1,417.12		15.00		1,180.68	2,612.80	26.13	901
1916	6	114	7	2,197.21				1,801.28	3,998.49	35.07	1,209
1921	6	138	6	5,069.48				3,428.70	8,498.18	61.58	2,123
1926	6	115	6	6,211.11				4,842.77	11,053.88	96.12	3,314
1931	6	87	6	6,358.55				6,647.87	13,006.42	149.50	5,155

expenditure per pupil has increased from \$3.16 to \$162.94; in Oakham from \$2.40 to \$155.20 and in Sandisfield from \$2.90 to \$149.50. The towns could not have made this terrific increase in expenditure without some outside assistance. In order to make educational conditions as uniform as possible throughout the state, the legislature has enacted a series of laws providing for the reimbursement of the towns for certain school expenses. The justification for this type of expenditure by the state lies in the fact that many of the people who afterwards go to cities to work receive their education in country towns, and if this education is poor in quality or limited in amount, they are handicapped because they cannot compete on an equal basis with the students from better educational systems.

The following laws which have been made to provide state aid for schools are taken from Bulletin 249 of the Department of Education entitled "General Laws Relating to Education":

Part 1. State Aid from Income Tax 1923, 145, §1. "The state treasurer shall annually, on or before November twentieth, pay to the several towns from the proceeds of the tax on incomes, which shall be available therefor without appropriation, the sums required for salaries..for services in the public day schools rendered during the year ending the preceding June thirtieth. For each person employed, such reimbursement shall be as follows.

1. Two hundred dollars for every person so employed who received as salary less than \$950 and who is a graduate of an approved normal school, teachers' college or other college and had taught on full time at least two years previous to said year, or whose preparation and teaching experience are equivalent.
2. \$150 for every person so employed not included in paragraph 1, who received as salary not less than \$850 (a) has satisfactorily completed one year of professional training in an approved normal school, teachers college or teachers' training school, and had taught on full time at least three years previous to said year; or (b) is a graduate of an approved normal school, teachers' college or other college, and had taught on full time for at least one year previous to said year; or (c) whose preparation and teaching experience are accepted as equivalent.
3. One hundred dollars for every person so engaged and not included in paragraph (1) or (2) who received as salary not less than \$700.
4. Supplementary reimbursement (as amended, 1931, 426, 456) Every town in which the proportionate amount paid by such town of every million dollars of state

tax as established by the last preceding valuation made for the purpose of apportioning such tax, when divided by the net average membership of its public day schools, for the year, as defined in section five, yields a quotient less than ninety five cents shall for each person for whom it received reimbursement under section two, receive supplementary reimbursement as follows:

- (1) \$250 if the quotient is less than sixty cents.
- (2) \$200 if said quotient is less than sixty five cents, but not less sixty cents.
- (3) \$150 if said quotient is less than seventy cents, but not less than sixty five cents.
- (4) \$125 if said quotient is less than eighty cents, but not less than seventy cents.
- (5) \$100 if said quotient is less than eighty five cents, but not less than eighty cents.
- (6) \$50 if said quotient is less than ninety five cents, but not less than eighty five cents.

No town shall receive under this section in any one year more than fifteen thousand dollars.

Part 2. Massachusetts School Fund. The present school funds of the commonwealth, with future additions, and all funds received

by the commonwealth from the federal government, the disposition of which is not otherwise provided for, shall constitute a permanent fund, to be called the "Massachusetts School Fund" and the income shall be disbursed as hereinafter provided.

A. Definitions:

"Valuation" shall mean the town's valuation, as determined by the last preceding valuation made for the purpose of apportioning the state tax.

"Assured Minimum" shall mean the amount by which the sum of the following items for the last preceding town fiscal year exceeded the amount received by the town during said year under Part I and for the tuition of non resident pupils, including state wards:

- (1) Salaries paid to full time principals and teachers, not including any amounts by which any such salary was at a rate in excess of eleven hundred dollars.
- (2) \$150 for each teaching position held by a full time principal or teacher.
- (3) Expenditures for transportation of pupils to the local schools.

- (4) Expenditures for the tuition in, and transportation to, public elementary schools in adjoining towns.
- (5) In the case of towns having over five hundred families and exempted from the requirement of maintaining a four year high school, the actual expenditures made during that year for tuition in high schools in other towns."

In every case the money is distributed on the basis of the amount of every thousand dollars of state tax paid by each town.

The state also requires towns with a valuation of over a million dollars (which includes Boxford) to have a school nurse, and towns in a superintendency district (which includes Sandisfield and Oakham) are also required to have a joint school nurse. All the towns are members of superintendency unions. The Holden, Oakham, Paxton, Rutland union was begun in 1900; and Oakham paid the smallest amount of any of the towns toward the superintendents salary - \$320 in 1925, of which the state paid \$193.34. Sandisfield belongs to the Granville, Sandisfield, Southwick and Holland superintendency which was formed in 1903; in 1925 Sandisfield payed \$687.50 toward the superintendent's salary, and \$125 toward his traveling expenses, and the state reimbursed the town for \$43.05 of this expenditure. Boxford belongs to the Boxford, Middleton, Wilmington union and paid \$700 toward the superintendent's salary, of \$3,000 in 1925, as well as \$113.19 of his

traveling expenses. The state aided the town in paying this to the amount of \$386.67.

The state also aids in providing high school education for children in towns which do not have high schools. According to the law as amended in 1930, 48 -

"If a town of less than five hundred families does not maintain a public high school offering four years of instruction, it shall pay the tuition of any pupil who resides therein...and attends a high school of another town. Such a town shall also, through its school committee provide, when necessary, for the transportation of such a pupil at cost up to forty cents for each day...If, however, the distance between the pupil's residence and the school he is entitled to attend exceeds three miles, the town may be required to expend for such pupil an amount up to eighty cents a day."

The state reimburses the town for the whole amount of the high school tuition if the town's valuation is less than \$500,000; if it is over \$500,000 but less than \$1,000,000 for three fourths of the amount, and if over \$1,000,000 for one half the amount. If the town expenditure per

thousand dollars valuation for schools is between \$4 and \$5, the state will refund half the sum sent by the schools for transportation; if between \$5 and \$6 of the local tax rate is spent for schools, the state will refund three quarters of the sum spent for transportation; if the rate exceeds \$6 the state will pay the total cost of transportation.

All in all, the conclusion is inevitable that the state has been most generous in helping the towns keep up the schools. This is a long sighted policy which is sure to bear rich fruits for without such aid the educational system of the three towns must long ago have fallen far below the average for the state.

The second town institution which is vitally important to the welfare of its inhabitants is the highway system. The earliest settlers in a town planned a system of trails which would allow them to help one another in time of trouble. The trails were changed into roads by removing brush, rocks and fallen timber, but no foundations were built for them, nor were good surfaces considered essential. Colonial labor was too scarce to warrant extra work to provide highways. After the Revolution the road systems in use were enlarged and improved; the roads in use about 1800 in each town are shown on the following maps. But the roads were not sufficient either in number or in quality to meet the increasing industrial needs of the towns, and since the towns could not provide them, private companies were chartered to do so; this introduced

the "Turnpike Era". The state allowed investors who constructed highways, to derive revenue therefrom by the collection of tolls. The turnpike companies in return, guaranteed to keep the turnpikes open to all who paid the required toll, and "to provide for their comfort and security" by maintaining the roads in good repair. Until 1805 each turnpike was authorized by a special act of legislature; after the passage of the general corporation law, the route of each proposed turnpike was investigated by five disinterested freeholders, appointed by the county in which the road was to be built; and if they reported favorably a charter was granted. There were ninety seven turnpike companies organized within twenty years, in all parts of the state; in general turnpikes were most numerous in towns which could not provide an adequate road system. Boxford never had a turnpike within its borders. Oakham was on the route of the famous "Sixth Massachusetts" which was incorporated June 22, 1799. The charter called for a road "from Amherst, near William Breton's house, through Pelham, Greenwich, Hardwick, New Braintree, Oakham, Rutland, Holden and Worcester to the great road in Shrewsbury". Records in Worcester and Northampton show that it was completed in 1800. According to one Reed (the clerk of the corporation) it was "forty three miles, 112 rods long, and cost \$35,000 or \$760 a mile". The turnpike in Oakham was built during the summer of 1800, and it is still the straightest dirt road in the township. In 1820, the corporation was allowed to discontinue in Pelham and Greenwich because

of the steep grades of the road; in 1829 the rest of the turnpike became a free country road.

In Sandisfield, there were several turnpikes chartered, though most of them were never constructed. They were:

1. The Tenth Massachusetts which was chartered in 1800 by the Farmington River Corporation. It was to follow the Farmington River through Sandisfield, Otis, Becket, Lenox, Richmond, and Hancock to the New York Line. This is still called "The Old Turnpike" today; it cost \$1340 per mile for 36 miles. In 1819 it was discontinued west of Lee; by 1854 the road was in bad shape, and in 1855 the whole turnpike was made a public road.
2. The Fifteenth Massachusetts was chartered in 1803; it was 19½ miles long and cost \$840 a mile. It was built from Sandisfield through New Marlboro, and over the top of Three Mile Hill in Stockbridge in 1809. In 1810 its receipts were \$114.81 and its investment \$16,533; in 1811 its receipts were \$114.81 and its investment \$193.23 so that it was anything except profitable to its incorporators. In 1829 it became a county road.
3. The Tyringham and Sandisfield Turnpike Corporation was given a charter in 1811 to open communication between the Housatonic River Turnpike in Lee, and the Center of Sandisfield. No records of it exists, so that probably it was never created except on paper.

4. The Clam River Turnpike Corporation was incorporated in 1841, from New Boston to Tyringham "up Clam River, down Hop Brook". The corporation never even made a survey for the proposed turnpike, because the turnpike era was over, and the Western Railroad coming in.

So far as possible there turnpikes, proposed and actual, have been indicated on map 66

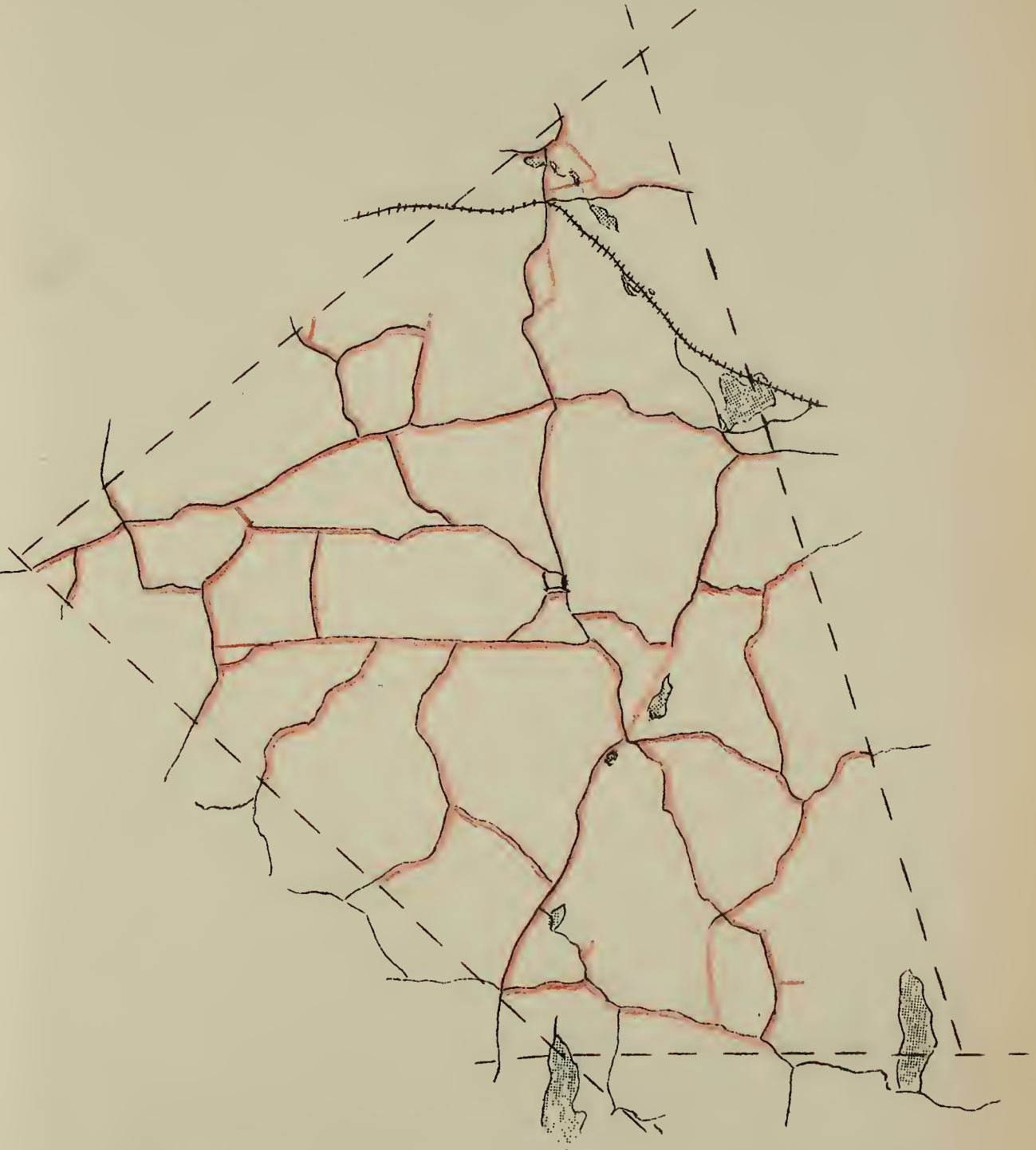
No further information is available on the mileage or condition of roads in the towns until late in the century. About 1875, when F. W. Boers was surveying for his series of County Atlases, he made large scale town maps on which the roads were accurately located. These road systems are shown on maps . In 1925, when Professor M. O. Langhear worked on the county soil surveys, he indicated on the town maps the roads which were then in use, as well as those which were abandoned. The 1925 road system is shown by maps also.

These maps, for 1800, the turnpikes, 1875 and 1925 give a fair picture of the development of the highway system in each town.

By 1893 the state highway commission was issuing rather full reports on the types of roads in the towns. The statistics given are as follows: 67

	Boxford	Sandisfield	Oakham
Total	55	85	48
Intertown	35	50	24
Local	15	35	24
Gravel	55		22
Dirt		85	26

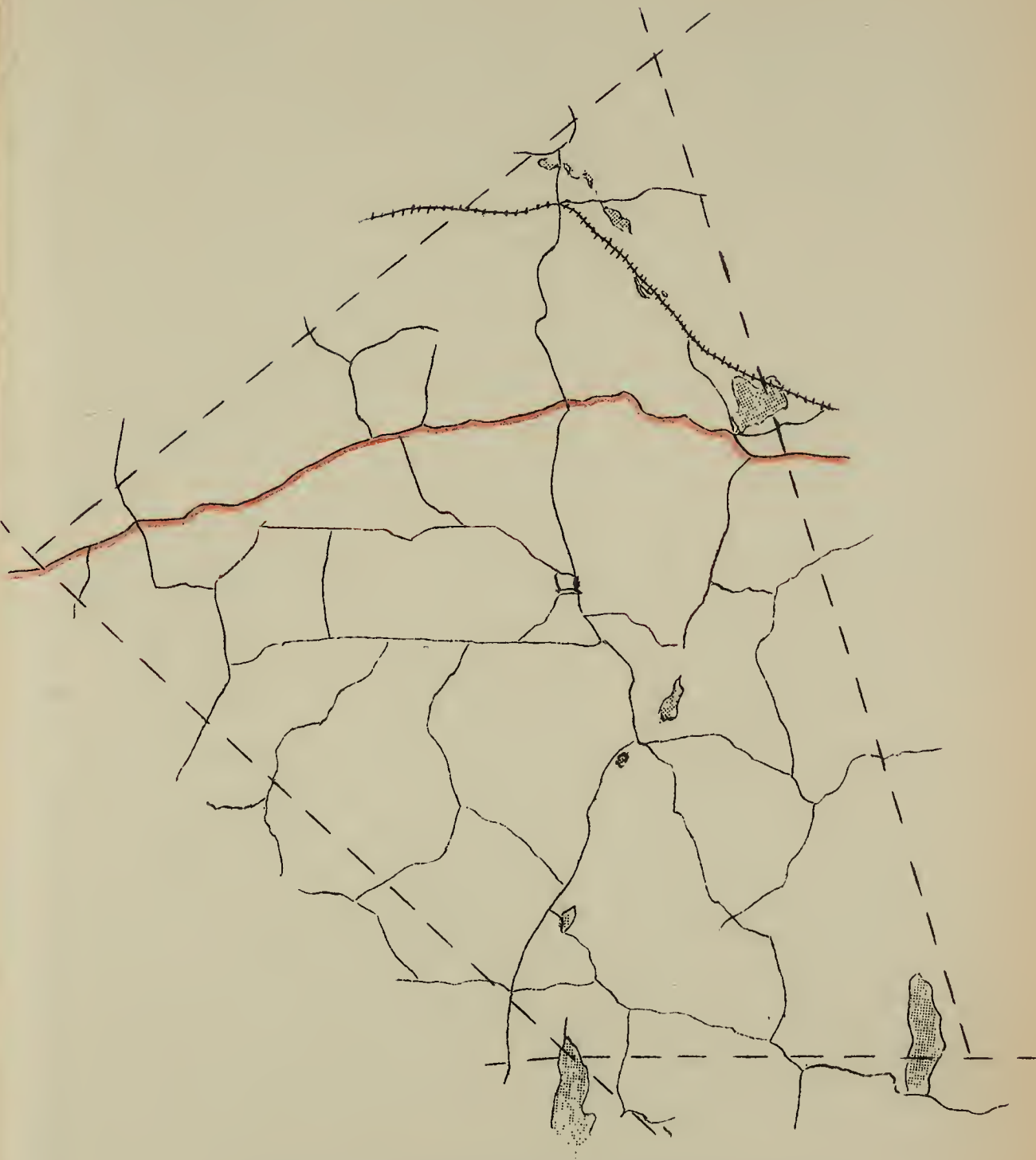
Outline Map of
OAKHAM, MASS.



ROADS IN OAKHAM, 1800

Wright - "Soldiers of Oakham".

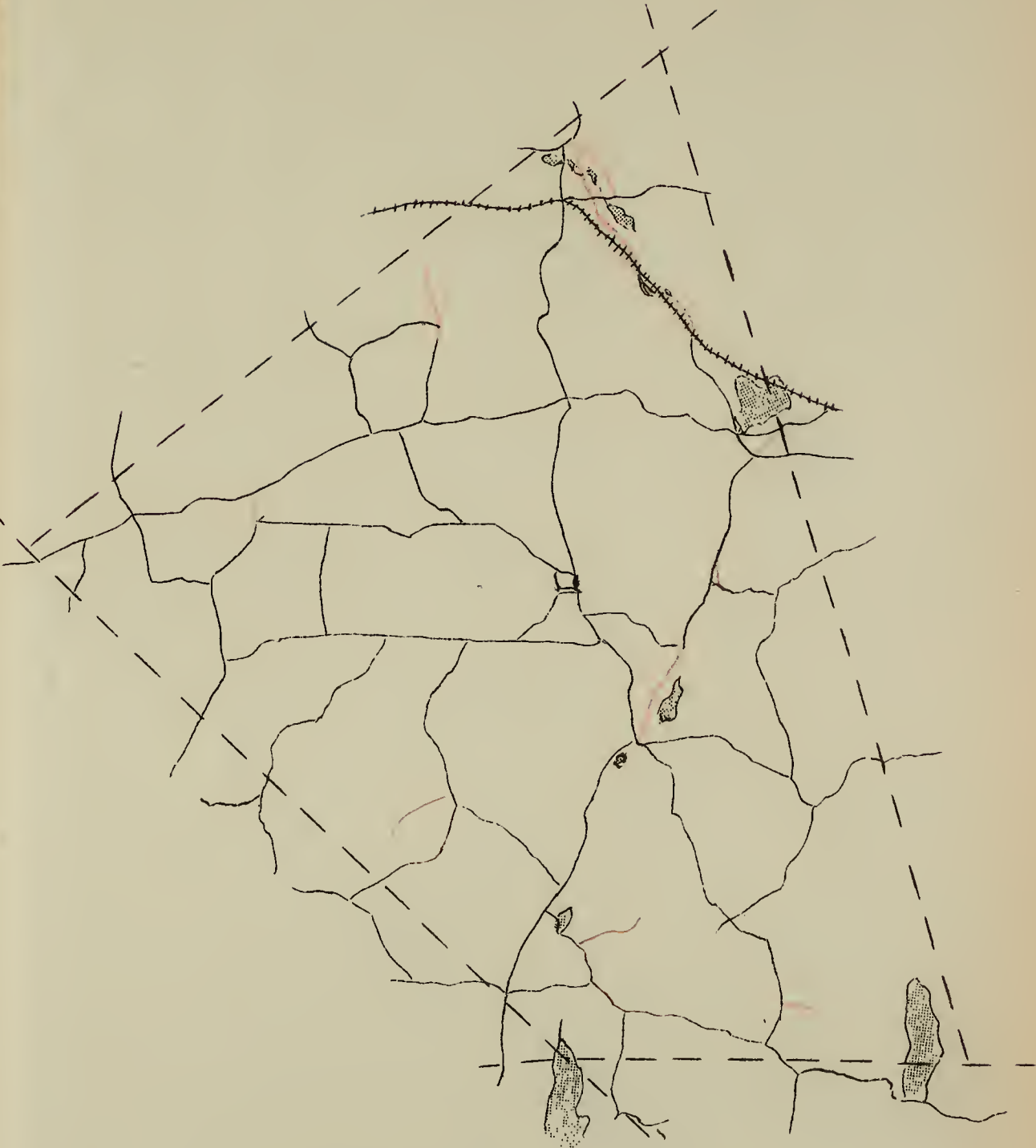
Outline Map of
OAKHAM, MASS.



THE SIXTH MASSACHUSETTS TURNPIKE, 1800

Wood - "Turnpikes of New England".

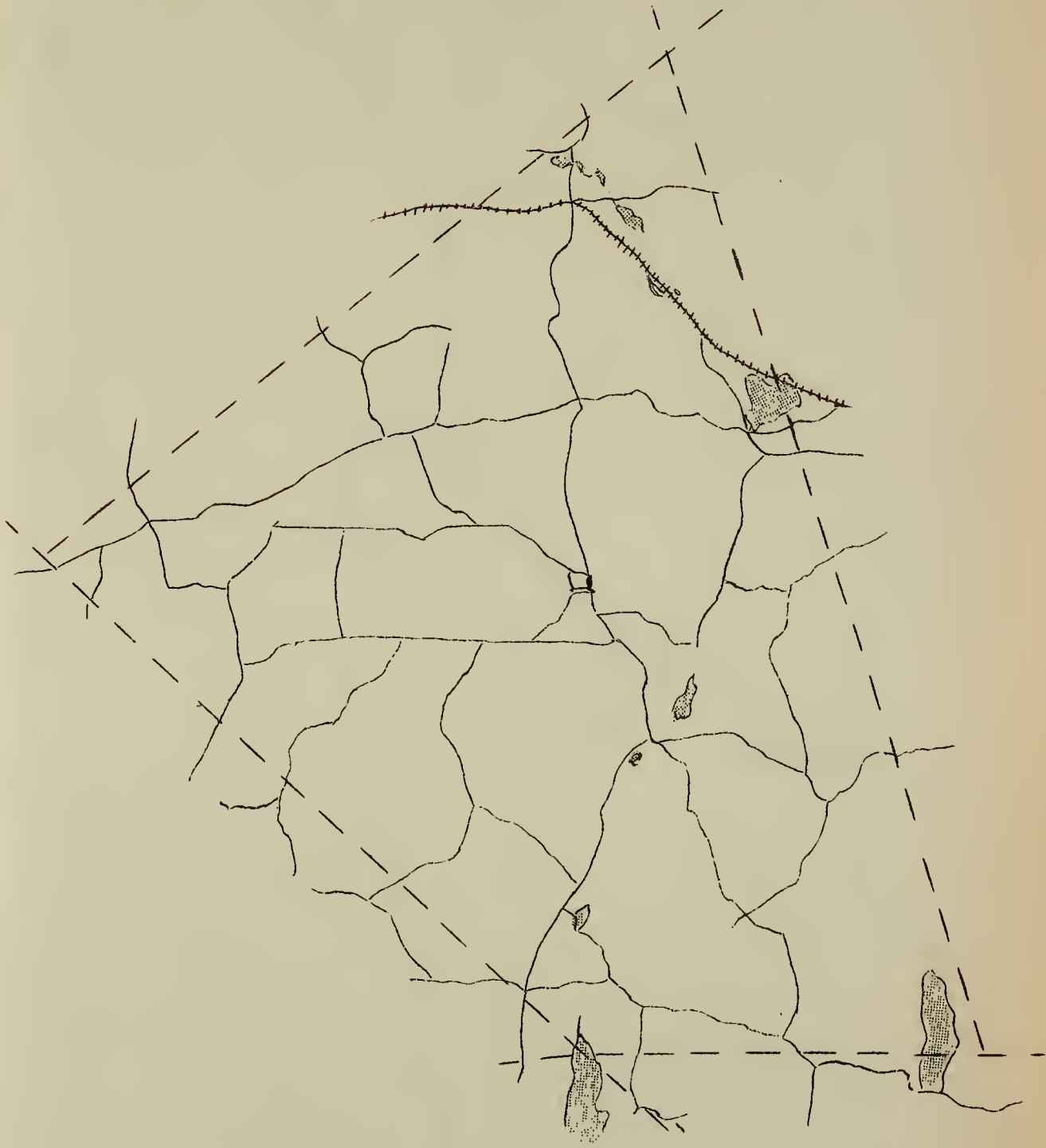
Outline Map of
OAKHAM, MASS.

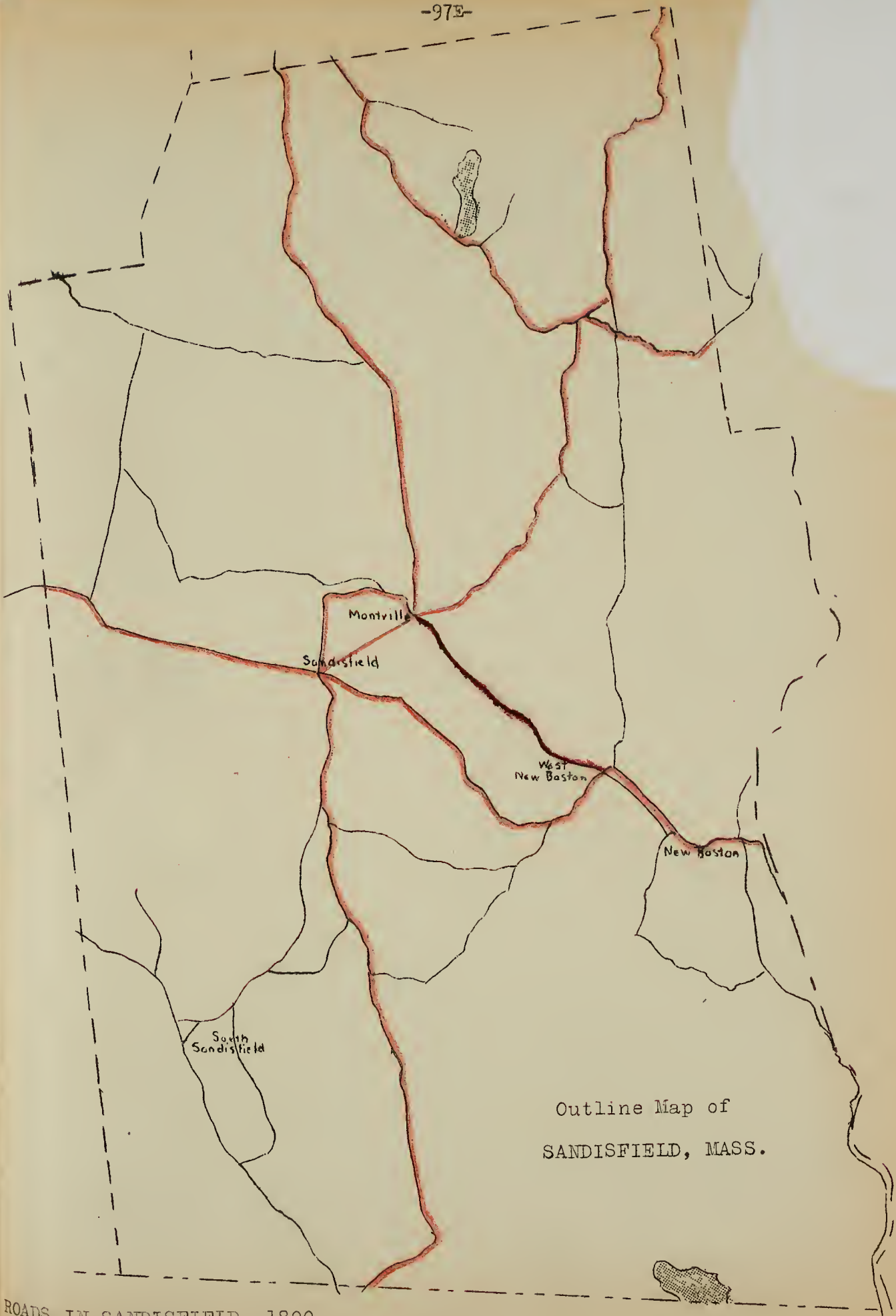


ROADS IN OAKHAM, 1875

Beers - Atlas of Worcester County.

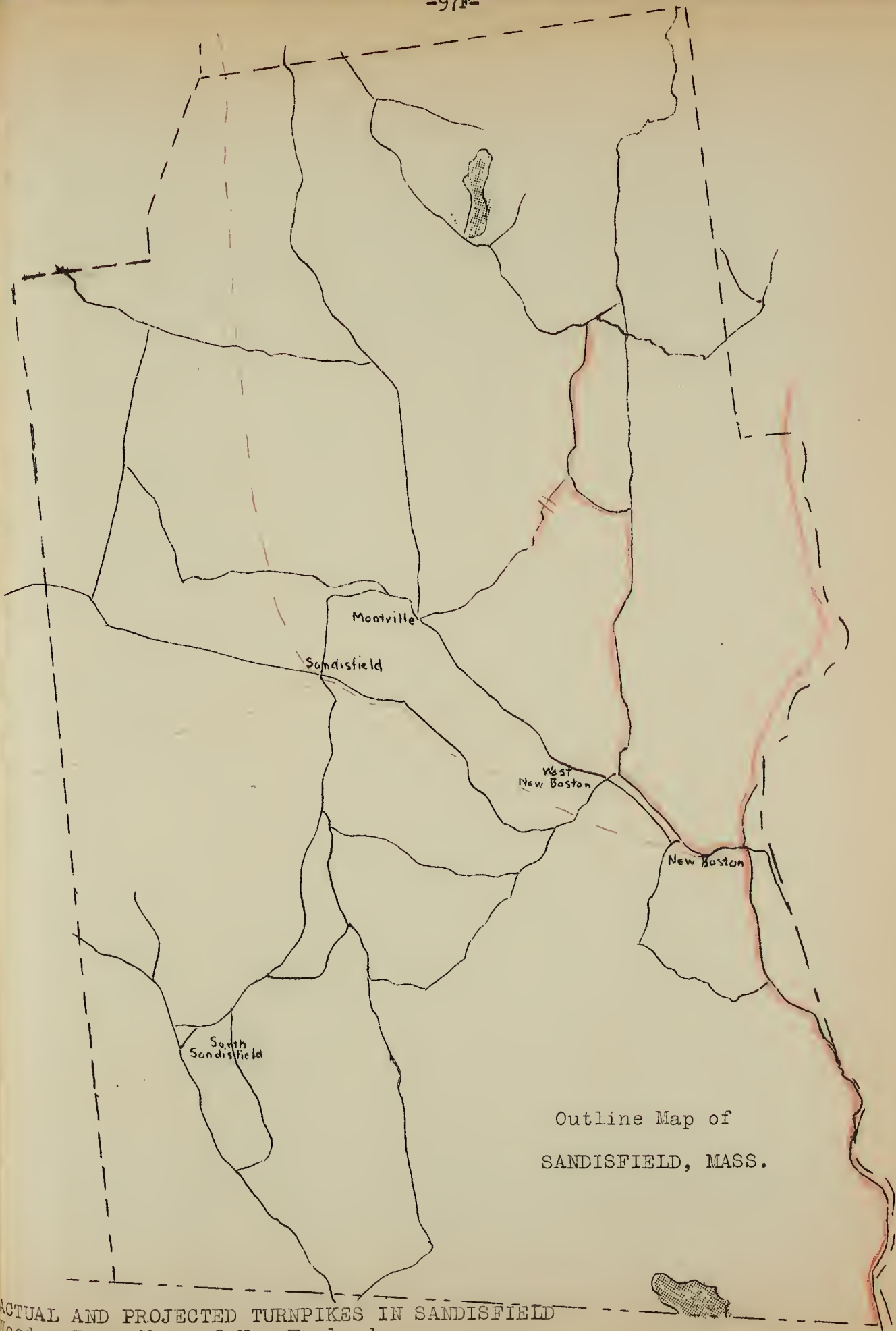
Outline Map of
OAKHAM, MASS.





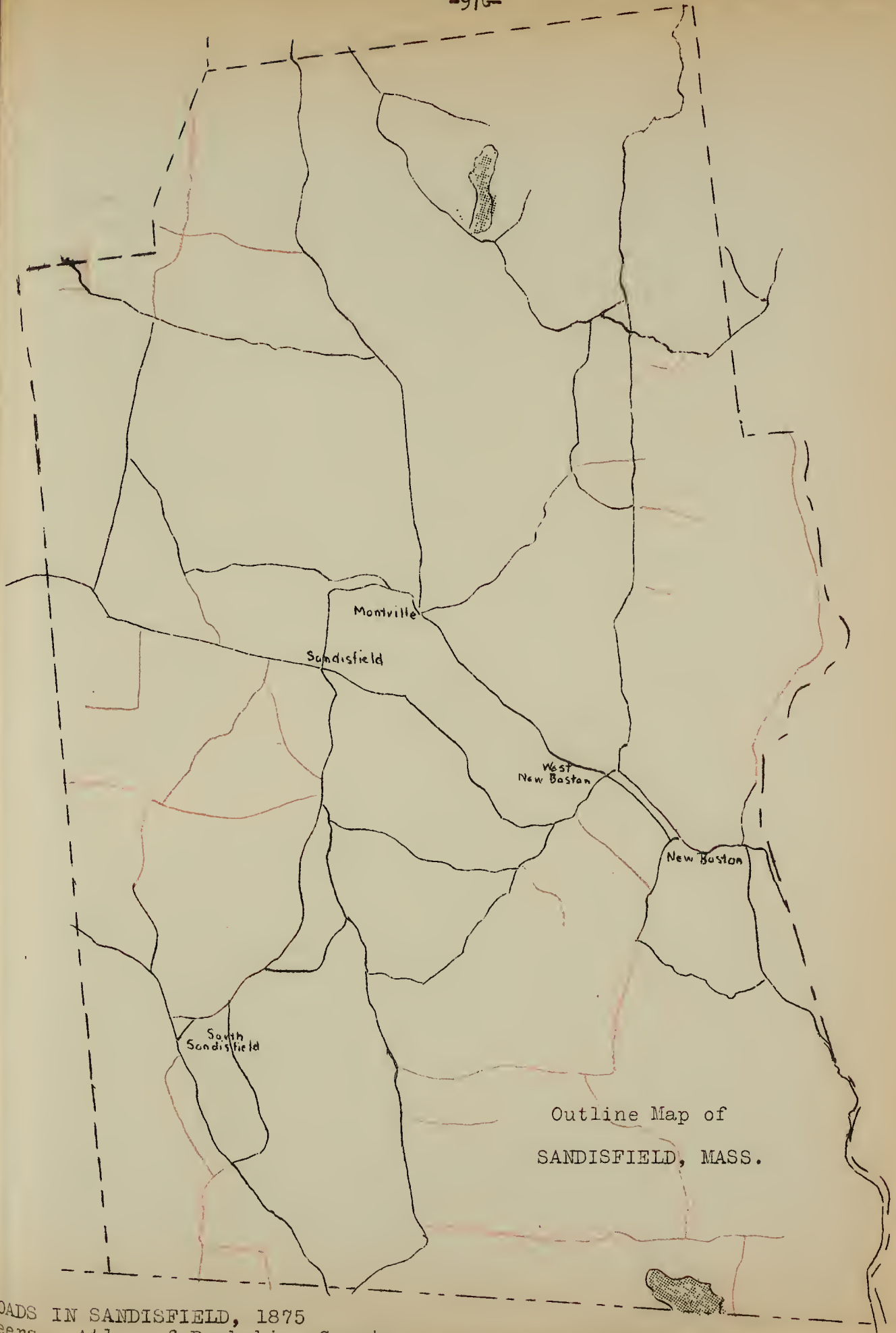
Outline Map of
SANDISFIELD, MASS.

ROADS IN SANDISFIELD, 1800
Keith - Early Roads in Berkshire County.

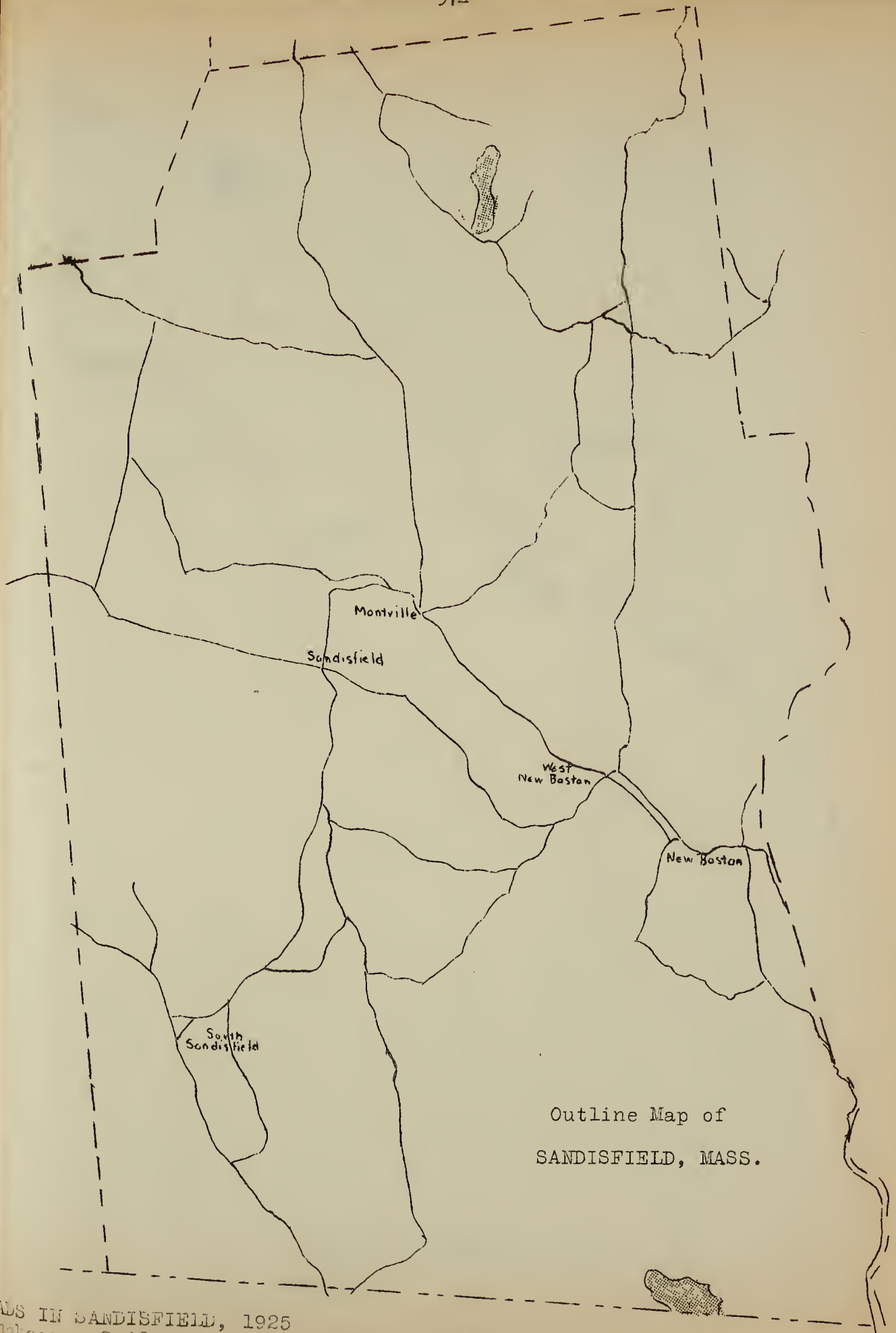


Outline Map of
SANDISFIELD, MASS.

ACTUAL AND PROJECTED TURNPIKES IN SANDISFIELD
Wood - Turnpikes of New England.

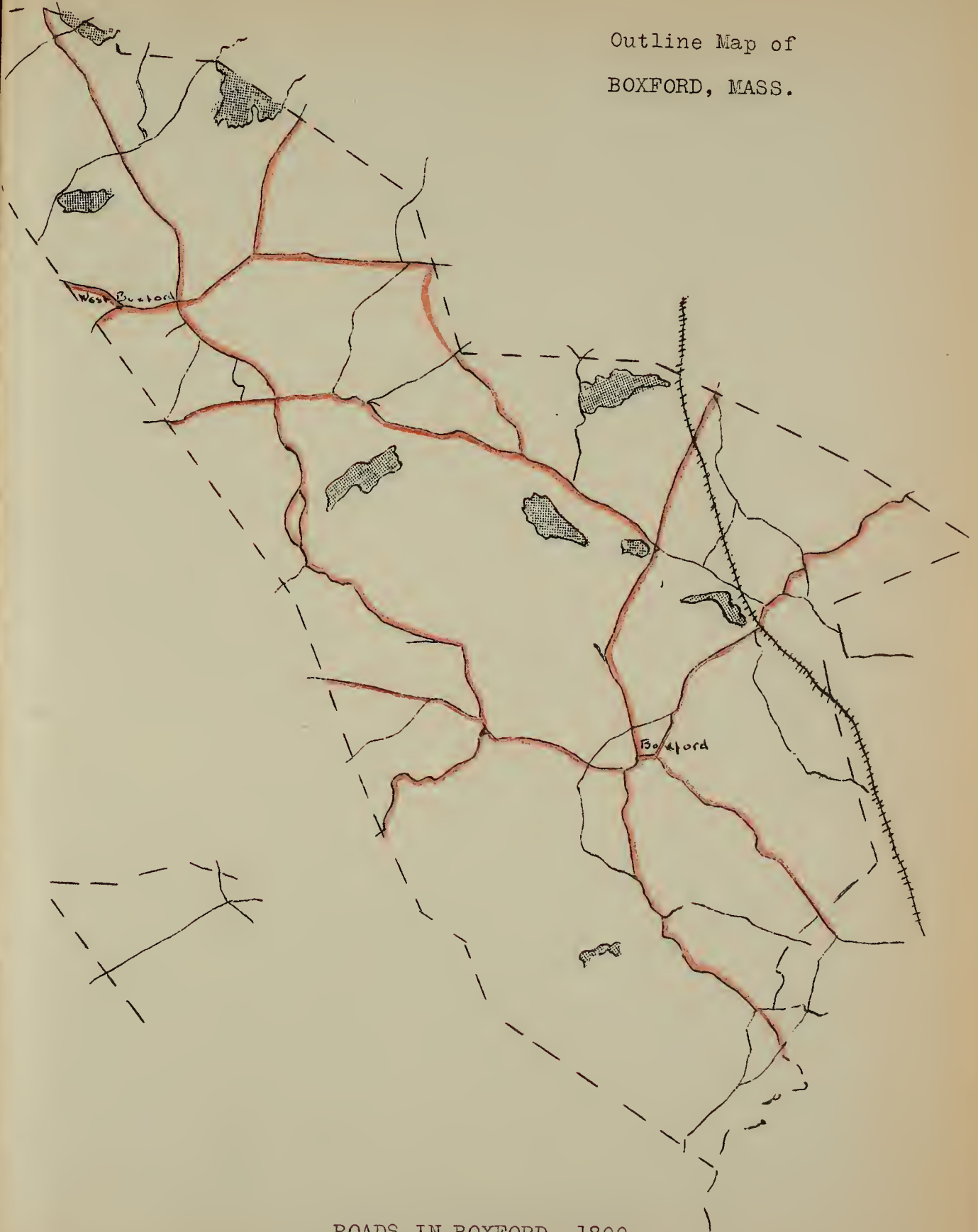


Outline Map of
SANDISFIELD, MASS.



Outline Map of
SANDISFIELD, MASS.

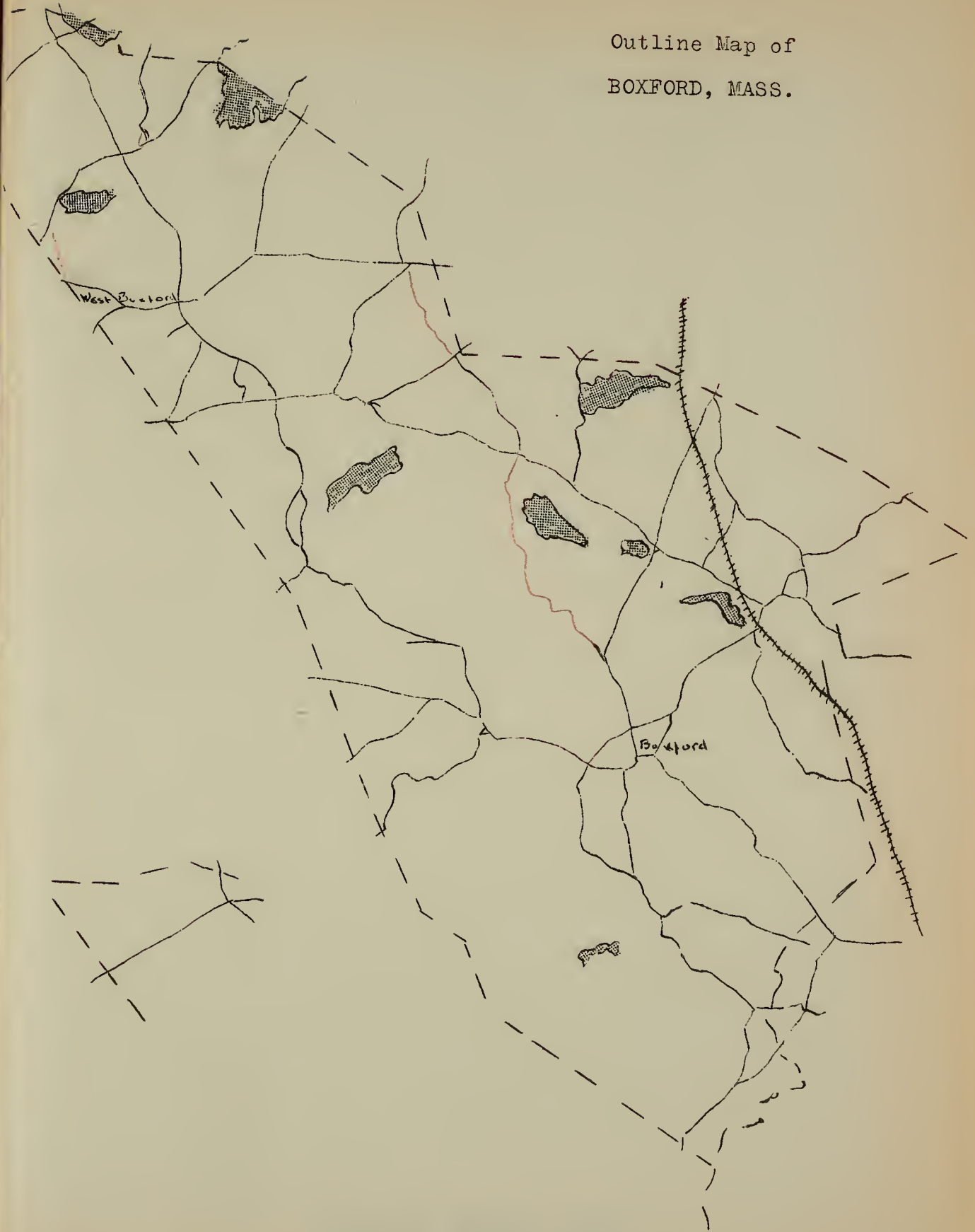
Outline Map of
BOXFORD, MASS.



ROADS IN BOXFORD, 1800

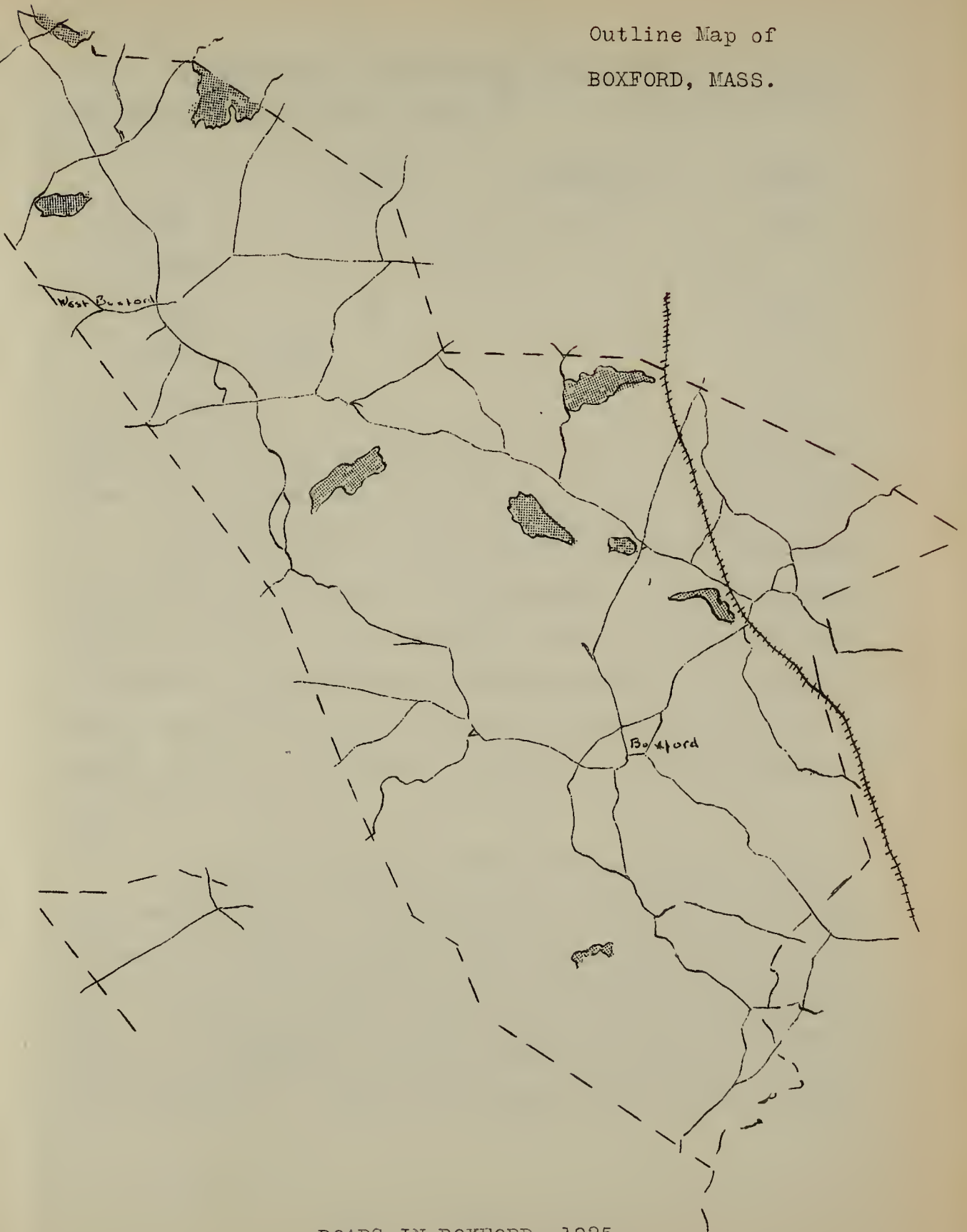
Perley - History of Boxford.

Outline Map of
BOXFORD, MASS.



ROADS IN BOXFORD, 1875

Outline Map of
BOXFORD, MASS.



ROADS IN BOXFORD, 1925

Lanphear - Soils Survey of Essex County.

in 1914 the U. S. Department of Agriculture gave the figures
68
for the roads in the towns as follows:

	Boxford	Sandisfield	Oakham
Total	50	100	50
Macadam		4	
Gravel	20		10
Graded and drained earth roads	30		10

Since these figures for specified kinds of roads do not give the total figure, it is presumed that the rest of the roads are "plain dirt" roads.

In 1932, according to the Commissioner of Public Works, Frank
69
E. Lyman, the State Department has no knowledge of the particular types of road in each town. However, Boxford according to their records has 52 miles of road, none of which are incorporated into the state highway system. Oakham has 2.84 miles of state highway and 45 miles of town roads, and Sandisfield has 7.50 miles of state highway and 79 miles of other roads.

Boxford has always been noted in Essex County for its good gravel roads; in 1919 the Highway Commissioner called attention to them by saying "One town in particular commented upon because of the excellence of its roads was Boxford; and yet six of the nine municipalities by which it is surrounded are very much richer and better able to take care
70
of their highways." Oakham and Sandisfield have had fairly adequate

roads, though they were impassable for a time during the spring. The costs for maintaining the highway systems of the towns increased steadily during the nineteenth century. At first people were allowed to "work out" their road taxes, but this was inefficient and unsatisfactory. The towns and state's industrial interests caused the formation of the State Highway Commission in 1893 which was to develop a "State Highway System". However, it was obvious that the small town roads which had no place in a state highway system had to have assistance also. Beginning in 1901 and continuing down to the present a series of acts have been passed which are called the "Small Town Acts". The State Division of Highways is charged with the duty of spending five per cent of the annual total appropriation for state highways on roads which are not part of the state system, which are located in towns having a valuation of less than one million dollars; another five per cent is distributed to towns on the same basis, if they will agree to expend an equal amount. The towns maintain these roads. The "Small Towns Act" of 1921 (1921, 81, 26-29) also supplies money to towns for highways, provided that the road mileage valuation (town's valuation divided by town road mileage) is not in excess of fifty dollars a mile, and that the town contributes an amount ranging from \$12.50 to \$125 a mile (depending on the road mileage valuation). In 1915 the "Western Highways Act" was passed (221) authorizing the State Highway Commission to construct seventeen specially designated roads in the five western counties.

One of these roads was to go through Sandisfield, the so called Route 3 from Otis to Sandisfield which had to be discontinued in 1918 because of lack of funds; Oakham was located on Route 12, from Rutland to Peterham. The motor vehicle fees and fines (1921,90) are also expanded in part (20 per cent) on town or county highways which are located on through routes; and lately Federal Aid has been available to Oakham and Sandisfield for through routes, also. The amounts available from the state and Federal funds for each of the towns since 1900 are shown on Table XXX. The great increase in these expenditures indicates that the larger governmental bodies are fully aware of the importance of providing easy access to all parts of the state. Obviously, the present adequate highway system of each town has been made possible to a large extent by the contribution of funds from sources outside the town itself.

The third institution of which some study was made is the church. Each of the towns was charged to provide a church for its inhabitants in its charter, and attention was called in the historical sketch of each town to the church as the town's all important first social institution. The Congregational churches in these towns have had the largest membership, so it was these churches which were studied to see whether the townspeople were still able to maintain them. According to the "Congregational Yearbook", the Massachusetts Home Missionary Society, which helps small congregations finance themselves, does not help the

Table XXX

State and Federal Aid to Highways in Three Massachusetts Towns

(Source - Massachusetts Department of Public Works)

Year:	Sandisfield		Boxford		Oakham	
	State	Federal	State	Federal	State	Federal
1902:	\$ 1,200.00:	:	:	:	:	:
1930:	640.00:	:	:	:	:	:
1904:	652.00:	:	:	:	\$ 896.00:	:
1905:	756.00:	:	:	:	456.00:	:
1906:	804.00:	:	:	:	:	:
1907:	868.00:	:	:	:	536.00:	:
1908:	900.00:	:	\$ 680.00:	:	530.00:	:
1909:	500.00:	:	381.00:	:	500.00:	:
1910:	1,250.00:	:	:	:	500.00:	:
1911:	500.00:	:	600.00:	:	500.00:	:
1912:	1,000.00:	:	600.00:	:	500.00:	:
1913:	800.00:	:	:	:	1,500.00:	:
1914:	1,000.00:	:	:	:	500.00:	:
1915:	933.12:	:	:	:	1,500.00:	:
1916:	1,499.94:	:	450.00:	:	2,400.00:	:
1917:	1,132.79:	:	344.81:	:	2,514.51:	:
1918:	3,490.17:	:	2,874.90:	:	1,090.21:	:
1919:	1,883.36:	:	2,770.11:	:	2,211.51:	:
1920:	2,798.26:	:	4,000.00:	:	3,634.11:	:
1921:	3,204.17:	:	:	:	4,690.38:	:
1922:	4,497.39:	:	4,120.00:	:	8,012.32:	\$38,037.25 ¹
1923:	7,625.24:	:	6,740.35:	:	5,939.90:	:
1924:	12,235.09:	2:	6,202.24:	:	8,691.69:	:
1925:	15,217.95:	\$122,931.25:	5,825.00:	:	5,541.86:	:
1926:	9,337.83:	34,803.50:	7,755.39:	:	3,375.00:	:
1927:	12,917.01:	:	8,162.25:	:	7,859.13:	:
1928:	275,555.96:	:	9,391.53:	:	9,624.20:	:
1929:	13,747.51:	32,037.28:	20,625.67:	:	9,774.97:	:
1930:	70,361.08:	45,570.00:	37,304.02:	:	9,296.24:	:
1931:	29,069.42:	18,749.36:	33,896.27:	:	10,422.08:	37,275.00 ¹
	:	:	:	:	12,558.14:	:

1 "Barre-Oakham"

2 "Otis-Sandisfield"

3 "Sandisfield-Tolland"

church in Boxford; it contributes \$200 a year to the Oakham congregation, and \$400 a year to the Sandisfield church. In the latter case, a like sum has been contributed annually for fifty seven years, while Oakham has been helped for only five years. In this case also, the sharp division of the towns as to resources is seen; two of the three towns have to be helped to maintain this third, traditionally significant, social institution. The membership of the churches in the following years is indicative of the change:

	1850	1860	1930
Boxford	52	133	130
Oakham	156	170	98
Sandisfield	206	41	20
New Boston		48	12

Do these facts mean that the towns have been decadent? Not at all; it is a principle of normal human conduct to migrate to areas where the possibilities of a richer, fuller life for oneself and one's children seem less remote than they seem to the owner of a farm in a typical Massachusetts agricultural town which has no particular natural or location resources. The pull of a developing industrial growth such as occurred during the Industrial Revolution of the Nineteenth Century inevitably drew people away from a small scale, self-sufficing, agricultural industry; the development of new agricultural areas in the

West was also an inexorable force in drawing those who loved farming into areas where it was a more profitable occupation than it was in Massachusetts hill towns. The mere fact that a relatively large depopulation has occurred, that industries have declined, or that town institutions are no longer self-supporting, means nothing except that the townspeople were sturdy, intelligent people who had the courage to try new living and working conditions in an effort to adapt themselves to the changing times. It is symbolic of the growth of the country that every town has justified itself many times over by supplying youth, and intelligence, and guidance to newer areas throughout the Union.

Other Possible Resources for the Towns of Boxford, Oakham and Sandisfield

It seems fairly well established that the people who live in the three towns studied will not be able to make an increasing income from the land which they till, or from the few small industries which have survived the era of "Big Business". What then, is their future to be? None of the three is decadent, in the sense that it has undergone a general breaking down of institutions, and a general incidence of subnormal families; in different measure, each has kept its individuality and has developed a community life. The town of Boxford has a very definite, well-set-up social organization which is subsidized by incomes received elsewhere; it is near industrial centers and easily accessible, so that many people are buying homes there for year round residences. Two of the sons of Lydia Pinkham have bought large farms and are developing them into estates, while many other Boston business men have located in the town. Oakham enjoys a somewhat less accessible location; not many new year-round people have come into the town recently, and yet the town maintains itself in fair degree. The people are typical Americans; they do not seek aid for their town institutions except when absolutely essential. In Sandisfield, least accessible of all the towns, the situation is less hopeful. New people are coming in, but they, for the most part, are poor. Land is very cheap, but farming is not profitable under any circumstances. To what can they look forward?

There are not many possible sources of new income for the towns. In general, any additional non-agricultural income is likely to be gained either from the increased use of land for forests, the use of land for recreational purposes, or from a highly problematical development which depends on nearby industrial areas. There are many reasons why agricultural land is abandoned. It loses its fertility; economic changes may occur which make its further cultivation unprofitable; some lands which have been cleared should never have been taken out of wood production in the beginning. This land is usually very favorable for tree growth. The soil which may have been worn out for agriculture, often has desirable constituents for tree growth, and the sod has been well broken so that wind-borne seeds can reach the land. Then too, seedlings do not have to compete with other trees for light, moisture or growing space, nor is there inflammable matter on the ground in which forest fires can develop to interfere with the seedlings during their period of establishment. For all these reasons land which goes out of farms usually goes into woodland. This has been shown graphically on the charts, the material for which is presented in tables XXIX A, B, C. In every case, the acreage of woodland is increasing rapidly. Between 1865 and 1930 the woodland in Duxford doubled; in Oakham it was increased four times, and in Sandisfield about eight times, which roughly indicates the desirability of the land of the township for other purposes. In 1915 the state forester made a careful survey of the wood^land resources

Table XXIX

Total Acreage in Farms and in Woodland in Boxford, Oakham and Sandisfield, Massachusetts

(Source - State and Federal Census)

Year	Boxford		Oakham		Sandisfield	
	All Land in Farms	Wood- land	All Land in Farms	Wood- land	All Land in Farms	Wood- land
1865	10,570	4,487	12,615	2,608	30,895	4,487
1875	9,114	3,206	10,971	2,204	29,968	5,188
1885	12,980	4,822	11,848	4,097	32,432	10,424
1895	14,141	5,938	13,265	6,714	32,755	10,503
1905	14,587	8,728	13,698	5,956	24,413	21,575
1915	13,212	10,467	13,304	8,562	11,017	22,410
1925	9,718	10,115	7,924	9,917	16,163	29,953
1930	6,732	10,276	7,578	9,702	11,076	33,909

CHART 5

LAND IN FARMS AND WOODLAND IN BOXFORD

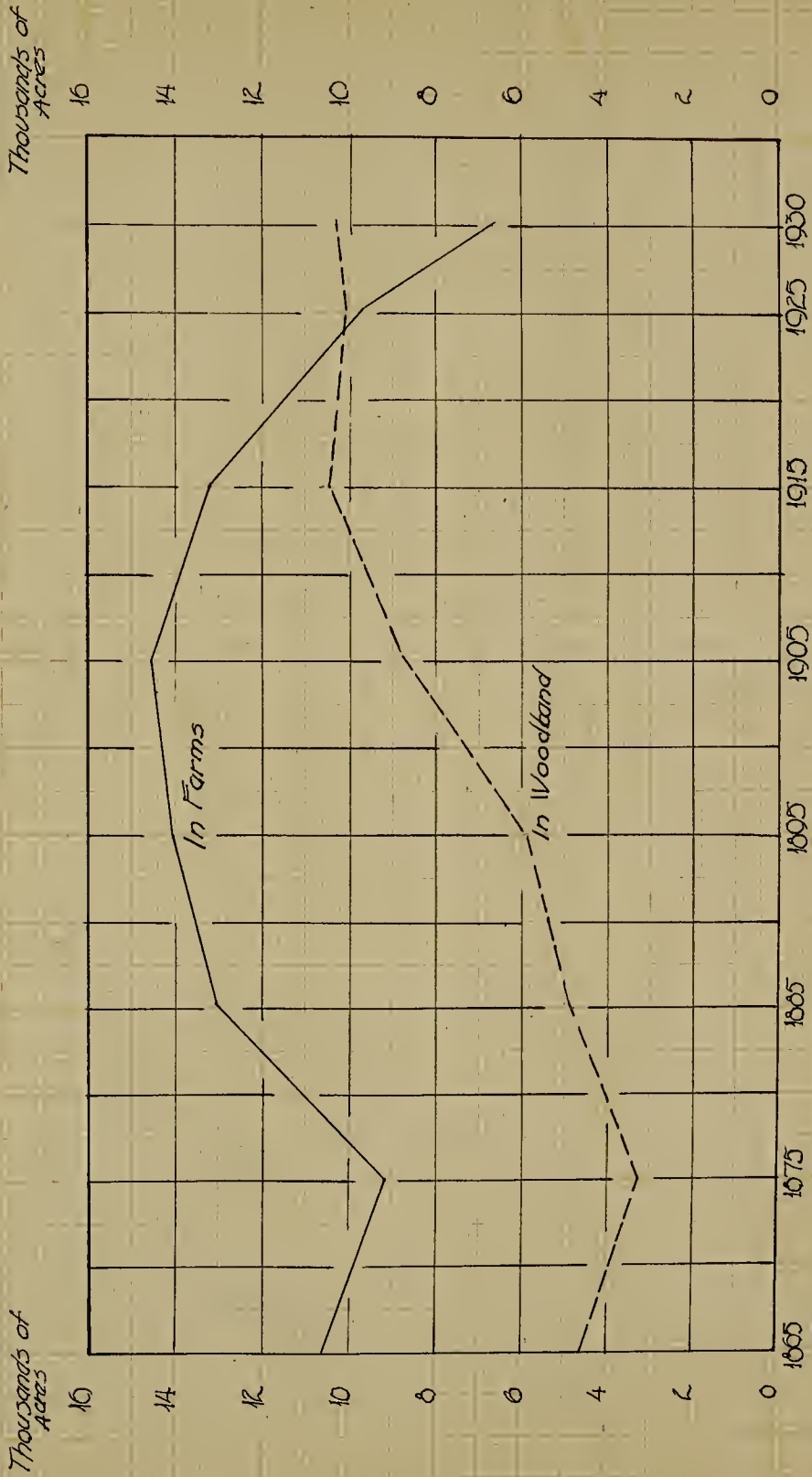


CHART 6
 LAND IN FARMS AND WOODLAND IN OAKHAM

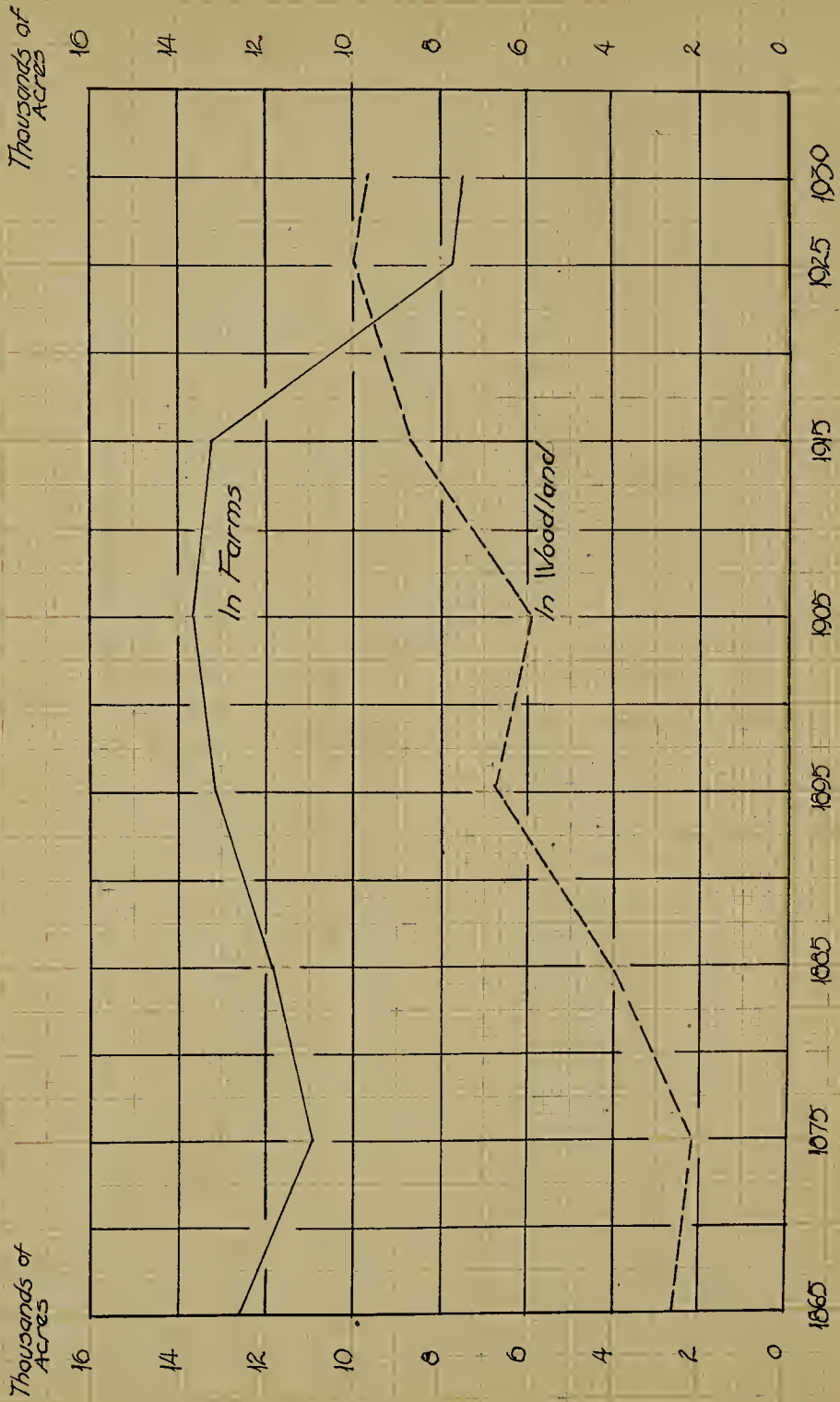
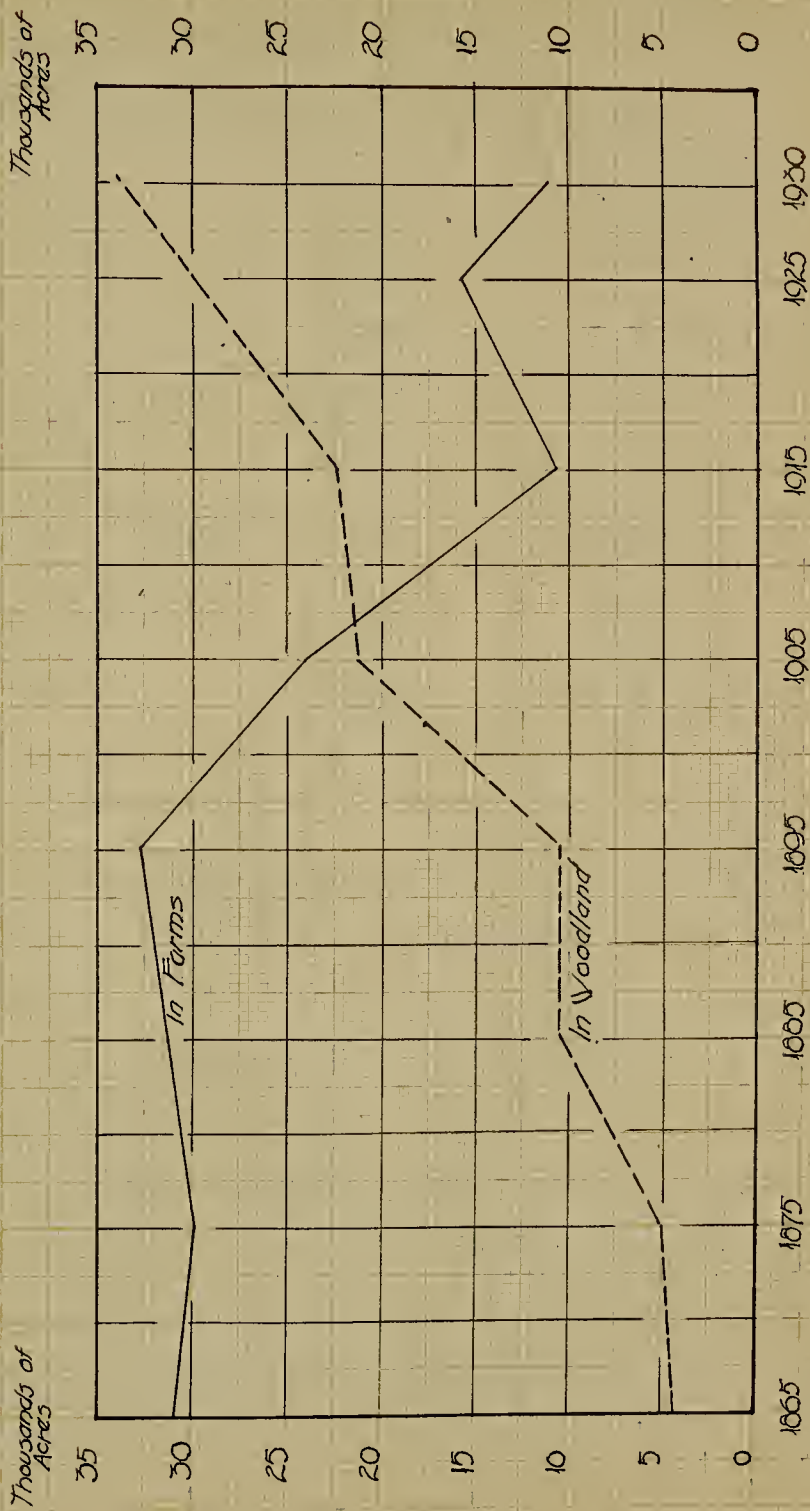


CHART 7

LAND IN FARMS AND WOODLAND IN SANDISFIELD



72

of the state. This is the only authoritative study which has been made of the forest resources of the Commonwealth, so that extensive use of it has been made in the following discussion.

In Oaahan the woodland was classified as follows:

Type of Wood	Acres	% of Forest
Chestnut	1,285	15
Oak	502	6
Chestnut and oak	1,218	14
White pine	1,781	21
Hardwoods and white pine	2,270	27
Maple and birch	1,298	15
Pitch pine	<u>208</u>	<u>2</u>
	8,562	100

These type are clas ified as follows:

1. Chestnut - stands which con ain 75 per cent chestnut, the remaining 25 per cent being mainly oak with some pine or soft maple.
2. Oak - stands which contain 75 per cent oak with a little chestnut or scattered pine in mixture.
3. Chestnut and oak - described by name, although there are always a few other trees in the mixture, such as maple, hickory or pine. Chestnut usually excels the oak in size and number, since it is a vigorous grower.

4. White pine - this type is more likely to be a pure stand than any of the others, although any stand with more than 60 per cent pine is so classified. The hardwoods in mixture are birch, maple and oak, which are overtopped by the pine and gradually die out leaving almost pure pine in the oldest age classes.
5. Pine and hardwoods - stands with more hardwood than coniferous growth, usually in the ratio of 2 - 1.
6. Birch and maple - stands which are tag ends of the forest growth - often sugar maple and white birch are found in run-out pastures.

The State Department of Forestry is buying up forest acreage in Oakham as it becomes available at the legal limit which the department may pay which is \$5 an acre. Since the Metropolitan Water Board began to buy land in Coldbrook at much higher per acre values, the wasteland values all over town have become inflated and the Department had to stop buying land in 1928. There are 800 acres of State Forest in the town, 250 acres of which have been planted to pine during the last eighteen years. The location of the Oakham State Forest is shown on the following map. It is entirely likely that the area of the town devoted to forests will continue to increase slowly, as fewer farms are operated; and it is essential that woodland be given adequate attention by the farmers and non-resident farm land owners in order that it may provide a profitable source of income to them.

Outline Map of
OAKHAM, MASS.



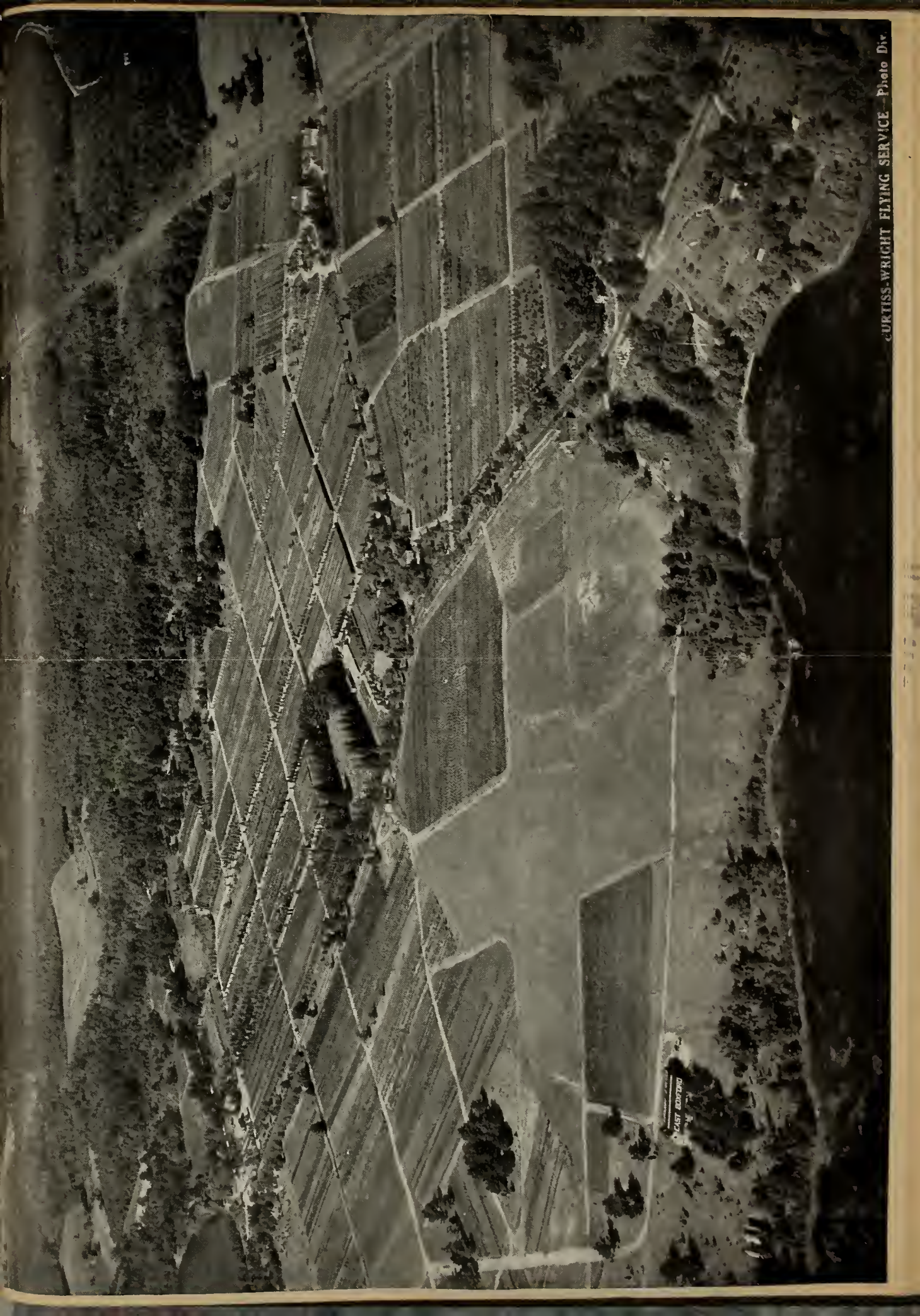
STATE FORESTS IN OAKHAM

In Boxford the state forester reports the following types
73

of forest:

Forest type	Total Acres	% of Forest
Pine	4162.8	39.8
Oak	1533.0	14.6
Misc. Hardwoods	703.5	6.7
Maple and birch	2446.5	23.4
Pure and Hardwoods	<u>1621.0</u>	<u>15.5</u>
	10466.8	100.0%

These types of stands are similar to those in Oakham, so need no further definition. The town is in a fine white pine section which has been cut for a number of years. Natural reproduction does not entirely replace the cut trees, so that reforestation is taking place both on the cut over land, and on the 700 acres of idle land noted by the forester in 1915. The forest section of the town is roughly defined by drawing a line across the narrowest point of the township between West Boxford and Boxford. South of this line, with two exceptions around the town of Boxford and the settlement of Boxford Station, all the land is in forest. That the land is particularly favorable for tree growth is shown by the fact that the Kelsey Nurseries began a branch in Boxford in 1912. The area was so well adapted that the whole Nursery was moved to Boxford from North Carolina in 1920. Mr. Kelsey owns 500 acres which are shown in the following illustration; heavily wooded surroundings of the nursery also show the woodland possibilities of the town. There is no state forest in Boxford,



CURTISS-WRIGHT FLYING SERVICE—Photo Div.

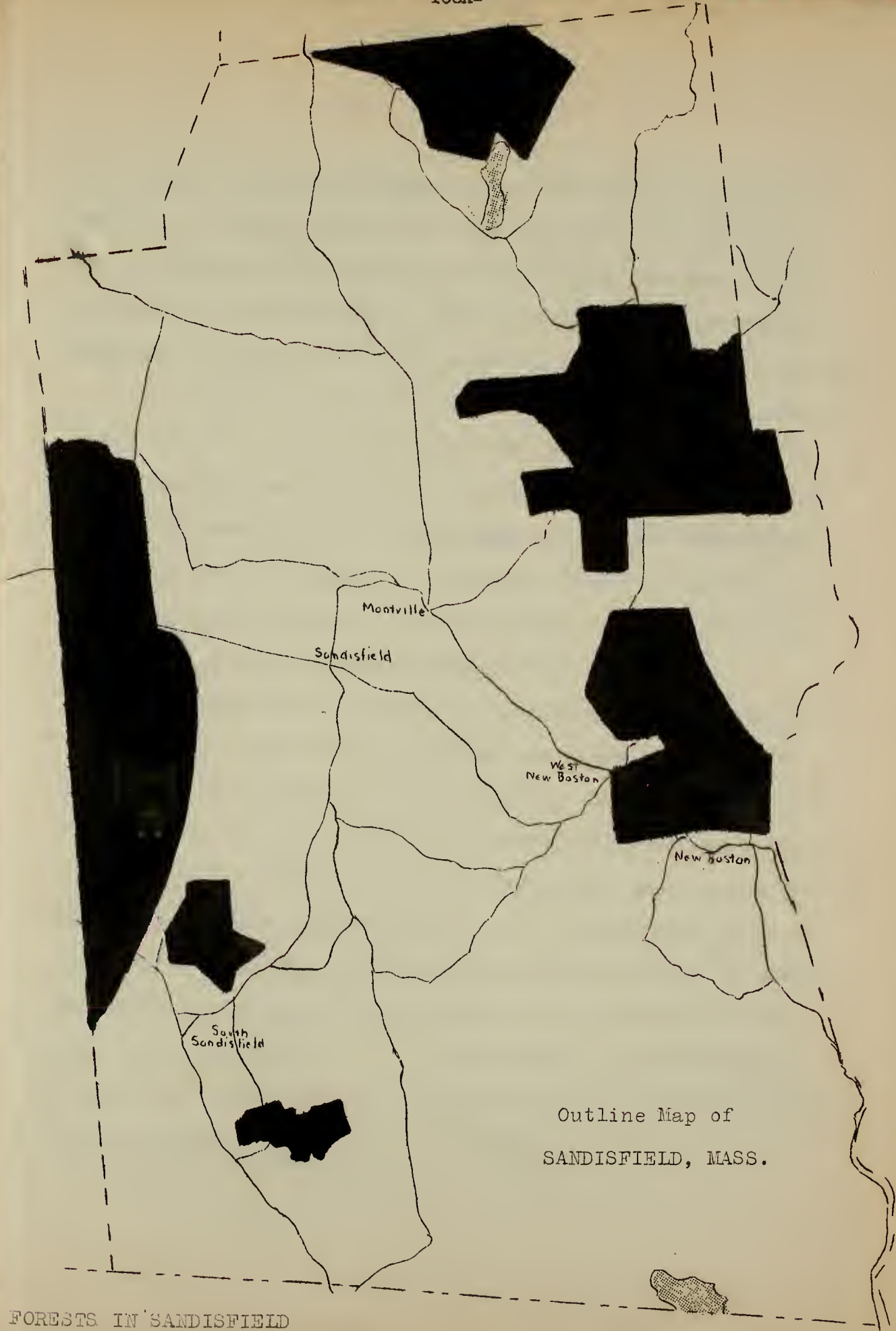
although the Fish and Game Division has a game sanctuary of 325 acres in the township. The price of land in the town is usually higher than \$5 an acre, and the locations of woodland available at \$5 are too scattered to make a state forest feasible.

In Sandisfield the state forester reports the following types of forest:

Forest Type	Total Acres	% of Forest
Pine	2,983	13
Hardwoods	9,269	41
Hemlocks and Hardwoods	6,641	30
Hemlock	1,691	8
Pine and Hardwoods	<u>1,906</u>	<u>8</u>
	22,490	100%

The timbers in small scattered patches all over the township, and especially on the hills. The logging which has been done has left the woods in bad shape, both as to fire hazards and as to reproduction. The deserted farms are mainly growing up to brush and pine; in fact the merchantable timber has been culled so closely that the forest cover is of very poor quality now. The forester reported 4,100 acres of idle, waste land which was being completely neglected, so the State Forestry Department has bought 3,895 acres for a state forest in which definite reforestation is being carried on.

These woodland areas which make up an appreciable part of each township, comprise in the aggregate about 60 per cent of the total area



Outline Map of
SANDISFIELD, MASS.

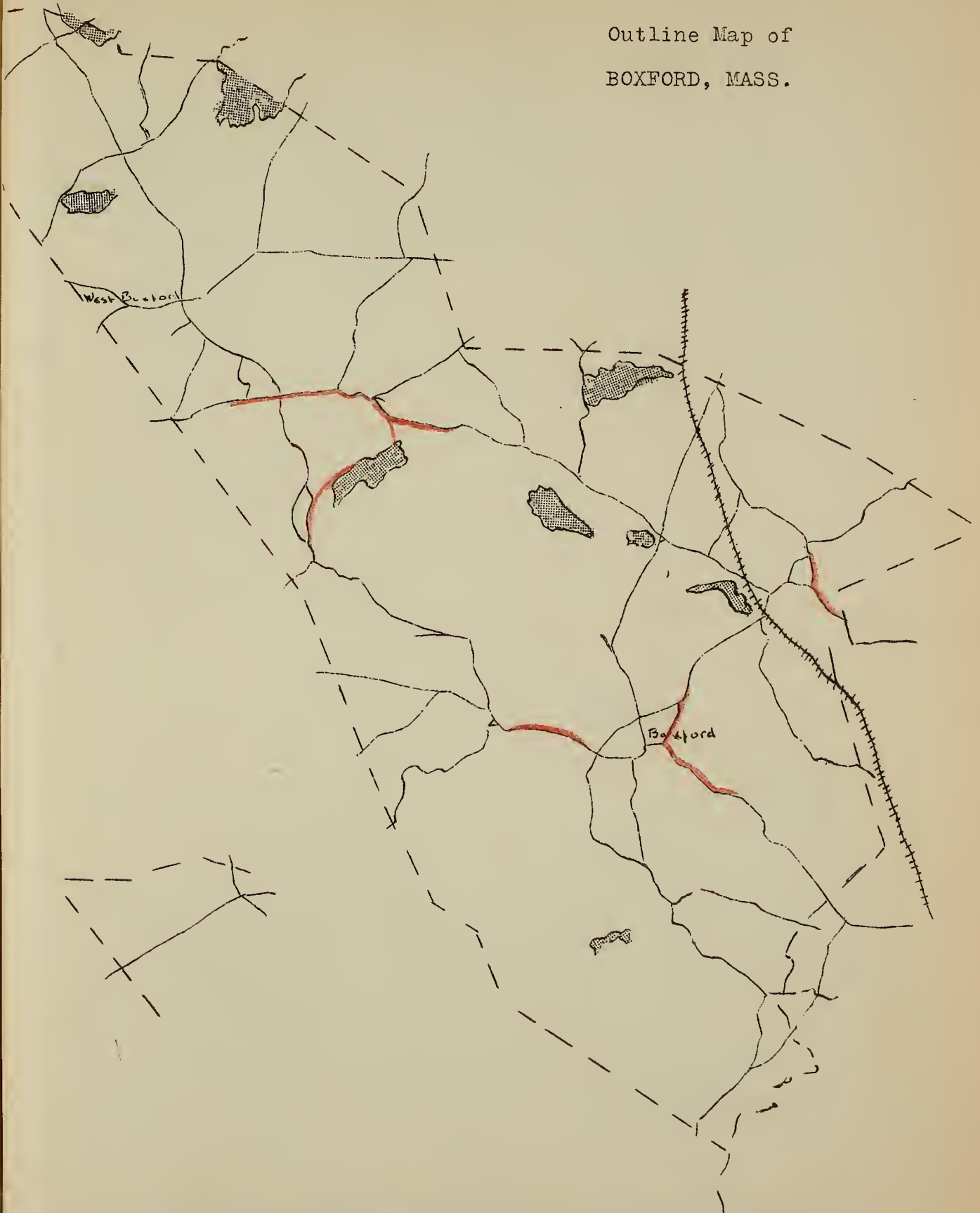
74

of the state. From the standpoint of the state welfare, as well as the welfare of the farmers better use of the farm woodland is desirable. A regular addition to farm income may be derived from periodical cutting of timber; local markets may be created for wood or wood products, and labor may be employed during slack seasons if woodland is properly utilized.

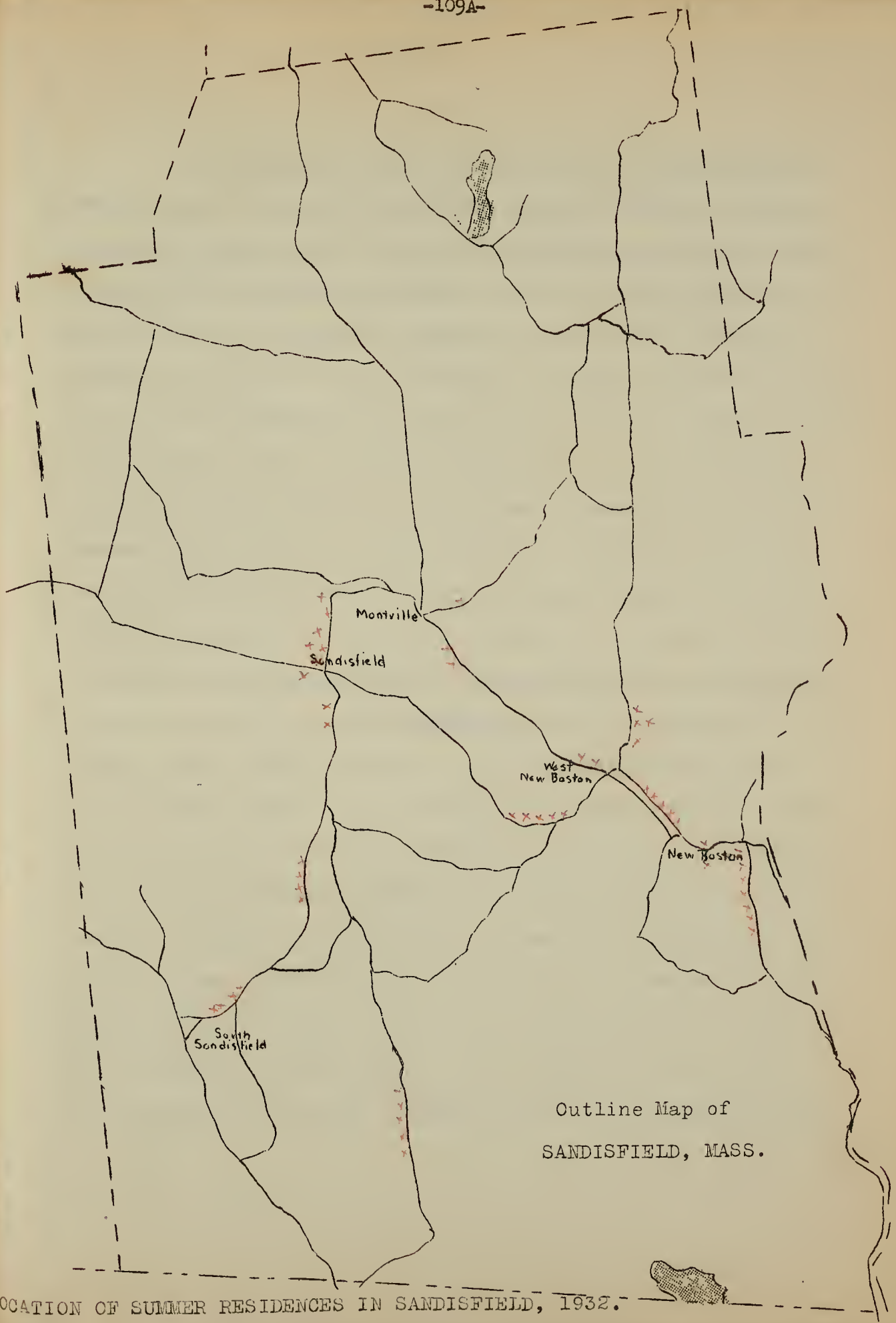
A second source of extra income is the use of land for recreational purposes. Letters were sent to the Committee of Recreation of the New England Council and to the Massachusetts Industrial and Development Commission to find out whether either of these had made a survey of the recreational possibilities of Buxford, Oakham or Sandisfield, and it was discovered that, up to this time, neither of these agencies had investigated the towns with this purpose in view.

In Dr. Roman's study of the "Recreational and Forestry Uses of Land in Massachusetts" he included the town of Sandisfield in his sample group of 71 towns, so that some data are available for that one town. One of the crudest methods of determining the proportion of the town devoted to recreational use is to determine what proportion of the taxes is paid by non-resident owners of land. In Sandisfield the per-
centage of total valuation in recreational property is 60.9%;⁷⁵ in Oakham, the non-resident payers of taxes account for 32 per cent of the total taxes, and in Buxford for The locations of the summer homes in each town are shown on the following maps, data for which have been supplied by the assessors.

Outline Map of
BOXFORD, MASS.



LOCATION OF GROUPS OF SUMMER RESIDENCES IN BOXFORD, 1932.



Outline Map of
SANDISFIELD, MASS.

In general, other factors than that of soil fertility determine the value of land for recreational purposes. Nearness to cities, elevation, access to lakes - all are factors causing non resident owners to buy land for recreational purposes. Each of the towns studied has these factors to a considerable degree, and hence each has added constantly to the number of summer residents. In general, though some people in the towns maintain that the presence of a large number of people during a limited season of the year is a doubtful benefit since they are not interested in local institutions, the financial benefit in the towns from increased taxes and better local markets for farm produce, really permits the local institutions to be more adequately supported and improved. Taxes are generally higher for non residents than for residents for the same type of land thus they help the town to provide year-round service. Then, too, there is a decided stimulation to the townspeople when the summer residents take an interest in the history of the community, or in the cultural life of all the townspeople. In Oakham, the outstanding historian of town affairs has been Professor Henry Parks Wright of Yale College who has chronicled the history of certain phases of town development very fully as in his "Soldiers of Oakham in the Revolutionary War, The War of 1812, and The Civil War". In Boxford, townspeople and summer residents provide a series of outdoor entertainments during the summer at which distinguished artists appear. This stimulating interest in town affairs undoubtedly has much intangible benefit for the townspeople also.

A third source of income which is much less certain to holders of land than that from woodland, or from recreational use, is that which is due to the development of watersheds or reservoirs. Already the entire Coldbrook section of Oakham has been vacated to provide for the Metropolitan District Water Supply. Mr. E. N. Molt, Secretary of the Commission, was unable to give the total value of the land purchased in Oakham for the watershed and tunnel, but by taking the tax assessment of the property \$358.80, from the booklet "Valuation and Taxes, Town of Oakham, 1932" and dividing it by the tax rate which was \$24.00 the value of the land bought by the Commission is roughly \$15,000. In Boxford, there is a possibility that the pond owned by H. L. and W. K. Cole will sometime be used for a water supply for a nearby town, also. It has an excellent location for a reservoir if the need should ever arise, so that the land about the pond may be said to have a potential or speculative value. So far as can be discovered, there is no similar possibility in Sandisfield.

This seems to exhaust the possibilities of increasing the use of land, or the incomes of the towns; our next question is what can be done about these towns in which agriculture is decreasing in importance, and in which the diminishing population is hard put to it to maintain the town institutions out of the funds available from local taxes?

The Future of Buxford, Oakham and Sandisfield

The last problem to be considered in connection with the towns is that of developing a state policy for guidance in shaping the future development of towns like Buxford, Oakham and Sandisfield.

In order to discover what the other New England states and New York were doing or planning to do with similar areas, letters were sent to the state commissioners of agriculture. The information received from each commissioner is briefly as follows:

1. Massachusetts: no state policy, except as to special aid for small town schools and roads; some state forests.
2. Rhode Island: no difference in the treatment of any town on the basis of size or valuation.
3. Connecticut: no provision for special aid of any sort.
4. Vermont: no change in the relationship of towns to the state in the matters of roads, schools, taxation, or reforestation.
5. New Hampshire: an investigation of marginal towns in one county is being made as a Purnell project at the University of New Hampshire; otherwise no attention is being given to the matter.
6. Maine: some aid is given to small towns to help with road and school expenditures, but there is no state reforestation policy, or taxation policy for small towns.

7. New York: a State Reforestation Commission was created in 1928 to locate land unsuitable for agriculture and to reforest it.

It is evident that the states with the exception of New York state have no definite policy with regard to marginal and submarginal farm land. For this reason it seems wise to investigate the New York plan in some detail. The first work of the Commission was a survey of the idle lands of the state. ⁷⁷ Since 1920, an average of 272,000 acres had been abandoned annually, and the total abandoned farm acreage is between four and five million acres. The Commission determined, first, the location and extent of idle farm lands which could be obtained in areas of five hundred acres or more for reforestation purposes. It discovered that there were one million acres available and sponsored a bill which became the State Reforestation Law of 1929. This law authorized the Conservation Department to acquire for the State reforestation areas consisting of not less than 500 acres of contiguous land, to be forever devoted to growing trees. Provisions were made by the State to pay local taxes, but no state and county taxes on the land, and assessments were to be made at a valuation not exceeding the price paid for the land. At the same time the Commission provided for state aid to counties in reforestation projects; in any one year the state may contribute \$5,000 for any one county to defray portions of the expense

of reforestation. The tax provisions at the County Reforestation Law are like those of the State Law. The Fisher Act passed in 1930 limits taxation to privately reforested land to the value of the land, exclusive of its forest products. Within the period between 1930 and 1944 the Conservation Department plans to buy one million acres to be reforested at an estimated cost of \$20,000,000. Up to January, 1932, the Department had acquired 89 reforestation areas in 18 counties, including 79,856 acres. The lands were bought at an average price of \$3.79 per acre. Twenty seven million trees were set out, completing the reforestation of 33,440 acres.

Several other states, including Michigan and West Virginia have also made land utilization surveys with a view to determining the proper procedure in dealing with marginal agricultural areas. This should be our first approach to the problem in Massachusetts also, and many groups are already agitating the passage of Senate Bill #8 entitled "An Act to Provide for a Topographic Survey and Map of the Commonwealth" which carried out the recommendations of Frank E. Lyman, Commissioner of Public works who was instructed by chapter 138 of the Acts of 1932 to make a report to the legislature as to the needs of "geological, biological and other scientific surveys" of the natural resources of the Commonwealth. Commissioner Lyman, after holding public hearings, recommended that the survey be made under the direction of the Massachusetts State College. The Bill for the Topographical

Survey reads as follows:

"The department of public works is hereby authorized to confer from time to time with the director or a representative of the United States geological survey and to accept its cooperation with this commonwealth in the preparation and completion of a contour topographical survey and map of this commonwealth hereby authorized to be made. Said department may arrange with the director or representative of the United States geological survey concerning this survey and map, its scale, method of execution, form and all details of the work in behalf of the commonwealth, and may accept or reject the plans of the work presented by the United States geological survey. The department is hereby authorized to secure contributions towards the cost of this work from individuals, associations, corporations or others at interest. These contributions shall be deposited with the state treasurer and shall be available for meeting the proportion of the cost to be paid by the commonwealth without appropriation by the general court. Said department may expend, subject to appropriation, in the prosecution of this work, such additional sums as shall make the total expenditure of the commonwealth, including contributions, equal to that which shall be expended therein by the United States

Geological survey, but not exceeding fifty thousand dollars in any one year."

The Bill for the Scientific Surveys reads as follows:

"An Act to provide for Scientific Surveys to determine the Geological, Biological and Other Natural Resources of the Commonwealth"

Chapter seventy five of the General Laws is hereby amended by inserting after section twenty-five the following new section:

Section 25A. The trustees shall maintain at the college a department of land economic surveys to determine the geological, biological and other natural resources of the Commonwealth, and to collect and tabulate for public use all available data in relation thereto.

At the present time (May 3, 1933) the bill has been passed by the Senate and is before the House. It is very desirable that this bill be passed because the surveys would give an intelligent foundation for the development of a systematic statewide policy.

After the surveys were completed, it would be possible to divide the towns of the state up into three or more groups and devise a suitable policy for each group. In the first group might be towns like Boxford which are located in areas which give them a residential value. They do not present special difficulties, and need a minimum of assistance. An intermediate group might include towns like Oakham which are holding their own, but making little progress. Such towns need help not only in

maintaining the present institutions, but must have help in case of outlays for roads or schools. Reforestation should be encouraged on the poorer farms, and a more efficient distribution of population made so that school transportation costs might be kept as low as possible, and seldom used roads closed. The poorer towns like Sandisfield present a more difficult problem. Even the possibility of maintaining their present institutions is somewhat doubtful; and it is only with constant help from the state that they can make the necessary expenditures to insure an adequate social life in the towns. The state should supervise the sale of land in such towns very carefully so that ignorant or poor people are not encouraged to buy land which will never provide them with an income sufficient for their needs. Next, the state should develop a much more vigorous reforestation policy, which would cause sparsely populated sections of the towns to be completely abandoned, and the people to come together to the relatively more fertile sections of the towns. There is no question about the legality of this, provided that the price offered for land is reasonable; and no thinking person who realizes the burden of taxation which such towns place on the people all over the state could fail to appreciate the justice of the state's position in requiring that it spend its money on the towns as efficiently as possible. If the Commonwealth must help maintain roads, at least let the roads be used by a reasonable number of families; if

schools have to ^{be} kept up, let the number of children in each school justify the state's expenditure for instruction.

In addition to these general considerations, it seems as though Massachusetts might adopt a scheme already used in Vermont, and create "medical unions" like the "superintendent's unions" found in education. If towns were allowed to cooperate in hiring a doctor, or starting a small hospital, the state might help out in paying them necessary fees. Not one of the towns studied has a resident physician; this is a serious situation in areas where incomes are low and doctors are not called until disease is well developed.

Massachusetts has already developed an unusually fine method of helping small towns to build and maintain roads, to provide adequate education, and has the beginnings of a state forestry scheme. It seems altogether likely that the state will continue to pioneer in helping the towns even more efficiently. The small towns have been called the backbone of the nation; there is no reason why they should not continue to be so to even greater degrees when the definitely non-agricultural lands are used for other purposes, and the persons in the towns are so well distributed and so adjusted in numbers to the town's resources that each can work out for himself a reasonable standard of living.

Summary

1. The study was undertaken because of the need for more knowledge about the towns in Massachusetts in which agriculture is declining in importance. The towns chosen for investigation were Sandisfield in Berkshire County, representative of the hilly towns of the western end of the state, Oakham in Worcester County which is like the towns of the central upland, and Boxford in Essex County, typical of the sandy areas near the coast.
2. The population of each town was investigated in detail and it was found that not only had the population declined, but that families were smaller. The population is in each case predominantly native born, the Boxford had 12%, Oakham had 20% and Sandisfield had 25% of its total population foreign born. In all the towns, at all times, most of the men have been employed in agriculture, while the largest share of the employed women were in domestic service.
3. The agriculture in each town has been steadily declining in importance, until now a large share of each town is in woodland. None of the towns has had a specialized type of agriculture; general farming with the emphasis on market milk production (since 1865) has been the rule.
4. Non-agricultural methods of getting a living were numerous in all the towns until about 1875. At first domestic industries were general,

then small factories were begun which produced a wide variety of products. After the concentration of industries in the cities, small town manufacturing died out until now there are no industries in any of the towns.

5. The towns have found it difficult to pay for their increased expenditures for schools, roads and churches. In order to maintain these fundamental institutions other groups have had to help the towns. The state helps to finance the schools and roads, while the central organizations of the churches have had to help finance them.
6. Since agriculture cannot provide large incomes for the townspeople, other sources of income are necessary. Land may also be used for forests, recreational purposes, and water sheds; and some land in each town is devoted to the first two of these uses. State forest areas are found in Sandisfield and Oakham, while the Cold Brook section of Oakham has been evacuated for the Metropolitan Water District.
7. The solution for this type of area depends upon the formulation of a state land utilization policy which divides the towns into groups on the basis of land survey. There should be a grouping of towns into at least three classifications; those which are marginal for agriculture but which have location value for residential purposes like Roxford; those which are almost self sufficing but which need

state assistance for large outlays like Oakham, and those which should be definitely reforested like Sandisfield. Only in this way can the best interests of the inhabitants of the towns and the taxpayers of the state be solved.

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Approved by:

A. H. Lindsey

H. N. Slick

Frederick Mowbray

Graduate Committee

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