

THE ROADS OF NEW ENGLAND, 1790-1840

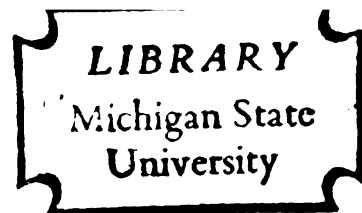
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Roger N. Parks

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THE ROADS OF NEW ENGLAND, 1790-1840

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ABSTRACT

THE ROADS OF NEW ENGLAND, 1790-1840

by

Roger N. Parks

The importance of roads to economic and social development long has been recognized. The purpose of this study was to examine the development of the turnpike systems of one region during a period in which roads were virtually the only means of accessibility to most inland areas and were undergoing considerable improvement. A movement for highway betterment began in New England about 1790 and continued until about 1840, when railroads began to dominate overland transportation. The study was based on research in state and county archives, turnpike company records, travel accounts, diaries, and newspapers.

The first two chapters trace the background of the movement and the reasons for the development of turnpike corporations as the principal means of effecting improvements prior to about 1808. For a number of reasons there was growth in both transportation and travel during the late eighteenth century and the shortcomings of existing roads became increasingly apparent. Neither the

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Roger N. Parks

federal government nor any of the New England states was as yet in a position to give any significant aid and it was felt that as long as the towns retained their traditional responsibility it was unlikely that good roads could be obtained. Great Britain during the eighteenth century had some success in improving highways by means of turnpike trusts and all of the New England states during the 1790's similarly began establishing toll roads, which, however, were under the control of profit-seeking corporations.

The third and fourth chapters deal with the turnpike era, discussing the reasons for an early decline of interest in toll roads among investors and for the financial difficulties that beset many corporations. Motives for investing are treated, as well as the effects of turnpikes on the economy. Maintenance and collection costs and the ease with which tollgates could be avoided are shown to have been important factors that influenced profits.

Chapter V deals with the decline of turnpikes and return to local responsibility, showing the period between about 1820 and 1840 to have been a time of considerable road-building activity on the part of many New England towns. Highway laws were revised in several states to

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strengthen the authority of counties in holding the towns to their responsibilities. It is shown that although turnpikes were unpopular with a large segment of the population, there also was considerable opposition to paying the cost of building and maintaining public roads. The influence of turnpikes in raising construction standards also is discussed.

The final chapter touches upon construction and maintenance practices. The straightening of routes, crowning and ditching, and an increased use of gravel are shown to have been the principal developments in road-building technology. There is a discussion of the failure to improve significantly maintenance procedures and practices.

Submitted to
Michigan State University
in partial fulfillment of the requirements
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Department of History

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A-THESIS

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I wish to thank Dr. Stuart W. Bruchey and
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particularly during the years following the American Revolution, the inadequacy of primitive unimproved roads became apparent and efforts were made to improve them.

Adopting at first the British idea that those who used the roads should pay for their maintenance, New England states during the 1790's and the early 1800's chartered a number of turnpike corporations which took over many of the region's main highways and a number of other ones. Except in Connecticut, the turnpike movement lasted only a little more than a decade, few charters being granted after about 1805. For a number of reasons New England turnpikes like those in England and other parts of the United States, usually had poor earnings and potential investors soon became wary of them. A number of companies still were in business in 1840, when railroads were coming to be important, but many had experienced financial difficulties long before the introduction of this formidable competition.

The half century prior to 1840 often is referred to as the turnpike era, obscuring the fact that a great many

public highways were built during those years. The rate of construction was particularly rapid during the 1820's and 1830's and most of the roads were built and maintained by the towns.

INTRODUCTION

The period 1790 to 1840 was a time of road building in New England. As the volume of transportation and travel increased during the late eighteenth century and particularly during the years following the American Revolution, the inadequacy of primitive colonial roads became apparent and efforts were made to improve them.

Adopting at first the British idea that those who used the roads should pay for their maintenance, New England states during the 1790's and the early 1800's chartered a number of turnpike corporations which took over many of the region's main highways and a number of minor ones. Except in Connecticut, the turnpike movement lasted only a little more than a decade, few charters being granted after about 1808. For a number of reasons New England turnpikes, like those in England and other parts of the United States, usually had poor earnings and potential investors soon became wary of them. A number of companies still were in business in 1840, when railroads were coming to be important, but many had experienced financial difficulties long before the introduction of this formidable competition.

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public highways were built during those years. The rate of construction was particularly rapid during the 1820's and 1830's and most of these new roads were built and maintained by the towns.

In one sense, however, the years 1790 to 1840 truly were the turnpike era. Most roads, whether public or owned by private corporations, were built in "turnpike fashion." That is, they incorporated construction methods popularized by the turnpikes. Foremost among these were crowning and ditching, the purpose of which was to provide adequate drainage. These roads left much to be desired and were good only part of the year, but they represented a considerable advancement over earlier ones. Near the place on the road between Washington and Baltimore where the President of the United States recently had suffered a similar indignity. Recently Major-General Weid was detained more than a week in Baltimore because the road to Philadelphia was so muddy that stages were not operating.² The Englishman Henry Wansley in 1794 found the road between New Brunswick and Princeton, New Jersey, "very bad, full of loose stones and deep holes, in going over which in our

¹Stevenson W. Fletcher, Pennsylvania Agriculture and Country Life (Harrisburg, 1930), p. 230.

²Isaac Weid, Travels through the States of North America (London, 1807), pp. 46-48, 57-58.

CHAPTER I

THE BACKGROUND OF THE IMPROVEMENTS MOVEMENT

In few ways was the United States more backward during the late eighteenth and early nineteenth centuries than in its highways. Even in long-settled parts of the country, poor roads contributed greatly to slowness and difficulty of movement by land. During the spring of 1800 it took four hours to negotiate on horseback the muddy roads between Germantown and Philadelphia, still the nation's capital.¹ The traveler Isaac Weld during the fall of 1795 had his vehicle sink hub-deep in mud near the place on the road between Washington and Baltimore where the President of the United States recently had suffered a similar indignity. Shortly thereafter Weld was detained more than a week in Baltimore because the road to Philadelphia was so muddy that stages were not operating.² The Englishman Henry Wansey in 1794 found the road between New Brunswick and Princeton, New Jersey, "very bad, full of loose stones and deep holes, in going over which in our

¹Stevenson W. Fletcher, Pennsylvania Agriculture and Country Life (Harrisburg, 1950), p. 250.

²Isaac Weld, Travels through the States of North America (London, 1807), pp. 46-48, 97-98.

heavy carriage, we were so violently shook, that when we got down many of us could scarcely stand; and the extreme heat of the weather made us very sick for an hour after."³ In Virginia, long after many northern highways had been improved, Francis Hall found that teamsters still had to make their own paths through the sticky clay of upland regions.⁴ In newer parts of the country, road conditions often were even worse. In the cotton-growing states prior to the Civil War rainy seasons often coincided with marketing time and teams of mules and oxen laboriously dragged mud boats, loaded with cotton, through seas of mud, to the nearest river bank.⁵ An Englishman traveling through western New York during the 1820's found "the scene . . . had its solitude now and then broken, by the wreck of a coach or wagon, sticking in picturesque attitudes in some hole in the log road . . . while the forlorn passengers are hovering with hopeless laments and draggling in the mud about the foundered and impracticable mass which still

³Henry Wansey, An Excursion to the United States of North America in the Summer of 1794 (Salisbury, England, 1798), p. 57.

⁴Francis Hall, Travels in Canada and the United States in 1816 and 1817 (Boston, 1818), p. 208.

⁵George Rogers Taylor, The Transportation Revolution, 1815-1860 (New York, 1951), pp. 16-17.

contains their baggage."⁶ Margaret Van Horn Dwight, a niece of President Timothy Dwight of Yale, migrated to Ohio with a Connecticut family in 1810 and found that the farther west they proceeded, the worse the route became. Near Morristown, New Jersey, she thought she had seen "the worst road you can imagine," but was told "it was a little like some of the [Pennsylvania] mountains only not half so bad." By the time they reached western Pennsylvania, she had "concluded the reason so few are willing to return from the Western Country, is not that the country is so good, but because the journey is so bad."⁷

Many New England roads were somewhat better than those in other parts of the country. The rocky soils from which it was difficult to earn a living made better materials for roads than the rich earths of more fertile regions, which easily were churned into mud. Relatively harsh winters permitted New Englanders to rely more heavily than could many other Americans on frost and snow to provide a hard and smooth surface for sledding. Such winters were less destructive to roads than the alternate freezing and thawing common in the Middle Atlantic states and the

⁶ Bradford Perkins (ed.), Youthful America: Selections from Henry Unwin Addington's Residence in the United States of America, 1822, 23, 24, 25 (Berkeley, 1960), p.75.

⁷ Max Farrand (ed.), A Journey to Ohio in 1810 as Recorded in the Journal of Margaret Van Horn Dwight (New Haven, 1912), pp. 13, 36-37.

winter rains in the south. Wansey, whose vivid description of his ride across New Jersey was quoted above, had few complaints about a trip he made by stage between Boston and New York, while another Englishman, John Bernard, called New England's highways "far better than in any other quarter of the Union."⁸

To describe them as being better, however, was too often only another way of saying that roads elsewhere were even worse. As Bernard himself put it, a typical New England highway presented a "sad comparison with the bowling-greens of England."

Very often [on the road between Boston and Newport] we surprised a family of pigs taking a bath in a gully of sufficient compass to admit the coach. As often such chasms were filled by piles of stones that, at a distance, looked like Indian tumuli. The driver's skill in steering between these dangers was eminent. I found there were two evils to be dreaded in New England travelling - a clayey soil in wet weather, which, unqualified with gravel, made the road a canal; and a sandy one in summer, which might emphatically be called an enormous insect preserve. Here, as around the swamps, reigns and revels the mosquito - lord of the lance - that Arab of the air whose weapon is against every man.

Bernard claimed that several hours' travel on this road led his companion, a seemingly disaffected Englishman, to exclaim, "'England, I love thee still.'"⁹

⁸John Bernard, *Retrospections of America, 1797-1811* (New York, 1887), p. 35.

⁹*Ibid.*, pp. 35-36.

Other travelers also recounted unpleasant experiences on some of the region's highways. The Marquis de Chastellux, riding from Providence to Hartford during the Revolution, found the road between Scituate, Rhode Island, and the Connecticut line "very bad" and complained that his baggage cart had one wheel broken and the other "greatly damaged" from striking rocks.¹⁰ Another French visitor, J. P. Brissot de Warville, after being "bumped over rocks for thirty miles" on the post road between Spencer and Wilbraham, Massachusetts, in 1788, concluded "that a coach with springs would have very soon upset and been smashed to pieces."¹¹

The networks of local roads that often radiated in all directions from a New England meeting house and its surrounding settlement were especially poor. They were winding, hilly, strewn with obstacles, and at many times of the year muddy - a condition that was to remain in effect for many years. Even as late as the 1830's, according to Francis H. Underwood, one of the founders of the Atlantic Monthly, the roads of a typical hill town in central or western Massachusetts "furnished all the facilities

¹⁰Marquis de Chastellux, Travels in North America in the Years 1780, 1781, and 1782 (Chapel Hill, 1963), I, 67, 69.

¹¹J. P. Brissot de Warville, New Travels in the United States of North America in the Summer of 1794 (Cambridge, 1964), pp. 109, 113-114.

for discomfort." There were

no high hills to be crossed, but, to make up for their absence, plenty of sharp 'pitches,' with sinuosities and angles favorable to overturns, and with projecting points and edges of underlying ledges, so as to give a series of shocks to each vehicle. Other hill-roads were strewn with loose stones of assorted sizes, over which horses stumbled and wagons rattled. One of these was in the centre of the town; a short descent, but rough as the moraine of a glacier; and a man who drove down toward the tavern at a trot was tossed about as if he were in a boat on breakers. Others had a bed of deep clay, into which in rainy weather the wheels sank almost to the hubs. Some of the roads over pine plains and through wet valleys had a covering of sand, which, while wet, was impacted and smooth but in dry weather was in yellowish granules, through which the wagon-wheels squealed in making their furrows.¹²

Even in "a flourishing and beautiful Country town" the wide main street at the beginning of the nineteenth century was likely to be littered with "fragments of old fences, boards, clapboards, wood piles, heaps of chips, old sleds bottom upwards, carts, casks, weeds and loose stones, lying along in wild confusion," while the roadway itself was "scandalously bad; foot ways, or cross paths, ruts and gutters, with stones at every step, disturb the traveller in his carriage, and the teamsters with their loads. In a road of 80 miles, the worst part is that which passes

¹²Francis H. Underwood, Quabbin (Boston, 1893), pp. 118-119.

through this charming street."¹³

The main highways, however, were almost as poor as the town roads and streets. Among their more glaring faults was indirectness. In sparsely settled Grafton County, New Hampshire, where there were few roads, the traveled distance between Shelburne and Chatham in 1801 was more than fifty miles, although the towns were only about twelve miles apart.¹⁴ One of the main routes between Boston and northern Vermont, in passing through the same county, followed a circuitous route of about five times the seven-mile distance between Canaan meeting house and Lyme.¹⁵ Even in Connecticut, which by the time of the Revolution had a fairly complex network of highways, it was complained in 1797 that "in many instances we travel six miles for five, and sometimes more than this proportion In some instances great roads instead of passing directly out of one town into another, run for some distances in an oblique direction."¹⁶ As late as 1823 one of

¹³Monitor (Litchfield, Conn.), June 29, 1803

¹⁴Grafton County, N. H., Highway Petitions, 1773-1800, Courthouse, Woodsville, N. H.

¹⁵Ibid. XXXVIII, 84.

¹⁶Connecticut Courant (Hartford), May 8, 1797. For a map of Connecticut highways at the end of the colonial period, see Isabel S. Mitchell, Roads and Road-Making in Colonial Connecticut (Tercentenary Commission of the State of Connecticut, 1933), p. 32.

the main routes through Windham County, Connecticut, "in many places forms almost right angles."¹⁷

Rather than follow river valleys, where soft soils often necessitated the building of expensive log causeways, many main highways were laid over steep hills. It took Bernard, riding in a stage wagon, seven hours to travel twenty-five miles from Rutland to Whitehall, Vermont, on a road that lay "over high, stony, almost perpendicular hills."¹⁸ In the vicinity of Litchfield, Connecticut,

Chastellux found himself on a road that "seemed formed for the roebuck rather than for carriages and laden horses" and had to walk much of the way to avoid exhausting his horse.¹⁹ President Josiah Quincy of Harvard traveled through southeastern Massachusetts and Rhode Island in a chair in 1801 and wrote, "rocks, deep ruts, and hills covered with stones made it impracticable for us to put our horse on any other gait than a walk during this day's journey."²⁰

Most of the region's highways also were very narrow, even though wide rights-of-way - ten, twenty, even forty

¹⁷Windham County, Conn., Court Records, Connecticut State Library, XXXVIII, 84.

¹⁸Bernard, p. 346.

¹⁹Chastellux, I, 83.

²⁰Proceedings of the Massachusetts Historical Society, Series II, Vol. IV (1889), p. 126.

rods - often had been taken for early roads - a custom probably brought over from England, where for centuries roads were "but tracks over unenclosed grounds, where the passenger selected his path over the space which presented the firmest footing and fewest impediments."²¹ Thus a Massachusetts law of 1647 had required public officials "in common grounds or where the soyle is wet, myrie, or verie rockie [to] lay out such high-wayes the wyder, viz: six, eight, ten or more rods."²² But settlers could afford little more in the way of time and labor than to clear a single bridle path, which in time might be widened to accommodate carts.²³ As late as the post-Revolutionary period, when vehicular traffic, as we shall see, was becoming common, as important a highway as Connecticut's Lower Post Road still in "many parts" was "not constructed of sufficient width for two Carriages to pass each other."²⁴

Roads already narrow had been constricted even further in many instances by the encroaching fences of neighboring land owners. In his charge to the Cumberland County

²¹Edwin A. Pratt, A History of Inland Transport and Communication in England (London, 1912), p. 28.

²²The Laws and Liberties of Massachusetts (Cambridge, 1929), p. 25.

²³William Allen, The History of Norridgewock, [Me.] (Norridgewock, 1849), pp. 132-133; Jeremy Belknap, The History of New Hampshire (Dover, N. H., 1812), III, 58-59.

²⁴Connecticut, Archives, Connecticut State Library, Travel, Series II, Vol. IX, p. 61.

(Maine) grand jury in 1792, the chief justice said, "pinching highways of their due width, perhaps, is a more general fault with us, than neglecting the repair of them."²⁵ An eight-mile stretch of the post road between Providence and Hartford, originally only two rods wide, in 1791 reportedly "falls short of that width in sundry places."²⁶ Such roads became traps for drifting snow during the winter, making passage exceedingly difficult.²⁷

Despite the poorness of the roads, however, overland travel had increased considerably during the colonial period and, according to Charles M. Andrews, had become "very common" even in the sparsely settled South by 1770.²⁸ Carl Bridenbaugh has written that after about 1743 "an exchange of goods and ideas . . . steadily and increasingly tightened the bonds of colonial union. No concept about the last thirty-five years of the colonial period is more demonstrably erroneous than the one that the colonies were isolated one from another in thought and in deed, that travel by land was in-

²⁵Eastern Herald (Portland), June 4, 1792.

²⁶Rhode Island, Archives, Rhode Island State Capitol, Petitions to the General Assembly, XXV, 108.

²⁷Worcester County, Mass., Sessions Records, County Engineer's Office, Worcester, V, 227; Berkshire County, Mass. General Sessions of the Peace, County Commissioners Office, Pittsfield, I, 246-247.

²⁸Charles M. Andrews, Colonial Folkways (New Haven, 1920), p. 223.

frequent, and that even by water there was more intercourse from one to the mother country than from colony to colony."²⁹

There had been, indeed, intercourse between most of New England's inland towns and the outside world almost from the time of their settlement. During their first winter in Woodbury, Connecticut, some of the settlers had to travel twenty-five miles with hand sleds to purchase corn at Stratford.³⁰ In 1693, a few years after the founding of Woodstock, Connecticut, James Corbin set up as a trader there, traveling the Indian trail to Boston with an ox cart to exchange furs, turpentine, and surplus produce for liquor, ammunition, and other goods.³¹ Cattle were driven overland to Boston from the Connecticut Valley as early as the 1660's and until the time of the Revolution most of that area's surplus grain was marketed at the same place.³²

During the latter part of the eighteenth century, however, a number of factors were at work which greatly stimu-

²⁹Carl Bridenbaugh, Cities in Revolt: Urban Life in America, 1743-1776 (New York, 1955), pp. 54-55.

³⁰William Cothren, History of Ancient Woodbury, Connecticut (Woodbury, 1871-79), II, 947.

³¹Ellen D. Larned, History of Windham County, Connecticut (Worcester, 1874-80), I, 35.

³²Carl Bridenbaugh, Cities in the Wilderness: The First Century of Urban Life in America, 1625-1742 (New York, 1938), p. 33; Forrest McDonald, We the People: The Economic Origins of the Constitution (Chicago, 1958), p. 186.

lated inland commerce. In the first place, more and more settlers were finding their way into the back country. During the last decades of the colonial period the fastest-growing New England colonies - Massachusetts and New Hampshire - had their greatest population increase in inland counties. Connecticut's inland towns grew more rapidly than those along the coast and navigable rivers between 1756 and 1810, increasing their percentage of the total population from about forty-three to about fifty-four per cent. Vermont's population, which had been less than 5,000 in 1771, grew to more than 85,000 in 1790 and 154,000 in 1800.³³

Roads often were the only link between these inland communities and their markets. As the back country in New York and Pennsylvania similarly became settled after the Revolution, "freight traffic by means of wagons assumed great proportions."³⁴ A New Hampshire editor recalled in later years that about the end of the century farmers from recently settled Barnet and Ryegate, in northeastern Vermont,

³³ Evarts B. Greene and Virginia D. Harrington, American Population before the Federal Census of 1790 (New York, 1933), p. 86; Philip E. Taylor, "The Turnpike Era in New England" (unpublished Ph.D. dissertation, Yale University, 1934), pp. 95-96; Stella H. Sutherland, Population Distribution in Colonial America (New York, 1936), p. 49.

³⁴ Joseph A. Durrenberger, Turnpikes: A Study of the Toll Road Movement in the Middle Atlantic States and Maryland (Valdosta, Ga., 1931), p. 28.

began visiting Concord (a distance of about one hundred miles) "in sleighing time with their span of horses and lumber boxes loaded with the rich produce of their industry; large fat hogs, firkins of butter, new milk cheese, sometimes herds-grass and clover seed, wheat, flour, oat-meal, &c. &c."³⁵

The American Revolution also provided a stimulus to transportation. The war brought an unprecedented need for the movement of men and materials over considerable distances. Chastellux, stopping at an inn near the Connecticut - New York line in 1780 found thirteen New Hampshire farmers who were taking a herd of about 250 oxen to the army.³⁶ The war also helped to break down localism. One can only speculate as to the effect wartime service may have had in shaping the outlook of a man such as Levi Pease, a Blandford, Massachusetts, blacksmith prior to the Revolution, who covered large areas in search of supplies as a purchasing agent under Commissary General Jeremiah Wadsworth. After the war he pioneered the expansion of the stage-coaching business in New England, as will be shown later in this chapter.³⁷

³⁵The Farmer's Monthly Visitor, II (January 31, 1840), 4.

³⁶Chastellux, I, 84.

³⁷Andrew H. Ward, History of the Town of Shrewsbury, Massachusetts (Boston, 1847), p. 407.

The great influx of British goods into the United States also seems to have affected trade in the region's inland towns. Shadrach Osborn, as a trader in what is now Southbury, Connecticut, had bought small quantities of goods in New York prior to the war. In July 1783, even before the British left the city, he visited it and purchased more than £430 worth of goods from seventeen firms. His purchases ranged from Jews' harps, "wood painted fans," ivory combs, and black feathers to window glass, iron shovels, and nails. Osborn, patriot and a state commissary during the war, bought more than £26 worth of books from Tory printer James Rivington, mostly the works of such English writers as Fielding, Sterne, Johnson, Swift, Milton, and Shakespeare. His purchases from one New York firm alone totalled about £511 between July 1783 and December 1784. He paid for these goods in cash and in barreled pork, which he sent by land to Derby and New Haven.³⁸

Osborn's trade declined along with that of a number of other New England merchants and storekeepers during the mid-1780's as prices of American export goods declined and foreign restrictions closed a number of markets to American ships. Beginning about 1787, however, commerce started to expand once more as merchants found markets in the Far East,

³⁸Osborn Papers, property of William Warren, Litchfield, Conn.

the Mediterranean and the British West Indies.³⁹ By 1789 prosperity had returned to southeastern New Hampshire, Samuel Lane of Stratham describing that year and 1790 as "a Remarkable time of . . . peace & plenty."⁴⁰

"Since the establishment of the present government," wrote Timothy Pitkin after the War of 1812, "the progress of national, as well as individual wealth has kept pace with the increase of population; and until the commencement of commercial restrictions in December 1807, and the declaration of war against Great-Britain, in 1812, no nation, it is believed, had ever increased so rapidly in wealth as the United States."⁴¹ Largely responsible for this growth in wealth were the European wars, beginning in 1793, which greatly stimulated the carrying trade and also brought an increased demand abroad for American foodstuffs and other exports.

Exports of products such as New England farmers commonly marketed increased considerably within a few years. Almost 101,000 barrels of beef were sent abroad in 1794, as

³⁹Edward Channing, A History of the United States (New York, 1907-25), III, 408-422; Forrest McDonald, E Pluribus Unum: The Formation of the American Republic, 1776-1790 (Boston, 1965), pp. 203-204.

⁴⁰Charles Lane Hanson (ed.), A Journal for the Years 1739-1803, by Samuel Lane of Stratham, New Hampshire (Concord, N.H., 1937), p. 94.

⁴¹Timothy Pitkin, A Statistical View of the Commerce of the United States of America (2d ed.; Hartford, 1817), pp. 32-33.

compared with about 63,000 barrels in 1791, while the quantity of pork exported more than tripled between 1791 and 1795.⁴² The Reverend Samuel Goodrich of Ridgefield, Connecticut, reported in 1800 that the making of butter for market had increased greatly there in recent years, the price being more than triple what it had been twenty years earlier.⁴³ A Peacham, Vermont trader in 1801 warned "those few individuals who had dispensed with punctuality in their payments" that "it is much better for them to make remittances now, when articles of the country command a good price, than after they have fallen at least 50 per cent, which will probably take place, at the termination of the European war."⁴⁴

Horace Bushnell once wrote that it is possible to tell whether there is any motion in a society by observing whether there is activity in its roads.⁴⁵ Certainly a growth in traffic during the late eighteenth century reflected the quickening in the pulse of New England's internal commerce. Fisher Ames in 1802 estimated that traffic on the road be-

⁴²Ibid., p. 124.

⁴³Thompson, R. Harlow (ed.), Connecticut Towns: Ridgefield in 1800 (Hartford, 1954), p. 10.

⁴⁴Green Mountain Patriot (Peacham, Vt.), June 4, 1801.

⁴⁵Horace Bushnell, The Day of Roads: A Discourse, Delivered on the Annual Thanksgiving, 1846 (Hartford, 1846), p. 3.

tween Boston and Providence had increased four-fold during the preceding thirty years.⁴⁶ According to a letter to the Connecticut Courant in 1797, "the communication between the large towns and the country is continually increasing -- and we are extending our connections with the neighbouring States."⁴⁷ In 1795 "great use" was beginning to be made of the road through Brooklyn, Canterbury, and Lisbon, Connecticut, to bring produce to Norwich from as far away as Worcester, Massachusetts.⁴⁸ Goodrich wrote in 1800 that the number of "pleasure sleighs and those for lumber have multiplied greatly [in Ridgefield] since the revolution" and that a similar increase in the number of horse-drawn wagons had occurred "within a few years past."⁴⁹ It was reported in 1803 that on the post road between Stratford, Connecticut, and New York "the Traveling for many years past, has been and still is fast Increasing."⁵⁰ At the same time stage travel in New England was in-

⁴⁶Fisher Ames, Draft of Letter to Prospective Investors, 1802, Norfolk and Bristol Turnpike Company Records, Dedham (Mass.) Historical Society.

⁴⁷Connecticut Courant, May 8, 1797.

⁴⁸Connecticut, Archives, Travel, Series II, Vol. II, p. 12. "Stage-Coaching," Journal of Education and Business History (1931), 241-243.

⁴⁹Thompson, p. 10.

⁵⁰Connecticut, Archives, Travel, Series II, Vol. VII, p. 17. Connecticut, Archives, Travel, Series II, Vol. IX, p. 61.

creasing at a rapid rate. When Levi Pease established a line between Boston and Hartford in 1783, a Boston hackney proprietor who declined to invest in the scheme warned him that although there might someday be enough business to support such a line, it would not be "'in your day or mine.'"⁵¹ At the time there were perhaps a dozen stage lines in New England, the two longest of which ran from Boston to Providence and Portsmouth. An attempt to run fortnightly stages between Boston and New York had failed in 1772. Pease and his partner, Reuben Sikes, Jr., at first sometimes carried no passengers at all.⁵² But in 1793, less than nine years after they had secured agreements providing connecting lines to New Haven and New York, a would-be rival petitioned the Connecticut General Assembly that "so great is the Disposition of the Citizens of the United States to travel in Stages, that your Memorialist conceives a Stage on each of said Roads from . . . Hartford to said New Haven might have a full complement of passengers."⁵³ And a Massachusetts editor commented in 1795,

⁵¹Ward, pp. 408-409.

⁵²Oliver W. Holmes, "Levi Pease, the Father of New England Stage-Coaching," Journal of Economic and Business History, III (1931), 241-245.

⁵³Connecticut, Archives, Travel, Series II, Vol. VII, p. 17.

⁵⁴Massachusetts Spy (Worcester), April 24, 1795; Providence Gazette, July 23, 1803.

it is singular, but true, that eight years ago, encouragement was barely given for two stages, and twelve horses, on the great road between [Boston] and Newhaven, a distance of 170 miles - where-as at this time, there are upwards of an hundred horses, and twenty carriages employed.⁵⁴

Stage travel was being encouraged by more regular as well as more rapid service. In 1783 it had taken five days to make the trip from Boston to Hartford and there had been only one stage a week each way. Three years later thrice-weekly stages were reaching New York from Boston in four days.⁵⁵ By 1796 daily coaches between the two cities were running on schedules of as little as three days and by 1803 thrice-weekly mail stages were reaching New York from Boston, by way of Providence, in forty-nine hours.⁵⁶ The shorter schedules resulted largely from reduction of rest stops and overnight stays, while the number of hours spent in actual travel declined but little. Travelers, however, were enabled to reach their destinations in shorter times, avoiding the extra costs of meals and lodging attendant upon a longer trip.

Improvements in equipment also were helping to make

⁵⁴Brookfield Advertiser, March 31, 1795.

⁵⁵Holmes, Journal of Economic and Business History, III, 241, 247.

⁵⁶Massachusetts Spy (Worcester), April 20, 1796; Providence Gazette, July 23, 1803.

stage travel more comfortable. Whereas Brissot de Warville in 1788 rode part of the way from Spencer to Springfield in a heavy springless vehicle and performed another leg of the journey in a light carriage drawn by two horses, six years later Wansey made the same trip in comfortable carriages and "had four horses all the way to Newhaven, and very good ones, going from seven to nine miles an hour."⁵⁷

New England roads also were being used to transport a great many manufactured goods to stores in inland towns. Such goods, generally higher in value in proportion to their weight than bulky farm produce, were thus better able to stand the cost of transportation and often could be sold at only a small advance over Boston or New York prices.⁵⁸ As early as the 1730's inland storekeepers were selling "an unbelievable variety" of "household and farm necessities,"⁵⁹ but by the latter part of the century inventories were becoming even more diversified and were coming to include a growing variety of luxury goods. In 1800 a store in the northern Vermont town of Danville carried a line of goods

⁵⁷Brissot de Warville, pp. 109, 113-114; Wansey, p. 36.

⁵⁸Sun (Pittsfield), May 24, 1802; November 28, 1803; Ernest L. Bogart, Peacham: The Story of a Vermont Hill Town (Montpelier, Vt., 1948), p. 270.

⁵⁹Glenn Weaver, Jonathan Trumbull, Connecticut's Merchant Magistrate, 1710-1785 (Hartford, 1956), p. 18.

from New York that included, in addition to the usual dress goods, hardware, West India sugar and New England rum, such articles as plated stirrups, loaded whips, horsemen's pistols, and "Chest, door, till, and cupboard locks." A storekeeper in nearby Peacham announced that his goods were "too numerous to be particularized in an Advertisement," to which a competitor replied that although he made no such assertion, an enumeration of his own stock would fill two pages of the newspaper.⁶⁰

In Keene, New Hampshire, it was possible in 1799 to buy such items transported from Boston (a distance of more than ninety miles) as gold rings and necklaces, gold and silver earrings, and silver tea and table spoons, sleeve buttons, knee buckles, broaches, and clasps.⁶¹ In 1785 a store in Petersham, Massachusetts, offered "Queens yellow ware, and Elegant new fashioned blue and white ware, completely assorted, by the crate or less Quantity" and "Very Elegant Fruit Baskets and Stands."⁶² Moses Whitney of Rindge, New Hampshire, in 1772 was selling his customers what has been described as "a much greater variety of articles than are generally admitted in approved homilies

⁶⁰Green Mountain Patriot, November 5, 1800; November 14, 1799.

⁶¹New Hampshire Sentinel (Keene), November 2, 1799.

⁶²Massachusetts Spy, July 21, 1785.

of the economy and plain-living of our fathers."⁶³ The selection in a Leominster, Massachusetts, store in 1798 included "Lady's Pendants, Black and Fancy Plumes, Morocco, Cloth and Leather Shoes, Writing Paper and Books, Dutch Quills."⁶⁴

The inhabitants of inland towns, moreover, did not confine their purchases entirely to what was available at stores in their own towns. Moses Whitney's customers came from Jaffrey and Peterborough, New Hampshire, and Winchendon and Ashburnham, Massachusetts.⁶⁵ Ephraim Starr of Goshen, Connecticut, had a considerable part of his trade with people from Litchfield, Torrington, Cornwall, and Norfolk.⁶⁶ John Ely of West Springfield, Massachusetts, kept accounts with persons from such widely separated towns as Stockbridge, Northampton, and Brimfield.⁶⁷ Caleb Stark, who established a store in Dunbarton, New Hampshire, about 1790, had customers from as far as fifty miles distant.⁶⁸

Many individuals, instead of dealing primarily with

⁶³ Ezra S. Stearns, History of the Town of Rindge, New Hampshire (Boston, 1875), pp. 374-375.

⁶⁴ Political Focus (Leominster), December 13, 1798.

⁶⁵ Stearns, p. 375.

⁶⁶ A. G. Hibbard, History of the Town of Goshen, Connecticut (Hartford, 1897), pp. 358-359.

⁶⁷ Margaret E. Martin, "Merchants and Trade of the Connecticut Valley, 1795-1820," Smith College Studies in History, XXIV (Northampton, Mass. 1938-39), 143-144.

⁶⁸ Caleb Stark, History of the Town of Dunbarton (Concord, N. H., 1860), p. 155.

country storekeepers, made annual trips to New England's major market towns. Such journeys were made most frequently during the winter, when, provided there were normal amounts of snow for sledding, travel was relatively easy. Farmers traveling to market had to make but few outlays of cash, as they usually carried enough food for themselves and their horses and often chose the cheapest accommodations, sleeping on the tap-room floors of taverns along their route.⁶⁹ The principal expense was their own time and winter was a slack season for farm work. Indeed, journeys to market helped to break the monotony of winter solitude and also permitted farmers to sell their produce at a better price than they could receive from local traders, who had to deduct the cost of transportation and their own profits from what they paid.

Winter trips to Boston from the vicinity of Keene were common before 1800 and according to a Concord historian, writing in 1858, that town for about eighty years prior to the coming of the railroad was "the great thoroughfare for travel from the northwestern and northern parts of New Hampshire and adjoining portions of Vermont, to Portsmouth, Salem, Newburyport and Boston, which were the principal market places." During the winter "it was not uncommon

⁶⁹Alice Morse Earle, Customs and Fashions in Old New England (New York, 1893), pp. 206-210.

to see fifteen, twenty, thirty and more [sleighs] passing through Main Street in a line, at a time."⁷⁰ One Saturday in February 1803, more than seven hundred sleighs were reported to have entered the river town of Hudson, New York, by way of a turnpike leading from southwestern Massachusetts, "besides those which went to that market by the other road."⁷¹

That much of the transporting was done during winter months, when there often was snow for sledding and farmers had time to do their own marketing or to work as teamsters for country storekeepers, helps to explain how inland towns maintained intercourse with the outside world despite the condition of the roads. So, too, does the nature of the intercourse itself. Grains and other bulky produce could not bear the cost of long-distance transportation and prior to the opening of the Erie Canal, for example, the cost of transporting wheat from Buffalo to New York was almost three times its market price at the latter place.⁷² But wheat could be grown successfully in only a few parts of New England and although Indian corn was grown extensively for local use,

⁷⁰S. G. Griffin, A History of the Town of Keene (Keene, N.H., 1904), p. 325; Nathaniel Bouton, The History of Concord (Concord, N.H., 1856), pp. 536-537.

⁷¹Massachusetts Spy, March 16, 1803.

⁷²Percy W. Bidwell and John I. Falconer, History of Agriculture in the Northern United States, 1620-1860 (New York, 1941), p. 181.

it was not important as a market crop.⁷³ The items New England farmers typically sent to market - livestock, beef and pork, dairy products, cider - could stand better the cost of transportation over poor roads.

Distances to markets, moreover, often were shorter in New England than in other parts of the United States, as will be discussed in Chapter III. Despite the difficulties of travel across Pennsylvania, Miss Dwight encountered long lines of wagons driven by professional teamsters, making the long and expensive trip between the western country and the seaboard.⁷⁴ During the first decade of the nineteenth century much of the surplus produce of the Ohio Valley was taken to market at New Orleans by flatboat, those who made the journey often returning home on foot several months later.⁷⁵ If trade was possible under such conditions, it should not be surprising that there was intercourse between the Berkshires and the Hudson River towns, for example, or even between northern Vermont and Boston.

The pooriness of the roads, however, often has been

⁷³Percy W. Bidwell, "Rural Economy in New England at the Beginning of the Nineteenth Century," Transactions of the Connecticut Academy of Arts and Sciences, XX (April, 1916), 322-324.

⁷⁴Farrand, pp. 36-38.

⁷⁵George Rogers Taylor, "Agrarian Discontent in the Mississippi Valley Preceding the War of 1812," Journal of Political Economy, XXXIX (1931), 471-505.

cited by historians as an important form of evidence that inland farming in New England and other parts of the North was forced to remain for many years on a self-sufficient basis. Percy W. Bidwell in particular emphasized the self-sufficient aspects of farming in his studies of agriculture in New England and in the northern United States, concluding that in New England, prior to at least 1810, only those farmers living near the coast or navigable rivers had access to markets and that at least three-fourths of the population even of the three southern states - Massachusetts, Connecticut, and Rhode Island - was "almost entirely isolated from commercial relations with the outside world."⁷⁶

Certainly no economic revolution took place during the late eighteenth or early nineteenth centuries. A couple in Barnet, Vermont, is supposed to have boasted on their sixtieth wedding anniversary during the 1830's "that they had never bought a pound of meat or flour or sugar during their entire married life."⁷⁷ The evidence presented in this chapter, however, supports the conclusion of Rodney C. Loehr, a critic of Bidwell's thesis, that

⁷⁶Bidwell, Transactions of the Connecticut Academy of Arts and Sciences, XX, 318. See also, Bidwell and Falconer, p. 126; Channing, IV, 11.

⁷⁷Harold F. Wilson, The Hill Country of Northern New England (New York, 1947), p. 17.

Rodney C. Loehr, "Self-Sufficiency in the North," Agricultural History, XXVI (April, 1952), 21.

⁷⁸Ibid.

the picture of the self-sufficient farmer as one who formed a small self-contained economic unit and who produced commodities and services mainly for family consumption, with little or no interest in an outside market, cannot be maintained. . . . Moreover, it appears quite likely that the general run of farmers constantly sought and produced for a market, which they found in the towns, the local storekeepers or various kinds of ambulating merchants. In turn the storekeepers found a market among the farmers for goods from the outside world.⁷⁸

Self-sufficiency, as Loehr pointed out, is "a relative matter and [if we] cease dealing in absolutes, we shall be on much safer ground."⁷⁹ Much remains to be learned about the extent to which farmers in various inland areas of New England were involved in producing for a market, but it is evident that the isolation of even some of the more remote parts of northern New England was by no means complete and that during the latter part of the eighteenth century the region's roads, despite their condition, were being used increasingly for purposes of both travel and trade. Because of the growth of transportation, however, New Englanders, like Americans elsewhere, were becoming increasingly aware of the importance to trade of good roads and of the need to improve existing highways. Petitioners to the Rhode Island General Assembly in 1803 complained, "roads re-

⁷⁸Rodney C. Loehr, "Self-Sufficiency on the Farm," Agricultural History, XXVI (April, 1952), 41.

⁷⁹Ibid.

main as they were first laid out at a time when the channels of trade and communication were considered of little importance."⁸⁰ A Connecticut man, while pointing out in 1797 that the "progress which this country has made, since the war, in public convenience, and private emolument, strikes an observing traveller almost with astonishment," also observed that the people of his state had "in some respects fallen behind our neighbours. One instance of our deficiency is the want of good public roads."⁸¹

Not even during the winter was it certain that roads would be at all good. Samuel Lane of Stratham, New Hampshire, who observed and recorded in his diary the effects of winter weather on transportation during the latter half of the eighteenth century, occasionally mentioned "hard winters" which brought enough snow to clog the fenced-in roads for weeks. Those who traveled were compelled to use the frozen rivers and the fields, which were more open to the wind and sun. At such times it was difficult for farmers to get to their woodlots, let alone to Boston or Portsmouth to sell their surplus produce.⁸²

⁸⁰Rhode Island, Archives, Charters, 1800-05, p. 48.

⁸¹Connecticut Courant, May 1, 1797.

⁸²Hanson, pp. 68, 84-85.

Towards the end of the century, every effort was being made to carry on business as usual despite such weather. Lane wrote that in 1791, for example, "we had a pretty hard Winter; Deep Drifted Snows, & difficult passing." But "there has abundance of Business been done by Sleding, especially by Sleighing: Families Removing into the Country; Visiting friends: bringing down Country produce: Caring up Salt, goods, &c. &c. So much of such like Business Seldom or never known to be done in any Winter before." And during the following winter, one of the worst he could remember, "many people do drive through & over the drifted Snows, & do a great deal of business."⁸³ Little could be done to improve traveling conditions at such times, however, and it was fortunate that really harsh winters were not common. But on the other hand, there also were winters, and they were fairly common in southern New England, during which there was little snow and frequent thawing. Then the shortcomings of the roads became painfully evident. The writer of an open letter to the Connecticut General Assembly inquired in 1793, "why will you suffer the interior towns to drag their produce to market thro' deep mud to the axle-trees of their carts and Wagons?"

⁸³ Ibid., pp. 94-96. Am Bantley, D.D. (Salem, Mass., 1905-14), II, 300.

⁸⁶ S. C. Goodrich, Recollections of a Lifetime (New York, 1857), I, 132, 136.

Ought you not to give every part of the state equal advantages? If you can reduce three days travel to two, ought it not to be done? Every middling farmer who lives 50 miles from market, may with good roads, save his whole minister's rate in every two loads of produce he carries to market.⁸⁴

Spring thaws and rainy seasons, furthermore, could halt travel of all kinds almost as effectively in New England as elsewhere. The Reverend William Bentley noted in his diary during a rainy period in April 1792, "no Stage has gone [from Salem] to Boston for several days, owing to the entire inaction such weather occasions."⁸⁵

The condition of the roads also was at least partly responsible for the scarcity of wheeled pleasure vehicles in many towns. In his memoirs, "Peter Parley" remarked that during his boyhood in the 1790's, "in the small towns, there were no pleasure vehicles in use throughout New England." The few in use were primitive, but even if they had been better, "the roads would scarcely have permitted the use of them."⁸⁶ Timothy Dwight had to abandon a tour of Maine at Berwick in 1796 when he found that deep ruts cut by heavily loaded lumber carts made the roads dangerous for

⁸⁴The Phenix; or, Windham Herald, November 2, 1793.

⁸⁵The Diary of William Bentley, D.D. (Salem, Mass., 1905-14), II, 360.

⁸⁶S. G. Goodrich, Recollections of a Lifetime (New York, 1857), I, 132, 136.

travel in a chaise.⁸⁷ A Vermont minister sold his chaise before moving from Newbury to Peacham in 1799, because there were as yet no roads suitable for such a vehicle in the latter town.⁸⁸ And when Sidney Willard, son of the president of Harvard, went to Stafford Springs, Connecticut, to prepare for college under the tutorship of his uncle in 1791, he and his brothers had to walk the last twenty miles from Brookfield, Massachusetts, the rock-strewn road making it impossible to ride in their chaise. In Stafford Springs, as in most inland towns, people went about their errands on foot or on horseback. Only the superintendent of the iron furnace had a chaise, and "he and his wife generally preferred the saddle and pillion."⁸⁹

Many New Englanders cared not at all about these difficulties. There were, it was complained, many towns the inhabitants of which "have gone fifty or an hundred years through sloughs, as often as they have gone to the house of God, and probably they would do the same fifty years more unless the public relieves them."⁹⁰ But there

⁸⁷ Timothy Dwight, Travels in New England and New York (New Haven, 1821), I, 426-427.

⁸⁸ Bogart, p. 82.

⁸⁹ Sidney Willard, Memories of Youth and Manhood (Cambridge, 1855), I, 231-233, 239.

⁹⁰ Connecticut Courant, May 29, 1797.

was also a growing number who agreed with petitioners to the Berkshire County Court that "the great increase of business & travel" had made it necessary to improve the region's roads.⁹¹

Proponents of highway improvements during the late eighteenth century generally agreed that the laws under which roads were built and maintained had to be changed. "A Farmer," writing to a Boston newspaper in 1796, asked, "Will any men of sense, believe that our roads will be made good under the present regulations? Our old towns have been fully settled for almost a century; and surely that period is long enough to try the efficacy of the laws in question."¹ Although the criticism was aimed specifically at the highway laws of Massachusetts, it also could have applied to those of the other New England states. For the statutes were similar in the various states and had been enforced with similar results.

Basic to the laws was the responsibility of the towns for the roads within their limits. To be sure, county courts in all the New England states except Rhode Island had been granted authority to order the making of highways from town

⁹¹Berkshire County, General Sessions of the Peace, I, 443.

¹Columbian Centinel, January 30, 1796.

CHAPTER II

TOWN RESPONSIBILITY AND THE MOVEMENT FOR IMPROVEMENTS

Proponents of highway improvements during the late eighteenth century generally agreed that the laws under which roads were built and maintained had to be changed. "A Farmer," writing to a Boston newspaper in 1796, asked, "Will any man of sense, believe that our roads will be made good under the present regulations? Our old towns have been fully settled for almost a century; and surely that period is long enough to try the efficacy of the laws in question."¹ Although the criticism was aimed specifically at the highway laws of Massachusetts, it also could have applied to those of the other New England states. For the statutes were similar in the various states and had been enforced with similar results.

Basic to the laws was the responsibility of the towns for the roads within their limits. To be sure, county courts in all the New England states except Rhode Island had been granted authority to order the making of highways from town to town within their jurisdictions, as well as roads lying wholly within a single town when the selectmen or the town

¹Columbian Centinel, January 30, 1796.

meeting refused to do so. The colonial governments at an early date also had begun laying out "great highways" such as the "Kennebunk road by the sea," which the Crown Commissioners of Massachusetts ordered built between Kittery and Falmouth, Maine, in 1653.² But the towns bore the expense of opening all the roads within their limits and of paying damages to the property owners involved. And the towns also were responsible for maintenance. Highway surveyors, at least two of whom were elected annually at town meetings, were charged with keeping the roads within their districts in repair. They were authorized to call out laborers, either under an old law requiring most adult male inhabitants to work a certain number of days each year on the highways, or, as was becoming more generally the practice, to work off a tax on polls and estates. Surveyors failing to perform their duties, persons refusing to work or to send a substitute, and towns convicted of failing to repair a road or bridge all were subject to fines.³

To enact laws had been one matter; to obtain compliance had proved to be quite another. The Connecticut General Court ordered the opening of a "Country highway" from town to town along the uplands on the east side of the Connecticut

²Herbert G. Jones, The King's Highway from Portland to Kittery (Freeport, 1953), p. 11.

³See, for example, Massachusetts, Acts and Resolves, 1786, c. 81.

River in 1670, but the selectmen of Glastonbury failed to lay out their portion of it until 1706 and five years later property owners still had their fences across it, so that "there is now no highway . . . through said Town, the want whereof is an exceeding wrong, not only to the Inhabitants there, but unto Strangers."⁴ In 1785 the Connecticut legislature increased the fine for failing to work on the highways, having found the previous penalty "insufficient to enforce Obedience to said Act."⁵ This had been tried several times previously during the eighteenth century, however, with little success.⁶ New Hampshire, which in 1698 had passed an act prohibiting the leaving of lumber and other objects in the roads, found it necessary to enact a similar law in 1786 with the explanation that "many persons within this State [still] make a practice of unloading and laying down in the Streets or highways, masts spars, mill-logs, boards, plank, timber and other lumber, firewood and rocks for building, to the great incumbrance of said streets and highways so as to render them almost or altogether impassable."⁷

⁴Connecticut, Archives, Travel, Series I, Vol. I, p. 3.

⁵The Public Records of the State of Connecticut, ed. Charles J. Hoadly et al. (Hartford, 1890-), VI, 99. Cited hereafter as State of Connecticut, Public Records.

⁶Connecticut, Archives, Travel, Series I, Vol. I, pp. 12, 101, 113.

⁷Laws of New Hampshire, ed. Albert S. Batcheller et al. (10 vols.; Manchester, Concord, Bristol, N. H., 1904-22), I, c. 2 (1698); V, c. 14 (1786). Cited hereafter as New Hampshire, Laws.

The highway laws, based on those of England, where the parishes were the responsible agents, had worked best during the early years of settlement, while towns still were relatively isolated and there was little demand for roads to accommodate through travel. The earliest roads usually served primarily local needs, providing access to houses, outlying fields, mills, and the meeting house.⁸ In many towns, the proprietors, at the time of a division of land, would leave "rangeways" - strips of land reserved for roads - between ranges of lots. Thus in the original layout of Hanover, New Hampshire, every 100-acre lot had frontage on a projected roadway of from four to ten rods in width.⁹ The original homelots in Wallingford, Connecticut, were laid in strips of five on either side of a six-rod road, which was intersected by several 'Cross High ways' of equal width.¹⁰ In Amherst, Massachusetts, the early lots were laid along rangeways forty rods wide.¹¹

⁸ "Like the veins in the human system centering at the heart, the primitive roads of every town had a general tendency towards the meeting-house. It was not until the movement of surplus production gave additional employment to the roads that much attention was paid to any outward facilities." Ezra S. Stearns, History of Ashburnham, Massachusetts (Ashburnham, 1887), p. 372.

⁹ John K. Lord, A History of the Town of Hanover, N. H. (Hanover, 1928), p. 303.

¹⁰ Joseph P. Beach, History of Cheshire, Connecticut (Cheshire, 1912), p. 24.

¹¹ Carpenter and Morehouse, The History of the Town of Amherst, Massachusetts (Amherst, 1896), p. 49.

As a town grew and new needs arose, other roads were laid out by the proprietors or -after incorporation- by the selectmen, whose actions were subject to the approval of the town meeting. Difficulties sometimes arose in regard to these roads. Absentee proprietors in some cases neglected to provide them.¹² Sometimes, too, a recent settler in an outlying area would have no way of entering or leaving his property without trespassing on another person's land and would find the older inhabitant opposed to the establishment of a road that would be of little use to him, would cut up his property, and would put him at the trouble of building fences. The town often would be equally opposed to paying damages and the other costs involved in the opening of such a road.¹³

Such difficulties led most of the New England colonies, at a fairly early date, to adopt laws permitting petitioners unable to obtain needed town roads and property owners dissatisfied with damage awards to bring their cases before the

¹²Connecticut, Archives, Travel, Series I, Vol. I, pp. 20, 92: Documents and Records relating to the Province of New Hampshire, ed. Nathaniel Bouton et al. (Manchester, N.H., 1872-1943), XI, 161-162, 302: XII, 3, 425-426. Cited hereafter as New Hampshire, Province Papers.

¹³Grafton County, Highway Petitions, 1773-1800; Berkshire County, General Sessions of the Peace, I, 460-461.

county courts.¹⁴ Legal means, furthermore, were developed whereby conflicts among petitioners, property owners, and towns could be minimized. If a road was for the private use of an individual, he could be required to pay all costs.¹⁵ Courts were authorized to permit the establishment of "pent roads," across which gates were built at property lines to avoid the expense of fencing.¹⁶ Rangeways and allowance lands, although not always used for highways, nevertheless were available to be exchanged for land where roads actually were needed. Thus many of the highway reservations in Hanover later were exchanged for roads actually "trod."¹⁷ Most deeds granted in Cornwall, Vermont, stipulated that five

¹⁴The Public Records of the Colony of Connecticut, ed. J. Hammond Trumbull et al. (Hartford, 1868-90), IV, 314-316 (1699); XIV, 181-182 (1773). Cited hereafter as Colony of Connecticut, Public Records. The Acts and Resolves of the Province of Massachusetts Bay (Boston, 1860-1922), I, c. 6 (1693-94), secs. 3, 4; II, c. 1 (1728-29), sec. 2; c. 14 (1736-37). Cited hereafter as Province of Massachusetts Bay, Acts and Resolves. Rhode Island law gave courts the power of reviewing damage awards only, the towns having the final say as to whether a road was to be built.

¹⁵Colony of Connecticut, Public Records, XIV, 182 (1773).

¹⁶Colony of Connecticut, Public Records, III, 402 (1713); Rhode Island Public Laws, Revised (1798), p. 382 ("an Act for laying out Highways," sec. 3).

¹⁷Lord, p. 303. See also, John J. Dearborn, The History of Salisbury, New Hampshire (Manchester, N. H., 1890), p. 291; Ezra L. Johnson, Newtown [Conn.] (Newtown, 1917), pp. 116-117; Hibbard, pp. 32-33.

acres in every 100 were to be considered allowance lands. Under Vermont law, the town, in exercising the power of eminent domain, could take that amount of land for a road without paying damages or could take allowance land from one lot to compensate other property owners who had been required to relinquish more than their allowances.¹⁸ Finally, according to law, a road was to be laid "as little as may be to the injury of the land through which it passes."¹⁹ As early as 1639, indeed, a Massachusetts act had provided that a road could be opened through land under cultivation, but not "so as it occasion . . . the pulling down of any mans house, or laying open any garden, or orchard."²⁰

Poor though the systems of town roads were that developed under these laws, they fulfilled their intended function of providing access to houses, fields, and public places. Speed and comfort were considered to be of no great importance when one had to travel no more than a few miles to meeting or mill and the inconveniences of a winding, hilly, rutted route usually were preferred to paying the cost of removing boulders and other natural obstacles, building causeways where needed, and

¹⁸Lyman Matthews, History of the Town of Cornwall, Vermont (Middlebury, 1862), p. 300; Vermont, Laws, Revised (1798), c. 26, sec. 3.

¹⁹Rhode Island, Acts and Laws, Revised (1767), p. 140 ("an Act for laying out Highways").

²⁰The Laws and Liberties of Massachusetts, p. 25.

doing other things necessary to build and maintain a good road.²¹ Since town roads were primarily for the use of local people, moreover, those who bore the responsibility for building and maintenance suffered whatever consequences resulted from their own neglect.

By the late eighteenth century, however, people and goods were moving with greater frequency beyond town boundaries and the location and condition of roads were becoming of more general interest. Today such interests find expression in the roles that counties, states, and the federal government, as well as towns, play in financing roads of varying degrees of importance. But at the time under consideration, the towns, with their limited resources and predominantly local interests, remained responsible for all the roads, including main highways, within their limits.

The indifference and even opposition of many towns towards providing highways for the benefit of outsiders were notorious. According to the historian of Ashburnham, Massachusetts, "the only roads which offered any suggestions for the accommodation of the surrounding towns were built under the commands of the court and in opposition to the will of a majority of the inhabitants."²² When the selectmen of Groton,

²¹For a discussion of construction and maintenance, see Chapter VI.

²²Stearns, History of Ashburnham, p. 372.

New Hampshire, laid out a highway in the direction of a "great public road" in Dorchester, the latter town refused to complete the route. Some years earlier the inhabitants of Dorchester had had their turn to complain that they "have often Broke their Slays, Sleds, and Carriages in Conveying the Necessaries of Life to our Families" for lack of a decent road through Alexandria in the direction of Plymouth.²³ Persons living in a remote part of New Chester, New Hampshire, claimed in 1791 that for nine years they had been unable to go to mill without trespassing on private property because the selectmen of Bridgewater had refused to lay out a road across a corner of that town.²⁴

Although colonial statutes originally required towns to cooperate in establishing intertown roads, the impossibility of securing cooperation became apparent at an early date. Massachusetts in 1693 vested final authority for laying out such roads in the county courts and by the end of the eighteenth century all the New England states except Rhode Island had similar laws.²⁵

²³Grafton County, Highway Petitions, 1773-1800; New Hampshire, Province Papers, XII, 76.

²⁴Grafton County, Highway Petitions, 1773-1800.

²⁵Province of Massachusetts Bay, Acts and Resolves, I, c. 6 (1693-94), sec. 3; III, c. 18 (1756-57); New Hampshire, Laws, I, c. 2 (1698); Colony of Connecticut, Public Records, IV, 314-316 (1699); Vermont, Laws, Revised (1798), c. 26, sec. 2. Cf., Rhode Island, Public Laws, Revised (1798), "an act for laying out Highways."

There still was no assurance, however, that inter-town roads would be good. In the first place, such highways were laid out by court-appointed committees, the only requirement for membership on which was that one be a freeholder whose interests were in no way affected by the proposed route. The results of their amateurish efforts often were futile. A highway from Hartford to Litchfield, although accepted by the Hartford County Court in 1797, lay "on the worst ground for a road." In one place it went through "an impassable swamp"; elsewhere it "descends the worst hill in the vicinity . . . on to a flatt frequently overflowed with water from the river adjoining it."²⁶

There was, moreover, a laxity and lack of uniformity in the enforcement of highway laws, the result being that the condition of important roads varied greatly from town to town. Although Congress during the 1780's, for example, began designating certain existing routes as federal post roads, no funds were appropriated for construction or repairs nor were maintenance standards established. The federal role was confined simply to determining the routes mail contractors were to use.²⁷ Individuals who refused to turn

²⁶Connecticut, Archives, Travel, Series II, Vol. X, p. 38.

²⁷Carter Goodrich, Government Promotion of American Canals and Railroads, 1800-1890 (New York, 1960), pp. 19-20.

their teams aside when meeting a mail stage on narrow stretches of a post road - a practice apparently common among Rhode Islanders²⁸ - were subject to fines of up to \$100 under a federal law against obstructing the passage of the mails, but contractors who were prevented from meeting their schedules because of the condition of the roads themselves were obliged to rely on either the willingness of the various towns to make improvements or on the ability of the states to enforce their own laws relative to maintenance.

Connecticut in 1785 passed an act requiring towns "immediately" to put in good repair the roads and bridges used by mail stages or else to pay the cost of having the job done under the direction of the county courts. The same state also granted a number of towns the privilege of raising by means of lotteries the funds needed for repairing these roads. But in 1792 a legislative committee reported in regard to the post road from Hartford to Providence that "the Inhabitants of the Several Towns through which the Stage passes have not alike exerted themselves in the business of repairing." And in 1794 the towns of Coventry and Bolton, although they had been granted a lottery, refused to make

²⁸Providence Gazette, February 10, 1798.

alterations the Assembly had ordered in the same road.²⁹

In the case just mentioned, the Assembly did order the sheriff of Tolland County to have the repairs made at the towns' expense. But a post road or other important highway often could remain in poor condition for some time before any legal action was taken. According to "A Farmer," "the present system leaves it at the option of the towns to do nothing, and then they stand the chance of being presented by a Grand Jury. And how hard is that chance? It is notoriously a hundred to one that no presentment happens, and if one is made, a promise of amendment will hang up and finally smother the prosecution."³⁰ It was charged that in Connecticut "we have been criminally negligent with regard to the roads," but the records of the Windham County Court reveal that only once between 1780 and 1800 was a town fined because of a poorly maintained road.³¹ In Berkshire County, Massachusetts, where three presentments were made during the 1790's, each case was dropped when the town declined to contest the indictment and agreed to pay court costs.³²

²⁹State of Connecticut, Public Records, VI, 98-99, 229-230, 342; VII, 536-537; Connecticut, Archives, Travel, Series II, Vol. VII, pp. 29-30.

³⁰Columbian Centinel, February 3, 1796.

³¹Connecticut Courant, May 22, 1797; Windham County, Conn., Court Records.

³²Berkshire County, General Sessions of the Peace.

During the third and fourth decades of the nineteenth century, basically the same highway laws, modified somewhat and better enforced, were used with at least some success to improve public roads. Even then, however, the system probably was reverted to for lack of a better alternative; at the end of the eighteenth century the almost universally poor condition of the roads would have made it practically impossible to effect significant improvements within the framework of the existing laws.

The expense of widespread improvements would have been great at any time. During the post-Revolutionary period taxes already were heavy and additional levies would have met with strong opposition. Some towns, moreover, already were straining their resources to keep their roads in repair. The post road along the coast of eastern Connecticut, through Groton and Stonington, was on such rough terrain that "notwithstanding a great deal of labour, commendably bestowed on it, [it] is very disagreeable." The latter town was able with difficulty to keep its main street reasonably free of rocks, "but the rest are so encumbered, that it is with difficulty, and not without danger, a person walks along them at night."³³ In new communities, where the opening of roads was but one of many pressing problems connected with settlement, improve-

³³Dwight, II, 523; Duke de la Rouchefoucault Liancourt, Travels through the United States of North America in the Years 1795, 1796, and 1797 (London, 1799), II, 136.

ment was a particularly slow and difficult process. The expenses involved in providing good roads often were beyond the means of such towns, as a Berkshire County Court committee recognized in 1800 when it upheld the contention of Bethlehem (now part of Otis) that to open a recently laid county road "will be attended with such expense across those rocks and mountains; that they are unable to perform the same, in their new beginning & low Estate as to property."³⁴

Several expedients already had been tried during the late eighteenth century to make the building and repairing of roads somewhat less burdensome to the towns. Lotteries were one such means. In 1759, when the inhabitants of Portsmouth, New Hampshire, sought to pave some of the town's busier streets, they pointed out in a petition to the legislature that "works of this & the like nature are annually carried into execution in other Places by Public Lotteries."³⁵ To facilitate the movement of troops and supplies over its portion of the highway between Hartford and Albany, Massachusetts in 1781 granted a lottery to raise 100,000 dollars in inflated continental currency for repairs.³⁶ Connecticut between 1790 and 1793 granted similar privileges to towns under orders to

³⁴Berkshire County, General Sessions of the Peace, I, 32, 336-337.

³⁵New Hampshire, Province Papers, IX, 707-708.

³⁶Connecticut Courant, January 23, 1781.

repair the Hartford-Providence post road, the Lower Post Road, and the highway through Mohegan Indian lands between Norwich and New London. The same state also granted a number of lotteries for the building and repairing of bridges during the last two decades of the century.³⁷

Efforts also had been made to provide new sources of tax revenue. New Hampshire, for example, during the post-Revolutionary period frequently granted towns the privilege of levying special taxes on all lands, including those of absentee owners, for making or repairing roads.³⁸ By the end of the century all of the New England states also had revised their highway labor laws. Colonial statutes, based on English laws, had permitted the impressment of laborers for many types of public works.³⁹ Labor on the roads was the most common form of exactment and in the New England colonies most adult males had been required either to work a certain number of days each year or to send a substitute. Under a revised law of 1797, Vermont still required at least four days' labor of every male between the ages of twenty-one and sixty with the exception of ministers, school masters, and college students, but also required that further labor,

³⁷State of Connecticut, Public Records, VII, 229-230, 531; VIII, 68.

³⁸New Hampshire, Province Papers, XI, 111-114, 251-252; XII, 354, 365.

³⁹Richard B. Morris, Government and Labor in Early America (New York, 1946), pp. 1-10.

if required, be exacted in the form of a tax on property.⁴⁰ Under laws still in effect at the end of the century, Rhode Island towns could require at least one day's work each year of "every householder and labourer," while Connecticut towns still could exact at least two days' labor. But both states also had granted towns the option of levying a tax on polls and estates.⁴¹ Massachusetts had taken this step during the 1720's and John Adams, who "thought a Tax a more equitable Method and more likely to be effectual," helped to persuade the Braintree town meeting to adopt it in 1764.⁴² A Massachusetts law approved in 1787 required all towns to assess a highway tax, payable either in labor or in money, as had a New Hampshire statute enacted in 1774.⁴³

These measures, however, were not enough to insure the effecting of needed improvements. Although Rhode Island in particular continued to resort to their use until at least

⁴⁰Vermont, Laws, Revised (1798), c. 26, sec. 5.

⁴¹Rhode Island, Public Laws, Revised (1798), pp. 384-385, 389 ("an Act for the Mending of Highways," secs. 1, 2, 11); Connecticut, Public Statute Laws, Compiled (1808), Title LXXXVI, c. 1, sec. 10.

⁴²Lyman H. Butterfield (ed.), Diary and Autobiography of John Adams (Cambridge, 1961), III, 279.

⁴³Massachusetts, Acts and Resolves, 1786, c. 81; New Hampshire, Laws, III, c. 5 (1774).

the 1820's,⁴⁴ it was found that lotteries sometimes raised insufficient amounts of money to permit the repairing of a road and that, at any rate, once the funds had been spent, deterioration began again.⁴⁵ Highway taxes were regarded as more equitable than the old system of requiring everyone to perform the same amount of labor,⁴⁶ but highway maintenance was a thorny issue in many towns. Holland and South Brimfield (now Wales), Massachusetts, became involved in a spirited dispute in 1783 when a representative from the former town succeeded in getting its boundary fixed just to the east of the road to Brimfield, so that South Brimfield had to bear the entire cost of keeping it in repair.⁴⁷ According to a petition of the inhabitants of Sandwich to the New Hampshire legislature, "altho the highway Rate . . . for Several years has been more than double to all other taxes yet [it is] Very insufficient for the purposes of Repairing our Roads."⁴⁸

⁴⁴Rhode Island, Archives, Petitions to the General Assembly, L, 108.

⁴⁵Connecticut, Archives, Travel, Series II, Vol.VII, p. 12; State of Connecticut, Public Records, VII, 394-396; Connecticut Courant, June 26, 1797.

⁴⁶Rhode Island, Archives, Petitions to the General Assembly, XXVII, 54; Butterfield, I, 203; Connecticut Courant, October 19, 1767.

⁴⁷Martin Lovering, History of the Town of Holland, Massachusetts (Rutland, 1915), pp. 112-113.

⁴⁸New Hampshire, Province Papers, XIII, 418.

Much of what was spent in money and labor for maintenance, moreover, was wasted. According to "A Farmer," the working out of taxes was a time of "frolic in the highways," more notable for the amount of rum consumed than for the amount of work accomplished.⁴⁹ Added to this was a lack of skilled supervision. It was common for a town to elect ten or twenty surveyors of highways, each with his own district to supervise as he saw fit. Skill in road building was by no means a prerequisite for the job. When John Adams, upon reaching the age of twenty-one, was nominated to serve as surveyor, he was told, "they make it a rule to compell every Man to serve either as Constable or Surveyor, or to pay a fine."⁵⁰ Not surprisingly, then, highway taxes, although "a considerable burthen in the community, . . . are in comparison to what ought to be done, almost thrown away."⁵¹

Much of what is effected is done at the wrong places, where the road ought to be straitened, or turned, or in bye roads of the great road. It is often done at the wrong time, just before the winter frosts come to undo it all. Much is left half done, and a bad road is made worse by heaps of materials. Another great fault is, too much is attempted, and too little accomplished.⁵²

⁴⁹Columbian Centinel, January 27, 1796.

⁵⁰Butterfield, III, 278-279.

⁵¹Columbian Centinel, January 27, 1796.

⁵²Ibid., February 3, 1796.

Advocates of improvements thus could find ample reason to deride "present laws" as unworkable and even to suggest that "before the roads will be made good by their operation, three centuries, perhaps ten, will pass away, and more money will be spent in vain than would dig the canals of China."⁵³ But such persons also could offer alternatives. The answer to the problem, according to "A Farmer," lay either in much stricter enforcement of existing laws or in the chartering of turnpikes, "as they have done in the most wealthy and improved countries of Europe. In the former plan, great caution will be requisite to prevent abuses, but as to turnpikes, the experience of others is a safe guide."⁵⁴ "The use of Turnpike roads," wrote a Massachusetts editor, "so common and profitable in older countries, seems to claim attention here." "By Turnpikes," another contemporary wrote "they are made to support the roads, who use them."⁵⁵

That the cost of maintaining roads should be borne by the people who actually traveled over them was a principle frequently repeated during the late eighteenth century. One reason, indeed, for favoring a highway tax over statute labor

⁵³Ibid.

⁵⁴Ibid., January 30, 1796.

⁵⁵Political Focus (Leominster), February 28, 1799; Connecticut Courant, June 26, 1797.

had been that the tendency would be to place the burden more heavily on those who used the roads. A Connecticut man styling himself "Justice," in 1767 advocated a tax and questioned the exemptions from labor permitted under that colony's laws, wondering

why magistrates and justices of the peace should be exempt from doing their part this way, unless it be because they don't use the road. . . or because the a-m-y is made up of that respectable body. Nor can I see why allowed physicians who use and wear the road as much as any set of men perhaps whatever (teamsters excepted) should be exempt.⁵⁶

John Adams, in recommending that Braintree repair its roads in part by a tax on property, thereby hoped "that rich Men may contribute in Proportion to their wealth, to repairing, as they contribute most by their Equipages, &c. to the wearing and spoiling the high ways."⁵⁷

A highway tax, however, was a most imperfect means of realizing the principle of user support. As Adams himself pointed out, of two equally wealthy men, one might send his produce to market by water, while the other, carting heavy loads of lumber to a landing place, "breaks and cutts and crushes the Ways to Pieces."⁵⁸ Since highway rates were a local tax, moreover, they failed to touch outsiders who

⁵⁶Connecticut Courant, October 19, 1767.

⁵⁷Butterfield, I, 203.

⁵⁸Ibid.

used a road and contributed to its wear. As travel became more and more common, complaints frequently were heard that towns were being required to make heavy expenditures that were of much greater benefit to outsiders than to their own inhabitants.⁵⁹

For some years Great Britain, faced with similar problems of poor roads inadequately maintained by the parishes on one hand and increased travel on the other, had been chartering turnpike trusts, which placed the cost of maintenance on teamsters and travelers. Although the first turnpike act was passed in 1660, the turnpike era in Great Britain really began during the eighteenth century. Parliament passed 453 such acts between 1760 and 1774 and 1,062 between 1785 and 1809. By 1838 a total of 1,116 turnpike trusts, controlling about 22,000 miles of road in England and Wales, had been authorized under more than 3,800 turnpike acts. The trusts consisted of a number of local gentlemen who were permitted to borrow money for the repair of their roads, to employ surveyors, and to erect turnpikes, or tollgates. Plagued by incompetent management and financial difficulties, the trusts frequently were unpopular because of heavy exactions from travelers and the poor condition of many of their roads. But according to one historian,

⁵⁹Connecticut, Archives, Travel, Series II, Vol. IV, p. 99; Connecticut Courant, June 26, 1797.

"the turnpike system, defective in itself, badly administered, and burdensome to the toll-payers, did bring about an improvement in roads which previously had too often received little or no attention; and this improvement . . . had a material influence on trade, travel, and social condition."⁶⁰

Imperfect as it was, the British turnpike system presented Americans with an alternative - perhaps the only one practicable at the time - to continued responsibility of the towns for main roads. Neither the federal government nor any of the New England states was to become deeply involved in financing highway projects for many years to come. Thomas Jefferson, opposing an effort in 1796 to have the federal government survey proposed routes for post roads, commented, "'we have thought, hitherto, that the roads of a State could not be so well administered even by the State legislature as by the magistracy of the county, on the spot.'" ⁶¹ Although Jefferson and his successors in the Presidency later favored, sometimes with various reservations, federal participation in internal improvements projects, constitutional and political problems long stood in the way of widespread involvement.

⁶⁰Pratt, p. 84. See also, J. W. Gregory, The Story of the Road (London, 1931), p. 184.

⁶¹Leonard D. White, The Federalists: A Study in Administrative History (New York, 1956), p. 488.

The federal government's only major road-building project during the early nineteenth century was the National Road, linking the former territories of the Old Northwest with the Atlantic seaboard. Although larger sums later were subscribed to the stock of improvement companies or granted in the form of public lands, President James Monroe reported to Congress in 1818 that the executive department since 1806 had supervised directly the expenditure of only about \$35,000 for the building of military and post roads through the territories.⁶²

There were precedents for state financial participation in road building. During the reign of Queen Anne the colonial government of New York appropriated £500 for a road from Nyack to the Sterling iron works and in 1789 New York's legislature set aside 50,000 acres of public land to be granted as compensation for opening roads.⁶³ Pennsylvania granted £2,000 for a highway from Cumberland County to Pittsburgh in 1785 and between 1791 and 1820 made many

⁶²Message from the President of the United States, Transmitting Pursuant to a Resolution of the House of Representatives Information of the Roads Made, or in Progress, under the Executive of the United States (Washington, 1818); Goodrich, pp. 39-48.

⁶³Ulysses P. Hedrick, A History of Agriculture in the State of New York (Albany, 1933), p. 166; Oliver W. Holmes, "The Turnpike Era," Conquering the Wilderness, Vol. V of History of the State of New York, ed. Alexander C. Flick (New York, 1934), p. 261.

similar appropriations.⁶⁴ In order to expedite sales of its public lands in Maine and also to abate separatist feeling there, Massachusetts in 1787 ordered the laying out and opening of roads between the New Hampshire line and Passamaquoddy Bay and between the Penobscot and Kennebec rivers at public expense, the cost to be paid by the granting of unappropriated lands.⁶⁵

Like the federal government and the towns, however, a number of states experienced financial difficulties during the post-Revolutionary period. Although the importance of "great Market Roads" both to the economy and to political unity was recognized by the Connecticut General Assembly, and although that body during the 1790's appointed a number of committees to recommend alterations of such roads, it soon was recognized that for the state to assume the cost of repairs would "embarrass our finance."⁶⁶ Massachusetts, although similarly interested in roads and other factors affecting the prosperity and welfare of its citizens, also was unable to finance needed improvements.⁶⁷

⁶⁴Fletcher, pp. 251-252.

⁶⁵William D. Williamson, The History of the State of Maine (Halowell, Me., 1832), II, 532.

⁶⁶Connecticut, Archives, Travel, Series II, Vol. V, p. 48; State of Connecticut, Public Records, VIII, n., 362; Connecticut Courant, June 26, 1797.

⁶⁷Oscar and Mary Handlin, Commonwealth, A Study of the Role of Government in the American Economy: Massachusetts, 1774-1861 (New York, 1947), pp. 93 ff.

In Massachusetts, however, as in other parts of the United States, "people who shared common interests normally formed groups to work for a common end" and the Commonwealth at an early date had discovered the possibilities inherent in granting legal status to certain such groups, delegating to them some of its own authority.⁶⁸ During the post-Revolutionary years, Massachusetts, offering monopolies, prospective profits, and other incentives, "launched a great variety of new bodies to do what had to be done."⁶⁹ Among the enterprises thus chartered was the Charles River Bridge in 1785, providing a span over one of three major rivers impeding the movement of traffic between Boston and the New Hampshire line. This was, according to the Massachusetts Spy, a project that

has ever been thought of as . . . worthy the attention of the publick. Our ancestors wished to accomplish this important affair, but men of property, and spirit to undertake it on their own account, could not then be found . . . but we have now the pleasure of informing the publick, that several gentlemen stand ready to carry on this great work, at their own expence, provided they can have that sanction of the Legislature which is reasonable and necessary.⁷⁰

There was, indeed, money available for investment in

⁶⁸Ibid., pp. 98-99.

⁶⁹Ibid., p. 103

⁷⁰Massachusetts Spy, February 10, 1785.

the United States and the success of early toll bridges such as that over the Charles helped to induce men of property to support other internal improvements projects. Between 1792 and 1800 Massachusetts alone chartered twenty-three bridge corporations⁷¹ and during the same period all of the New England states began chartering turnpikes.

The turnpike movement in the United States began in 1785, when Virginia authorized the erection of tollgates on roads leading from Alexandria towards the northwestern part of the state. Two years later Maryland enacted legislation leading to the establishment of several highways as toll roads.⁷² In New England there had been talk as early as 1788 of turnpiking the post road leading from Boston to Hartford through Worcester and Springfield.⁷³ The Connecticut lower house, while agreeing in 1791, to a lottery for the repair of the Mohegan Road, turned down a request for turnpike privileges; the following year petitioners claimed that improvements had been made on the road, which was the principal route between New London and northeastern Connecticut, but "for want of [continued] attention the said Road. . .

⁷¹Handlin and Handlin, p. 141.

⁷²Frederic J. Wood, The Turnpikes of New England and Evolution of the Same through England, Virginia, and Maryland (Boston, 1919), pp. 7-9.

⁷³Brissot de Warville, p. 110.

is going fast to decay & will in a few years be as bad as ever."

This road is so situated that few of the white Inhabitants of the Town of Montville make any use of it & would deem it a hardship to be obliged to work much upon it, and is of course neglected by them. Your petitioners conceive that there could be no just or more effectual way of keeping the Road in Repair than by collecting a small Tax for the Purpose from the People who travel it, & that the advantage of having a good road is so great that no reasonable man could complain at the expence. Experience has in other Countries evinced the Expediency of a measure of this kind & Turnpike Roads are in Europe perhaps universally acknowledged to be the cheapest & the best.⁷⁴

The Assembly this time granted the request for a tollgate and a few months later authorized a gate on the Lower Post Road in Greenwich, where the avails of a lottery also had proved inadequate to effect permanent repairs on a route "uncommonly rough, unavoidably stretching across steep hills, rocky precipices, deep vallies & sloughs."⁷⁵

These first two New England turnpike acts were based on the English model of a turnpike trust with a bonded debt to pay. The Greenwich act provided for the appointment of

⁷⁴State of Connecticut, Public Records, VII, n. 230; Connecticut, Archives, Travel, Series II, Vol. XIII, p. 58.

⁷⁵State of Connecticut, Public Records, VII, 394-396, 536; Connecticut, Archives, Travel, Series II, Vol. VII, p. 13.

several commissioners who were to supervise repairs, erect a tollgate after the Fairfield County court had determined that the road was "in good repair for Wheel Carriages," supervise the collection of toll at rates specified by the legislature, and apply the proceeds to the maintenance of the road. The commissioners were to render an annual account to the county court and could be held liable in case of misuse of funds. The act was to remain in effect during the pleasure of the General Assembly.⁷⁶

These acts, plus one other enacted by Connecticut in 1794, were to be the only ones passed in the New England states along the lines of a turnpike trust. Shortly before the passage of the Mohegan Road act, Pennsylvania had taken a different approach in incorporating the President and Managers of the Philadelphia and Lancaster Turnpike Road. The improvement of this important route, linking Philadelphia with the western country, had been sought unsuccessfully since 1767. In this act Pennsylvania combined the English principle of charging toll to those who used the roads with the corporate form as a means of raising capital. The cost of construction was to be financed by the sale of stock. According to a charter provision, rates were to be fixed by the state, which re-

⁷⁶State of Connecticut, Public Records, VII, 536-537.

served the right to revise them upward or downward in case profits were less than six per cent or more than fifteen per cent per year. When 600 shares of the company's stock, priced at \$300 each, were placed on sale in Philadelphia in June 1792, more than 2,000 persons sought to subscribe; 600 of them, chosen by lot, were permitted to purchase one share each. Response in Lancaster also was great, and by noon of the second day all of the company's 1,000 shares had been subscribed.⁷⁷

Although it is not known whether the Lancaster Turnpike, with its early success in raising capital, served as a model for similar enterprises elsewhere, it was the first of a great many turnpike corporations chartered in the United States within a relatively short time. Rhode Island in February 1794 chartered New England's first and the nation's second such corporation, which was to repair part of the road from Providence to Killingly, Connecticut, and also to spend part of its capital in improving feeder roads in Connecticut and Massachusetts. The charter, like those of many later turnpike corporations, was to remain in effect until profits had repaid the investment, plus dividends averaging twelve per cent per year. The following October, Rhode Island chartered another corporation to repair

⁷⁷Durrenberger, pp. 51-52; Fletcher pp. 254-255.

and maintain that state's portion of the post road between Providence and Norwich.⁷⁸

The other New England states soon followed suit. The Oxford Turnpike was incorporated in 1795 to repair the market road leading from Southbury, Connecticut, to Derby and New Haven.⁷⁹ Massachusetts chartered its first turnpike corporation in June 1796, three days before "the New-hampshire Turnpike Road" was incorporated in order that "the communication between the Sea-coast and the interior parts of the State might be made much more easy, convenient and less expensive by a direct road from Concord to Piscataqua Bridge, than it now is, between the Country and any commercial Sea-port."⁸⁰ Five months later Vermont became the last New England state to enter the turnpike era.⁸¹

Within a period of less than three years all the New England states thus had adopted a policy of entrusting the care of many main highways to quasi-public corporations, so called because of their use "as an agency of the state to

⁷⁸Rhode Island, Archives, Charters, 1790-1800, p. 24; Rhode Island, Acts and Resolves, October 1794, pp. 13-15.

⁷⁹State of Connecticut, Public Records, VIII, 276-277.

⁸⁰New Hampshire, Laws, VI, c. 13 (1796); Wood, p. 215.

⁸¹Wood, pp. 249-250.

accomplish public purposes."⁸² Although owned by private stockholders seeking to earn profits, a turnpike corporation was in reality a creature of the state, which delegated to it the power of eminent domain, but also inserted in its charter a number of provisions to make sure that the corporation performed a public service. For example, according to most New England turnpike charters, a stated amount of money had to be spent for construction before toll could be collected. Certain persons were exempted from paying toll and there usually was a provision for the reversion of the turnpike property to the public once a certain profit level had been reached. Legal toll rates also were established by charter provisions and it usually was stipulated that a corporation could be denied the right to collect toll if it failed to keep its road in repair.⁸³

By the end of 1800, seventy-two turnpike corporations had been chartered in the United States, two-thirds of which were in New England. Connecticut, which had granted twenty-three acts of incorporation, was far in the lead. Vermont and Massachusetts had chartered nine turnpikes each, New Hampshire four, and Rhode Island three.⁸⁴

⁸²Stuart W. Bruchey, The Roots of American Economic Growth, 1607-1861: An Essay in Social Causation (New York, 1965), p. 128.

⁸³The quasi-public aspects of turnpike corporations will be discussed more fully in Chapter V.

⁸⁴Joseph Davis, Essays in the Earlier History of American Corporations (Cambridge, 1917), p. 216.

The turnpike system had its opponents. Rhode Island petitioners protested in 1794 that turnpikes would be "injurious to the Rights of free men Especially in a Republican Country, where we have but just got through the Shedding of Blood for the Liberties we Do Injoy by the Blessing of God."⁸⁵ In Connecticut there were "many prejudices against them."⁸⁶ But for better or worse, the turnpike era in New England had begun.

⁸⁵Rhode Island, Archives, Petitions Not Granted.

⁸⁶Connecticut Courant, June 27, 1797.

CHAPTER III

THE TOLL-ROAD MOVEMENT: 1792-1808

"Turnpike roads seem to be the great rage of the day," a traveler in Berkshire County observed in 1801. Two years later a diarist living in eastern Massachusetts wrote, "our County [Essex] will be intersected with the best [turnpike] roads, & the whole will probably be lucrative to adventurers." According to Edward A. Kendall, an English traveler who passed through Connecticut in 1807, there was "in almost every . . . direction, a turnpike-road; for, these roads being here made objects of private gain, and not as in England, of merely public care, they are established with avidity, on the smallest prospect of advantage."¹

By 1807, however, the turnpike movement in New England was passing its peak. A network of toll roads linking the major towns and connecting markets with their hinterlands had taken shape. A great many roads would be

¹Increase N. Tarbox (ed.), Diary of Thomas Robbins, D.D. (Boston, 1886), I, 139; Diary of William Bentley, III, 49; Edward A. Kendall, Travels through the Northern Parts of the United States (New York, 1809), I, 97-98.

built in New England during succeeding decades, but few of them would be toll roads. Investor interest had declined and highway building of necessity would become once again largely a public concern, as will be seen in Chapter V.

After 1808 the number of charters sought and granted declined rapidly. Of an estimated 3,764 miles of road built by some 242 turnpike companies prior to 1840, about 2,919 miles - more than three-fourths of the total - had been authorized in charters to 162 companies by 1808. Almost half of the companies that succeeded in building roads received their charters between 1801 and 1808, after which date, with the exception of a small number of plank roads and dirt turnpikes constructed chiefly in resort areas of northern New England during the latter half of the century, only about 310 miles of toll roads were built in the states outside of Connecticut.²

One historian has placed the end of the turnpike era in New England at about 1850, when toll roads no longer were being built and a majority of companies had gone out of business. Another dates it a decade earlier, when pub-

²P. E. Taylor, "Turnpike Era," p. 347; Appendix I.

lic highways definitely had superseded turnpikes in importance.³ As a means of financing road-improvement projects, however, turnpike companies were of very limited importance after the first decade of the century. They were, indeed, never of importance in Maine, where only five toll roads were built, all of them prior to that state's separation from Massachusetts in 1820.⁴ Except for a brief revival of turnpike building in resort areas after 1853, New Hampshire chartered only one company that actually built a road after 1812. Of twenty-nine companies that built roads in Vermont, twenty were incorporated between 1799 and 1805. Fifty of sixty-four Massachusetts companies similarly had been chartered by 1806 and only one turnpike was built in that state after 1826. Twelve of Rhode Island's twenty-three toll roads were built after 1810, but construction in that state was sporadic and only one was started after 1827. Only in Connecticut, with more than forty per cent of the region's successful turnpike companies (successful in the sense that they completed the roads they were chartered to build) and

³Wood, p. 35; P. E. Taylor, "Turnpike Era," iii-iv.

⁴Wood, p. 211.

about forty-six per cent of its turnpike mileage, were toll roads constructed with any degree of regularity after 1809. Even in Connecticut, corporations that built 1,154 of an estimated 1,619 turnpike miles had received their charters by that date.⁵ But Connecticut, as will be seen later in this chapter, provides exceptions to many generalizations about the turnpike era in New England.

According to Philip E. Taylor, from the beginning of the turnpike movement until about 1807 the number of incorporations tended to be highest during years of business prosperity. By this he apparently meant years during which prices were high, the value of exports rising, and capital plentiful. He found no such correlation between 1808 and the mid-1820's, when there was a slight, but temporary, upsurge in the number of incorporations, and concluded that New England had special problems, resulting from the Embargo and the War of 1812, which discouraged further turnpike development during this period.⁶

Certainly a relationship existed between foreign

⁵Appendix I; P. E. Taylor, "Turnpike Era," p. 347.

⁶P. E. Taylor, "Turnpike Era," pp. 205-206, 213-215.

commerce and the usefulness of New England turnpikes.

At a time when manufactures still were of minor importance most toll roads, in Fisher Ames's words, were built "to facilitate country produce on its way to market," the volume of traffic depending largely on the quantity of produce being marketed.⁷ Since domestic markets still were relatively unimportant, the quantity of produce sent to market depended largely on foreign demand. Foreign commerce, of course, declined from 1808 to 1815.

The relationship between turnpikes and foreign commerce, however, was only part of a complex set of factors which brought about an early decline of turnpike building in New England. In New York and Pennsylvania, for example, the transportation of country produce to market also was an important function of turnpikes. Yet construction in those states continued on a fairly large scale until well into the 1820's. The number of companies in New York more than doubled between 1811 and 1821, while the mileage they were authorized to build increased from about 4,500 to 6,000 and the mileage actually completed grew from 1,500 to 4,000. Between 1821 and 1836 the number of turnpike companies further increased from 278 to more than 500. Turnpike mileage

⁷Ames, Draft of Letter to Prospective Investors, 1802, Norfolk and Bristol Turnpike Company Records.

in Pennsylvania increased continually after 1808 and grew from 1,807 in 1821 to 2,400 in 1832.⁸

One important cause of decline in New England was the failure of most turnpikes to return a high rate of profits. In Pennsylvania, it was reported in 1828, none of the state's 102 operating companies "have yielded dividends sufficient to remunerate their proprietors."⁹ But toll road companies there were aided greatly by subscriptions to their stock on the part of the state. Of about six million dollars invested in Pennsylvania turnpikes by 1822, almost one-third was provided by the state.¹⁰ Similarly, state aid in Virginia permitted the development of a vast system of toll roads during a period of about four decades after 1816, although in that state, too, most companies had poor earnings.¹¹ None of the New England states, however, is known to have given financial aid to turnpike companies. In a few instances towns made small contributions

⁸Durrenberger, pp. 55-56, 61-62.

⁹Hazard's Register of Pennsylvania, I (1828), 407.

¹⁰G. R. Taylor, Transportation Revolution, p. 25.

¹¹Robert F. Hunter, "The Turnpike Movement in Virginia, 1816-1860" (unpublished Ph.D. dissertation, Columbia University, 1957), pp. 6-15.

to local projects,¹² but New England companies, like those in New York, were almost wholly dependent on private investors for their support. And as one student of early American corporations has written, few investors "were willing to devote a part of their savings to risky investments or to those from which a return must be slow as well as uncertain."¹³

Taylor himself concluded the reason turnpike building failed to make a significant comeback during the 1820's was that it was apparent by then that turnpikes were not a profitable investment.¹⁴ But it had become evident at a much earlier date that investment in toll roads, for reasons to be discussed in Chapter IV, was characterized by both a high degree of risk and slow returns. Even before 1808 disillusionment among shareholders had become common.

Thomas Dwight, the Springfield merchant who was president of the First Massachusetts Turnpike, wrote with some bitterness as early as 1800 of a departed period when "monied men . . . looked on a deposit of money in this way to be judicious and promising a handsome per cent profit." In

¹²C. C. Lord, Life and Times in Hopkinton, New Hampshire (n.p., n.d.), p. 112; Rhode Island, Archives, Charters, 1825-26, p. 29.

¹³Guy S. Callendar, "The Early Transportation and Banking Enterprises of the States in Relation to the Growth of Corporations," Quarterly Journal of Economics, XVII (1902), 151.

¹⁴P. E. Taylor, "Turnpike Era," p. 215.

1796, when Dwight's company was being organized, subscribers had consisted of men of this description, as well as speculators, who had taken advantage of a low initial payment of one dollar per share to purchase stock in the hope of being able to sell quickly at a profit. The speculators, however, were "disappointed in their expectations" and "forfeited the tax of one dollar rather than go on with their shares and pay the after taxes when called for." And those who remained failed to realize the expected profits. Even during the early years of its use, the road required extensive repairs which cost about as much as the company earned from tolls. By 1800, when Dwight wrote to a group of turnpike promoters headed by his brother-in-law, Fisher Ames, "wishing your corporation success and that your profits may be much greater than we realize," the First Massachusetts had paid dividends of only eighty cents on shares costing more than thirty-six dollars.¹⁵

Ames, seeking to attract investors to his own company in 1802, had to admit, "Turnpikes with the fairest prospect of success have seldom proved profitable." But although the prosperity of most toll roads depended on

¹⁵Thomas Dwight to Phillip Ammidon, March 10, 1800, Norfolk and Bristol Turnpike Company Records; First Massachusetts Turnpike Corporation, Record Book, Springfield Public Library.

the amount of country produce being brought to market from the back country, Ames argued that the Norfolk and Bristol, linking Boston and Providence and providing a shorter and safer alternative to navigation around Cape Cod, would share in the growing coastwise trade of the country. "The growth of our cities especially New York and of trade and navigation especially in the Province of Maine ensure a great and constant increase for ages yet to come." Ames estimated that traffic already was sufficient to "afford a good dividend on \$60,000 and \$40,000 it is hoped will execute the work."¹⁶

At a time when few improved roads had been built in the United States and most turnpike proprietors were inexperienced amateurs, it was common for the cost of toll roads to exceed initial expectations. But few turnpike officials underestimated the eventual cost of their roads as badly as Ames did. He had hoped to cover costs by selling 1,000 shares at forty dollars.¹⁷ The actual cost proved to be \$228,798, of which more than \$192,000 was raised by successive assessments, made over a period of about six years and totaling \$200, on each of 974 shares. The re-

¹⁶Ames, Draft of Letter to Prospective Investors, 1802, Norfolk and Bristol Turnpike Company Records.

¹⁷Ibid.

mainder had to be borrowed against future receipts.¹⁸

Although in 1806 he still professed confidence in the company's future, Ames also expressed fear to his fellow proprietors, many of whom were irate because of continued assessments at a time when dividends seemed long overdue, that "the jealousy, impatience and despair of the stockholders would throw the whole property to the winds." He promised, however, that future improvements, which he believed necessary to make the turnpike so good that there would be no possibility of traffic continuing to use the old road, would be financed from the company's toll receipts.¹⁹ But as late as 1808 one shareholder wrote angrily after being informed he must pay still another assessment against his stock or have it sold for arrears that "after solemn assurances of no more demands, frequent repetitions to enhance the already inconceivable sum, surpassing any extravagant calculation," still were being made and "may naturally be contemplated for many years to come."²⁰ In 1809, the year after Ames's death, the Norfolk and Bristol paid

¹⁸Statement of Expenditures, 1807, Norfolk and Bristol Turnpike Company Records.

¹⁹President's Message, 1806, Norfolk and Bristol Turnpike Company Records.

²⁰John Dabney to James Richardson, November 12, 1808, Norfolk and Bristol Turnpike Company Records.

its first dividend; in 1830 the directors reported that earnings "have averaged only a fraction over one per cent per annum."²¹

Disillusionment also came to investors in the Sixth Massachusetts Turnpike. The directors, seeking funds in 1799 to build their road from Amherst to Shrewsbury in the direction of Boston, reported that their sister road, the Third Massachusetts, which ran between Northampton and Pittsfield, already was realizing profits of from seven to nine per cent and confidently predicted that "from the difference in the face of the country, the proposed Turnpike will be made with much less expence than the other and the income of course[will be]proportionably greater."²² It appears doubtful that the early earnings of the Third Massachusetts Turnpike actually were that large, however, for a record book of that company beginning in 1803 reveals that dividends by that year were down to 2.2 per cent, a level the company rarely exceeded and frequently failed to equal during the remaining twenty-seven years of

²¹Statement of Dividends, 1809; Draft of Petition to the Legislature, 1830, Norfolk and Bristol Turnpike Company Records.

²²By Laws of the Sixth Massachusetts Turnpike Corporation (Worcester, 1799).

its existence.²³ And the Sixth Massachusetts, unable to raise all the capital it needed from sales of stock, had to borrow extensively to complete its road. The clerk of that company later wrote, "for a little time [it] took considerable toll; but it was appropriated to the payment of outstanding debts."²⁴

It would have been clear to anyone familiar with information contained in Albert Gallatin's "Report on Roads and Canals" (1808)²⁵ that few turnpikes had earned anything like the profits to which they were legally entitled. According to Gallatin, the Salem and Neponset turnpikes were thought to be yielding six and eight per cent a year respectively, but "the income of all the others in the State of Massachusetts is said not to exceed on an average three per cent."²⁶

New Hampshire, which in its early turnpike charters had provided for the takeover by the state of a road after forty years by paying the company a sum sufficient to return its investment, plus twelve per cent a year, revised

²³Third Massachusetts Turnpike, Account Book, 1803-1830, Chesterfield (Mass.) Historical Society. The Third Massachusetts became the Worthington Turnpike Corporation in 1814.

²⁴Jonas Reed, A History of Rutland, [Mass.] (Worcester, 1836), p. 45.

²⁵American State Papers, Miscellaneous, I, 724-921.

²⁶Ibid., p. 867.

that policy in 1803, apparently recognizing that toll roads were unlikely to approach that level of profitability. Most charters granted after that date contained the provision that if the state chose to take over a road after forty years, the company would be permitted compensation sufficient only to bring its overall earnings up to an average of nine per cent a year.²⁷ Whereas most of the early Vermont charters provided for a reversion of turnpike roads to the state after earnings had become sufficient to reimburse the company for its investment, plus twelve per cent a year, that state in 1804 began limiting the duration of franchises to thirty-five years with no reference to earnings; four years later it initiated the practice of granting charters that would expire after earnings since the time the company began collecting toll had reached an average of eight per cent a year.²⁸

In New York, to be sure, direct returns from investments in turnpike companies also were discouraging. According to one historian, "probably after the first decade, few

²⁷See, for example, New Hampshire, Laws, VII, c. 41 (1802); c. 27 (1803).

²⁸For examples of the various phases of Vermont policy in regard to turnpike profits, see Vermont, Acts and Laws, October 1800, p. 60 ("an Act establishing a corporation by the name of Connecticut River turnpike company," sec. 14); Acts and Laws, January 1804, c. 50, sec. 12; Acts and Laws, October 1808, c. 33, sec. 11.

investors in [New York] turnpikes were sanguine enough to expect money dividends."²⁹ Indirect benefits, however, contributed to the continued popularity of toll roads there. The state was situated astride an important route to the western country and also had large amounts of undeveloped lands that were being settled during the early nineteenth century. Upstate farming counties gained an estimated 800,000 persons between 1790 and 1820.³⁰ The role of turnpikes in speeding the development of these upstate areas was described by an English traveler, John Lambert. "As soon as a good road is opened through the woods, communicating between the greater towns, the country which was before a trackless forest, becomes settled, and in a few years, the borders of the road are lined with habitations"; the road was soon being used to carry surplus produce to market.³¹ Sensing the advantages to be gained thereby, the merchants of several Hudson River towns, competing for the trade of the developing area to the westward, together

²⁹Holmes, Conquering the Wilderness, p. 269.

³⁰Paul Gates, The Farmer's Age (New York, 1960), p. 31

³¹Travels through Lower Canada, and the United States of North America, in the Years 1806, 1807, and 1808 (London, 1810), II, 126.

with land speculators anxious to enhance the value of their holdings, provided the capital for a number of turnpike projects.³²

The effect of toll roads on the development of inland areas of southern New England, where most of the region's turnpike mileage was built, was much more limited and was not such as to encourage continued investment. In the first place, few parts of Connecticut, Rhode Island, or Massachusetts remained unsettled by the early 1800's and turnpikes can have promoted settlement only to a slight extent. In Massachusetts, for example, only seventeen towns were incorporated between 1800 and 1825 in the inland counties of Berkshire, Franklin, Hampden, Hampshire, Middlesex, and Worcester.³³ Southern New England thus was not an area in which there was great speculative interest in undeveloped lands and one element contributing to continued turnpike development in New York was lacking there.

Turnpikes, it is true, by providing an improved means of transportation, did help somewhat to enhance property values in southern New England. This can be seen in many advertisements listing among the attractions of property

³²Durrenberger, pp. 58-59.

³³The Massachusetts Register, and United States Calendar, for 1845 (Boston, 1845), pp. 17-19.

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for sale the fact that it was located near a toll road. But improvements brought by turnpikes were not sufficient to offset the growing demand among the inhabitants of the area for cheap land of greater fertility in other parts of the country, even though such land might well be at a great distance from market. Between 1790 and 1820 about 800,000 persons left southern New England in search of better lands in New York and elsewhere.³⁴ Windham County, Connecticut, actually lost population between 1790 and 1810, while Berkshire County grew only from 30,291 in 1790 to 35,720 in 1820,³⁵ despite the fact that both were areas of considerable turnpike-building activity prior to 1808. New York turnpikes aided the growth of population; those of southern New England provided an easier means of travel for those who, because of the pooriness of much of the soil, wished to leave the area.

Since turnpikes could neither promote settlement nor prevent widespread migration from southern New England, the opportunities of potential investors to use them as a means of increasing trade were limited. In order for the trade between a given market town and the back country to

³⁴Bidwell, Transactions of the Connecticut Academy of Arts and Sciences, XX, 387.

³⁵U. S., Census Reports, 1790-1820.

grow significantly, it would have been necessary to increase the degree to which existing producers were involved in market production, draw away trade that previously had belonged to another town, or both.

As to the first possibility, it seems likely that turnpikes did help to increase participation in market production, but it is impossible to know to what degree this was so. Bidwell, to be sure, pointed out that even after the building of turnpikes "it was still prohibitively [sic] expensive to move bulky commodities for any distance beyond the boundaries of the inland town" and concluded that toll roads failed either to improve land transportation significantly or to bring about "any considerable reduction in the cost of land carriage."³⁶ Contemporaries, however, often were impressed by the improvements turnpikes had brought. Dwight, for example, wrote that before the Mohegan Road between New London and Norwich was turnpiked,

few persons . . . attempted to go from one of these places to the other, and return, on the same day. . . . The new road is smooth, and good: and the journey is now easily performed in little more than two hours. These towns, therefore, may be regarded as having been brought nearer to each other more than half a days journey.³⁷

³⁶Bidwell, Transactions of the Connecticut Academy of Arts and Sciences, XX, 317.

³⁷Dwight, II, 44.

A committee of the Massachusetts House of Representatives reported in 1827 that the transporation of goods had become in recent years "a separate employment . . . almost exclusively" and that "owing to the improved state of the roads, it is not uncommon to see two, three, and even four tons weight, loaded upon a waggon."³⁸

Better roads, the lessening of time consumed by journeys, heavier loads, and the rise of a separate teaming business all suggest that although turnpikes failed to reduce transporation costs sufficiently to permit New Englanders to specialize in the growing of bulky produce such as grains for market, they probably helped to make it more profitable to market cheese, butter, beef and similar products.

It must be remembered, however, that more than the improvement of transporation would have been necessary to make New England a highly productive agricultural region. Although New Englanders during the 1820's looked to railroads to widen the markets for their farm produce by lessening the costs of transporation, the actual result of railroad building was to bring farmers into competition with those of the West, which resulted in the decline of farming in the poorer parts of the region. During the turnpike era the poorness of much of the soil, primitive farming methods, and a lack of domestic markets undoubtedly all served to

³⁸H.R.-No. 57 (Boston, 1827).

limit the extent of market production.

The problem of drawing trade to new markets by means of turnpikes also was a considerable one. In New York, where the growth of trade was in large part a response to population growth and the opening of new lands to production, the population of a large part of the state found an outlet for its surplus production principally at New York City. The Hudson River and several major highway systems extending both east and west from Newburg, Kingston, Hudson, and Albany were the routes over which this trade was carried. Many of the state's turnpikes were part of these major systems, either as trunk lines or feeder roads.³⁹ One New Yorker, comparing his state's turnpike network with that of England, observed,

if all the native surplus produce of England was obliged to pass on six or eight great roads to the London market, (as the produce of our country must to this city) instead of being drawn as it is on a thousand roads to a thousand markets which line its shores, three quarters of the capital would be saved and the revenue proportionably increased.⁴⁰

³⁹Durrenberger, pp. 62-65.

⁴⁰"A Citizen," Observations on the Real, Relative and Market Value of the Turnpike Stock of the State of New York (New York, 1806), p. 14.

Although even with this advantage New York turnpikes apparently failed to produce good profits, they did serve to channel a growing volume of trade through a few towns and thus to sustain interest in toll roads in those towns.

Trading patterns in southern New England, however, resembled those in England. There were "a great many streams of trade trickling from the back country to the seaports."⁴¹ No single waterway dominated trade as did the Hudson that of New York and no town had as vast a hinterland as did Albany, for example. Prior to the opening of the Erie Canal, herds of cattle and sheep sometimes were driven to Albany from as far away as Ohio and loaded wagons regularly reached the same town from Geneva, New York, a distance of perhaps 180 miles.⁴² But it was not much more than 180 miles between the extremities of the three southern New England states and few inland towns were as much as one-third that distance either from a navigable river such as the Connecticut, the Hudson, or the Merrimack, or a number of small ports from which produce was either exported directly to the West Indies or sent by water to Boston or New York.⁴³

⁴¹Bidwell and Falconer, pp. 140-141.

⁴²Hedrick, pp. 175, 179.

⁴³Bidwell and Falconer, pp. 140-141.

Boston, with the largest hinterland, received wagon loads of produce from as far away as northern New Hampshire and Vermont, but had little direct trade with a large part of its own state, which found nearer markets at Springfield or Northampton, Albany or Hudson, Norwich or Providence.⁴⁴ There was thus a relative proximity to markets in southern New England. But the produce of this small, comparatively infertile area, the population of which was growing at a slow rate, sought outlets in all directions and at many places. The amount of trade that could be carried over a particular route therefore was quite limited.

By the time of the turnpike movement, southern New England was fully settled and patterns of trade already had been established. Certain market towns were dominant within their own neighborhoods and little effort was made - at least in Massachusetts and Rhode Island - to challenge that dominance by means of turnpikes. Instead of turnpikes being built to compete for new trade, as was often the case in the Middle Atlantic region, most of those constructed in Massachusetts and Rhode Island served to strengthen previously established patterns of commerce. Thus in eastern Massachusetts most toll roads radiated out of Bos-

⁴⁴By Laws of the Sixth Massachusetts Turnpike Corporation; Berkshire County, General Sessions of the Peace, II, 262-266.

ton. The promoters of many of these projects resided in outlying towns, but they sought to build towards the Massachusetts capital both because of its importance as a market and because Boston, with a large and wealthy population, was the logical place to seek financial aid for their companies.⁴⁵ Few competing routes were built into other Massachusetts Bay ports. Even Salem, a major port during the heyday of the carrying trade prior to the War of 1812, developed only limited communications with the back country.⁴⁶ Similarly, the pattern of turnpike building in Rhode Island reflected and strengthened the position of Providence as that state's commercial and industrial center.⁴⁷

As the maps of Massachusetts and Rhode Island turnpikes on pages 269 and 271 make clear, by 1808 turnpikes formed the great arteries of a system of through highways. From Providence toll roads extended towards Connecticut, central Massachusetts, and Boston. From Boston they radiated towards New Hampshire, towards the Connecticut River

⁴⁵By Laws of the Sixth Massachusetts Turnpike Corporation; Ames, Draft of Letter to Prospective Investors, 1802, Norfolk and Bristol Turnpike Company Records.

⁴⁶Diary of William Bentley, III, 99; James D. Phillips, Salem and the Indies (Boston, 1947), pp. 6, 423-424.

⁴⁷Peter J. Coleman, The Transformation of Rhode Island, 1790-1860 (Providence, 1963), p. 161.

and Albany, and towards Providence and Hartford. In southwestern Massachusetts they led towards Albany and southward into Connecticut. They carried country produce in the direction of all the principal markets of southern New England.

To what extent major routes of travel remained public highways is impossible to say.⁴⁸ Certainly gaps existed in the major turnpike routes, which were filled by public roads. The only stretch of the Upper Post Road between Worcester and Springfield controlled by a corporation, for example, was from Warren to Wilbraham. One can assume, however, that if the turnpike network had continued to expand it would have come to include mostly roads the purpose of which was either to compete with existing turnpikes or to serve as feeders to them. Such, indeed, seem to have been the purposes of a growing number of Massachusetts turnpike companies chartered after 1800. And the generally poor earnings of existing toll roads, the slowness of population growth, the poorness of much of the state's land, and the strength of previously established patterns of trade all served to make investors skeptical of such projects. Thus in 1807 the state chartered nine turnpike corporations, most of which were of the above descriptions; none of them

⁴⁸Edward C. Kirkland, Men, Cities and Transportation: A Study in New England History, 1820-1900 (Cambridge, Mass., 1948), I, 38.

succeeded in raising enough capital to build its road.⁴⁹

For such companies to have succeeded in building roads of secondary importance or roads duplicating existing routes would have been wasteful of capital, particularly in view of the many segments of the economy requiring investment during the early nineteenth century. It nevertheless seems likely that projects such as these would have received support if they had held out any incentive to investors. At any rate, that is the conclusion one reaches upon comparing the turnpike movement in Connecticut with what happened in other parts of New England.

Connecticut, as has been mentioned, provides an exception to many generalizations about the turnpike era in New England. Almost half of the state's successful turnpike companies were chartered after 1808 and almost one-third of its toll-road mileage was built under charters granted after that date. Forty-two per cent of the companies chartered in Massachusetts, Rhode Island, New Hampshire, and Vermont between 1803 and 1808 were unsuccessful and during the decade beginning in 1811 only five of twenty-eight new corporations in Massachusetts, New Hampshire, and Vermont built roads. More than half of the sixty-one New

⁴⁹
Wood, pp. 173-176.

Hampshire companies organized between 1796 and 1839 failed, as did a majority of Vermont undertakings.⁵⁰ And about one-third of the turnpike companies in the Middle Atlantic region also were unsuccessful.⁵¹ But almost eighty-seven per cent of the 113 companies chartered in Connecticut between 1795 and 1840 built their roads and only three failures occurred prior to 1808. Although Massachusetts incorporated one more turnpike company than Connecticut, only about fifty-six per cent of them were successful and as a result Connecticut had a wide lead in turnpike mileage, 1,619 to 920.⁵²

Like the other states of southern New England, Connecticut was fully settled before the turnpike era. Its rate of population growth between 1790 and 1820 was the slowest in the United States.⁵³ But investors were motivated to bring into existence a much more highly developed complex of toll roads than was to be found in any of the other New England states. Frederic J. Wood wrote of the turnpike era in New England that "every town of any impor-

⁵⁰Appendix I.

⁵¹Durrenberger, pp. 107-108.

⁵²Appendix I; P. E. Taylor, "Turnpike Era," p. 347.

⁵³The Statistical History of the United States from Colonial Times to the Present (Stamford, Conn., 1965), p. 13.

tance, and many of none, had its turnpike connections, often radiating in all directions."⁵⁴ This was most true of Connecticut, however, as can be seen in the map of page 268.

There were several reasons for this. In the first place, most Connecticut turnpikes were built with relatively small amounts of capital. In New York, where a number of long roads were built, twenty-one of the sixty-seven turnpike companies chartered by 1807 were authorized capital of more than \$100,000. In Pennsylvania, which tended to set higher construction standards than did either New York or the New England states, nineteen of seventy-eight companies for which information was available in 1822 were capitalized at more than \$100,000.⁵⁵ At least four New England turnpikes, all of which were in eastern Massachusetts - the Newburyport and Boston (\$417,000), the Norfolk and Bristol (\$229,000), the Salem (\$182,000), and the Worcester (\$150,000) - are known to have cost more than \$100,000. In Connecticut only the Hartford and New Haven (\$79,000) was in the same class with these roads and of thirty-five companies mentioned in Gallatin's report, only four were capitalized at more than \$20,000. By way of contrast, although

⁵⁴Wood, p. 35.

⁵⁵Durrenberger, pp. 98-99.

the average length of thirty-three Massachusetts turnpikes for which cost information is available was about the same as that of the thirty-five Connecticut roads (approximately nineteen miles), eighteen of the Massachusetts toll roads cost more than \$20,000 to build.⁵⁶

The difference lay primarily in the standards of construction employed by Connecticut turnpike builders and in the costs they were required to pay. Gallatin was informed by Alexander Wolcott, collector of customs at Middletown, that most of the state's toll roads were built on previously existing routes, minor alterations being made to shorten distances. Connecticut towns frequently were required to pay such property damages as there were and also to maintain existing bridges. Little gravel was used, thus helping to keep construction costs low.⁵⁷ The reason for the high cost of the Hartford and New Haven was that

every consideration was sacrificed to a straight line. The old road was deserted almost altogether, and a very hilly route preferred to a more smooth, though less straight one. The consequence was, that the company had the ground to purchase, (which, in almost every other instance, was a charge on the towns,) and the hills to reduce.⁵⁸

⁵⁶Appendix II.

⁵⁷Gallatin, American State Papers, Miscellaneous, I, 869.

⁵⁸Ibid., p. 872.

Existing roads often were made use of in building turnpikes in the other New England states, but not to as great an extent as in Connecticut. And turnpike companies elsewhere usually were required to pay property damages. Thus the average cost-per-mile was considerably higher in these states than it was in Connecticut, where, exclusive of the Hartford and New Haven Turnpike, the companies listed in Appendix II built their roads at an average cost of about \$550 per mile. Only two of thirty-three Massachusetts toll roads are known to have cost less than \$550 per mile. The average cost-per-mile of 647 miles of toll road in the latter state was \$2,697 and the median cost was \$1,340, as against a median cost of \$528 in Connecticut. Eleven New Hampshire companies, with a total of about 309 miles, are known to have built their roads at an average cost of \$1,295 per mile. Only scattered figures are available for the other New England states.⁵⁹

Low construction costs, undoubtedly a factor in the success of Connecticut turnpike companies in raising capital, probably also contributed to the relatively high earnings a number of the state's companies enjoyed during their early years. Connecticut, indeed, was the only New England

⁵⁹Appendix II.

state in which information available in 1808 as to turnpike earnings could have served to encourage further investment. Wolcott, who apparently had seen financial statements submitted to the state under a law passed in 1806, furnished Gallatin with data about the earnings of thirty Connecticut turnpikes. His figures showed that the Talcott Mountain Turnpike, the directors of which called their road the busiest one in the state, had earned average profits of 16.2 per cent a year between 1804 and 1806.⁶⁰ Six other companies had average short-term earnings of 12.9, 10.5, 9.0, 8.7, 7.5, and 7.1 per cent a year respectively. The profits of the thirty companies averaged 4.6 per cent a year.⁶¹

More complete information now is available for a few companies which also would have been encouraging to investors. The Talcott Mountain Turnpike, for example, began collecting toll in 1799 and although its earnings at first were not as good as those reported by Wolcott, profits generally rose during the first seven years of operation and averaged eleven per cent a year, still an impressive figure.⁶² Although the Windham Turnpike earned

⁶⁰Connecticut, Archives, Travel, Series II, Vol. XVI, p. 89; Appendix III.

⁶¹Appendix III. Long-term earnings are discussed in Chapter IV.

⁶²Connecticut, Treasurer, Turnpike Road Accounts, Connecticut State Library.

only about 1.5 per cent between 1801 and 1804 and the directors asserted in a petition to the legislature in 1803 that they would be unable to continue in business unless they were granted permission to erect an additional tollgate, profits rose to an average of 4.1 per cent a year between 1804 and 1806.⁶³

Even in Connecticut, however, a number of companies had experienced financial difficulties before 1808. Wolcott's data showed two companies losing money while five others had profits of less than one per cent a year and another six earned less than three per cent a year. Thus it probably is no coincidence that in 1807, a year after enactment of the law requiring the submission of annual statements of earnings to the state, Connecticut's legislature began inserting in turnpike charters a clause providing for the expiration of a franchise when overall earnings since the time toll began to be collected had reached an average of eight, rather than twelve, per cent a year.⁶⁴

Most importantly, perhaps, indirect benefits contributed to the expansion of Connecticut's toll road system. One of these was the opportunity to draw trade into new channels.

⁶³Connecticut, Archives, Travel, Series II, Vol. XVII, p. 80; Appendix III.

⁶⁴Connecticut, Public Statute Laws, Compiled (1808), Title CLXVI, c. 1, sec. 5. See also, Connecticut, Resolves and Private Laws (1837), p. 1379.

There was no town in the state which, because of size, wealth, or location, exerted a commanding influence over patterns of inland trade. New Haven, the largest, had a population of 6,967 in 1810, as against Boston's 33,250 and Providence's 10,071. Hartford was only slightly smaller than New Haven, while Middletown had 5,392. Several other coastal and river towns had populations of 3,000 or more.⁶⁵ Approximately equal in size and importance, a number of towns, by means of turnpikes, competed for the trade of farming areas from which they were in some instances approximately equidistant. New Haven, after the opening of the Derby Turnpike, was able to attract traffic from the Housatonic Valley and Litchfield County which previously had stopped at Derby Landing.⁶⁶ By 1811 New Haven was the terminus of six turnpikes, several of which extended towards the northwestern part of the state. It did not, however, have a monopoly of the trade of that quarter. Bridgeport acquired a rival route into the Housatonic Valley with the chartering of

⁶⁵Bidwell, Transactions of the Connecticut Academy of Arts and Sciences, XX, 318-322.

⁶⁶Samuel Orcutt and Ambrose Beardsley, The History of the Old Town of Derby, Connecticut (Springfield, 1880), pp. 305-306.

the Bridgeport and Newtown Turnpike in 1801 and Norwalk and Westport also entered the competition.⁶⁷ Toll roads leading towards Hartford, Middletown, and the Hudson River reflected the fact that other towns shared in the trade of northwestern Connecticut, as well.

East of the Connecticut River, Norwich had routes leading into Windham County and central Massachusetts to compete with rival roads terminating at Providence. From east of the Connecticut, as well as from the west, toll roads converged on both Hartford and Middletown. Of Hartford it was remarked, "there are few towns . . . better accommodated, with respect to roads." Hartford, however, was only one of a number of highway centers in a state "intersected in every direction by turnpikes."⁶⁸

Competition for trade played a part in the continued development of Connecticut turnpikes after 1808, particularly in the southwestern part of the state, where ports from Norwalk to Bridgeport acquired toll roads duplicating existing routes. Another important element, however, was the expansion of turnpikes into an area of the state in which

⁶⁷George C. Waldo, Jr. (ed.), History of Bridgeport and Vicinity (New York, 1917), I, 217-218.

⁶⁸John C. Pease and John M. Niles, A Gazetteer of the States of Connecticut and Rhode Island (Hartford, 1819), p. 41.

they previously had gained only a slight foothold. Almost forty per cent of the turnpikes built in Connecticut after 1808 were within an area bounded by Middletown on the northwest, New Haven on the southwest, Long Island Sound on the south, and the Rhode Island line on the east. Middlesex County, which comprised a large portion of the area, in 1807 had only two turnpike roads with a total of about 45 miles; by 1819 thirteen companies had built roads partly or wholly within the county and two others had projects under construction.⁶⁹ A relatively poor farming area, Middlesex was the last county in the state to acquire a network of toll roads. Its highways, wrote David Field in 1819,

with few exceptions, were bad, till within a few years. They were laid out to accommodate neighbours in going from one house to another, rather than for extended travel, were over rough and uneven grounds, and the communications with most parts of the country by water, were so easy, that feeble efforts were made to improve them. But within a few years all the principal roads, excepting that which runs from east to west along the Sound, (which was a comfortable road before,) have been turnpiked.⁷⁰

⁶⁹David D. Field, A Statistical Account of the County of Middlesex, in Connecticut (Middletown, Conn., 1819), pp. 129-130.

⁷⁰Ibid., p. 18.

For a number of reasons, therefore, turnpike companies were used to effect highway improvements to a much greater extent in Connecticut than in other parts of New England and continued to be so used after enthusiasm for toll roads had declined in other parts of the region. In northern New England, on the other hand, the turnpike movement had passed its peak even before 1808, although conditions there were somewhat analagous to those in the newer parts of New York. Population growth was rapid during the early nineteenth century and many towns were settled, which, except for parts of Maine, were at some distance from waterways and markets.

The Connecticut River, to be sure, served western New Hampshire and eastern Vermont as an avenue of trade with Hartford and New York, particularly after improvements had been made during the early years of the century. Dwight in 1812 found flatboats carrying produce downriver from as far north as Wells River and predicted, "the period is not distant when the Connecticut will convey most, if not all, of the marketable produce, and manufactures, of this extensive region to the ocean."⁷¹

That time had not yet come during the period of

⁷¹Dwight, IV, 155.

turnpike building, however, and the promotion of toll roads connecting the Connecticut Valley with the seaboard was in part an attempt to prevent any such drawing off of trade of New York.⁷² The Connecticut River, moreover, never was entirely satisfactory as an artery of commerce. Only for a few weeks during the spring and fall was the water high enough for fully loaded flatboats to navigate as far north as Wells River. A round trip took about thirty days and only two or three such trips could be made in a year.⁷³ Although the cost of transportation by water was only about half that of overland freighting, for many years there was a considerable amount of wagon traffic between the back country of New Hampshire and Vermont and such ports as Boston, Salem, Newburyport, Portsmouth, and Portland.⁷⁴ Ralph Waldo Emerson wrote in 1837,

I listen by night, I gaze by day at the endless procession of wagons loaded with the wealth of all regions of England and China, of Turkey, of the Indies, which from Boston creep by my gate to all the towns of New Hampshire and Vermont. With

⁷²New Hampshire, Records and Archives, Concord, Legislative Papers, Petition for a Highway from the Seaboard to the Connecticut Valley, 1800.

⁷³William F. Whitcher, History of the Town of Haverhill, New Hampshire (n.p., 1919), pp. 258-259.

⁷⁴Ibid., p. 259; Frederic P. Wells, History of Newbury, Vermont (St. Johnsbury, Vt., 1902), p. 303; Farmer's Monthly Visitor I. (1839), 116.

creaking wheels at midsummer, and crunching the snows, on huge sledges in January, this train goes forward at all hours, bearing this cargo of inexhaustible comfort and luxury to every cabin in the hills.⁷⁵

Most New Hampshire turnpikes were built to accommodate this trade between back country and coastal towns, particularly Boston. That city's merchants and speculators were interested in such roads and New Hampshire promoters vied with each other in seeking support in Boston for their schemes.

An example of such occurrences is to be found in the story of the Grafton and Hillsborough turnpike companies, both of which were chartered in 1804. The promoter of the Hillsborough Turnpike was Caleb Stark, the Dunbarton storekeeper mentioned in Chapter I. Stark wrote to a friend in 1803, "I have drawn up a project for the consideration of the leading speculators and men of property in Boston . . .; if diligently pursued, I have no doubt it would take, and that a very great proportion of the men of property in Boston would join in a petition if properly attended to - If they can be fairly engaged I think their purses will open freely to prose-

⁷⁵Edward Waldo Emerson and Waldo Emerson Forbes (eds.), Journals of Ralph Waldo Emerson (Boston, 1910), IV, 203-204.

cute the work."⁷⁶ Stark's plan was to build a chain of toll roads connecting Boston with Montreal and he allied himself with the promoters of the Grafton Turnpike in efforts to make their two proposed roads the New Hampshire links in that chain.⁷⁷ He also received a tender of alliance from William Johnson of Newbury, Vermont, who was involved in promoting the ill-starred Boston and Montreal Turnpike Company, chartered in 1805 to build a road from Newbury through Hazen Notch to the Canadian border.⁷⁸ There is evidence, as well, that Stark had an agreement with a group in Massachusetts to provide a road from Boston to the New Hampshire line.⁷⁹

Stark and his associates quickly ran into difficulties. It had been intended that the Fourth New Hampshire Turnpike, which ran from Lebanon to Boscaawen in the direction of Concord and Boston, also should form part of a great chain of turnpikes - this one reaching from Boston to Lake Champlain.⁸⁰ Should Stark have been able to put

⁷⁶ Caleb Stark to John Ballard, January 31, 1803, Hillsborough Turnpike Papers, New Hampshire Historical Society.

⁷⁷ Samuel Morey to Joseph Towne, January 18, 1805, Grafton Turnpike Papers, New Hampshire Historical Society.

⁷⁸ William Johnson to Stark, April 20, 1804, Hillsborough Turnpike Papers.

⁷⁹ Stark to Ballard, 1804, Hillsborough Turnpike Papers.

⁸⁰ John M. Shirley, "The Fourth New Hampshire Turnpike," Granite Monthly, IV (1881), 353.

his plan into effect, the two routes would have closely paralleled each other between Boston and Andover, New Hampshire, and would have divided the traffic between them. Thus the Fourth New Hampshire, which completed its road in 1804, set about to block Stark's scheme and a battle was joined in the legislature along partisan lines. "The Senate have tryed us again," wrote Stark in 1803.

The junto have sworn to suppress us and this opposition has intirely arisen from the federal party. The republicans in the Senate have voted for our plan, the federalists have stopped it, we must prepare another fire.⁸¹

A few weeks later Stark succeeded in getting a legislative committee appointed to inspect the proposed route and he wrote an urgent request to one of his associates, John Ballard, to be among those meeting with the committee. "You are . . . wanted to methodize their report, to give perspicuity and make it clearly understood," he wrote.

If no attendance is given to our committee I fear they will take it in dudgeon and go home without a report, this would certainly be placing us on very silly ground after the strenuous exertions that we have made thus far.⁸²

"If you are dead," he concluded, "you may be justified in

⁸¹ Stark to Joseph Towne, November 9, 1803, Hillsborough Turnpike Papers.

⁸² Stark to Ballard, December 21, 1803, Hillsborough Turnpike Papers.

tarrying at home, but I really think on no other terms."⁸³
 In order to smooth the way for incorporation, Stark also sought and received promises from property owners along the proposed route to donate land for the road.⁸⁴

The Grafton Turnpike was incorporated June 21, 1804, to build a road southeastward from Orford, on the Connecticut River, to an intersection with the Fourth New Hampshire in Andover.⁸⁵ From that point, it was hoped, the Hillsborough Turnpike would continue the Grafton's route to the Massachusetts line. The previous day, however, a charter had been granted to the Londonderry Turnpike Corporation to build from Concord to the Massachusetts line in Salem, New Hampshire.⁸⁶ This was a continuation of the Fourth New Hampshire's route towards Boston. Since Stark's petition was not acted upon during the same session of the legislature, the rival company had a head start of several months during which it was able to organize and seek subscribers.

The Hillsborough Turnpike finally received its charter in 1804.⁸⁷ A director of the Grafton Turnpike, however,

⁸³Ibid.

⁸⁴Statement of Hopkinton Property Owners, November 20, 1804, Hillsborough Turnpike Papers.

⁸⁵New Hampshire, Laws, VII, c. 17 (1804).

⁸⁶Ibid., c. 12 (1804).

⁸⁷Ibid., c. 39 (1804).

warned that this victory in the New Hampshire legislature probably would lead their rivals to try to block the chartering of a Massachusetts corporation to complete the Grafton-Hillsborough route. He also advised that since the route of the Fourth New Hampshire and Londonderry turnpikes could be proved to be shorter than their own, the Hillsborough associates should begin construction of their road immediately, before potential investors could change their minds.⁸⁸

The Hillsborough Turnpike apparently failed to get the financial backing it needed and never built its road. The Londonderry Turnpike, built with considerable assistance from shareholders in Boston and northeastern Massachusetts, formed part of an all-turnpike route between Boston and Concord; with the Fourth New Hampshire Turnpike, it was part of a nearly unbroken chain of toll roads between Boston and Burlington, Vermont. The Grafton Turnpike, completed in 1806, served for more than twenty years as a feeder to the Fourth New Hampshire, ironically helping to make the road it was to have rivaled one of the more profitable turnpikes in New England.⁸⁹

⁸⁸Samuel Morey to Joseph Towne, January 18, 1805, Grafton Turnpike Papers.

⁸⁹Shirley, Granite Monthly, IV, 448, 453.

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⁸⁸Samuel Morey to Joseph Towne, January 18, 1805, Grafton Turnpike Papers.

⁸⁹Shirley, Granite Monthly, IV, 448, 453.

The Hillsborough Turnpike, however, was one of the few New Hampshire companies chartered to build a road in the direction of Boston that failed to do so. Indeed, a map of the state's turnpikes shows that most toll roads were part of several parallel systems of highways crossing New Hampshire between the Connecticut River and the Massachusetts line. By way of contrast, many of the companies that failed to carry out their projects (the proposed routes of which are approximated by broken lines on the map on p. 270) planned roads that were essentially local in character, that would have traversed thinly settled country in northern New Hampshire, or that would have served to draw traffic towards a market other than Boston.

Other ports did acquire turnpike connections. Coos County produce found its way to Portland after the opening of the Tenth New Hampshire Turnpike through Crawford Notch, even though several other toll roads with which it was to have formed a highway system linking Portland with Lake Champlain failed to materialize.⁹⁰ From Concord, which had highway connections with most parts of the state, market-bound traffic could follow the New-Hampshire Turn-

⁹⁰Jeanette R. Thompson, History of the Town of Stratford, New Hampshire (Concord, 1925), p. 134; Wood, pp. 224-225.

pike to Portsmouth. But Concord also had turnpike connections with Boston and it may be significant, as far as the relative importance of the two routes is concerned, that the Londonderry Turnpike, leading towards Boston, still was in existence in 1852, while the New-Hampshire Turnpike had gone out of business twenty-seven years earlier, its profits between 1808 and 1818 having averaged less than one per cent a year.⁹¹ Even Coos County, the northernmost portion of the state, had overland trade with Boston and the toll roads between that city and Concord were described as "the great medium of communication between the Coos country and the town of Boston."⁹²

To what extent the pattern of turnpike building resulted from a dependence on the part of New Hampshire promoters on Massachusetts capital is impossible to say. A substantial number of shareholders in both the Londonderry and Third New Hampshire turnpikes, for example, were inhabitants of Boston or northeastern Massachusetts.⁹³ But the Fourth New Hampshire, on the other hand, was financed

⁹¹Londonderry Turnpike Corporation, Proprietors Records; First New Hampshire Turnpike, Records of the Directors, New Hampshire Historical Society; Wood, p. 218.

⁹²Massachusetts Spy, January 1, 1806.

⁹³Londonderry Turnpike Corporation, Proprietors Records; Third New Hampshire Turnpike Papers, New Hampshire Historical Society.

largely by New Hampshire residents.⁹⁴ And it may be that turnpikes were built in New Hampshire, as they were in eastern Massachusetts, largely to reinforce previously established patterns of trade. There had been teaming to Boston from many parts of the state prior to the turnpike era and the Merrimack Valley provided a natural line of communication between that city and central New Hampshire.⁹⁵

The state had few centers of wealth to serve as sources of capital or to compete for trade, however, and those companies with routes leading towards Boston proved most successful in raising capital, while others experienced a high rate of failure. Had there been state aid to turnpikes, as there was in Pennsylvania, Virginia, and Ohio,⁹⁶ more toll roads might well have been built, particularly in the thinly settled country north and northwest of Lake Winnepesaukee, where the rate of turnpike-company failures was especially high.

⁹⁴Shirley, Granite Monthly, IV, 227.

⁹⁵Bidwell and Falconer, p. 141.

⁹⁶G. R. Taylor, Transportation Revolution, p. 23; Robert F. Hunter, "Turnpike Construction in Antebellum Virginia," Technology and Culture, IV (1963), 178.

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The statement of Jedidiah Morse in 1819, after toll-road building in New Hampshire had ceased, that "turnpike roads are constructed intersecting the most important parts of the state,"⁹⁷ nevertheless was true. Most of the companies building these main routes received their charters at a fairly early date. With the exception of the Amherst Turnpike, incorporated in 1812 to complete the route of the Second New Hampshire Turnpike to the Massachusetts line, all the companies with routes leading towards Boston had been chartered by 1808, most of them somewhat earlier. The peak year for incorporations was 1804, when eighteen charters were granted, after which the decline was rapid.⁹⁸

Turnpike building also declined early in Vermont. No charter was granted between November 7, 1805, a day on which fourteen companies were formed, and October 26, 1807.⁹⁹ Eight of the fifteen companies chartered in 1805 failed to build roads and three others had to apply for one or more extensions of the time permitted them to complete construc-

⁹⁷The American Universal Geography (Charlestown, Mass., 1819), p. 315.

⁹⁸Appendix I.

⁹⁹Wood, pp. 266-273.

tion.¹⁰⁰ Although twenty-one companies were formed between 1811 and 1835, only five succeeded in building roads.¹⁰¹

Vermont, like New Hampshire, had no great commercial center of its own and many parts of the state were at some distance from any market. As late as 1830, Governor Samuel Crafts complained that

our surplus production has found a market only in the commercial towns of other states, where they are exchanged for such articles as necessities or fancies may require. These markets are distant from our inhabitants, from one hundred to two hundred miles; and the aggregate cost to the state for transportation has been estimated to amount to several hundred thousand dollars annually.¹⁰²

According to Dwight, "the markets to which the people of this state resort for the purposes of trade are Quebec, Montreal, Troy, Albany, New York, Hartford, Boston, and Portland," but "most parts of the State . . . carry on a considerable trade with Boston."¹⁰³ Vermont turnpikes were built in the directions of most of these markets. In the western part of the state toll roads led towards Lake Champlain and the Hudson River; in eastern Vermont a number of roads performed the dual functions of linking

¹⁰⁰Ibid.

¹⁰¹Appendix I.

¹⁰²Records of the Governor and Council of the State of Vermont, VII (Montpelier, Vt., 1879), 469-470.

¹⁰³Dwight, II, 458.

inland towns with the Connecticut River and of forming extensions of New Hampshire turnpikes.

Whether out-of-state interests played any significant role in financing Vermont turnpike projects is not known. Some interest was expressed in Boston in the proposed road from Newbury to the Canadian border,¹⁰⁴ but that scheme proved abortive, as did efforts to build a road between Lake Champlain and the Connecticut River in the direction of Portland.¹⁰⁵ Probably northern Vermont in particular was too far away to arouse serious interest among potential investors in the seaboard cities.

In Vermont, as in New Hampshire, a majority of turnpike companies failed to raise sufficient amounts of capital to complete their projects. And as in most of the New England states, the turnpike movement there quickly reached its peak and as quickly declined.

¹⁰⁴Chilton Williamson, Vermont in Quandary, 1763-1825 (Montpelier, Vt., 1949), p. 251. According to Williamson, however, several public roads built during the early 1800's supplemented water routes between northern Vermont and Lower Canada. Ibid., p. 250.

¹⁰⁵There were non-turnpike routes of trade between Portland and the northern Vermont counties of Orange, Caledonia, and Essex. Dwight, II, 458.

CHAPTER IV

TURNPIKES: FINANCIAL PROBLEMS

Investors in New England turnpikes came from many walks of life. Proprietors' lists often included merchants, lawyers, manufacturers, ministers, educators, farmers.¹ Undoubtedly some individuals invested more in the hope of indirect benefits than of direct profits. Samuel Slater, according to an early biographer, "considered the importance of good roads as a necessary appendage to the manufacturing interest." He invested in a number of New England turnpikes and in at least one instance purchased a bankrupt company, which could have offered little likelihood of ever proving profitable.² Merchants and other businessmen undoubtedly sometimes invested in the hope of bringing trade to their towns or of having traffic pass near their stores or taverns. Moreover, investors sought to reduce transportation costs and to increase property values.

¹Norfolk and Bristol Turnpike Company Records; Londonderry Turnpike Corporation, Proprietors Records; Hartford and New Haven Turnpike Company Records, New Haven Colony Historical Society; Loisquisset Turnpike Company, Committee Book, Rhode Island Historical Society.

²George S. White, Memoir of Samuel Slater (Philadelphia, 1836), pp. 238-239; Rhode Island, Archives, Charters, 1834-36, p. 34.

And they also realized that improved transportation was important to the development of their towns, states, and country and regarded investment in turnpikes as an expression of patriotism.³

Uniting private interest with public utility," wrote the directors of one turnpike company,"is indeed the only proper foundation of every turnpike establishment."⁴ But turnpikes were by no means the only form of enterprise the development of which was in the public interest. And even before it was obvious that they were not going to be lucrative to investors, there were few who were willing to entrust their fortunes completely to this one type of investment.

To be sure, some companies were dominated by a few wealthy individuals. Thirteen persons owned more than half of the 866 shares in the Norfolk and Bristol Turnpike in 1802.⁵ Three hundred of the 800 shares in the Hartford and New Haven Turnpike originally were owned in equal holdings by two wealthy lawyers - Oliver Ellsworth of Hartford, formerly chief

³Rhode Island, Archives, Charters, 1790-1800, p. 24; 1800-05, p. 42; 1820-23, p. 44; Connecticut, Archives, Travel, Series II, Vol. IX, p. 14; Columbian Centinel, February 3, 1796; Providence Gazette, July 9, 16, 1803; Green Mountain Patriot, January 27, 1807; Gallatin, American State Papers, Miscellaneous, I, 874.

⁴Providence Gazette, July 9, 1803.

⁵Ames, Draft of Letter to Prospective Stockholders, 1802, Norfolk and Bristol Turnpike Company Records.

justice of the United States, and James Hillhouse of New Haven, a United States senator. The printing firm of Hudson and Goodwin owned 100 shares in the same company and Jeremiah Wadsworth, Hartford merchant and banker, sixty-five more.⁶

Even for large stockholders, however, turnpikes often were a minor investment. Wadsworth, for example, in 1804 left an estate valued at more than \$124,000, of which less than one per cent was in the stock of three turnpike companies; he had more than \$50,000 worth of bank stock.⁷ Isaiah Thomas, perhaps the wealthiest man in Worcester, was active in promoting the turnpike between Worcester and Boston and purchased shares in several other companies, as well. But his turnpike investment, valued at about \$2,200 in 1813, was only a small part of his total holdings.⁸ Fisher Ames, who left an estate worth about \$25,000, seems to have placed an inordinately large percentage of his savings in the turnpike company of which he was president, his forty shares costing about \$8,000. But he once pointed out to fellow stockholders, several of whom owned more shares than he did, that

⁶Hartford and New Haven Turnpike Company Records.

⁷Martin, pp. 201-202.

⁸Summary Account of the Book Stock and Other Property of Isaiah Thomas, Taken August 20th, 1813, Thomas Papers, American Antiquarian Society.

his risk was considerably greater than theirs.⁹

Even large companies such as the Norfolk and Bristol and the Hartford and New Haven were dependent in part on small investors. There were fifty-eight proprietors of the former company, while forty-one persons originally owned shares in the latter, of whom twenty-seven had less than ten shares.¹⁰ There were thirty-one shareholders in the First Massachusetts Turnpike, which cost only \$11,200 to build. Some of these were persons of quite modest means who apparently decided to invest because of the liberal terms the company offered. Shares were priced at twenty-five dollars and an initial payment of only one dollar was required. Thomas Dwight, president of the company, in retrospect felt that this policy had been a mistake, that at the time the company was formed wealthy men still could have been persuaded to invest more heavily, and that "by having the Shares amount to so small a sum . . . you put it in the power of very little men of very little minds to become proprietors; and such will give you great trouble and throw embarrassments in the way of every proper measure."¹¹ Many companies, how-

⁹President's Message, 1806, Norfolk and Bristol Turnpike Company Records.

¹⁰Norfolk and Bristol Turnpike Company Records; Hartford and New Haven Turnpike Company Records.

¹¹Dwight to Ammidon, March 10, 1800, Norfolk and Bristol Turnpike Company Records.

ever, found it necessary to seek the support of small investors.

Because of this, and also because ready money often was scarce, several expedients were resorted to in raising capital. Most companies permitted proprietors to pay for their shares in successive installments, assessments being made as money was needed. If proprietors fell into arrears, companies had the right to take and sell their shares.¹²

Efforts also were made to substitute labor for money wherever possible. Both the Passumpsic Turnpike in Vermont and the Rhode Island and Connecticut Turnpike in Rhode Island made public appeals to persons living near their routes to invest, citing the benefits that would accrue in the form of higher property values. These and other companies offered investors the opportunity of contracting to build a section of road, paying most of the cost of their shares in labor.¹³

¹²Londonderry Turnpike Corporation, Proprietors Records; Loisquisset Turnpike Company, Committee Book; Derby Turnpike Company and New Haven and Milford Turnpike Company records, New Haven Colony Historical Society; New Milford and Litchfield Turnpike Company, Hadlyme Turnpike Company, and Woodstock and Thompson Turnpike Company records, Connecticut State Library.

¹³Green Mountain Patriot, January 27, 1807; Providence Gazette, July 9, 16, 1803. See also Hadlyme Turnpike Company Records; New Milford and Litchfield Turnpike Company Records; Woodstock and Thompson Turnpike Company Records; Connecticut, Archives, Travel, Series II, Vol.XV, p. 34.

The Jefferson Turnpike, which ran from Lancaster, New Hampshire, to the Tenth New Hampshire Turnpike, took upwards of ten years to build because of difficulties in raising capital. The company eventually resorted to offering 100 acre lots, payment for which could be made in labor on the turnpike.¹⁴ Senator Theodore Foster of Rhode Island once offered to accept a year's rent on two farms in the form of labor on a turnpike in which he was interested.¹⁵

Those who subscribed to turnpike stock usually found that the value of their investment depreciated quickly. According to the clerk of the Sixth Massachusetts Turnpike, its stock "had the same destiny as the old Continental money." The value of Hartford and Dedham Turnpike declined from \$50 to \$10 per share within a few years. Shares in the Worcester Turnpike, which cost \$260 in 1806, were worth only eighty-seven dollars seven years later. Norfolk and Bristol stock enjoyed a brief resurgence during the 1820's and the Massachusetts Hospital Life Insurance purchased more than 120 shares in 1827 and 1828. But even at that time, shares costing about \$200 were sell-

¹⁴New Hampshire Patriot (Concord), January 27, 1807.

¹⁵Providence Gazette, January 26, 1805.

ing at sixty dollars.¹⁶

Turnpike shares tended to change hands slowly, original proprietors frequently retaining their holdings and passing them along to their heirs.¹⁷ In some instances individual stockholders or the company itself gradually added to their holdings by acquiring additional shares from colleagues who had fallen into arrears in their payments or who were willing to sell at a depreciated price. Richard Ayer of Hooksett, New Hampshire, bought more than 200 shares of Londerry Turnpike stock from fellow proprietors over a period of a number of years.¹⁸ Thomas, in an inventory of his estate, noted in regard to his stock in the Worcester Turnpike that "there are a number of shares, not taken up, and a number more bought at auction - which belong now to the Stock holders, a part of course belong to me. These shares must rise in value."¹⁹ Some of the original proprietors of the Fourth New Hampshire Turnpike re-

¹⁶Reed, p. 45; William S. Tilden, History of the Town of Medfield, Massachusetts (Boston, 1887), p. 204; Summary Account of the Book Stock and Other Property of Isaiah Thomas; B. R. Nichols to William R. Staples, August 25, 1830, Norfolk and Bristol Turnpike Company Records.

¹⁷Cf., Norfolk and Bristol Turnpike Company Records.

¹⁸Londonderry Turnpike Corporation, Proprietors Records.

¹⁹Summary Account of the Book Stock and Other Property of Isaiah Thomas.

linquished their shares because they were dissatisfied with the route finally decided upon. These were sold at auction for about thirty dollars each and must have proved a bargain to the purchasers, for the company paid dividends averaging about three per cent on a capitalization which averaged more than \$150 per share for about twenty years.²⁰ In general, however, proprietors seem to have been either reluctant or unable to sell their stock. "Sales are not made readily," the treasurer of the Norfolk and Bristol informed a would-be buyer in 1830. "There have been no sales for more than a year to my knowledge of shares in ye Turnp."²¹ In a petition to the legislature that year, the directors of the same company reported, "a large proportion of the present stockholders are original proprietors or their heirs at law."²²

Turnpike companies, like individual investors, frequently held onto their franchises as long as they were making even a small profit. The Norfolk and Bristol, which protested against a proposed railroad between Boston and Providence in 1830, had earned only about one per cent a year, but the directors argued that

²⁰ Shirley, Granite Monthly, IV, 453-454.

²¹ Nichols to Staples, August 25, 1830, Norfolk and Bristol Turnpike Company Records.

²² Draft of Petition to the Legislature, 1830. Norfolk and Bristol Turnpike Company Records.

for the great benefits which the corporation have rendered the public, they conceive themselves justly entitled to be protected in their chartered privileges, and that the small recompense they are now receiving should not be taken from them unless it is demanded by the public exigencies.²³

The Boston and Providence Railroad, opened in 1835, cut into the turnpike's revenues. In 1843 the company was permitted to abandon its road from Dedham to Seekonk, but it continued to operate the remainder of its route as a toll road until 1857.²⁴ The Hartford and New Haven retained its franchise until 1855, although dividends over a fifty-year period had averaged only one per cent a year.²⁵ The Mt. Tabor Turnpike in Vermont, which, like these other companies, failed to repay even the cost of construction, was still in business as late as 1839 and that year paid a dividend of about 2.7 per cent.²⁶

A probable reason for such tenacity was that companies could expect little or nothing in the way of compensation if they did relinquish their franchises. They thus chose to remain in business as long as possible to

²³Ibid.

²⁴Wood, p. 100.

²⁵Hartford and New Haven Turnpike Company Records.

²⁶Mt. Tabor Turnpike Company, Record Book, Vermont Historical Society.

minimize their losses. Although charters often specified that the state could take over a road by paying a sum sufficient to repay the cost of construction, plus twelve per cent a year, only once did a New England state exercise such an option. A Rhode Island legislative committee in 1831 investigated the earnings of the Providence and Pawtucket Turnpike, which operated a short road forming part of the main route between Providence and Boston, and found that its profits had come close to the maximum permitted under its charter. The committee also reported that the company had spent money unnecessarily for repairs and had failed to account for certain funds. The legislature denied the company's request for a reduction in toll rates, which had occasioned the investigation, and in 1834 the state took over the route, paying the company a small sum and operating the road profitably for several years until it, too, fell victim to competition from the Boston and Providence Railroad. "The property," reported the agent in charge of the road in 1839, "is of great value; and the rights of the state should be clearly understood, diligently watched and faithfully preserved."²⁷

Such a statement could have been made of only a

²⁷Rhode Island, Archives, Providence and Pawtucket Turnpike Accounts; Reports to the General Assembly, X, 66.

few other turnpike properties in New England, however. When a turnpike road was given up, it usually was as the result of a plea on the company's part "that the toll collected has not even paid for keeping the road in repair," or of public opposition to a poorly maintained toll road, such as was expressed in a petition from the towns of Pomfret and Killingly that the turnpike of the same name "has become totally unnecessary for Publick use & convenience & very expensive to individuals and dangerous."²⁸

A company's franchise, when relinquished under such circumstances, had outlived its usefulness and its property was almost without value. About the only hope of recovering any of its capital at all lay in exploiting the company's value as a nuisance to the towns along the route. The Third New Hampshire, beset as early as about 1813 with declining revenues and rising costs of repair, sought for several years to persuade towns through which the road passed to take over its repair. In 1820 an agreement finally was reached whereby the road was to be made free between Keene and the Massachusetts line in return for the towns assuming the burden of maintenance and paying \$160 a year, the company having come down from a demand

²⁸Connecticut, Archives, Travel, Series II, Vol. XV, p. 9; Windham County, Conn., Court Records, XXVI, 233.

for \$200 a year. Four years later the legislature permitted the Third New Hampshire to surrender its charter and the entire road became free.²⁹ The towns between Portsmouth and Concord, in order to have the New-Hampshire Turnpike made free, in 1825 raised enough money to pay the company at the rate of twenty dollars per share.³⁰

The prospect of having a nuisance removed was not always sufficient, however, to induce towns to assume the expense of highway maintenance. When residents of Barnet and Ryegate, Vermont, remonstrated in 1837 against an effort to alter the charter of the Passumpsic Turnpike, claiming the company charged "enormous tolls" and failed to repair its road, the principal owner replied that he was willing to relinquish his charter but had been unable to secure an equitable agreement.

I have and shall continue to use my best exertions to cause said Turnpike to become a free road, on being paid a reasonable compensation for money actually expended in making and repairing said road, and incidental expences. I am willing to receive what judicious men shall say said stock is worth, in money, and when that sum is paid, with its annual interest, said road shall be free: and I know of no proprietor but what is willing to do the same.

²⁹Third New Hampshire Turnpike, Papers; Wood, p.220.

³⁰New England Palladium, January 21, 1825.

But the inhabitants of these towns, he complained, had been granted the right to use the road without paying toll when "on their domestic family business" and "as a matter of interest . . . never will consent [either] to pay toll, or to have said Turnpike become free, so long as they, by any stratagem, can prevent it."³¹ When petitions were submitted in 1830 asking that the Londonderry Turnpike be made free, the town of Hooksett remonstrated that it was unable to assume the expense of maintaining its portion of the road.³²

A few of the weakest turnpike companies succumbed during the years following the War of 1812. By 1840 more than twenty companies in Connecticut and more than thirty in Massachusetts had abandoned their roads either wholly or in part. The rate of abandonment increased rapidly during the 1840's and 1850's, but a number of toll roads still were being operated after the Civil War and as late as 1913, when Frederic J. Wood was gathering information for his study of New England turnpike companies, he paid

³¹Facts in Relation to the Pasumpsic Turnpike Company (Broadside, 1838), Vermont Historical Society.

³²New Hampshire, Records and Archives, Legislative Papers, Remonstrance of the Town of Hooksett, 1830.

toll to one of the last, Vermont's Peru Turnpike.³³

Some toll roads did pay moderately well for a number of years and a very few approached the profits permitted under the terms of their charters. The Salem Turnpike, thought to have been the best-paying road in Massachusetts, reported average net earnings of better than three per cent for about sixty years, while the Fourth New Hampshire had similar earnings between 1820 and 1840.³⁴ The profits of the West Glocester Turnpike, as reported by a Rhode Island legislative committee in 1837, had averaged more than 5.8 per cent a year since 1794, while those of the Glocester Turnpike were about 9.3 per cent a year between 1805 and 1837.³⁵ The latter company declared a dividend of six per cent as late as 1869.³⁶ As previously mentioned, the Providence and Pawtucket Turnpike earned close to twelve per cent a year prior to its takeover by the state in 1834.

In Connecticut, the Talcott Mountain Turnpike between 1800 and 1843 had average annual earnings of about

³³Wood, p. 277; P. E. Taylor, "Turnpike Era," p. 357.

³⁴Wood, p. 35; Shirley, Granite Monthly, IV, 453.

³⁵Rhode Island, Archives, Reports to the General Assembly, X, 9.

³⁶Wood, p. 297.

10.9 per cent. The company's peak year was 1805, when it earned 18.6 per cent; eighteen times between 1804 and 1837 annual profits were at least twelve per cent.³⁷ Figures in two Oxford Turnpike Company accounts for the years 1845 and 1852 indicate that average yearly earnings between those dates were about 11.5 per cent and suggest that for the period 1795 through 1852 profits may have averaged as much as seven per cent a year.³⁸ The Derby Turnpike remained in business nearly a century and netted an average profit of about 4.1 per cent a year between 1801 and 1840. Originally capitalized at \$7,520, the company, still a paying enterprise, was able to secure damages of \$10,000 when its property finally was condemned under court proceedings in 1896.³⁹ The Torrington Turnpike, chartered in 1801, returned an average of about three per cent a year between that time and 1834.⁴⁰ The Weston Turnpike, incorporated in 1828 and in business until 1886, between 1832 and 1848

³⁷Connecticut, Treasurer, Turnpike Road Accounts.

³⁸Osborn Papers. Erastus Osborn was one of the commissioners appointed by the state to examine annually the company's accounts.

³⁹Derby Turnpike Records; "New Haven, Old and New" (MSS. in New Haven Colony Historical Society), CXXXI, 59.

⁴⁰Connecticut, Treasurer, Turnpike Road Accounts.

also returned an average of about three per cent.⁴¹ The New Haven and Milford earned 3.7 per cent for almost sixty years and the Bridgeport and Newtown paid dividends averaging 4.5 per cent during a thirty-five year period.⁴²

The problem of determining the long-term profitability of New England turnpikes is a difficult one because of a scarcity of evidence. Massachusetts and Connecticut in 1805 and 1806 respectively adopted laws requiring the submission of annual reports of turnpike company earnings to the state.⁴³ In neither case was a penalty provided for failure to do so and it seems likely that few such reports were submitted. Few, at least, have been preserved in the public archives. None of the other states had such a law, charter provisions frequently stating that a company's books were to be subject to examination by the legislature at any time and by the courts at fixed intervals to determine whether earnings had exceeded the allowable limit. Few records of the results of such examinations have been found. Nor are many of the turnpike company records which have been preserved illuminating in regard to profits.

⁴¹Weston Turnpike Records, Connecticut State Library.

⁴²P. E. Taylor, "Turnpike Era," p. 277.

⁴³Massachusetts, Acts and Resolves, 1804, c. 125, sec. 9; Connecticut, Public Statute Laws, Compiled (1808), Title CLXVI, c. 1, sec. 5.

Some of the evidence cited above was not used in previous studies, however, and necessitates at least a slight modification of the usually dark interpretation of turnpike earnings. Wood, who wrote that "with the possible exception of the turnpike between Providence and Pawtucket, not one New England road ever came within gunshot of realizing" profits of twelve per cent,⁴⁴ was unaware of the earnings of the Glocester and Talcott Mountain turnpikes. The latter company in 1812 would have had to earn only an additional \$82.82 to have raised its average earnings since 1799 to twelve per cent, even though four years earlier it had been permitted to undertake an extensive rebuilding project which added close to forty per cent to the capitalization on which it was permitted to earn interest. Between 1804 and 1843 the company's capitalization more than doubled, largely because of further rebuilding and other "extraordinary repairs." Total earnings through 1843, however, had repaid the full amount of capitalization reached that year (\$18,750), plus an average of 5.8 per cent a year interest on the same amount. Considering only its original cost (\$8,840), by 1843 the road had paid for itself and returned an annual interest of about fifteen per cent. Year-to-year earnings averaged 11.4 per cent

⁴⁴Wood, p. 35.

between 1800 and 1840 and 10.9 per cent between 1800 and 1843, the last year for which information is available.⁴⁵

Probably few, if any, other companies did as well as the Talcott Mountain, the Providence and Pawtucket, or the Glocester. As early as 1808, Gallatin's Report showed the Talcott Mountain to be easily the most profitable road in Connecticut, a state in which turnpike earnings seem to have been above the average, while the two best toll roads in Massachusetts were supposed to be returning eight and six per cent respectively.⁴⁶ Although exceptions can be found - the Torrington Turnpike lost money between 1805 and 1807 - most of the roads for which information is available had their best profits during their early years and later experienced a decline. Three Rhode Island roads had good profits, but these seem to have been the only companies the legislature investigated to determine whether their earnings had exceeded twelve per cent. There was fairly strong hostility towards turnpikes in that state and it seems likely others would have been investigated if they had appeared prosperous.

⁴⁵Connecticut, Treasurer, Turnpike Road Accounts.

⁴⁶Gallatin, American State Papers, Miscellaneous, I, 867; Appendix II.

It may be, however, that considerably more companies had long-term profits of as much as three per cent than has been supposed. Taylor doubted that more than five or six New England companies paid even that well.⁴⁷ Evidence uncovered during the present study shows that at least six other companies - the Talcott Mountain, Gloucester, West Gloucester, Oxford, Torrington, and Weston turnpikes - earned three per cent or more.

More complete evidence probably also would turn up a number of other companies that failed to do even that well, such as the Shetucket Turnpike in Connecticut, which earned an average of slightly better than one per cent a year during almost thirty years of operation and eventually relinquished its charter in return for a payment of about one-eighth the value of its original capitalization from the towns that were to maintain its route as a public road.⁴⁸ Shareholders lost most of what they had invested in that company when it was sold and the small dividends they had received served only to lessen somewhat the eventual loss

⁴⁷P. E. Taylor, "Turnpike Era," p. 266.

⁴⁸Connecticut, Treasurer, Turnpike Road Accounts; Frances M. Caulkins, History of Norwich, Connecticut (Hartford, 1874), p. 530.

of capital. As Taylor has pointed out, to one degree or another this was the experience of most turnpike companies, including some which had had fairly good earnings for a time.⁴⁹ Even the Talcott Mountain Turnpike experienced a sharp drop in profits after 1840, and although this road, unlike many others, had paid for itself, with a good profit in addition, it is unlikely that its property was worth much when it finally folded in 1870.

The profits of New England turnpike companies probably were not as uniformly poor as has been thought. Available evidence, nevertheless, supports the opinion of contemporaries such as Henry Clay that toll roads usually returned little in the way of direct earnings to their owners,⁵⁰ since three per cent could hardly be called a good profit. According to Emerson, "he must be an unskilful merchant who should invest his money at three per cent."⁵¹ The poor returns a number of companies are known to have had, the depreciation of turnpike stock, loss of capital at the time of corporate dissolution, the reluctance of New Englanders to invest after the first decade of the nineteenth century, and financial difficulties experienced by companies in other

⁴⁹P. E. Taylor, "Turnpike Era," p. 280.

⁵⁰U.S., Annals of Congress, 15th Cong., 2d Sess., 1818-19, II, 1377.

⁵¹Emerson and Forbes, IV, 202.

parts of the country all support the conclusion that turnpikes usually were a poor investment from the standpoint of profits.

This was true for a number of reasons, one of which was overbuilding. Several of the principal toll roads, although considerably above average in the quality of their construction, were built at a cost entirely out of line with the revenues they produced. Unlike the Talcott Mountain Turnpike, a heavily traveled highway which followed closely the route of a former public road and cost only about \$465 per mile,⁵² such turnpikes, usually built between two important towns, were entirely new roads, substantially built, and following as direct routes as possible. Except for the Salem Turnpike, none of these roads seems to have paid well.

The Hartford and New Haven and the Worcester Turnpike were roads of this class. So was the Norfolk and Bristol, built in a nearly straight line over difficult terrain in such a manner as to be, in Fisher Ames's words, "worthy of the taste and magnificence of a wealthy metropolis." Ames determined at an early date, "it would be a wretched scheme of economy" to build anything less than "a great road," which included considerable reduction of hills and

⁵²Appendix. III.

raising of valleys, covering the road with a heavy layer of gravel, and landscaping with poplar trees, planted four rods apart along either side. Unnecessary expenses probably were the actual, although unintended, result of the company's decision to have the directors supervise construction rather than hire outside contractors. Inexperienced as road builders, the directors had to learn the business as construction progressed. The Norfolk and Bristol was one of the most substantially built roads in New England and carried a heavy flow of traffic, but earned no more than about two per cent during its best years.⁵³

The Newburyport and Boston was another turnpike the amount of traffic on which never could have justified the high cost of its construction. Apparently hoping to compete with the Salem Turnpike by providing a shorter route between Boston and Newburyport, the company disregarded terrain and avoided centers of population in building a road that deviated no more than eighty-three feet from a straight line throughout its length of thirty-two miles. Property damages were high and difficulties were encountered in construction. Costs included the reduction of a number of hills, the building of a large number of bridges, and construction of two hotels. The road cost \$417,000,

⁵³Norfolk and Bristol Turnpike Company Records.

making the Newburyport and Boston by far the most heavily capitalized turnpike company in New England. As the company's historian has written, to have returned the cost of the road, plus twelve per cent, "would have demanded a heavy stream of travel, day and night."⁵⁴ William Bentley drove over the Newburyport and Boston only a few years after its completion and "found nobody travelling upon it."⁵⁵

Most New England turnpikes were built at considerably lower cost than roads of this class. Perhaps some of them were so lacking in profit potential as to have failed to justify any expenditure. Other roads, however, might well have returned greater profits had they been better built. One such road was Connecticut's Boston Turnpike, which ran from East Hartford to the Massachusetts line in Thompson and formed part of what was for a time the shortest route between Hartford and Boston. Like the Norfolk and Bristol and the Newburyport and Boston, this road was built "unfortunately over many hills of great altitude with a particular view to a straight road."⁵⁶ Little was done to reduce steep

⁵⁴H. Follansbee Long, "The Newburyport and Boston Turnpike," Topsfield Historical Collections, XI (1906), 11-12.

⁵⁵Diary of William Bentley, III, 448.

⁵⁶Boston Turnpike Company Papers, Connecticut State Library.

grades, however, and although it was several miles closer to Boston by way of the turnpike than by the post road through Springfield and Worcester, the latter was considered the better route.⁵⁷ At the time of Gallatin's Report the company's earnings were only about half of one per cent a year.⁵⁸ It lost even the advantage of directness after the Stafford and Mineral Springs and the Worcester Turnpike provided both a shorter and a better route to Boston.⁵⁹ Like a number of other such companies, the Boston Turnpike eventually sought to promote business by altering its route. In 1824, the directors, apparently regretting the early decision to pass directly over hills, contended in a petition to the legislature, "these hills may be avoided or the ascents in the road be rendered less and easier by Alterations which will not naturally increase the distance or incommode individuals."⁶⁰

Another factor in keeping turnpike profits low was high maintenance costs. Even in Pennsylvania, where many toll roads were built on a substantial base of stone, it

⁵⁷Thomas's Almanack (1800).

⁵⁸Appendix II.

⁵⁹Thomas's Almanack (1814).

⁶⁰Boston Turnpike Company Records.

was argued that "no turnpike can stand the wear and tear of five horse waggons, and be profitable to the stock holders."⁶¹ New England turnpikes were mainly dirt roads and although some efforts were made to prevent damage by establishing preferential toll rates for vehicles with wide felloes,⁶² considerable damage was caused by heavily loaded wagons and by the weather.⁶³ An all-day rain in 1819, for example, brought a flood which carried away twenty feet of causeway on the Worcester Turnpike.⁶⁴

The Talcott Mountain Turnpike, although an inexpensively built road, always had sufficient revenue to pay for repairs. The Oxford Turnpike, although nearly half its revenue in 1844 went towards maintenance, earned a profit of 6.3 per cent.⁶⁵ But in some instances high maintenance costs meant the difference between profit and loss. A Com-

⁶¹The Emporium of Arts and Sciences, I (1813), 341.

⁶²Massachusetts, Acts and Resolves, 1804, c. 125, sec. 4.

⁶³Loisquisset Turnpike Company, Committee Book; Third New Hampshire Turnpike Papers, New Hampshire Historical Society; Rhode Island, Archives, Charters, 1821-31, p. 59; Sun (Pittsfield), October 7, 1800.

⁶⁴Benjamin T. Hill (ed.), The Diary of Isaiah Thomas (Worcester, 1909), I, 239.

⁶⁵Osborn Papers.

mittee of the Rhode Island legislature found that the Providence and Norwich Turnpike had "no prospect of ever realizing any profit . . . so long as they have such a length of road to maintain, with such an income as hitherto afforded."⁶⁶ The directors of the First Massachusetts Turnpike between 1802 and 1807 found their revenue insufficient to pay for necessary major repairs and permitted the condition of the road to deteriorate. When in 1808 they determined to spend \$1000 (four to five times the usual sum) "to put the Road in perfect repair," the company that year operated at a loss.⁶⁷

A poorly maintained turnpike, however, not only was subject to legal reprisal in the form of having tollgates opened to free passage as long as repairs were neglected, but often experienced a rapid decline in traffic, as well. A director of the Third New Hampshire Turnpike, reporting the poor condition of a section of that road, wrote, "I think we loose [sic] toll now for people are afraid to pass."⁶⁸ One New England editor asserted that the de-

⁶⁶Rhode Island, Archives, Charters, 1800-05, p. 31.

⁶⁷First Massachusetts Turnpike Corporation, Record Book.

⁶⁸Thomas Bellows to John Preston, October 8, 1817, Third New Hampshire Turnpike Papers.

clining value of many turnpike stocks could be attributed to inadequate maintenance and a subsequent loss of revenue.⁶⁹

Turnpike companies tried a number of means to minimize maintenance costs. Perhaps the most successful of these was the farming out of their roads. Vermont's Mt. Tabor Turnpike Company, for example, in 1830 entered into a five-year contract with one Daniel Curtis, who was given the right to collect tolls and retain such profits as should accrue in return for keeping the road in repair and paying rent of \$100 a year. Relieved of practically all expenses, the company, which had paid dividends only sporadically, began to make regular returns out of the rent money. In 1833 the dividend was eight-seven cents per share, or about 4.3 per cent.⁷⁰ The committee which investigated the Gloucester and West Gloucester turnpikes in 1837 found both companies farming out their roads and declared that the practice was "manifestly against law" and might be used in some instances as a subterfuge to make it appear that a road's earnings had not exceeded twelve per cent.⁷¹

Farming out, however, seems almost always to have been

⁶⁹New England Palladium, November 18, 1825.

⁷⁰Mt. Tabor Turnpike Company, Record Book.

⁷¹Rhode Island, Archives, Reports to the General Assembly, X, 9.

used as a means of maximizing profits by minimizing costs. The practice seems not always to have been remunerative to the contractors. After 1833 the Mt. Tabor Turnpike Company put its road up for lease to the highest bidder, but apparently was unable to find a taker either in 1834 or 1835. In 1839 the highest bid was down to eighty dollars and the contractor that year failed to keep the road in repair.⁷² The frequency with which turnpike companies changed methods of repairing their roads - from hiring laborers by the month to dividing maintenance among the proprietors or hiring a superintendent, indicates the importance of maintenance costs and also the difficulties encountered in trying to minimize them.⁷³

The cost of collecting toll, although usually considerably less than that of maintenance, often was great enough to affect profits. Most turnpikes were small-scale enterprises with only limited revenues. Receipts often were insufficient to permit a company to pay its toll collectors full salaries and still earn a profit. The amount of toll collected at the Second New Hampshire Turnpike's gate in

⁷²Mt. Tabor Turnpike Company, Record Book.

⁷³Woodstock and Thompson Turnpike Company Records; First Massachusetts Turnpike Corporation, Record Book; Loisquisset Turnpike Company, Committee Book; Third New Hampshire Turnpike Papers.

Unity averaged only about one dollar a day in 1822, 1823, and 1824, for example.⁷⁴ Receipts at the Mt. Tabor Turnpike's single gate were only \$295.40 in 1818. Out of this the company paid its expenses and had a profit of \$100, or about 3.3 per cent of its capitalization. Although the cost of collecting toll was high - twelve per cent of receipts, as against a similar expense of 5.5 per cent for the Talcott Mountain Turnpike, which earned 7.1 per cent that year - James Lincoln, employed by the Mt. Tabor Turnpike to tend its gate, earned only \$35.45, hardly enough to support himself and his family, even by the standards of the time.⁷⁵

In order to find persons willing to take the job of toll collector at the salaries they were willing to pay, turnpike companies had to permit them to supplement their income with other work. It was common to provide land adjacent to tollhouses on which the collectors could raise their own food. The Hartford and Tolland Turnpike Company, for example, which had two tollgates, was permitted under its charter to own a total of 100 acres for the use of its toll receivers.⁷⁶ Col-

⁷⁴Second New Hampshire Turnpike, Records of Gate No. 5, New Hampshire Historical Society.

⁷⁵Mt. Tabor Turnpike Company, Record Book. After Lincoln's death his widow contracted to tend the gate.

⁷⁶Connecticut, Resolves and Private Laws (1837), p.1328.

lectors and their families were permitted to live in the tollhouses, sometimes rent free.⁷⁷ The first Massachusetts Turnpike paid Abraham Fuller only sixty-five dollars a year to tend its Wilbraham gate, but moved the gate near his house, presumably so that he and his family could collect toll while at the same time continuing to farm their own land, and the company also hired him to keep a section of the road repaired.⁷⁸ The Loisquisset Turnpike Company in Rhode Island built a cooper shop adjacent to its toll gate and leased it to a tradesman, who collected toll and paid rent of twenty-five dollars a year in addition, while the Worcester Turnpike in 1819 advertised for "a Tollman, at the Gate, near Richards' Tavern, in Brookline - a good situation for a Shoe maker, whipmaker, or other tradesman, whose work is confined to a shop."⁷⁹

Although arrangements such as these permitted many turnpike companies to collect small amounts of toll at a cost they were able to afford, the job of toll collector, which was low-paying but physically undemanding and permitted the handling of money in a loosely supervised situation, sometimes attracted a type of person who at best

⁷⁷Mt. Tabor Turnpike Company, Record Book; Derby Turnpike Records.

⁷⁸First Massachusetts Turnpike Corporation, Record Book.

⁷⁹Loisquisset Turnpike Company, Record Book; Columbian Centinel, February 10, 1819.

proved perfunctory in performing his duties and at worst resorted to graft. Companies lost undertermined amounts of revenue as a result of the laxity and even dishonesty of such collectors. In moving their gate to the vicinity of Fuller's house, the directors of the First Massachusetts informed the other proprietors that they were motivated partly by a desire to get a responsible person to take the job. Fuller's predecessor had proved unsatisfactory. Although he had been warned once that he could grant credit to acquaintances who passed his gate only at his own risk, Jonathan Kilburn seems to have yielded to their continued importunities and to have accumulated a number of uncollectable debts. In 1808, two years after he was replaced by Fuller, Kilburn and his sureties still owed the company \$390, which, the directors declared hopefully, "may probably be paid at a future day." Had the amount owed by Kilburn and another collector been paid that year, the company would have earned a small profit instead of losing about \$400.⁸⁰

Luke Hitchcock, dismissed as keeper of the same company's Palmer gate in 1810, also showed favoritism to his friends at the company's expense, and his successor, Abial Lombard, was sternly warned that

⁸⁰First Massachusetts Turnpike Corporation, Record Book.

your duty as toll gatherer, both as it respects the Interest of your Employers and your own Interest and Reputation, will lead you to Collect of everyone, with undeviating Impartiality, the legal Toll as it may become payable on passing the gate.

Hitchcock also was suspected of other dubious practices and Lombard was instructed "never to lend or in any other manner dispose of the Monies you shall collect, . . . but for the purpose of settling with the treasurer." Finally, as a means of helping to make sure that the new collector received toll from everyone liable to pay and turned over everything he collected to the company, the First Massachusetts, which, like a number of other turnpikes, previously had required no detailed accounting on the part of its collectors, ordered Lombard to enter daily in his ledger the amount of toll collected for each kind of vehicle and to pay the directors every two months "all the money you shall have received, or be intitled to receive."⁸¹

Whether practices such as have been described were common among toll collectors on other roads and how much they may have cost turnpike companies in the way of revenue is impossible to say. Occasionally the conduct of gate keepers did come under suspicion, as when the Londonderry Turnpike appointed a committee in 1817 to investigate the activities

⁸¹Ibid.

of one of its collectors.⁸² Certainly opportunities existed for collectors to practice dishonesty, at least on a small scale, without being detected. In addition to the First Massachusetts, only two companies - the Worcester and the Norfolk and Bristol - are known to have required at any time detailed accounting of the number of vehicles passing and the amount of toll collected for vehicles of each type. Both of these were important roads with several toll-gates and revenues well above the average. Conceivably the opportunities for wrongdoing might have been greater than for employees of smaller companies. But the Norfolk and Bristol required detailed accounting only sporadically - in 1814 and again beginning in 1824 - while the extent to which the Worcester Turnpike followed this policy is not known.⁸³ Furthermore, although instances can be cited of a collector having served long and honorably at his job - Daniel Bingham of Unity, New Hampshire, tended a gate on the Second New Hampshire Turnpike for sixteen years or more⁸⁴ - there was a rapid turnover on some roads, further evidence that

⁸²Londonderry Turnpike Corporation, Proprietors Records.

⁸³Norfolk and Bristol Turnpike Company Records; E.B. Crane, "Boston and Worcester Turnpike," Collections of the Worcester Society of Antiquity, XVII (1901), 598.

⁸⁴Second New Hampshire Turnpike, Records of Gate No. 5

a toll collector's job, although it involved a considerable amount of responsibility, was not sufficiently attractive to enable a company to employ and retain persons strongly interested in its well-being. Those companies which farmed out their roads relieved themselves not only of the costs involved in collecting toll, but also of the problem of finding responsible toll collectors.

Wood, in his study of New England turnpikes, attributed the poor earnings of many companies to the fact that there simply "was not enough business to make the investment pay."⁸⁵ It is true that traffic on even the busiest New England turnpikes would scarcely be considered heavy by the standards of the twentieth century. On the busiest day in May, 1824, toll was received at the Roxbury gate of the Norfolk and Bristol Turnpike for the passage of 152 one- and two-horse wagons, seventy-five teams and carts, ten saddle horses, and one coach. The largest number of chaises paying toll on any one day during the same month was forty-two.⁸⁶ Assuming that toll was collected between six A.M. and nine P.M. (gates often were left open during the night), on the day of heaviest travel that month, toll-

⁸⁵Wood, p. 35.

⁸⁶Gate Keepers' Accounts, 1824, Norfolk and Bristol Turnpike Company Records.

paying traffic would have passed the gate at the rate of one vehicle or horse every three-and-three-quarters minutes, a rate undoubtedly well above the average for New England turnpikes, for the Norfolk and Bristol was one of the region's most heavily traveled roads and the Roxbury gate was that road's busiest tollgate.

Because of their small capitalization and their ability to hold down their expenses, some turnpike companies were able to earn at least small profits with a light volume of traffic. But revenues were small, often fluctuated from year to year, and few companies seem to have had any sustained growth in the amount of their toll receipts. The treasurer of the Norfolk and Bristol claimed in 1826 that travel on that road had nearly doubled in the past few years.⁸⁷ But the Talcott Mountain Turnpike, although it continued to earn good profits, reached its peak in receipts in 1811, when it took in \$3,653. Between 1812 and 1840 receipts fluctuated between a high of \$3,617 (1836) and a low of \$2,200 (1817).⁸⁸ Although the \$1,070 taken in by the Oxford Turnpike in 1852 was \$271 more than its receipts in 1844, it was only a few dollars more than the average for

⁸⁷Nichols to John Varnum, January 31, 1826, Norfolk and Bristol Turnpike Company Records.

⁸⁸Connecticut, Treasurer, Turnpike Road Accounts.

tolls received in 1804 and 1805.⁸⁹ Still other companies experienced a sharp drop in receipts after their first few years in business. Gate five of the Second New Hampshire Turnpike took in \$1,090 in 1803, \$427 in 1813, \$414 in 1823, and \$354 in 1824.⁹⁰ Gate four of the Third New Hampshire Turnpike had receipts of \$618 in 1803, \$270 in 1813, and \$288 in 1815.⁹¹

Turnpikes thus often did suffer for lack of business. Why was this so? Bidwell, it has been mentioned, contended that they failed to improve the region's roads sufficiently to bring inland towns into a market economy. But as was suggested in Chapter I, Bidwell probably underestimated the amount of movement and trade between inland areas and the coast. Furthermore, the fact that some toll roads initially carried a heavier traffic load than they were able to sustain over the long run suggests that there may have been potential business that, for one reason or another, turnpikes were losing.

Beginning in the late 1830's, competition from railroads proved disastrous to some toll roads. The Providence and Pawtucket and Worcester turnpikes, for example, suc-

⁸⁹ Osborn Papers; Appendix II.

⁹⁰ Second New Hampshire Turnpike, Records of Gate No. 5.

⁹¹ Third New Hampshire Turnpike, Record Book of Gate No. 4, 1802-15, New Hampshire Historical Society.

cumbed shortly after the building of the Boston and Providence and Boston and Worcester railroads.⁹² But some companies with no direct competition from the newer form of transportation managed to survive until well into the railroad era, while others had experienced financial difficulties even earlier.

Few canals were constructed in New England and even where they competed directly with turnpikes for revenue the latter were able to hold their own. The superintendent of the Middlesex Canal reported in 1825, "attempts have been made to stop the teaming [to Boston] from Concord, N.H., and to change the transportation from land to water carriage, but as yet the encouragement held out has not been sufficient."⁹³ A report to the same company a few years earlier stated that traders and others living in towns adjacent to the canal took advantage of its considerably lower freight rates and "generally have their property carried by water." However,

those in the interior who must employ teams to go to the river and the landing places thereon often send their teams quite thro' to Boston; for the expense is less in proportion to the

⁹²Rhode Island Archives, Reports to the General Assembly, X, 66; Crane, Collections of the Worcester Society of Antiquity, XVII, 597.

⁹³Christopher Roberts, The Middlesex Canal, 1793-1860 (Cambridge, Mass., 1938), p. 148.

distance than it would be, were they to send them only to Concord. For instance, a teamster charges 30 dollars to carry & the same to bring a Ton from Boston to Bath in N.H., a distance of 160 miles - & charges from Bath to Concord 20 Dolls. per Ton, distance 88 miles.⁹⁴

Besides charging higher rates for short hauls than for transportating goods long distances, teamsters, in successfully competing with the canal, offered advantages in service which the latter could not match. There was not the extra charge for trucking goods from warehouse to canal boat that those who used the canal had to pay. Traders had considerably more certainty as to when a shipment would arrive when entrusted to a teamster and wagons, covered against the weather, offered greater protection from storm damage to goods than did boats. There was also less likelihood of damage if goods were loaded at the warehouse and unloaded again only at their destination than if they had to be transferred first to a canal boat and then to another wagon at the landing.⁹⁵ Thus although canals offered lower freight rates than was possible on land, other factors offset this advantage and permitted turnpikes to compete with them for revenue.

⁹⁴Ibid., p. 149.

⁹⁵Ibid., pp. 149-151.

Competition from other roads was more serious. In some instances two or more turnpikes competed for the same traffic. This was particularly true in western Connecticut and in New Hampshire, where several routes leading from the Connecticut River towards the seaboard paralleled one another. Probably of greater consequence, however, was competition from free, public roads. The Second New Hampshire Turnpike, built in a straight line over hills and avoiding villages, gradually lost traffic to newer and better-located roads, while in Massachusetts the Union Turnpike suffered a similar fate.⁹⁶

Shunpikes - roads that permitted travelers illegally to bypass turnpike tollgates - were another form of public road which often cut into turnpike revenues. Although the opening of turnpikes sometimes resulted in the discontinuance of nearby roads no longer needed to serve either through traffic or local residents, many old roads remained open. Unlike the limited-access toll roads of the present day, nineteenth-century turnpikes were intersected in numerous places by public roads. As a means of protecting the public against abuses such as had been per-

⁹⁶George A. Cochrane, History of the Town of Antrim, New Hampshire (Manchester, 1880), p. 85; David Wilder, The History of Leominster, [Mass.] (Fitchburg, 1853), pp. 65-66.

petrated by some English turnpike trusts, which were under few restrictions as to the number of tollgates they were permitted to erect, turnpike charters in all the New England states except New Hampshire usually specified that tollgates were to be no closer than ten miles apart.⁹⁷ In some instances companies were permitted to erect so-called half gates at five-mile intervals, where half the usual rate of toll could be collected.⁹⁸ But the location of gates usually was regulated closely by legislatures, county courts, or turnpike commissioners so as to prevent companies from placing them where toll might be exacted from large numbers of persons traveling only short distances on a turnpike. In addition, political pressures were exerted to prevent the erection of tollgates within the limits of towns such as East Hartford and Providence.⁹⁹

⁹⁷See, for example, Massachusetts, Private and Special Statutes (1805), III, 558. New Hampshire, unlike the other states, which usually permitted the collection of the full amount of toll for ten miles' travel, regardless of the actual distance a traveler had covered on a toll road, adopted the policy of charging by the mile, which permitted greater flexibility in the location of gates. See, for example, New Hampshire, Laws, VI, c. 13 (1796).

⁹⁸Connecticut, Resolves and Private Laws (1837), 1206.

⁹⁹Joseph O. Goodwin, East Hartford: Its History and Traditions (Hartford, 1879), p. 188; Wood, p. 288.

Such restrictions helped to protect the public against corporate abuses, although in at least one instance a Rhode Island toll gate was destroyed by persons resentful of its location.¹⁰⁰ Turnpike companies, however, claimed that they lost large amounts of revenue to which they were legally entitled because of the ease with which traffic could enter one of the old roads to avoid passing a tollgate. Many turnpikes, built in a generally direct line, crossed the old, winding routes they were meant to replace in a number of places. The short Powder Mill Turnpike crossed the same road in nine places, enabling traffic to use the turnpike and still avoid paying toll. "There are persons," the directors complained, "whose age and standing in society would cause better examples to be expected from them who not only pass round the gate themselves but encourage others."¹⁰¹

The Norfolk and Bristol Turnpike crossed one old road thirteen times in the towns of Wrentham and Walpole alone. The company's revenues in 1806 were about \$7,000 and, according to Fisher Ames, "the lowest computation of the travel which does not pass our gates is \$3000 and probably \$4000 or 5000."

¹⁰⁰Rhode Island, Archives, Charters, 1828-31, p. 12.

¹⁰¹Ibid.

It has been apprehended that the increased wealth of the country would make our labouring classes lavish. This apprehension may be quieted by the fact that scores of teamsters will go a mile round to save half the number of cents in toll, that they charge for a mile's draft, and persons who spare no expence to adorn their chaises and harnesses will do the like to avoid a gate.¹⁰²

Twenty years later the same company still was experiencing such difficulties. Providence-bound stages would leave the turnpike by way of an old road fifty rods above one of the gates, returning to the toll road about one rod below the gate. "Other travellers seeing the Stages avoid the gate with impunity follow the example to such a degree that [the collector] says that he fears that he shall not be able . . . to collect enough to pay his own wages."¹⁰³

Where shunpikes were not already in existence, towns sometimes built short stretches of road around a tollgate. Killingly, Connecticut, in 1810 was ordered to close a road upon the complaint of both the Pomfret and Killingly and the Woodstock and Thompson turnpike companies that "sd road . . . is totally unnecessary to accomodate Public Travelling & was

¹⁰²President's Message, 1806, Norfolk and Bristol Turnpike Company Records.

¹⁰³John W. Ames to Nichols, June 21, 1826, Norfolk and Bristol Turnpike Company Records.

laid as & for a shunpike only."¹⁰⁴ In order to get rid of one such road, the Fourth New Hampshire Turnpike voted to permit Boscawen inhabitants free passage of the gate in that town.¹⁰⁵ The Londonderry Turnpike took a different approach, voting to "make all necessary fences and ditches to prevent Travelers passing from the Turnpike to the old road near Turkey River Bridge."¹⁰⁶ In Massachusetts, however, there was a law against impeding passage from a turnpike to a public road.¹⁰⁷ And although penalties were provided for evading a toll gate and turnpike companies sometimes were permitted to erect half gates or move their gates to more favorable locations, the problem of shunpikes never was solved. Nor could it be as long as it was possible to leave and return to a turnpike road without paying toll.

For several reasons turnpikes carried a considerable amount of traffic which never paid toll. Shunpikes were

¹⁰⁴Windham County, Conn., Court Records, XXIII, 53, 167.

¹⁰⁵Fourth New Hampshire Turnpike Company Records, New Hampshire Historical Society.

¹⁰⁶Londonderry Turnpike Corporation, Proprietors Records.

¹⁰⁷Massachusetts, Acts and Resolves, 1804, c. 125, sec. 7.

one reason. So was the basic theory behind the toll-road movement: that travelers should pay the cost of maintaining highways. Nearly every turnpike charter contained a provision similar to the following:

No toll shall be collected at any gate, or persons going to or from public worship in the same or next adjoining town, or to or from funerals, or to or from the performance of military duty, when by law obliged to do the same, or to or from grist-mills, or to or from town, elector's or society's meetings, or about their ordinary farming business.¹⁰⁸

To have taxed such traffic would have been deemed unjust and also inexpedient, for even at best turnpikes were unpopular with many people. But at any rate, much of the local traffic which used a toll road did so without paying toll to offset the cost of the damage it caused. Because of the usual distance between gates, persons often could travel several miles on a toll road and reach their destinations without coming near a gate.

Furthermore, exemptions from toll often were claimed fraudulently. According to the historian of the Fourth New Hampshire Turnpike, "ungodly sinners evaded the payment of toll by claiming that they were passing . . . to or from 'public worship,' when they never intended to attend any-

¹⁰⁸Connecticut, Resolves and Private Laws (1837), p. 1328.

thing of the kind in any sense known to the religious world."¹⁰⁹ The directors of the First Massachusetts Turnpike warned one toll collector to "not let those pass free who for the purpose of evading payment, put on a bag, and carry it to mill and then proceed on the Turnpike road out of town for other business - this trick has been frequently practiced at the Gates on other Turnpike roads." The same directors also were under the impression "that numbers of teams frequently wait on each side of the gate, in the evening until after bed time, to take the advantage of passing without paying toll."¹¹⁰ The Straits Turnpike Company complained to the Connecticut legislature that farmers claimed exemption from toll even when they were carrying produce many miles to market on the grounds that they were going about their ordinary farming business.¹¹¹

Neither in New England nor in other parts of the United States - nor, for that matter, in England, from which the idea of toll roads came to this country - were turnpikes often successful financially. Perhaps the comparative lightness of nineteenth century traffic was in

¹⁰⁹ Shirley, Granite Monthly, IV, 430.

¹¹⁰ First Massachusetts Turnpike Corporation, Record Book.

¹¹¹ Connecticut, Archives, Travel, Series II, Vol. XVI, p. 55.

large part responsible and Bidwell undoubtedly was correct in suggesting that the quality of these roads served to limit the amount of traffic they carried.¹¹² In considering the reasons for the financial problems of nineteenth-century turnpikes, however, it is well to remember that significant reduction of the costs of highway transportation, when it finally did come, required much more efficient vehicles than were available during the nineteenth century, as well as better roads. Given the types of vehicles then in use, transportation would have been expensive even on much better roads than most New England turnpikes were.

Even modern turnpikes, it must also be remembered, lose considerable amounts of traffic to nearby public roads, as can be seen, for example, by the amount of trucking on those stretches of route U.S. 20 which parallel the Massachusetts Turnpike. Were it not for their ability to control egress from their roads, present-day turnpike authorities probably would be even less successful financially than their corporate predecessors, as plagued as the latter were by the problem of shunpikes. As it is, one of the most profitable twentieth-century toll roads, the Pennsylvania Turnpike, which has relatively little competition from pub-

¹¹²For a discussion of construction standards, see Chapter VI.

lic highways, was expected in 1965 to earn a profit amounting to only about four per cent of the \$600 million spent on construction since 1937.¹¹³ Considering the conditions under which nineteenth-century turnpike companies had to operate, with much of the traffic which used their roads and contributed to their wear either legally exempt from paying toll or able to avoid it by illegal means, perhaps the most remarkable thing about the turnpike era is that a few companies did quite well financially and that many others, by resorting to such expediences as farming out their roads in order to minimize costs, were able to stay in business for years, earning small profits from very limited revenues. As light as traffic was by present-day standards, it is conceivable that many companies would have done better if they had been able to collect toll from everyone who used their roads.

¹¹³New York Times, October 17, 1965.

CHAPTER V

DECLINE OF TURNPIKES AND RETURN TO PUBLIC RESPONSIBILITY

Although many New England turnpike companies still were in business in 1840, the importance of toll roads as part of the region's highway system had declined considerably by that time. A number of turnpikes had become public highways. Most road building since about 1810, furthermore, had been at public expense. Indeed, even between 1796 and 1808 - the years of turnpike fever in New England - the building of public roads by no means had come to a halt. Towns continued to construct and alter local roads as needs arose and county courts continued to exercise their authority in ordering the opening of public ways. In New Hampshire, the Hillsborough County Court laid out twenty-five new roads between 1796 and 1807, while in Berkshire County, Massachusetts, the court laid out eighteen roads and ordered alter-

ations in nineteen others during the same years.¹

Most of these county roads (laid out by the courts, but built at the towns' expense) were local in charter, while some served as feeders to turnpikes. But although probably the great majority of market roads constructed during the years of the turnpike movement were toll roads, a few were public highways, including one built between Hopkinton and Amherst, New Hampshire, another from Hancock to Milford, New Hampshire, a road through Sheffield and Egremont, Massachusetts, to the New York line, and one between Pittsfield and Springfield, Massachusetts.²

Construction at public expense continued after the decline in turnpike building. Twenty-four new county roads were built in Hillsborough County and ten in Berkshire County between 1809 and 1821.³ The court of Windham County, Connecticut, which had laid out ten new roads between 1796 and 1808, ordered the building of fifteen more during the succeeding twelve-year period.⁴

¹Hillsborough County, N. H., Records of Roads, Courthouse, Nashua, N. H.; Berkshire County, General Sessions of the Peace.

²Ibid.

³Ibid.

⁴Windham County, Conn., Court Records.

Road-building activity increased considerably during the 1820's and 1830's, declining somewhat after 1840 as railroads began to dominate overland transportation. Thirty-three county roads were built and fifty-nine others altered in Berkshire County between 1822 and 1840. Hillsborough County ordered towns to build thirty-six roads and make alterations in twenty during the same period. In Windham County, Vermont, the court, which prior to 1824 had received petitions for highways only occasionally, during the late twenties and thirties frequently laid out three or more roads a year and in 1836 ordered the building of nine.⁵

Many of the highways built during the twenties and thirties provided access to factory sites and to the new settlements arising around them. In 1829, for example, a Hillsborough County road was built through Dunstable to provide easier communications between the factory towns of Nashua, New Hampshire, and Lowell, Massachusetts. The following year Hillsborough and Merrimack counties laid out a road from the Londonderry Turnpike in Hooksett through Manchester and Nashua to the Massachusetts line in the direction of Lowell.⁶ None of these newly important manu-

⁵Berkshire County, General Sessions of the Peace; Hillsborough County, Records of Roads; Windham County, Vt., Court Records, County Clerk's Office, Brattleboro, Vt.

⁶Hillsborough County, Records of Roads.

facturing towns was on the turnpike route between Concord and Boston.

The growth of manufacturing in Southbridge, Massachusetts, and in the western part of Woodstock, Connecticut, led in 1834 to the rebuilding of what is now Connecticut route 169 from Woodstock to Norwich, paralleling, several miles to the westward, the principal toll road from the Massachusetts line to Norwich.⁷ A new public road was built from Plainfield, Connecticut, to the Rhode Island line in 1827 in response to a plea that the turnpike route through Scotland, Canterbury, Plainfield and Sterling "is quite hilly" and "the increasing prosperity and growth of the manufacturing, mercantile, and agricultural interest of those places, call for such improvements as may be made . . . in facilitating the intercourse with the town of Providence."⁸

Few turnpike charters were sought to meet needs presented by a changing economy and shifting population; even fewer toll roads were built. Outside of Connecticut, New England states acquired seventeen new turnpikes during the 1820's (nine of them in Massachusetts) and only four during

⁷Windham County, Conn., Court Records, XXIX, 333.

⁸Ibid., XXVIII, 380.

the 1830's. Thirty were built in Connecticut during the two decades, the last two successful companies receiving charters in 1835.⁹

"Few turnpike corporations are now granted," wrote a New Hampshire editor in 1825, "the more eligible method having been found to be public roads made at the expense of the towns."¹⁰ To be more accurate, however, building at the expense of the towns had become once again the only practicable method. Investors no longer were interested in turnpikes and efforts to transfer part of the burden to the states or the federal government thus far had been largely unsuccessful. The towns, which traditionally had been the principal agents of the states in regard to highway matters, of necessity were required again to assume burdens that for a time had been undertaken by private investors.

Although many towns probably were more prosperous during the 1820's and 1830's than had been the case during the post-Revolutionary period, they nevertheless retained their traditional antipathy towards taxing themselves for the benefit of outsiders. Agents for Lee, Massachusetts, in objecting to a proposed county road,

⁹Appendix I.

¹⁰New England Palladium, November 18, 1825.

stated that the town already had to support six such highways and pointed to "the injustice of increasing the Burdens upon the town . . . too great in proportion to the advantages which s'd town derives from the County roads."¹¹ When Lanesboro, Massachusetts, refused to construct a road laid out by the Berkshire County Commissioners, the latter hired a contractor to build it at the town's expense, only to find after construction was completed that "in consequence of some evil disposed person or persons having moved the stakes on the location," much of the work had to be done again.¹²

As a result, efforts were made during the twenties and thirties to strengthen the highway laws of several New England states to give the counties greater control over the activities of the towns. Massachusetts, for example, in order both to strengthen the counties' authority and to introduce a greater degree of expertise in the handling of

¹¹ Berkshire County, General Sessions of the Peace, III, 30-31.

¹² Berkshire County, Commissioners Records, IV, 58. See also, John G. Metcalf (ed.), The Annals of the Town of Mendon, [Mass.] (Providence, 1880), pp. 520 ff; William Little, The History of Warren, [N.H.] (Manchester, N.H., 1870), pp. 455-456; A.P. Marvin, History of the Town of Winchendon, [Mass.] (Winchendon, 1868), pp. 241-242; Stearns, History of Ashburnham, p. 372.

highway affairs, in 1826 placed jurisdiction over inter-town highways in the hands of county boards, consisting of five commissioners who were appointed by the governor to serve five-year terms. The law was revised two years later to make county commissioners elected officials.¹³

Previously, whenever a petition for a public inter-town road had been presented to a Massachusetts county court, a committee of freeholders had been appointed to hold hearings, lay out the road, and assess damages. The court then had proceeded to consider the committee's report and opponents of the proposed road who had been unable to influence the committee still could hope to persuade the judges, who had neither heard all of the parties concerned nor viewed the route, to reject the report. Needless to say, neither the judges nor the committee members necessarily had any knowledge of road building.

Under the new Massachusetts laws, the commissioners were to consider all petitions for intertown roads and would hold office long enough to acquire some skill in handling highway matters. It was they, furthermore, who ultimately decided whether a road actually was to be built, thus making it more difficult to block action. Under the 1828 law,

¹³Massachusetts, Laws, 1826, c. 171; Laws, 1828, c. 77.

county commissioners also were empowered to set specifications for roads they ordered built.

The 1828 law, in addition, authorized commissioners to order that up to half the cost of roads "of general use and importance to the public" be paid out of the county treasury. The purpose was to ease the burdens on the towns. But in Berkshire County, at least, the result was an increase in the number of roads under construction and a heavier tax burden on both the county and a number of its towns. The county tax in 1825 had been \$4,000; in 1828 it was \$14,000, of which \$10,000 was for the laying out and building of roads and for commissioners' salaries.¹⁴ There was a considerable amount of dissatisfaction and it was charged that the commissioners "have been too ready to listen to petitions for the location or alteration of roads."¹⁵

Opponents failed to get the Massachusetts laws repealed, but were more successful in Vermont and New Hampshire, which had followed their neighbor's lead and created

¹⁴Berkshire County, General Sessions of the Peace, III, 161. By way of contrast, in 1964 the county tax in Berkshire County was \$1.2 million, of which only about twenty-two per cent was for highway construction and maintenance and for the county engineer's salary.

¹⁵Sun, March 26, 1829.

the offices of county road commissioners in 1827 and 1829 respectively.¹⁶ The Vermont law, which contained no provision for appeal from the commissioners' decisions, was described by one legislator at the time of its passage as "too tyrannical in its features to set well on the people of Vermont, and . . . the evils it would create would cause its repeal after one year's time."¹⁷ Although opponents were unable to get the law repealed in 1828, they did succeed in amending it to include the right of appeal to the courts. Opposition continued, however, until in 1831 jurisdiction was returned to the county courts.¹⁸ In New Hampshire a similar law was repealed only six months after its passage.¹⁹

When Maine established the office of county commissioners in 1831, a Cumberland County man expressed the hope that the state's towns would be relieved of the "oppressive

¹⁶Vermont, Acts, October 1827, c. 15; New Hampshire, Laws, IX, c. 117 (1828-29). New Hampshire in 1831 enacted legislation making it the only New England state besides Massachusetts to permit county aid in the building of roads "of general public utility." New Hampshire, Laws, X, c. 107 (1831).

¹⁷Vermont Patriot and State Gazette (Montpelier), November 19, 1827.

¹⁸Vermont, Acts, October 1828, c. 11; Acts and Laws, October 1831, c. 4.

¹⁹New Hampshire, Laws, X, c. 54 (1829), c. 17 (1830).

burden" the courts had placed upon them in laying out too many roads. "Ask almost any sturdy industrious yeoman in the county, if we have not too many roads through many towns, and he will shake his head and tell you, we do." Interested parties, the writer charged, had found it easy to influence court committees by plying them with "good dinners, savory puddings, and rich Wines." People wishing "to bring the travel by their own doors, their own taverns and shops" had been able to convince the court that "swamps, mud, rocks and stumps [were] green and beautiful, altogether forming a fine chance for a new road." The county commissioners, it was to be hoped, would be better able to distinguish the difference between public opinion and "the clamor of a few interested individuals."

Place a few more roads on the people in [Cumberland] county, and they must lay down the furrow. . . . Their labor and money are expended on such a multiplicity of highways, that it is next to impossible to keep them safe and convenient for the travelling public.²⁰

Whatever public opinion in regard to the matter actually was - and it is probable that a large segment of

²⁰Eastern Argus (Portland), June 21, 1831.

the population was opposed to spending money for roads - the Cumberland County Commissioners began opening highways at a greater rate than the court had. During its last full year of jurisdiction (1830), the Cumberland County Court had laid out three new roads; the commissioners, during their first full year (1832), ordered the building of six.²¹ In Maine, however, as in Massachusetts, county commissioners retained their powers and today still have jurisdiction over certain roads.

Laws are subject to abuse and certainly this was true of the public highway laws of the New England states. Selfish interests undoubtedly succeeded more than once in getting roads built at public expense which were justified by no real need.²² Furthermore, in permitting a return to the system of local responsibility, legislators did nothing to solve the problem of achieving an equitable division of the costs of construction and maintenance. Towns had to pay most of the cost, but it was often outsiders who wanted and needed intertown roads. It is thus not surprising that many complaints were raised during the road-building period

²¹Cumberland County, Commissioners Records, Commissioners Office, Portland.

²²Cf., Benjamin Hobart, History of the Town of Abington (Abington, Mass., 1866), pp. 11-13.

of the 1820's and 1830's.

In strengthening the authority of the counties, however, the legislatures of four New England states²³ took what must have seemed to observant persons a necessary step in order to make a system of laws based on local responsibility more workable. Towns long since had proved recalcitrant in performing their duties and the growth of travel and transporation long since had made roads more than just a local problem. The new laws were neither perfect nor popular. They were, however, a step towards the centralization of authority and employment of expert knowledge which in our day have helped to make good roads possible.

At the same time that these developments were occurring, New England's turnpikes, which never had lacked opponents, were coming increasingly under attack. Transportation interests were particularly resentful of them as relics of a byegone era, which had outlived whatever usefulness they once might have had and now stood in the way of progress by taxing those who used the roads. "In the early days of this country," according to a petition to the New Hampshire legislature in 1834,

²³Connecticut retained its old laws, under which county courts retained jurisdiction in highway matters, while in Rhode Island only the towns and the legislature had authority to order the building of roads.

such corporations tended greatly to facilitate the Public travel; yet, when towns became sufficiently wealthy to support Free Roads, Turnpikes became a grievance to the inhabitants, and a burden to the traveler.²⁴

The Massachusetts legislature was requested in 1831 to revoke the charter of the Norfolk and Bristol Turnpike on the pretext that the location of tollhouses next to the road constituted an encroachment on the right-of-way and a violation of a charter provision that the road was to be at least four rods wide in all places. Had this petition been granted, most turnpikes in the state similarly could have been deprived of their charters.²⁵ Another group of New Hampshire petitioners in 1830 contended "that the publick good requires that the main Roads leading from the interior and agricultural parts of the country to the great market towns of the Seaboard should be free."²⁶ In an act aimed at turnpikes, New Hampshire in 1838 extended to county courts and town selectmen the power of eminent domain over the property of a corporation. Thus a turnpike road could be condemned and taken over as a public highway

²⁴New Hampshire, Legislative Papers, Petition of Fitzwilliam and Richmond Inhabitants, 1834.

²⁵John W. Ames to B. R. Nichols, April 29, 1831, Norfolk and Bristol Turnpike Company Records.

²⁶New Hampshire, Legislative Papers, Petition of Christopher Thom et al, 1830.

in the same way as other private property.²⁷

By this time many turnpike companies had been weakened by long years of low profits and were losing traffic to recently built public roads. A few companies, to be sure, prospered during the twenties and thirties. The Norfolk and Bristol, for example, enjoyed some of its best earnings. Manufacturers chose to send increasingly large quantities of goods high in value in proportion to their weight by land between Boston and Providence instead of shipping them by water around Cape Cod.²⁸ Although the company's earnings never were sufficient to return the large investment in its road, Fisher Ames at last had been proven correct in his prediction of 1806 that

²⁷New Hampshire, Laws, June 1838, c. 179. Massachusetts many years earlier had passed a law providing that the state could dissolve a turnpike corporation after twenty years, regardless of earnings. Massachusetts, Acts and Resolves, 1804, c. 125, sec. 11. Connecticut in 1854 granted towns the right to take over and maintain a turnpike as a free road. Connecticut, Statutes (1854), Title XXIV, c. 4, "In addition, 1854," secs. 1-6. Probably most turnpike franchises, however, eventually were relinquished voluntarily.

²⁸Massachusetts, Report of the Board of Commissioners of Internal Improvements in Relation to the Building of a Railway from Boston to Providence (1828), pp. 43-44.

our road is one of the great thoroughfares of the continent and must increase with the increase of our cities. And as soon as manufacturing towns rise up, which on the cessation of the great profits of trade they certainly will, the increase of toll will be augmented surprisingly.²⁹

Some other toll roads undoubtedly also benefited from proximity to rising manufacturing towns. The newly important village of Willimantic, Connecticut, was made more accessible to the outside world in 1828 by the building of a short public road to intersect with the Columbia Turnpike.³⁰ But most toll roads had been built prior to the growth of manufacturing to carry agricultural produce to market; it was largely coincidence if they also happened to pass near the waterpower sites where factories later were located. New roads had to be built to many such sites and most of them were public highways. Thus even before the coming of railroads, turnpikes, which had suited the requirements of the New England economy at the turn of the century, were coming to have less relevance to the needs of the 1820's and 1830's and were losing ground to newer public highways. Although a number of companies held

²⁹President's Message, 1806, Norfolk and Bristol Turnpike Company Records.

³⁰Windham County, Conn., Court Records, XXVIII, 433.

tenaciously to their franchises, seeking to earn small profits for as long a time as possible, their inability to prevent the building first of rival public highways and later of railroads portended an end that eventually would have come to most of them even without laws such as that enacted by New Hampshire.

This was hardly the result some early opponents of the toll-road movement had anticipated. According to Dwight, some Rhode Islanders, including members of the legislature, originally considered turnpikes an obnoxious offshoot of the British monarchical system, which, like an established church, forced the people to support and perpetuate a privileged class. They believed "free born Rhode-Islanders ought never to submit to be priest-ridden, nor to pay for the privilege of travelling on the highway."³¹ One resident of that state told the traveler Henry Fearon in 1817 that turnpikes, "'I guess, are unpopular in this State: we think, I guess, that they are invasions of our liberties.'"³² A writer in a Portland paper in 1805 wondered what chance a "private citizen . . . would stand in a dispute with an incorporated body of men."

³¹Dwight, II, 6-7.

³²Henry B. Fearon, Sketches of America (London, 1819), p. 96.

Another correspondent to the same paper warned, "your every privilege [will be] taken away from you by INCORPORATED FEDERALISM."³³

Had there been any basis for such fears? English turnpike trusts usually had been established for limited periods of time, but an almost universal inability to pay off their bonds had resulted in their perpetuation by means of successive acts. Receipts sometimes had been appropriated for the payment of bondholders, rather than for repairs, and parishes in some cases had been required to continue bearing the cost of maintenance. The large number of toll gates on some English roads occasionally had been a cause of rioting.³⁴

Although most toll roads in New England and in other parts of the United States were operated by corporations, these, like the turnpike trusts in England, were chartered to perform a public service. Acts of incorporation contained a number of stipulations intended to insure the performance of that service and to prevent abuses of

³³Eastern Argus, August 15, 1805, May 2, 1806. Prominent New England Republicans, however, including Levi Lincoln, Sr., William King, and Ephraim Kirby, were subscribers to turnpike stock.

³⁴Pratt, pp. 319 ff; Gregory, pp. 184 ff.

the privilege of collecting toll. Thus it was usually the legislatures or county courts, rather than the companies themselves, which laid out turnpike routes and awarded damages to property owners. By exercising the power of eminent domain, the public assured itself of a strong voice in determining the location of toll roads and thus erected a barrier against abuses such as later occurred when railroads were given considerable freedom in determining their routes.³⁵ The one notable exception to this in New England occurred in New Hampshire, where turnpike companies were permitted to lay out their own routes, property owners having the right to appeal damage awards to the courts. The location of toll roads in that state often was determined by the interplay of competing interests, shareholders sometimes threatening to withdraw their support if a certain route was not followed or offering to pay the expense of altering the route.³⁶

³⁵Massachusetts, Senate Document No. 64 (1835), pp.5-6.

³⁶See, for example, Fourth New Hampshire Turnpike Records. A Hopkinton, New Hampshire, man wrote the directors of the Union Turnpike in 1804: "I beg your honors as I am a very Sick man and can not come to see you that you wold consider the matter you are upon and not bleve the smothe tongue people who are makeing you bleve that they are . . . giveing the oners of the road eleven hundred Dollars as a present when at the Same time they are takin thousands of Dollars in business of making the road. I pray your honors that you wold reconsider from Heneker mettinghouse to hopkinton and go Down by Mr. Silvers. . . . It can be made thousands of Dollars cheeper and . . . better." Union Turnpike Papers, New Hampshire Historical Society.

A turnpike company usually was required to spend a minimum amount of money on its road before it could begin to collect toll. Connecticut, to prevent overcapitalization, also usually stipulated the maximum amount to be spent. If a corporation failed to keep its road in repair, the gates could be ordered opened by the courts. Connecticut and Vermont appointed commissioners to inspect toll roads. Nearly every charter contained a provision stating the maximum earnings to which a company was entitled and requiring periodic submission of financial statements. There often was a limit on the amount of land a company could own in addition to its right-of-way. Legislatures or courts usually determined the location of tollgates and the states set toll rates and required companies to display prominently at their gates the rate of toll for each type of vehicle. There also were penalties for overcharging or unreasonably delaying the progress of travelers.³⁷

Charter provisions, however, sometimes were difficult to enforce. The Green Mountain Turnpike Company three times

³⁷For charter provisions, see Connecticut, Resolves and Private Laws (1837), II; Massachusetts, Private and Special Statutes (1805), II, III; New Hampshire, Laws, VI-X; Rhode Island, Acts and Resolves, 1794-1838; Vermont, Acts and Resolves, 1796-1835.

evaded conviction for not keeping its road in proper repair by failing to appear in court to answer the indictment. It finally was convicted of contempt of court, but escaped with a fine of one dollar.³⁸ Although turnpikes often were in poor repair, it sometimes was months before a court could meet and act upon a complaint; in the meantime, the company was free to continue collecting toll.³⁹

One might wonder, moreover, how well the public's interest would have been protected if turnpikes had proved themselves a lucrative form of investment. Edward Kendall, an English traveler, claimed to have been told by "an established idol of the people" in 1807 that every member of the Massachusetts legislature "has some interest in a lottery, a bank, a bridge, a road or a canal, or depends upon others who have; and his care, therefore, is to serve, and to be served."⁴⁰ While this may have been an exaggeration, many shareholders in turnpike companies were involved directly in politics or were men of wealth and political influence. Sometimes influential lawmakers served as legislative agents

³⁸Windham County, Vt., Court Records, VI, 130.

³⁹Berkshire County, General Sessions of the Peace, I, 379-389; Rhode Island, Archives, Petitions to the General Assembly, XLI, 28.

⁴⁰Kendall, III, 228.

for turnpikes.⁴¹ The Connecticut legislature in 1808 permitted the Talcott Mountain Turnpike to rebuild part of its road, increasing its capitalization by almost forty per cent and hence reducing its rate of profits at a time when earnings were approaching the limit imposed under its charter.⁴² Had it proved necessary, tactics such as this might well have been used to prevent other charters from expiring.

By the 1830's, few charters having been granted for more than two decades, it is probable that turnpike interests were less well represented in state legislatures than they once had been. But if acts of incorporation had continued to be sought during those years and if profits had been high, it is conceivable that toll-road interests might have had a greater degree of success in hindering railroad development.

On the whole, however, abuses were more potential than real. The public was by no means at the mercy of vested interests. Turnpike officers, in fact, often felt that the opposite was true. Fully aware of the effect that shunpikes, for example, might have on their business, they sought to

⁴¹State of Connecticut, Public Records, VIII, n., 457-458.

⁴²Connecticut, Treasurer, Turnpike Road Accounts.

avoid giving cause for complaint. Fisher Ames refused to prosecute property owners who had forbidden his surveyors "to cross their Land to Lay out any Road at the peril of [their] lives," because "it would create difficulties in the adjustment between the owners of the Land & the Turnpike Company."⁴³ Although initially there was a great deal of opposition to the Norfolk and Bristol, Ames hoped that time would "sooth the angry prejudices that obstructed the progress of our act of incorporation."⁴⁴ The directors of the company, complaining about a shunpike to the selectmen of Roxbury in 1804, wrote,

As we expected time and truth would allay the irritations which attended the passage of the Turnpike Act, we thought it our prudence, and it no less comported with our intentions, to be not only just, inoffensive and cautious in our transactions, but to be forbearing and even slow in asserting our just rights. You, gentlemen, need not call for testimony of our moderation, for you can give it. We have paid liberally, if not extravagantly. We have extorted nothing, threatened no one, vexed no one with suits. We have relied and we trust not in vain, that if we gave no provocation and took none, the most

⁴³William Taylor to James Richardson, August 12, 1817, Norfolk and Bristol Turnpike Company Records.

⁴⁴President's Message, 1806, Norfolk and Bristol Turnpike Company Records.

stubborn errors would at length yield, the most virulent passions relent: and that all men, not even excepting those who were at first the most inflamed against our undertaking would at last agree in pronouncing it an important acquisition to the public though of distant and doubtful profit to the adventurers.⁴⁵

The directors of the First Massachusetts Turnpike, although their charter did not specifically exempt persons having business at mills from paying toll, did "not wish to embarrass people living in the neighborhood of the gate in their course to mill and who travel but a very small distance on the Turnpike road." They authorized the collector to let such persons pass free, provided he could be fully satisfied of their intentions."⁴⁶

It is doubtful, moreover, that fear of their power was the real cause of much hostility towards turnpikes. Criticism usually involved specific grievances against specific companies. Connecticut towns often objected to being required to pay property damages for turnpike rights-of-way.⁴⁷ Property owners frequently were dissatisfied

⁴⁵Turnpike Directors to Roxbury Selectmen, 1804, Norfolk and Bristol Turnpike Company Records.

⁴⁶First Massachusetts Turnpike Corporation, Record Book.

⁴⁷Connecticut, Archives, Travel, Series II, Vol. IX, p. 56; Vol. XI, p. 33; Vol. XII, pp. 9-10.

with damage awards and occasionally, as in the case of persons living along the route of the Norfolk and Bristol, resorted to violence. Ames, however, claimed that the actual reason for "rage" against that company in Roxbury was that the town itself unsuccessfully had sought permission to erect a tollgate on the old road between Boston and Providence, which ran through its center.⁴⁸ The location of tollgates was another source of irritation.⁴⁹ So was the failure of some turnpike companies to keep their roads in repair. A resident of Keene, New Hampshire, not surprisingly "said some hard words" to a toll collector on the Third New Hampshire Turnpike when the latter demanded payment for his having passed the gate several months earlier. The previous passage had occurred during a snowstorm and he claimed he had "found the gate open, no person there, and had to break the road the whole way to Keene through snow drifts from two to six feet deep."⁵⁰

The town of Lyme, Connecticut, however, voted not to oppose the chartering of the New London and Lyme Turnpike

⁴⁸President's Message, 1806, Norfolk and Bristol Turnpike Company Records.

⁴⁹Connecticut, Archives, Travel, Series II, Vol. IX, p. 24; Rhode Island, Archives, Charters, 1800-05, Remonstrance against Turnpike from Providence to Connecticut line, 1803.

⁵⁰James Wilson to John Preston, June 10, 1818, Third New Hampshire Turnpike Papers.

Company provided it would pay all property damages.⁵¹ Ashburnham, Massachusetts, opposed the opening of a proposed county road in 1802 and offered to contribute \$1,000 in the event that a turnpike company would take over the route and leave the town at no further expense.⁵² Pelham, Massachusetts, voted to help maintain the Sixth Massachusetts Turnpike on the condition that the company remove its gate from that town.⁵³

What New Englanders most resented about turnpikes undoubtedly was the impingement upon their pocket books in the form of tolls. Opposition frequently was abandoned once favorable concessions had been secured from toll-road companies. Despite frequently stated preferences for "free" roads, furthermore, opposition also was raised in many instances when it actually came to paying the cost of such roads. This, too, in many cases was rationalized as a defense of liberty.

By 1840 highways had become once again largely a public responsibility. Toll roads gradually disappeared. Yet the importance of the turnpike era was considerably

⁵¹Connecticut, Archives, Travel, Series II, Vol. XIV, p. 9.

⁵²Stearns, History of Ashburnham, pp. 378-379.

⁵³Donald W. Howe, Quabbin: The Lost Valley (Ware, Mass., 1951), p. 192.

greater than is suggested by its relatively short duration or by the poor earnings of many companies. With the coming of toll roads had come also the first widespread improvement of New England's roads, public as well as private. "The roads of our Country are rapidly progressing to extensive improvement," a Vermont editor observed in 1800.⁵⁴ "A Gentleman of observation . . . gives it as his opinion, that, Churches, School-Houses and Roads, and other public accommodations, in the country generally, were never before in so good a condition as at the present time," the Pittsfield Sun informed its readers in 1802.⁵⁵ William Bentley wrote in 1804, "Banks & Turnpikes have greatly aided the prosperity of the Commerce & agriculture of our Country. . . . It is impossible to visit at the smallest distance & not see the effect upon our roads, of the Turnpiking systems."⁵⁶ Lieutenant Governor Levi Lincoln, Sr., assessing the results of more than a decade of turnpike building in Massachusetts, predicted in 1809 that "most of our great [roads] are now

⁵⁴Green Mountain Patriot, December 25, 1800.

⁵⁵Sun., January 11, 1802.

⁵⁶Diary of William Bentley, III, 71.

in such convenient and unalterable directions, as will probably command an increasing travel for centuries to come."⁵⁷

Turnpike builders, as will be seen in Chapter VI, popularized some errors in construction that hindered progress for years. And it took considerably less time than Lincoln had supposed to discover that many roads built during the turnpike era were located poorly. But New Englanders recognized the new highways as a distinct improvement over what they had had previously and imitated turnpike builders' methods in improving many of the roads that remained under public control. Reverend Thomas Robbins in 1800 found the inhabitants of Danbury, Connecticut, "much engaged in making roads after the manner of turnpikes."⁵⁸ Bentley wrote in 1803 that "the spirit for improvements in roads is general & very happy for our country."⁵⁹ Daniel Webster recalled in later years that during the early nineteenth century "there was no road from river to river [in New Hampshire] for a carriage fit

⁵⁷Massachusetts, Resolves of the General Court, 1809, p. 230.

⁵⁸Tarbox, I, 116.

⁵⁹Diary of William Bentley, III, 36.

for the conveyance of persons," but turnpikes such as the Fourth New Hampshire, of which he had been an early advocate, had helped to change this.

Perhaps the most valuable result of making these and other turnpike roads was the diffusion of knowledge upon road-making among the people; for in a few years afterward, great numbers of the people went to church, to electoral and other meetings, in chaises and wagons, over very tolerable roads.⁶⁰

An inhabitant of Goshen, Connecticut, replying in 1812 to a circular letter from the Connecticut Academy of Arts and Sciences, wrote,

The common roads in this town have for the last ten years been in a state of rapid improvement. This has been owing partly, to the running of two turnpike roads through the town, crossing each other at the meeting house, which, not only throws more labour on the common roads but gives us at the same time a precedent; and partly to the invention of the ox scraper, now in common use.⁶¹

By awakening public interest in better roads and providing models of such roads, the turnpike movement had an influence that continued to be felt long after the decline of corporate ownership of New England highways.

⁶⁰The Works of Daniel Webster (Boston, 1851), II, 409-410.

⁶¹Thompson R. Harlow (ed.), Connecticut Towns: Goshen in 1812 (Hartford, 1949), p. 15.

CHAPTER VI

CONSTRUCTION AND MAINTENANCE

"Finished work on the new street. The Selectmen came and surveyed it & laid it out in form. The Light Infantry Company, under arms, . . . marched thro it, halted on the bridge, and discharged three vollies. The Gentlemen of the Street prepared a large tub and two pails full of excellent punch, and the Selectmen, at the request of those present and in conformity to their own proposal, named the street Thomas street. The Infantry Company were refreshed with as much punch as they chose to drink and all present. Three Cheers were given, and the Company marched off."¹

The writer was Isaiah Thomas, who, four years earlier (1802), had retired from his successful publishing business. Among the many undertakings of his busy retirement years was the building of Thomas Street through land he owned in what is now downtown Worcester. Thomas also contracted with the town to build a bridge at Lincoln Square, was active in the promotion and in surveying the route of the Worcester Turn-

¹Hill, I, 25-26.

pike, and served for a number of years as a director of that company.²

The United States produced few trained civil engineers prior to 1840. The majority of engineers acquired their skills under an apprenticeship system, but were involved most commonly in canal and railroad-building projects.³ Virginia in 1816 established a board of public works, headed by an engineer, to administer funds the state invested in turnpike companies and to provide advice to untrained contractors.⁴ Perhaps the nearest approach to such a body as this in New England, however, was the county commissioners in Massachusetts, who, beginning in 1828, made a practice of drawing up detailed specifications for roads they ordered the towns to make. But county commissioners seldom were engineers.

Some New Englanders seem to have made a business of road building, traveling from town to town or even from one state to another to practice their trade. Samuel Bailey, a Connecticut man, contracted to build both the First Massachusetts Turnpike and the Hartford and New Haven Turnpike, al-

²Ibid., pp. 3, 110.

³Daniel H. Calhoun, The American Civil Engineer: Origins and Conflict (Cambridge, Mass., 1960), p. 37.

⁴Hunter, Technology and Culture, IV, 178.

though he was dismissed from the latter job and replaced as contractor by Senator James Hillhouse, one of the principal stockholders.⁵ By at least the 1820's, towns were beginning to seek bids from outside "Turnpike Makers" for the building of some of their principal roads.⁶ Nathaniel Hawthorne witnessed the bidding for a county-road contract in North Adams, Massachusetts, in 1837 and noted that twenty or thirty persons were present, some having come "from a distance."⁷

Their wealth and social status notwithstanding, however, it was men such as Isaiah Thomas and James Hillhouse, rather than engineers or professional contractors, who were typical of New England road builders during the early nineteenth century. In an economy in which occupational specialization was incompletely developed, the typical roadbuilder was a farmer or storekeeper, or even a lawyer or retired publisher, who occasionally became involved in a construction project in his own locality or in the building of a turnpike in which he had a financial interest. Public roads, which were the responsibility of the towns, were particularly likely to be

⁵Dwight to Ammidon, March 10, 1800, Norfolk and Bristol Turnpike Company Records; Hartford and New Haven Turnpike Company Records.

⁶Massachusetts Spy, May 5, 1824; March 24, 1830; June 2, 1830; New Hampshire Sentinel, May 19, 1836.

⁷Randall Stewart (ed.), The American Notebooks by Nathaniel Hawthorne (New Haven, 1932), p. 55.

constructed by local amateurs. Frequently such roads were built under the same system by which they were repaired - by local inhabitants working out their highway taxes under the supervision of elected surveyors of highways.⁸ Alternatively, petitioners for a road might agree to build it themselves or a town might enter into a contract with a local individual to do it.⁹

Such persons may have learned something about road building from reading. In England, beginning in the late eighteenth century, the Board of Agriculture published a number of papers on the subject and in his Rural Economy, published in 1806, S. W. Johnson, an American, included a section on turnpike building, based on British practices.¹⁰ American periodicals such as American Farmer, The Cultivator, The Farmer's Monthly Visitor, and even the American Railroad Journal published reviews of books by British engineers and presented practical advice from American contributors.

⁸Andover, N.H., Town Records, New Hampshire Historical Society, II, 103-113; III, 39; Edward P. Hamilton, A History of Milton, [Mass.] (Milton, 1957), p. 172.

⁹Hartland, Vt., Papers, Vermont Historical Society; Daybook of Silas Ball, Old Sturbridge Village Library; Brookfield, Mass., Selectmen's Records, Quabaug Historical Society, West Brookfield; Richard W. Musgrove, History of the Town of Bristol, Grafton County, New Hampshire (Bristol, 1904), I, 122-123, 128.

¹⁰S. W. Johnson, Rural Economy (New Brunswick, N.J., 1806), pp. 198-238.

"We have derived many of our improvements from Great Britain," an American editor wrote, "and from no country can we draw more useful teachings, in regard to road making, than from her."¹¹ Much of what was written abroad, however, was inapplicable to American needs. For example, John L. McAdam's method of keeping a roadbed dry by covering it with an impenetrable layer of interlocking, broken stones provided English builders with a less expensive alternative to hand-laid stone foundations. But few roads of the latter type ever were built in New England, and prior to Eli Whitney Blake's invention in 1858 of a stone crusher that replaced the process of breaking stones by hand with a hammer, macadamizing also was expensive; Blake claimed that at the time he began experiments leading towards his invention (1851), "'there were not a dozen miles of macadam road in all the New England states.'¹² In 1836 the town of Worcester appointed a committee to look into the possibility of macadamizing streets in the center district. The committee learned that Boston had found it "'the most expensive mode of maintaining the streets, of any which the City has ever adopted,'" and had not tried the process on a new street for more than ten years. The committee reported "the cost alone, without regard to any other consideration

¹¹The Cultivator, III (1836), 154.

¹²John L. McAdam, Remarks on the Present System of Road Making (London, 1820); Charles Singer et al (eds.), A History of Technology (Oxford, 1958), IV, 532; New Haven Colony Historical Society Papers, VIII (1914), 45.

is a sufficient objection to its adoption"; the town voted to postpone the matter indefinitely.¹³

An American, John S. Williams, in 1833 proposed to publish the type of book most needed in this country on the subject of road making: "One that might enable any persons with a tolerable education, by close application, to make a first rate road, or to improve in the best manner those already made."¹⁴ But probably the first practical treatise of real merit to be written by an American was William M. Gillespie's A Manual of the Principles and Practice of Road-Making, which first appeared in 1847 and went through a number of editions.

New England road builders probably acquired most of their knowledge of the subject by observing and doing. The turnpike projects of the early years of the century presented ample opportunity to observe construction methods.¹⁵ Thousands of New Englanders acquired experience in working on these projects. The Salem Turnpike hired considerably more than one hundred men as laborers, while the Newburyport and Boston hired three hundred to work on the section between Malden and Peabody's Mills alone.¹⁶ Furthermore, most New

¹³Worcester Town Records, 1833-1848, ed. Franklin P. Rice (Worcester, 1895), pp. 384-385.

¹⁴Mechanics Magazine, I (1833), 181-182.

¹⁵Diary of William Bentley, III, 31.

¹⁶Ibid.; Long, Topsfield Historical Collections, XI, 7.

England men had had the experience of working out highway taxes on the roads in their towns.

Construction of a road could begin only after the requisite legal steps had been taken to have it declared a highway. Whether the road was to be a turnpike or a public highway, the first step was to submit a petition to town selectmen, a county court, or a state legislature, depending upon which had jurisdiction. Whether a town, county, or state was involved, the procedures followed were roughly the same. Upon the submission of a petition to a county court, for example, the selectmen of the towns in which it was proposed that a road be built were notified to appear at the next session to present whatever objections the towns might have.¹⁷ If they failed to appear, or if the judges deemed their objections insufficient, the court would appoint a committee of freeholders from towns not affected by the proposed road to decide whether there was a need for it. The committee, having placed an advance notice of the time, place, and purpose of their meeting in a local newspaper or on the town signpost, would hear the interested parties and view the proposed route.

¹⁷For the powers of county courts, see Connecticut, Public Statute Laws, Compiled (1808), Title LXXXVI, c. 1, secs. 11-12, 14, 16; Massachusetts, Acts and Resolves, 1786, c. 66; New Hampshire, Laws, V, c. 36 (1791); Vermont, Laws, Revised (1808), c. 45, sec. 2.

If they decided there was a need and that it was practicable to build a road, the committee would have the route surveyed and would lay out the line of the road "according to their best skill and judgment with most convenience to the public, and least damage to private property."¹⁸ In Hillsborough County, New Hampshire, a typical surveying party included the three-man court committee, a surveyor, two chainmen, a target man, an axeman, and three witnesses.¹⁹

With the aid of a compass or other sighting instrument and a Gunter's chain, the route would be marked out and recorded in terms of distances, points of the compass, and prominent landmarks. Thus the survey of a road in Hartland, Vermont, in 1784 began at "a beach tree about fifteen rods East of Mr. Silas Gallops House, Thence N 4 [degrees] East 55 rods, Thence N 28 [degrees] East 40 rods"²⁰ The purpose of the recorded survey was to provide a detailed and permanent record of the road, without which legal difficulties sometimes arose.²¹ The use of the compass for this purpose had become widespread by the late eighteenth century,

¹⁸Connecticut, Public Statute Laws, Compiled (1808), (1808), Title LXXXVI, c. 1, sec. 11.

¹⁹Hillsborough County, Records of Roads, I, 295.

²⁰Hartland, Vt., Papers.

²¹Rhode Island, Archives, Petitions to the General Assembly, XXXVII, 102.

Vermont requiring it by law in 1781, because many surveys previously had been accepted which "did not describe the points of compass; and . . . contentions and animosities have and likely will arise . . . respecting the legality of such surveys."²²

Unfortunately, surveying methods continued to leave ample room for legal difficulties. Maine in 1828 enacted a law requiring towns to erect permanent stone posts at every angle of county highways,²³ but most New England roads were surveyed and recorded in terms of temporary landmarks and the time sometimes came when a beech tree had disappeared or no one was sure where Mr. Silas Gallop's house had been. Furthermore, in later years, when the need arose to re-establish the line of a highway by reference to the original survey, it often proved impossible to verify the compass directions. A compass points towards the magnetic north pole, but surveyors seldom bothered to note whether angles had been recorded in relation to the magnetic meridian or had been corrected in terms of true north. A civil engineer pointed out in 1870 that in Massachusetts

²²Vermont State Papers: Being a Collection of Records and Documents and the Laws 1779 to 1786 (Middlebury, 1823), pp. 422-423.

²³Maine, Laws, III (1831), c. 199, sec. 1.

the needle . . . has never, so far as is known, pointed within five degrees of north; and it is constantly changing at irregular dates, varying from one to six months each year; and the extreme difference of variation at the same time in different parts of the state is about three degrees. So that the record of one place may not answer for another ten miles distant.

The result was "great uncertainty in retracing many old surveys where the corners are gone."²⁴

The laying out of a road by a legislative or court committee, county commissioners, or town selectmen often had even more immediate consequences than this. A road's usefulness depended in large part on the skill of these persons in determining its route, and complaints that they had done their work poorly, which often were heard during the eighteenth century, continued to be voiced during the nineteenth. Petitioners in 1816 claimed that a recently surveyed Berkshire County road in Great Barrington "is unnecessarily circuitous, uneven and over ground where it will be almost impossible to make a road."²⁵ Even county commissioners, who had considerable experience in laying out roads, sometimes showed a want of good judgment in their proceedings. Between 1836 and 1838 the Berkshire County

²⁴Massachusetts, Board of Agriculture, Seventeenth Annual Report (1870), p. 266. See also, Belknap, III, 57.

²⁵Berkshire County, General Sessions of the Peace, II, 229.

Commissioners were obliged to discontinue four roads they recently had surveyed which proved impracticable to build.²⁶

Lack of skill on the part of those empowered to survey highway routes was one source of difficulty; a preference for a straight road rather than a level one was another.

"A level straight road is decidedly the best," wrote S.

DeWitt Bloodgood in 1838.²⁷ But in New England and much of the rest of the East, it often would have been prohibitively expensive to build straight roads that were also relatively level. The earliest roads had been both circuitous and hilly and in their efforts to improve them New Englanders were conscious of the importance of both factors. As early as 1724 the Connecticut General Assembly voted "that a high Road shall be laid out and marked on ye most Convenient ground and Straightest Course from Hartford towards Boston."²⁸ But, as S. W. Johnson put it - and most of his contemporaries probably would have agreed -

The shortest line is a straight one, and cannot be rivalled, and as such, merits the first consideration. The next is how level it can be made. . . . An elevation of three degrees is quite enough

²⁶Berkshire County, Commissioners Records.

²⁷S. DeWitt Bloodgood, A Treatise on Roads (Albany, 1838), p. 133.

²⁸Connecticut, Archives, Travel, Series I, Vol. I, p. 7.

for most places; yet a line may be more adviseable that may necessarily require, in particular places, a much greater elevation.²⁹

Americans also were aware that the Romans had built their great roads in a generally direct line³⁰ and during the late eighteenth and early nineteenth centuries, under the influence of the classical revival, straightness in roads and streets was considered a mark of elegance and beauty. Fisher Ames, seeking subscribers to the stock of the Norfolk and Bristol Turnpike, pointed out that the road "will be nearly straight - in some places four, in others nearly five miles perfectly strait" for the information of "those who pay regard to the beauty as well as the usefulness of such undertakings."³¹ Timothy Dwight found Northampton, Massachusetts, which had been laid out during the seventeenth century, "a very interesting object to the eye," but was not pleased with the irregularity of its streets, which presented "no very distant resemblance to the claws of a

²⁹S. W. Johnson, Rural Economy, p. 200.

³⁰Bloodgood, p. 33; William Jackson, A Lecture on Rail Roads, Delivered January 12, 1829, before the Massachusetts Charitable Mechanic Association (Boston, 1829), p.6.

³¹Ames, Draft of Letter to Prospective Investors, 1802, Norfolk and Bristol Turnpike Company Records.

crab." He found the layout of Portland, the streets of which were at almost right angles to one another, more to his taste, objecting only that "like those of most other towns in this country, [Portland's streets] are destitute of that exact regularity [*italics mine*], both in their position and direction, which would have rendered them entirely beautiful."³²

In improving their roads, then, New Englanders took as their primary goals straightening them and shortening distances. The Londonderry Turnpike Corporation was authorized under its charter to lay out such a route "as in the best of their Judgment shall combine shortness of distance with the most practicable ground," but the proprietors authorized their surveying committee "to ascertain by actual survey the air line from Buttan Corner to Andover bridge, and to lay out said road . . . as nearly conformably thereto, as in their judgments is practical and prudent."³³ The result was a road which "pursued its course straight as an arrow over the hills."³⁴

Rigid straightness was not characteristic of every New England turnpike. In Berkshire County, for example, it

³²Dwight, I, 328; II, 168.

³³New Hampshire, Laws, VII, c. 12 (1804).

³⁴The Farmer's Monthly Visitor, IX (1847), 88.

would appear that the terrain forced turnpike builders to make a great many deviations from a straight line.³⁵ But it was common. The Dorchester Turnpike Company, in fact, was required under its charter to build "as near on a straight line as circumstances will permit." At the beginning of the century, wrote Worcester's historian in 1837, "it was a favorite principle . . . that roads must be carried on a straight line between the points to be connected, without any deviation from the direct course to conform to the undulation of the surface."³⁶

Although straightness has tended to be associated with turnpikes, it also was a characteristic of many new public roads and streets. As early as 1753 a road was laid in a straight line over the mountains between New Ipswich and Rindge, New Hampshire, the average grade on which was more than thirteen per cent.³⁷ The town of Enfield, Connecticut, in 1827 accepted a road the selectmen had surveyed, "so amended as to make a straight road from the place of

³⁵See Berkshire County, Commissioners Office, Maps of Towns, 1830.

³⁶William Lincoln, History of Worcester (Worcester, 1837), p. 388.

³⁷George A. Morison, History of Peterborough, New Hampshire (Rindge, N.H., 1954), pp. 279-280.

beginning to the stake aforesaid."³⁸ Dwight, visiting Burlington, Vermont, found that "two streets ascend from [Lake Champlain] to the summit of the slope, and are crossed by others at right-angles. Ultimately, the whole ground is to be formed into regular squares."³⁹ A visitor to the neighborhood around Beacon Hill in 1808 found new streets there wide and regular, a decided contrast to the winding lanes of the older parts of Boston.⁴⁰

As a result of the policy of straightening roads, distances were shortened considerably. In Cumberland County, Maine, alteration of the road from Gorham Corner to Buxton meeting house in 1822 reduced the distance from eight miles, 310 rods to six miles, 251 rods.⁴¹ By 1805 an all-turnpike route had shortened the distance between Boston and Concord, New Hampshire, by fourteen miles.⁴² Comparison of mileage tables in Thomas's Almanack for 1800 and 1814 shows that reduction in mileage between

³⁸Allen, p. 527.

³⁹Dwight, II, 424.

⁴⁰Lambert, III, 111.

⁴¹Maine Historical Society, Map No. 306, Gorham, Cumberland County.

⁴²Massachusetts Spy, January 1, 1806.

most major towns occurred during the turnpike movement. In 1800 it was 114 miles from Boston to Hartford by the shortest route; by 1814 it was ninety-seven miles. It was thirty-nine miles from Boston to Mower's Tavern in Worcester after the opening of the Worcester Turnpike, as against forty-four miles on the old post road. The Salem Turnpike, fourteen miles long, brought Salem eight miles closer to Boston than it had been in 1800, while the Boston and Newburyport Turnpike, thirty-two miles long, shortened the traveled distance between those two towns by twelve miles. The distance from Boston to New York was reduced from 237 to 208 miles, during the turnpike era. Some of these distances, indeed, were shorter than on present-day highways.⁴³

The reduction of grades was not wholly neglected. Petitioners for a toll road between Hartford and Middletown argued, "not only [can] the road . . . be shortened but, it can be made to run on better Ground."⁴⁴ Dwight in 1798 found the Straits Turnpike, through Woodbridge and Waterbury, Connecticut, "laid over a rough country with unusual

⁴³For example, according to a recent highway map, it is 102 miles from Boston to Hartford and 229 miles from Boston to New York via recommended routes.

⁴⁴Connecticut, Archives, Travel, Series II, Vol. XIII, p. 1.

skill and judgment. It is not incommoded by a single disagreeable ascent, or descent."⁴⁵ According to Benjamin Silliman, the route of the Talcott Mountain Turnpike "was, but a few years since, a most rugged uncomfortable road; now [1819] we passed it with ease and rapidity, scarcely perceiving its beautiful undulations," the ease of travel being interrupted only by a three-mile climb over the ridge of Talcott Mountain.⁴⁶ In crossing Vermont from Burlington to Hanover, New Hampshire, Silliman found that "wherever practicable, they have followed the river courses along the alluvial bottoms, and where they have wound around the hills, it is done with great skill and judgment," although from the height of land above the Connecticut Valley, "for six or seven miles, we descended with great rapidity, the carriage almost constantly urging the horses forward."⁴⁷ Dwight also observed that the rise on a turnpike route through western Connecticut and Massachusetts was "so gradual, as to ascend the summit of the Green Mountains in a manner, absolutely impercepti-

⁴⁵Dwight, II, 365.

⁴⁶Benjamin Silliman, Remarks Made on a Short Tour between Hartford and Quebec (New Haven, 1824), pp. 2-3.

⁴⁷Ibid., p. 414.

ble by the traveller."⁴⁸

All too often, however, grades were sacrificed to the goal of shortening distances. Cotton Tufts, replying to Gallatin's inquiry concerning the turnpikes of Massachusetts, wrote that hills, meadows, and ledges "in some instances . . . are insurmountable, and make it necessary to take a different or more circuitous course, to avoid them; the instances, however, are but few, where resolution, patience, and perseverance will not surmount them." Tufts claimed that grades on the state's turnpikes did not exceed five degrees.⁴⁹ But according to Lincoln, the Worcester Turnpike, a straight-line road, "climbed to some of the highest elevations of the country it traversed, when inconsiderable circuit would have furnished a better and less costly route."⁵⁰ Alexander Wolcott reported to Gallatin that in Connecticut "an opinion has prevailed that something like a general principle has been adopted, that no ascent greater than five degrees should be allowed.

⁴⁸Dwight, I, 299.

⁴⁹Gallatin, American State Papers, Miscellaneous, I, 867.

⁵⁰Lincoln, p. 338.

Nothing, however, is more certain than that no such principle has been adhered to."⁵¹ Dwight called the Hartford and New Haven Turnpike "one of the best roads in the State," but added, "had a less rigid attention been given to the scheme of making a straight road, several disagreeable hills might have been avoided, much of the expense prevented, and the distance very little increased."⁵²

Enthusiasm for straight-line roads had been tempered considerably by the 1820's. "Travellers have long since learned that the distance over hills is equal to that round them in most cases," wrote the anonymous author of a history of Berkshire County in 1829, who expected that future roads would follow that county's valleys rather than climb over its mountains.⁵³ A Massachusetts legislative committee reported in 1827 that the location of roads "in a straight or air line over a hilly country, does not accord with the principles of science. The expense of transportation as much depends upon a level line of draught as upon the distance or

⁵¹Gallatin, American State Papers, Miscellaneous, I, 869.

⁵²Dwight, II, 285. Dwight was a shareholder in this company.

⁵³A History of the County of Berkshire, Massachusetts (Pittsfield, 1829), p. 93.

length of the road."⁵⁴ The Farmer's Monthly Visitor reported in 1839 that in recent years New England towns had incurred great expenses to improve roads both by shortening distances and by "evading bad hills."

Travelling directly among our mountains seemingly almost impassable, we find smooth roads with an elevation and depression rarely exceeding four to six degrees, winding through the vallies, and carrying you towards your point of destination without the halting of your horse from a steady trot.⁵⁵

The steepness of grades nevertheless remained a common defect of New England roads. The principal road between the Connecticut and Housatonic valleys in Massachusetts still had grades of as much as twelve degrees in 1828.⁵⁶ The Gardiner Lyceum's committee on roads reported in 1831 that five degrees should be the maximum allowable angle on a road, but that the expense of reducing the grades of Maine roads even to five degrees would be too great to be readily accomplished.⁵⁷ Even a slope

⁵⁴Report of the Select Committee of the House of Representatives of Massachusetts on Constructing a Railway from Boston to the Hudson River (Boston, 1827), p. 7.

⁵⁵The Farmer's Monthly Visitor, I (1839), 53. According to Gillespie, "it is advantageous to increase the length of a level road to twenty times the perpendicular height to be saved." Gillespie, p. 28.

⁵⁶American Traveller (Boston), November 21, 1828.

⁵⁷Gardiner Lycuem, Report of the Committee on Roads, p. 4.

of five degrees affected the cost of transportation by limiting the amount of weight a horse could pull. Experiments showed that on common American road surfaces the friction a horse was obliged to overcome on a slope of one foot in twenty (about three degrees) was double that that he encountered on a level road; if the grade were any greater than that, the friction could be overcome only by carrying a reduced load or by adding animals to a team.⁵⁸

The way a road was laid out thus was extremely important. Committee members, in addition to holding hearings and surveying the route, also recommended the amount of damages property owners were to receive and determined the width of the right-of-way. Roads during the eighteenth century had come to consist of a single, well-defined pathway and there no longer seemed to be a need for the great widths that had been reserved for early highways. By the latter part of the century a number of towns were disposing of excess rights-of-way.⁵⁹ Petitioners to the Windham County (Connecticut) court reported that many of the early roads in

⁵⁸Gillespie, pp. 41-43.

⁵⁹State of Connecticut, Public Records, VI, 62, 217-218, 318-319.

Woodstock had been laid six and eight rods wide, but "now to be more than four rods wide can answer no public benefit."⁶⁰ The right-of-way now had to be wide enough to accommodate the road itself, plus ditches, and also to permit sunlight to reach the road. Most New England turnpikes were laid four rods wide.⁶¹ The rights-of-way of county roads built between 1790 and 1840 were most commonly three or four rods wide.⁶² Of fifty-six roads laid out by the selectmen of Rutland, Vermont, between 1785 and 1831, thirty-four were three rods, twelve were four rods, and five were two rods wide.⁶³

The committee, upon completing its work, would report to the court during its next session, at which time final objections would be heard and the justices would accept or reject the report. In accepting the route described in the survey as a public highway, courts frequently granted property owners several months' time to remove from what was formerly their land all the timber, "except so much of it

⁶⁰Windham County, Conn., Court Records, XXIX, 158.

⁶¹See, for example, Massachusetts, Acts and Resolves, 1804, c. 125, sec. 2.

⁶²Berkshire County, General Sessions of the Peace and Commissioners Records; Windham County, Conn., Court Records.

⁶³Rutland, Vt., Road Papers, Vermont Historical Society.

as shall be found necessary to be used in making & repairing s'd highway."⁶⁴ The judges also would order the towns to pay property damages and the cost of laying out the road within their limits and would set a time limit for completion of construction. According to Vermont law, the time allowed was to be at least one year, but towns frequently sought and received extensions of time.⁶⁵

With the exception of the Massachusetts county commissioners, state and county officials responsible for laying out turnpikes and public roads seldom specified construction methods. Usually there was simply an order to make a road "passable, safe and convenient."⁶⁶ But certain principles of construction, known as the "Turnpike fashion" in recognition of the influence toll-road builders had exerted on road making, commonly were practiced. The specifications laid down by Massachusetts county commissioners were similar to those which had been contained in contracts for the making of turnpike roads. And although the Worcester County court, for example, established no

⁶⁴Berkshire County, General Sessions of the Peace, I, 468-469; II, 327; Worcester County, Sessions Records, VI, 411.

⁶⁵Vermont, Laws of a Public and Permanent Nature (Thompson, 1835), c. 30, no. 11.

⁶⁶Worcester County, Sessions Records, VIII, 488.

specifications for a highway between Ashburnham and Winchendon in 1817, the road was built in a manner that closely resembled both earlier turnpikes and later public ways built under the county commissioners.⁶⁷ One can thus assume that there was general agreement as to what a "passable, safe and convenient" road was.

The most distinctive characteristic of the roads built during the turnpike era and the years that followed it was crowning, which had come into widespread use in England during the eighteenth century. A crowned road was one made higher in the center than at the sides so that water would drain off rather than soaking into the roadbed and turning it into a quagmire. Prior to the turnpike era, American road building had consisted of little more than cutting the trees in the pathway "as near as possible to the ground, that the stumps may not impede travelling."⁶⁸ In 1794 a resident of Holliston informed the Massachusetts Historical Society of that town's first attempts at making crowned roads.

⁶⁷Stearns, History of Ashburnham, p. 381.

⁶⁸Belknap, III, 58.

The stones, which for years had been thrown out of the way against the walls, are thrown back, each side of the way is ploughed, the stones are covered with the dirt, and the middle of the road is left the highest.⁶⁹

"It is within our own memory," wrote a New Hampshire editor in 1847, "that we had in the interior of the country no such thing as roads worked by throwing the earth to the centre."⁷⁰

The first step in construction was to remove stumps and all the stones near the surface.⁷¹ "The ground should then be ploughed, and the furrows constantly turned towards the centre, and after every ploughing, it should be harrowed, and this continued till the centre is raised sufficiently high for the water to pass off freely."⁷² Sometimes, however, dirt was hauled to the construction site in carts, dumped onto the roadway, and worked into shape with shovels, rakes, and hoes.⁷³

David Stevenson, a Scottish civil engineer who vis-

⁶⁹Collections of the Massachusetts Historical Society, Series I, Vol. III (1794), p. 18.

⁷⁰The Farmer's Monthly Visitor, IX (1847), §8.

⁷¹Berkshire County, General Sessions of the Peace, III, 189; Derby Turnpike Company, Record Book, p. 12; Gardiner Lyceum, Report of the Committee on Roads, p. 2.

⁷²Gardiner Lyceum, Report of the Committee on Roads, p. 2.

⁷³Massachusetts, Board of Agriculture, Eighteenth Annual Report (1871), p. 67; Wood, p. 37.

ited the United States during the 1830's, found New England roads notable for the liberal use their builders had made of gravel.⁷⁴ Indeed, many of the roads built during the thirties were graveled. The Worcester County Commissioners, for example, regularly required an eight-inch layer.⁷⁵ But on the other hand, the Berkshire County Commissioners sometimes required its use only in wet and soft places and even then only "when gravel can [easily] be had."⁷⁶ And before the 1830's the practice was less widespread. According to Gallatin's Report, the Newburyport and Boston, Salem, and Norfolk and Bristol turnpikes were all "covered with an artificial stratum of gravel"; on other Massachusetts turnpikes, "if the ground is a light or heavy loam, it will require much gravelling, but a very compact earth, whose parts adhere closely together, [requires] less gravelling."⁷⁷ In the making of Connecticut toll roads, according to Wolcott, "no other materials are used than the earth found on the spot. Gravelling, strictly speaking, is unknown."⁷⁸ The Fourth New

⁷⁴David Stevenson, Sketch of the Civil Engineering of North America (London, 1838), p. 218.

⁷⁵Worcester County, Commissioners Records, XI, 170, 310, 543, 561.

⁷⁶Berkshire County, Commissioners Records, V, 49.

⁷⁷Gallatin, American State Papers, Miscellaneous, I, 737, 867.

⁷⁸Ibid., p. 869.

Hampshire Turnpike adopted the policy of using gravel only where the softness of the soil necessitated it.⁷⁹ As late as 1831, the Gardiner Lyceum's committee on roads in recommending that all roads be covered with sharp-edged gravel, capable of being cemented "together into a solid mass," found it necessary to inform readers that "gravel is much more abundant than is commonly supposed."⁸⁰

As a final step in construction, some turnpike companies used rollers to settle the roadway and make it smooth. The New-Hampshire Turnpike purchased an eight-foot wooden roller weighing about one ton.⁸¹ How common a practice this was among New England road builders is not known.

Crowned roads, built in the manner just described, were recognized as an improvement over earlier highways, but their value often was lessened by errors in construction. Although thousands of miles of country roads in Massachusetts alone remained single tracks on which it was impossible for two teams or vehicles to pass without one of them turning out,⁸² it was intended that turnpikes and

⁷⁹Fourth New Hampshire Turnpike Company Records.

⁸⁰Gardiner Lyceum, Report of the Committee on Roads, p. 7.

⁸¹First New Hampshire Turnpike, Records of the Directors, New Hampshire Historical Society.

⁸²Massachusetts, Board of Agriculture, Eighteenth Annual Report (1871), p. 67.

many of the county roads built during the period 1790 to 1840 should be wide enough to accommodate two-way traffic. According to the report of the Gardiner Lyceum, this meant that pathways should be from eighteen to thirty feet wide.⁸³ Massachusetts law required that toll roads be a minimum of twenty-four feet in width.⁸⁴ The Fourth New Hampshire Turnpike was twenty-four feet wide, the Derby eighteen, and the Williamstown Centre Turnpike in Vermont sixteen feet wide.⁸⁵ Roads built under the direction of the Berkshire County Commissioners varied between about sixteen and twenty-four feet in width.⁸⁶

Although they were theoretically wide enough to accommodate two-way travel, such roads often were usable only in the middle because of the way they were crowned. From gutter to center line of the Fourth New Hampshire Turnpike - a distance of twelve feet - there was a rise of two feet.⁸⁷ On

⁸³Gardiner Lyceum, Report of the Committee on Roads, p. 7.

⁸⁴Massachusetts, Acts and Resolves, 1804, c. 125, sec. 2.

⁸⁵Vermont, Acts and Laws, January 1804, c. 50, sec. 1.

⁸⁶Berkshire County, Commissioners Records. By way of contrast, a town road in Savoy which the commissioners ordered built in 1840 after the selectmen had refused to lay it out was only ten feet wide. Ibid., V, 163.

⁸⁷Fourth New Hampshire Turnpike Company Records.

New Hampshire's Chester Turnpike the rise was thirty inches in a distance of thirteen feet.⁸⁸ A typical county road laid out in Egremont, Massachusetts, in 1840, was to be twenty feet wide, with the center sixteen inches higher than the sides.⁸⁹ According to the Gardiner Lyceum report, such roads "are frequently raised so high in the centre, as to make it dangerous, or at least inconvenient to ride on the sides; where this is the case the travel is always in a single track in the centre."⁹⁰

The difficulty resulted not only from the great rise of the crown, but also from its shape. The crown usually was in the form of a segment of a circle, so that the road sloped considerably more near the sides than at the center, "the only place where a carriage stands upright."⁹¹

By concentrating traffic in the middle, road builders not only failed to provide adequately for the flow of traffic,,

⁸⁸Benjamin Chase, History of Old Chester, [N.H.] (Auburn, N.H., 1869), pp. 217-218.

⁸⁹Berkshire County, Commissioners Records, V, 108.

⁹⁰Gardiner Lyceum, Report of the Committee on Roads, p. 2.

⁹¹Gillespie, p. 48; Massachusetts, Board of Agriculture, Eighteenth Annual Report (1871), p. 47. According to Gillespie, "the best transverse profile . . . on level ground is that formed by two inclined planes," meeting in the center at a slightly rounded angle to form a uniform slope. The same authority recommended that the slope from center to side be no more than one foot in twenty.

but also tended to defeat the purpose of crowning. Most of the wear was in one part of the road, which quickly became rutted. Water thus remained on the road and the problem was compounded by an absence of drainage facilities under the roadbed.⁹²

In addition, the foundations upon which these roads were built often were inferior. During the 1830's the Worcester County Commissioners usually specified that "the top soil where the same is unsuitable for making a hard and permanent road be removed out of the travelled way," while if the subsoil was sandy, it was to be covered with a coat of loam four inches thick and then eight inches of gravel.⁹³ But removing topsoil by means of shovels, ploughs, and the ox-drawn scrapers many towns owned⁹⁴ was expensive. Thus it was common merely to turn over and use the surface soil, which, because of its high content of vegetable matter, quickly rotted and made the road mirey.⁹⁵ Even with a cover-

⁹²Gardiner Lyceum, Report of the Committee on Roads, p. 2; Massachusetts, Board of Agriculture, Eighteenth Annual Report (1871), p. 66.

⁹³Worcester County, Commissioners Records, XI, 543, 561, 170, 310.

⁹⁴Gardiner Lyceum, Report of the Committee on Roads, p. 2; Vermont, Laws, Revised (1808), c. 45, no. 4; Allen, p. 503; Beach, p. 257; C. M. Hyde, The Centennial Celebration and Centennial History of the Town of Lee, Massachusetts (Springfield, 1878), p. 23.

⁹⁵Gardiner Lyceum, Report of the Committee on Roads, p. 2; Derby Turnpike Company, Record Book, pp. 12-13.

ing of gravel, foundations remained soft and Stevenson found that "it is only for a few months during summer that [New England roads] possess any superiority, or are, in fact, at all tolerable."⁹⁶

Causeways commonly were constructed where roads crossed swamps and other soft places. Primitive "corduroy roads," or "gridiron bridges," as many New Englanders called them, consisting of a base of either logs or squared timbers covered with dirt and gravel, still were in existence during the 1830s and continued to annoy travelers by the tendency of the gravel and dirt to wear away and expose the timbers, which often were heaved out of place by frost.⁹⁷ But a more durable type of "cassway," built on a foundation of fascines, had come into use on projects such as the Salem Turnpike.⁹⁸ The Berkshire County Commissioners adopted the newer method, requiring that on a road in Alford and Egremont, for example, wet ground "shall be filled with fascines sufficient to support a well wrought super structure of earth which shall be covered with gravel at least four inches thick."⁹⁹

⁹⁶Stevenson, p. 218.

⁹⁷Christian Mirror (Portland), October 24, 1823; Gardiner Lyceum, Report of the Committee on Roads, p. 5.

⁹⁸Diary of William Bentley, III, 31.

⁹⁹Berkshire County, Commissioners Records, V, 109.

The earthen superstructures of these raised roadways frequently were reinforced with timbers or stone walls.¹⁰⁰ According to Bentley, however, the sides of the causeways on the Salem Turnpike were "turfed at a convenient angle." And the road committee of the Gardiner Lyceum reported that turfed embankments had been found more permanent than either timbers, which quickly rotted, or stone walls, which often were ruined by frost.¹⁰¹

Although steep grades remained common, some efforts were made to reduce hills. Near its Worcester end, the Worcester Turnpike "went through a considerable eminence by a deep cutting."¹⁰² The directors of the Derby Turnpike specified that "the top of the North Hill or knowl shall be taken off seven feet and the South Hill ten feet."¹⁰³ During the 1830's the Worcester County Commissioners required a considerable amount of cutting.¹⁰⁴

¹⁰⁰Ibid., p. 105; Dwight to Ammidon, March 10, 1800, Norfolk and Bristol Turnpike Company Records; Derby Turnpike Company, Record Book; "The Coos Turnpike" (typescript in New Hampshire Historical Society), pp. 11-12.

¹⁰¹Diary of William Bentley, III, 31; Gardiner Lyceum, Report of the Committee on Roads, pp. 3-4.

¹⁰²Lincoln, p. 338.

¹⁰³Derby Turnpike Company, Record Book.

¹⁰⁴Worcester County, Commissioners Records, XI, passim.

Blasting was the principle labor-saving device used in making cuts. Prior to the invention of the time fuse, the method of setting off an explosion was by laying a train of powder.¹⁰⁵ The process was a dangerous one and fatal accidents sometimes occurred. Two laborers on the Norfolk and Bristol Turnpike were killed within a few weeks of each other in explosions caused by the driving of iron spindles into charged rocks.¹⁰⁶

In addition to crowning their roads as a means of keeping them dry, New Englanders constructed side ditches. According to a travel account written by a Pennsylvanian in 1810, turnpikes in New England and New York were characterized primarily by ditching and crowning.¹⁰⁷ References to ditching in building specifications often were vague, indicating that little was known as to the proper means of construction. For example, the contract under which the Derby Turnpike was built called for "sufficient Ditches & Gutters on each side of the Road to lead off all water."¹⁰⁸ It was complained that turnpikes, because of their crowned

¹⁰⁵Wood, pp. 37-38.

¹⁰⁶Providence Gazette, August 6, 1803.

¹⁰⁷Alvin F. Harlow, Old Post Bags (New York, 1928), pp. 296-297.

¹⁰⁸Derby Turnpike Company, Record Book.

surfaces, were often bare during the winter. The solution adopted by some companies was to build ditches flat and broad enough to serve as winter roads. Thus Vermont's Caledonia Turnpike was to have a ditch at least six feet wide on either side of the road "for the convenience of sleighs and sleds, in the winter season wherever the same can be made, without great inconvenience."¹⁰⁹

The Worcester County Commissioners usually specified fairly shallow ditches - eight inches in most places and twelve inches where the soil was especially soft. A typical ditch in that county was to be

not less than eighteen inches wide on the bottom, eight inches deep, and the slope on the interior or road side must not have an angle greater than about thirty-three degrees, or one and a half foot slope to one foot rise, and the side ditch must gradually descend in the direction of the road toward the point of discharge of the water, in such manner that no water can permanently stand by the road side.¹¹⁰

A correspondent to a Portland newspaper in 1823 implied that ditches in that area frequently were not as deep as eighteen inches, which he considered the proper depth. He also com-

¹⁰⁹Dwight to Ammidon, March 10, 1800, Norfolk and Bristol Turnpike Company Records; Vermont, Acts and Laws, January 1804, c. 50, sec. 1.

¹¹⁰Worcester County, Commissioners Records, XI, 544. See also, Ibid., pp. 170, 177, 311, 555, 569.

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plained that they were often well made "except in one or two spots," where large rocks or roots were left undisturbed, and that "to that very spot the rain which falls on 100 or 1000 acres of the adjoining field is conducted; and is left to chuse whether it will take a ditch, or run down the centre of the road." There being no ditch at such a point, water, "taking the road, will soon form deep gullies, and destroy the fine road which had been formed with great labor."¹¹¹

Sluiceways, usually of stone, were used to carry water under a road from its upper to its lower side and were built at places where it was convenient to conduct water away from the road or where overflows from the upper ditch were likely to cause flooding.¹¹² On hills, in order to prevent water from flowing down the road, catchwaters or waterbars were built to divert it into the ditches. According to Gillespie, the best type of catchwater was a shallow, paved ditch, built in the form of a V, the point

¹¹¹Christian Mirror, October 24, 1823.

¹¹²Gardiner Lyceum, Report of the Committee on Roads, pp. 2-3; First New Hampshire Turnpike, Records of the Directors; Third New Hampshire Turnpike Papers; Berkshire County, Commissioners Records, passim; Worcester County, Commissioners Records, passim.

of which was in the center of the road with the sides pointing downhill, towards the side ditches.¹¹³ But in country towns it was common, as late as the early twentieth century, to fill the need with "thank'ee Ma'ams" - earthen or gravel dams, built obliquely across the road - which received their name "from the involuntary motion of the head" in riding over them.¹¹⁴ Often consisting of a single load of dirt or gravel, formed into a high, steep bar, they were an annoyance to travelers, but were easily broken down by the weight of passing teams and wagons and thus failed to fulfill the purpose for which they were built.¹¹⁵

Certain facilities for the safety, comfort, or information of travelers often were to be found along the roads. County commissioners in Massachusetts regularly required the placing of either wooden railings or a continuous line of rocks where there was a dropoff from the side of a new road.¹¹⁶ The Worcester County Commissioners frequently called upon towns, in building county roads, "to provide convenient

¹¹³Gillespie, pp. 180-182.

¹¹⁴Underwood, p. 119.

¹¹⁵George F. Beede, Country Roads (Exeter, N.H., 1904), p. 7; Morison, pp. 288-289.

¹¹⁶Worcester County, Commissioners Records, XI, 46.



watering places by the road side, when it can be done."¹¹⁷
 Travelers on the Providence and Pawtucket Turnpike were accommodated with "handsome footpaths, rows of trees on each side of the road, and even milestones every quarter of a mile."¹¹⁸

In every New England state laws passed during the late eighteenth century required towns to provide guide boards, or finger posts, at important intersections, pointing towards the next town. Rhode Island's law, enacted in 1798, called for a substantial post, at least eight feet high,

upon the upper end of which shall be placed a board or boards, upon each of which . . . shall be plainly . . . painted, the name of the next town, with such other noted town or places as may be judged most expedient for the direction of travellers, to which each of the roads may lead, together with the distance or number of miles to the same; and also the figure of a hand, with the forefinger thereof pointing towards the town or place to which the said roads may lead.¹¹⁹

According to the Englishman Bernard, however, neither

¹¹⁷Ibid., p. 549.

¹¹⁸James Stuart, Three Years in America (Edinburgh, 1833), I, 352.

¹¹⁹Rhode Island, Public Laws, Revised (1822), p. 428 ("an act for the erection and support of Guide-Posts upon the Public Roads," sec. 3).

milestones nor guideposts were of much help to the traveler during the early nineteenth century. In Vermont he found that milestones often were either misleading or illegible; instead of standing upright, they usually had "their heads pillowed softly against some knoll or bank." Guideposts were few in number, frequently lacked a finger pointing in the intended direction, and were carelessly maintained. Bernard found one such post lying in the road and described another he saw as having been fastened to a tree with a single nail, with the result that

the wind and the weather shaking the tree have necessarily loosened the nail, and the board, . . . acting on mathematical principles and the law of gravitation, has turned round on its axis, the nail, and now hangs lengthwise, with its heaviest end to the ground. . . . [Thus] you are led to imagine that . . . the object of your journey is either . . . some subterranean settlement in a coal-pit, or an Aladdin's cave to which you perceive no descending avenue, or from the sublime direction of the letters, that it is situated somewhere in the celestial regions, a fact which the topography of the country, not to say the character of the inhabitants, most likely altogether denies.¹²⁰

There were seldom sidewalks for those who went about their errands on foot in country towns prior to 1840. Boston

¹²⁰Bernard, pp. 321-322.

acquired "paved" (stone) footpaths under a Massachusetts law passed in 1799, but as late as 1829 there was no paved path between the post office and the corner of Bath and Congress streets and during the muddy season "it is impossible for one to cross without having his shoes filled with the contents of the gutter."¹²¹ The ship-building and commercial town of Bath, Maine, spent about one-sixth of its highway tax during the late 1820's in building walks of pine plank, while the shire town of Exeter, New Hampshire, acquired its first gravel walk on Court Street in 1807.¹²² Concord, New Hampshire, had no sidewalks until well into the nineteenth century and during the winters pedestrians had to run the risk of being run down by sleighs in the roadway.¹²³ Isaiah Thomas helped to lay flat stones on the walk past the Worcester courthouse in 1811 and again in 1818, when it was widened from two to four feet.¹²⁴ And by 1820 the growing town of Springfield, Massachusetts had two sidewalks.¹²⁵

¹²¹Massachusetts, Acts and Laws, 1799, c. 31.

¹²²Gardiner Lyceum, Report of the Committee on Roads, p. 15; Charles H. Bell, History of the Town of Exeter, New Hampshire (Exeter, 1888), p. 126.

¹²³James O. Lyford, History of Concord, New Hampshire (Concord, 1896), I, 304-305.

¹²⁴Hill, I, 109, 400.

¹²⁵Richard D. Brown, Urbanization in Springfield, Massachusetts, 1790-1830 (Springfield, 1962), pp. 16-17.

Smaller towns such as Littleton, New Hampshire, and Enfield, Connecticut, however, built their first stone walks during the 1840's. And pictorial evidence such as is contained in John Warner Barber's views of Massachusetts and Connecticut towns suggests that few villages had paved walks or even separate footpaths prior to that time, although frequently there were green strips between the traveled way and the fences which were to be found in front of many houses and public buildings.¹²⁶

Visitors were struck by the breadth - and sometimes by the beauty - of New England village streets, particularly in the towns of western Connecticut and Massachusetts and the Connecticut Valley. Hawthorne in 1838 found the streets of Litchfield "with wide green margins, and sometimes a[wide] green space . . . between the two road-tracks."¹²⁷ In some towns, however, the streets remained unsightly until well into the nineteenth century. Brimfield, Massachusetts, improved its main street, a six-rod road leading towards Springfield, during the late eighteenth century by moving the traveled path away from the houses on the south side of the

¹²⁶John Warner Barber, Massachusetts Historical Collections (Worcester, 1839), passim; Connecticut Historical Collections (New Haven, 1838), passim.

¹²⁷Randall Stewart, American Notebooks, pp. 69-70. See also, Silliman, pp. 420, 428; Wansey, p. 45.

street, leaving space for dooryards. But on the north side, the common, which originally had been part of the road, remained treeless, "cut up in every direction by cart paths, [and] a most unattractive place for many years."¹²⁸ Similarly, the common in New Milford, Connecticut, was a swampy area, situated between the wagon tracks on either side of the main street and habituated by hogs, cattle, and geese until about 1838.¹²⁹

New Milford was by no means alone in having animals continue to run free and graze along its roadsides until well into the nineteenth century. Windsor, Connecticut, took the step of prohibiting horses, cattle, swine, geese and other animals from running at large in 1797; Springfield began to limit the free movement of such animals in 1792, but did not stop it completely until 1820.¹³⁰ Worcester voted to keep horses from running free in 1806, but did not prohibit yoked and ringed swine or milk cows from going at large until about 1814. In 1817, although Wickford, Rhode Island, had prohibited hogs from running loose for

¹²⁸Charles M. Hyde, Historical Celebration of the Town of Brimfield (Springfield, 1879), p. 72.

¹²⁹Samuel Orcutt, History of the Towns of New Milford and Bridgewater, Connecticut (Hartford, 1882), p. 448.

¹³⁰Connecticut Courant, May 8, 1797; Richard Brown, Urbanization in Springfield, p. 16.

seventeen years, the inhabitants were disconcerted to find them entering town by way of a bridge from Elan's Mills.¹³¹ Troy and Peterborough, New Hampshire, as late as the second and third decades of the century prohibited the movement of animals only during the fall and winter months.¹³² Town streets and roads thus frequently remained public grazing grounds. A Massachusetts decision in 1822, however, held that an individual had no right to turn his cattle into the road for grazing, since the only right the public acquired in a highway was that of passage.¹³³

Wide village streets often were encroached upon by neighboring property owners. Main Street in Concord, New Hampshire, originally ten rods wide, was reduced to six rods by encroachments.¹³⁴ A visitor to Topsham, Maine, in 1820 found its twelve-rod main street "one of the most capacious" in the United States and remarked that it also would be one of the most elegant "were it not for the neglect of the police, in allowing individuals to project some buildings

¹³¹Rhode Island, Archives, Petitions to the General Assembly, XLV, 84.

¹³²M. T. Stone, Historical Sketch of the Town of Troy, New Hampshire (Keene, N.H., n.d.), pp. 174-175; Morison, pp. 286-287.

¹³³Stackpole v. Healy, 16 Mass. 33 (1822).

¹³⁴Lyford, I, 304-305.

beyond the direct line."¹³⁵ A Worcester town committee reported in 1826 that Main Street was supposed to be six rods wide, but "by what authority it has been reduced for a considerable part of its length to its present width, . . . your committee are ignorant [and] can find no permission on record." Fences in front of a building belonging to Governor Levi Lincoln projected into the street, as did the steps in front of a number of houses built on the line of the street.¹³⁶

Towns continued to be responsible for maintaining all the roads within their limits except turnpikes. During the late 1820's Bath and Augusta, Maine, adopted the policy of making the highway tax payable in cash only.¹³⁷ Worcester in 1828 voted a similar measure, but six years later returned to the old system, which gave persons a choice of working out their taxes themselves, hiring a substitute, or paying cash.¹³⁸ Ashburnham, Massachusetts, twice during the 1830's voted to raise half the highway tax in money, but both times rescinded

¹³⁵ A Description of Brunswick, Me., in Letters by a Gentleman from South Carolina to a Friend in that State (Brunswick, 1823), pp. 8-9.

¹³⁶ Worcester Town Records, 1817-1832, pp. 235-239. The committee found that most of the town's roads also had been encroached upon by fences.

¹³⁷ Gardiner, Lyceum, Report of the Committee on Roads, pp. 12-14.

¹³⁸ Worcester Town Records, 1817-1832, pp. 230, 256.

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the vote before the tax was assessed.¹³⁹ The voters of Andover, Massachusetts, tried the new system in 1832, but in 1834 returned to "the good old way."¹⁴⁰ Approximately 115 Massachusetts towns still collected their road taxes either wholly or partly in labor in 1871, including a majority of the towns in the western counties of Berkshire and Franklin.¹⁴¹

The highway repair system, which had had opponents during the late eighteenth century, continued to be criticized during the nineteenth. Critics, however, no longer saw the possibility of turning over town responsibilities to corporations or other agencies. Rather, they believed it more necessary than ever for towns to face up more fully to the duty of providing good roads. And they believed that this required a change of the system based on elected surveyors and voluntary labor. "It was ever found to be a bad system," argued the Gardiner Lyceum's committee on roads, "and good roads were never made or maintained under it in any country; and in the old world, it has gradually been

¹³⁹Stearns, History of Ashburnham, p. 385.

¹⁴⁰Andover, Mass., Town Records, Microfilm Copy, Merrimack Valley Textile Museum, North Andover.

¹⁴¹Massachusetts, Board of Agriculture, Eighteenth Annual Report (1871), pp. 23 ff.

superseded by a better."¹⁴² "Now," wrote a Massachusetts advocate of internal improvements in 1829, "in Scotland, and pretty generally in England, the statute labor is commuted into a payment in money, instead of personal service. The country is divided into districts, of from 100 to 200 miles of roads, with but one surveyor in each, who receives an annual salary for his services." This had "reduced the principles of road-making to a system, the natural tendency of which is improvement."¹⁴³

As had happened during the post-Revolutionary period, Americans during the 1820's and 1830's again looked to Great Britain for a system to emulate. But pleas for such a reform continued to be heard during the forties and for decades thereafter, for no rapid change took place such as had occurred during the turnpike movement. Progress was slow, particularly before 1840. Basically what was wanted was to place responsibility for maintenance in the hands of one or two competent men in each town, rather than the ten, twenty, or more highway surveyors many towns elected.

¹⁴²Gardiner Lyceum, Report of the Committee on Roads, p. 10.

¹⁴³Jackson, p. 8.

The improvement consists in having a small number of superintendants appointed by, and responsible to the selectmen, who have an adequate compensation to make the repair of the roads their principal business, who can watch the roads and prevent injuries, and who have the means to make the repairs at the proper time, who can arrange their plans for a series of years, and are never obliged to employ any but good hands and never more than can be profitably employed, who have always proper tools to work with, and materials of every kind provided in season and purchased at fair rates.¹⁴⁴

The idea was similar to that which lay behind the establishment of the office of county commissioners to supervise the construction of roads in four New England states. "To make a good road, as much judgment and experience is required as in most of the mechanic arts," the Gardiner Lyceum report contended.¹⁴⁵ There had been opposition to the county commissioners and only in Maine and Massachusetts did they become a permanent institution. But in those states the concurrence of a majority of the members of the legislatures had resulted in the adoption of laws which permanently affected road-building policy on a

¹⁴⁴Gardiner Lyceum, Report of the Committee on Roads, p. 14. See also, Jackson, p. 8; Eastern Argus, January 17, 1825; American Rail Road Journal, I (1832), 273; Hobart, pp. 10-11; Massachusetts, Board of Agriculture, Eighteenth Annual Report (1871), p. 57.

¹⁴⁵Gardiner Lyceum, Report of the Committee on Roads, p. 9.

statewide basis. The manner in which highway taxes were collected and spent, however, was left at the option of the towns and each town could vote on the matter as often as it chose. Thus Maine in 1821 passed a law permitting towns of 800 or more population to raise a highway tax in money if they so chose and in 1832 extended the choice to towns of half that size. The 1832 act also permitted localities to elect up to five road commissioners in place of the highway surveyors, who could divide responsibility as they saw fit rather than having fixed districts assigned them by the selectmen. But it was still up to the town meeting to determine whether these officials should collect the tax in money or call out laborers.¹⁴⁶

As a resident of Newton, Massachusetts, put it in discussing the money tax in 1871, "you know that in town meetings we run against the prejudices and honest convictions of a great number if we propose radical changes."¹⁴⁷ Such a statement probably would have been even more applicable to town meetings during the twenties and thirties. In a rural economy in which the exchange of goods and ser-

¹⁴⁶Maine, General Laws (1822), c. 118, sec. 19; Maine, Public Laws, January 1832, c. 17, sec. 1.

¹⁴⁷Massachusetts, Board of Agriculture, Eighteenth Annual Report (1871), p. 65.

vices still was important, the payment in money of a tax traditionally paid in labor would have been considered a radical step in itself; for towns to have gone even further by hiring full-time officials to administer the highway tax would have been unthinkable, particularly in view of the lack of concern many persons still had for the condition of their roads. One of the Augusta selectmen informed the Gardiner Lyceum committee, "if repairs enough were made to secure the town against indictment, this [formerly] was thought to be sufficient."¹⁴⁸

Under the system Augusta adopted in 1825, the selectmen assumed responsibility for the roads, hiring "judicious men to superintend the expenditure." Laborers were hired at an average wage of seventeen dollars a month, whereas taxes previously had been worked out at a rate of ten cents an hour. The superintendents, "who knew what was required," had gravel spread on the roads and replaced wooden bridges and causeways with more permanent ones made of stone. "A proper width was secured, stone drains were laid and the road put into a handsome shape so as to secure ease and safety to the traveller." Repairs were made where and when

¹⁴⁸Gardiner Lyceum, Report of the Committee on Roads, p. 16.

they were needed, particular efforts being made to insure drainage during spring thaws and after storms. According to the selectman, the town's roads had been improved greatly within a few years with an annual expenditure of about \$2,000, whereas under the old system it had been common to vote \$3,000 in labor, which had had to be supplemented by about \$1,000 out of the town treasury. There had been opposition to the plan, but it had gradually subsided.¹⁴⁹

In Bath the system was somewhat different. The residents of the central part of town paid their taxes in money and the selectmen supervised its expenditure, although it had proved necessary "to conciliate the people of the remote districts, who were loath to abandon entirely the old system of working out their highway taxes." District surveyors continued to be elected in rural areas of the town and they were to permit anyone on their lists to work out his tax "if he is disposed to labor as cheap as others can be hired."¹⁵⁰

Most rural inland towns, however, continued to vote sums of money to be worked out at inflated rates; those who chose to pay rather than work generally were able to do so at a reduced rate. Thus under Vermont law anyone who worked

¹⁴⁹Ibid., pp. 16-17.

¹⁵⁰Ibid., pp. 15-16.

out his tax was to be allowed ten cents an hour, but he also could pay in cash at a discount of twenty-five per cent.¹⁵¹ But, it was often possible to make an even better deal by hiring a substitute. Isaiah Thomas in 1823 got the surveyor in his district to work out his tax of \$48.25 at a reduction of almost thirty-eight per cent.¹⁵² According to the Gardiner Lyceum report, farmers generally chose to labor on the roads, working off their taxes at a rate of about one dollar a day, but in the villages most taxes were worked out by substitutes. These were generally "the cheapest or poorest laborers," willing to take fifty or sixty cents a day from individuals who normally paid from eighty-three to ninety cents "for laborers in their private business."¹⁵³

Even at inflated rates, a town's highway tax lists, at least on paper, represented a great many man-days of labor. There were 101 names on Manchester, New Hampshire, highway tax lists in 1800. Had the tax been collected fully in labor (at sixty-seven cents a day), forty-six individuals would have had to work four days or more,

¹⁵¹Vermont, Revised Statutes (1840), c. 21, sec. 9.

¹⁵²Hill, II, 140; n., 144.

¹⁵³Gardiner Lyceum, Report of the Committee on Roads, pp. 10-11.

eight of them owing between ten and seventeen days.¹⁵⁴
 Of 133 Andover, New Hampshire, taxpayers in 1790, forty-five owed the equivalent of between three and eight days' labor each.¹⁵⁵ Highway taxes were assessed against 358 polls and property owners in Durham, New Hampshire, in 1813, for 129 of whom taxes were equivalent to between four and ten days of work.¹⁵⁶ There were 451 rate payers in twenty-four of Hartland, Vermont's, twenty-five highway districts in 1833. For about seventy per cent of them the highway tax amounted to four days' labor or less (the median amount being between two and three days); but for sixteen individuals it was equivalent to between ten and twenty-six days each.¹⁵⁷ The same year there were 356 names on eighteen district lists in Barnet, Vermont. Assuming a ten-hour day and an average rate of nine cents an hour ¹⁵⁸ (the rate ac-

¹⁵⁴Early Records of the Town of Manchester, ed. George Waldo Browne, III (Manchester, 1908), pp. 21-27.

¹⁵⁵Andover, N.H., Invoice Receipts, 1781-1798, New Hampshire Historical Society.

¹⁵⁶Durham, N.H., Highway Accounts, 1810-1830, New Hampshire Historical Society.

¹⁵⁷Hartland, Vt., Papers.

¹⁵⁸Most of the figures in this paragraph are based on an assumed ten-hour day. The actual working day, however, often was eight hours. See M. T. Runnels, History of Sanborn-ton, New Hampshire (Boston, 1822), p. 196; William B. Lapham, History of Rumford, Oxford County, Maine (Augusta, 1890), p. 59.

tually was ten cents an hour during the summer, when two-thirds of the tax was to be worked out, and seven cents during the fall), if everyone had worked out his tax, eighteen would have owed one day's work or less, 149 would have had to work between one and two days, 171 between two and ten days, and eighteen between ten and nineteen days.¹⁵⁹ The tax in these eighteen districts (there were at least three other districts for which no returns are available) would have amounted to roughly 1,200 man-days.

This was the maximum amount collectable and it is doubtful that anywhere near the maximum ever was paid in labor. Individuals received credit against their taxes by furnishing teams, carts, ploughs, and lumber and other materials needed in undertaking repairs. Allen Packard of Charlotte, Vermont, paid \$4.83 of his \$14.83 highway tax in 1820 by supplying brandy for the use of highway laborers.¹⁶⁰ Furthermore, although all the New England states had laws under which a person could be compelled to pay his

¹⁵⁹Barnet, Vt., Highway Surveyors Accounts, property of David Warden, Barnet, Vt.

¹⁶⁰Charlotte, Vt., Memorandum Book of Credit of Work Done on the Roads in the Fifth Highway District, Vermont Historical Society.

tax in one way or another, they were not always strictly enforced and individuals often were permitted to be delinquent in meeting their obligations.¹⁶¹ Eighty-nine inhabitants of Hartland in 1833 owed arrears from previous years which exceeded the amount of their 1833 tax and thirty of these apparently made no payment whatsoever that year.¹⁶²

A day on the roads was not often spent in hard work. According to the above-mentioned Augusta selectman, under the highway labor system, "no man feels any particular interest except to see the sun set from day to day, and if his taxes are cancelled, he cares not whether the roads are improved or not."¹⁶³ Charles L. Flint, secretary of the Massachusetts Board of Agriculture, in 1871 recalled, "nearly half a century ago, seeing the men sitting by the sunny side of a bank in early spring, drinking their grog and telling stories a larger part of the time than they were at work on the roads."¹⁶⁴ In his memoirs of life in En-

¹⁶¹New Hampshire, for example, required surveyors "to levy the delinquent's part or proportion of said money by distress, in the same manner as the several constables and collectors are enabled by law to do in collecting the state tax." New Hampshire, Laws, V, c. 14 (1786).

¹⁶²Hartland, Vt., Papers.

¹⁶³Gardiner Lyceum, Report of the Committee on Roads, p. 17.

¹⁶⁴Massachusetts, Board of Agriculture, Eighteenth Annual Report (1871), p. 58.

field, Massachusetts, during the 1830's, Francis Underwood recounted the doings of a group of highway laborers. Proceeding towards the town line, they met a similar party from Ware, "and, as there were various old scores to be settled between the respective towns' champions, the surveyors in charge on either side got very little more work done that day." There were foot races, a tug-of-war, and other contests, "and at the luncheon new rum was freely circulated." The afternoon was spent in story-telling and singing.¹⁶⁵

A working party on the roads was never a just representation of the people of Quabbin [Enfield]. Few thriving mechanics, and none of the men of influence, did personal service, because it was better to pay the money than lose a day. The force which a surveyor could muster was largely made up of hirelings, and of those who did not count for much in town or church affairs; and that accounts for the hilarity, as well as the easy-going way in which the work was done.¹⁶⁶

It was complained that surveyors refused to hold their posts for more than a year.¹⁶⁷ Although this was not always the case, there was a large turnover in the job. Of 142 men

¹⁶⁵Underwood, pp. 120-127.

¹⁶⁶Ibid., p. 127. Tradesmen sometimes permitted their customers to settle accounts by taking their place on the roads. See Account Book of Jesse Hitchcock, Old Sturbridge Village Library, pp. 108-109.

¹⁶⁷Gardiner Lyceum, Report of the Committee on Roads, p.10.

who served as surveyors of highways in Durham, New Hampshire, between 1810 and 1830, one held office every year and three others served ten, fourteen, and fifteen years respectively. But ninety-four had the job only one or two years.¹⁶⁸ Thus the majority of highway surveyors in Durham had little opportunity to gain experience.

Some New Englanders did spend a number of days of work on the roads during the course of a year. Joseph Shaw, a Southbridge storekeeper and farmer, worked ten days on the roads in his district when he was surveyor in 1820.¹⁶⁹ Silas Eldred of Falmouth, Massachusetts, a storekeeper who served many years as surveyor, worked twenty-six days in 1831 and more than thirty days in 1832. Of thirty-three men in his district, eight worked five days or more and one worked seventeen days during the latter year.¹⁷⁰

Although it seems likely that Eldred and his men were involved in building roads as well as in repairing them, the expenditure in time was considerable. How much actually was

¹⁶⁸Durham, N.H., Highway Accounts, 1810-1830.

¹⁶⁹Daybook and Diary of Joseph Shaw, Old Sturbridge Village Library.

¹⁷⁰Account and Daybook of Silas Eldred, Old Sturbridge Village Library.

accomplished can only be conjectured, however, and one also is struck by the seasonal nature of the work.

In 1831, for example, Eldred spent four days clearing snow in January. With the exception of one day in July, the remainder of the work was done between May 30 and June 21 and between the first and twentieth of August. Six of Shaw's ten days on the roads were in June and the other four in September. Vermont law required that at least three-fourths of the highway tax be worked out in May and June and the remainder in September and October.¹⁷¹

It was believed that the time to undertake extensive repairs was "as soon as the earth shall have become perfectly settled after the spring rains, say the 25th of May or first of June."¹⁷² By late May, however, roads usually were in worse condition and required more work than would have been the case if minor repairs had been made during the spring. As a Norway, Maine, man pointed out, with the use of a hoe a surveyor could make temporary drains to draw off pools formed by melting snow in March or April, bestowing "a little labor . . . to perhaps better advantage than at any

¹⁷¹Vermont, Revised Statutes (1840), c. 21, sec. 14.

¹⁷²Dwight to Ammidon, March 10, 1800, Norfolk and Bristol Turnpike Company Records.



other season of the year."¹⁷³ Surveyors, nevertheless, concentrated on making major repairs, calling out large crews during a relatively short period. Thus a Charlotte, Vermont, farmer with a large tax to pay worked it out during two days in June, 1818, by laboring himself and by bringing two yoke of oxen, a plow, a Negro hired man to hold the plow, and a boy to drive the oxen.¹⁷⁴

Repair work often was poorly done. A foreign visitor traveling through western Massachusetts on a spring day in 1833 observed "The American system of road-mending; or more correctly speaking, road-destroying."

A plough, drawn by four, and occasionally six oxen, with two drivers, one man holding by the stilts, and another standing on the beam, is passed along the margins of the road, turning every fifty yards. The loosened earth is then moved to the centre of the road, by men with shovels, or by a levelling-box [scraper] drawn by oxen, the stones, great and small, being first carefully removed from amongst the earth, and in many instances more were thrown aside than sufficient to Macadamize the road.¹⁷⁵

A quarter of a century earlier a traveler on the road between Stafford Springs and Brookfield saw an even more primitive

¹⁷³Norway Advertiser, April 12, 1844.

¹⁷⁴Charlotte, Vt., Memorandum Book of Credit of Work Done on the Roads in the Fifth Highway District.

¹⁷⁵Patrick Shirreff, A Tour through North America (Edinburgh, 1835), p. 37.

operation. There were "above twelve yoke of oxen dragging a sort of scoop along the road, to level the ruts; behind the scoop, large boughs and branches of trees were fastened, for the purpose of smoothing the gravel."¹⁷⁶

Probably the most common fault lay in using sod, rather than gravel, to fill up holes and ruts. According to the Gardiner Lyceum report, the usual method of repairing was to plough up the ditches, using the turf and other vegetable matter which had accumulated there to patch the road. Such materials "never . . . can form a solid road."¹⁷⁷ Frequently, too, repair crews simply would leave dirt piled in the center of the road, trusting in vain that traffic eventually would level it and make the road smooth. "I have seen patches," wrote one observer, "which were thus rendered impassable for several weeks."¹⁷⁸ Repairs such as these never were permanent.

One other type of maintenance, that often had to be performed, was breaking a path after snow storms. The object was not to remove snow - the Third New Hampshire Turnpike instructed its superintendent to shovel snow into the

¹⁷⁶Lambert, III, 89.

¹⁷⁷Gardiner Lyceum, Report of the Committee on Roads, p. 7.

¹⁷⁸Christian Mirror, October 24, 1823.

road when it became bare¹⁷⁹ - but to form a smooth, hard track for sleighs and sleds. On public roads this work also was done under the direction of the highway surveyors. Towards the end of the nineteenth century, snow rollers came into widespread use.¹⁸⁰ Earlier, however, it was common after a heavy storm to form a pair of runner tracks with a heavily loaded sled, drawn by a long line of ox teams.¹⁸¹

"The common roads of the United States are inferior to those of any other civilized country," wrote the American civil engineer William Gillespie in 1847.¹⁸² The Scottish engineer David Stevenson a decade earlier had reached a similar conclusion, but also found New England roads, although good only during the summer, the best in the country.¹⁸³ This had been the approximate position of New England roads

¹⁷⁹Third New Hampshire Turnpike Papers.

¹⁸⁰Henry N. Andrews, Jr., "Rolling the Roads," Old-Time New England, XXXVIII (1948), 64.

¹⁸¹Mabel C. Coolidge, The History of Petersham, Massachusetts (Hudson, Mass., 1948), p. 164; Edith de Wolfe et al (eds.), The History of Putney, Vermont (Putney, 1953), pp. 82-83; Levi W. Leonard and Josiah L. Seward, The History of Dublin, New Hampshire (Dublin, 1920), p. 582; Morison, pp. 287-288.

¹⁸²Gillespie, p. 1.

¹⁸³Stevenson, p. 218.

relative to those of Europe and other parts of the United States during the late eighteenth century, as was shown in Chapter I. Nevertheless, the methods of construction and repair discussed in this chapter, as primitive as they still were, represented an advancement that manifested itself in roads considerably better than those of the late eighteenth century and capable of supporting a growing commerce. An inhabitant of Peterborough, New Hampshire, contrasting conditions at the time of that town's centennial in 1839 with those during his boyhood, said,

when I was a boy, a weekly mail, carried upon horseback by a very honest old man by the name of Gibbs, afforded all the mail facilities which the business of the town required. Now, Sir, we see a stage coach pass through and transporting a heavy mail. Your highways and bridges have been astonishingly improved, showing a praiseworthy liberality on the part of the town to that important object.¹⁸⁴

"Of late years," wrote an editor, also in 1839, New Englanders had shown a "passion for improving roads" which had resulted in "their actual improvement to an extent beyond what . . . settlers fifty or sixty years ago would have anticipated." New England roads were poor during the spring and fall, he continued, but "so much has travel in-

¹⁸⁴John H. Morison, An Address Delivered at the Centennial Celebration in Peterborough, N.H., October 24, 1839 (Boston, 1839), p. 96.

creased, so great is the transit of heavy goods, as well as of many travellers to and from the interior and seaboard, that at the worst period of the roads there seems, if possible to be most travel."¹⁸⁵ Much remained to be done, but the period of 1790 to 1840 had been one of improvement in the roads of New England.

¹⁸⁵The Farmer's Monthly Visitor, I (1839), 53.

BIBLIOGRAPHICAL ESSAY

This study was drawn from a wide variety of sources, including public records, business records, newspapers, diaries and travel accounts, and secondary works, including local histories. A discussion of the most useful sources follows:

I. Public Records. Petitions and related documents in state archives were useful sources of information as to road conditions, the types of roads being built, and public opinion in regard to roads. Of greatest use were: Connecticut, Archives, Connecticut State Library, Series I, II; New Hampshire, Records and Archives, Concord, Legislative Papers; Rhode Island, Archives, Rhode Island State Capitol. Materials in the last-named repository are particularly well catalogued. Supplementary New Hampshire material was found in Documents and Records relating to the Province of New Hampshire, ed. Nathaniel Bouton et al. (40 vols.; Manchester, N.H., 1872-1943).

The records of county courts served similar purposes and, in addition, were one of the few sources of information as to construction standards. The records

of at least one county in each state except Rhode Island were studied. Rhode Island law gave county courts only limited jurisdiction in highway matters. The records used were as follows:

Berkshire County, Mass. General Sessions of the Peace and Commissioners Records. County Commissioners Office, Pittsfield, Mass.

Cumberland County, Maine. Sessions and County Commissioners Records. County Commissioners Office, Portland, Maine.

Grafton County, N.H. Highway Petitions, 1773-1800. County Courthouse, Woodsville, N.H.

Hillsborough County, N.H. Records of Roads. County Courthouse, Nashua, N.H.

Windham County, Conn. Court Records. Connecticut State Library, Hartford.

Windham County, Vt. Court Records. County Clerk's Office, Brattleboro, Vt.

Worcester County, Mass. Sessions and County Commissioners Records. County Engineer's Office, Worcester, Mass.

Most Connecticut court records for the late eighteenth and early nineteenth centuries now are to be found in the Connecticut State Library.

Connecticut colonial laws are found most easily in The Public Records of the Colony of Connecticut, ed. J. Hammond Trumbull et al. (15 vols.; Hartford, 1868-90). The Public Records of the State of Connecticut, ed. Charles J. Hoadly et al. (Hartford, 1890-) thus far has continued the earlier series to the beginning of the

nineteenth century. Connecticut turnpike charters are to be found in Resolves and Private Laws of the State of Connecticut (2 vols.; Hartford, 1837), II. For Massachusetts colonial laws, see The Acts and Resolves of the Province of Massachusetts Bay (21 vols.; Boston, 1860-1922). Early Massachusetts turnpike acts are in Private and Special Statutes of the Commonwealth of Massachusetts (3 vols.; Boston, 1805), II, III. New Hampshire laws, both public and private, passed between 1670 and 1835, are contained in Laws of New Hampshire, ed. Albert S. Batchellor et al. (10 vols.; Manchester, Concord, Bristol, N.H., 1904-22). Other than these series, the principal sources were session laws and the various compilations and revisions cited throughout this work.

One other public document deserves special mention. Albert Gallatin's "Report on Roads and Canals," American State Papers, Miscellaneous, I, contains valuable information about turnpikes in New England and elsewhere.

II. Business Records. Other than the account books of storekeepers, tradesmen, etc., the business records used for this study were principally turnpike company records. These contain information about stockholders, about corporate policies and problems, and - in all too few cases - about finances. The largest collections are in the Connecticut State Library, the New Hampshire Historical Society,

APPENDIX I

TURNPIKE INCORPORATIONS BY STATES, 1794-1840^a

(The figures at the left of each column represent companies that built their roads; those at the right are for companies that failed to do so.)

	<u>Conn.</u>		<u>Mass.</u> ^b		<u>N. H.</u>		<u>R. I.</u>		<u>Vt.</u>		<u>Total</u>	
1794	0	0	0	0	0	0	2	0	0	0	2	0
1795	4	0	0	0	0	0	0	0	0	0	4	0
1796	0	0	1	0	1	0	0	0	0	1	2	1
1797	4	2	2	0	0	0	0	0	0	0	6	2
1798	6	0	0	0	0	0	0	0	0	0	6	0
1799	2	0	3	0	2	0	0	0	4	0	11	0
1800	5	0	3	0	1	0	0	1	4	0	13	1
	21	2	9	0	4	0	2	1	8	1	44	4
1801	8	0	2	2	0	0	0	0	0	0	10	2
1802	6	1	5	2	2	2	0	0	1	0	14	5
1803	5	0	12	4	5	1	1	1	1	1	24	7
1804	0	0	6	5	7	11	1	0	3	1	17	17
1805	1	0	6	5	1	4	3	0	7	8	18	17
1806	5	0	10	1	0	1	0	1	0	0	15	3
1807	1	0	0	9	2	0	2	1	0	2	5	12
1808	5	0	3	4	4	4	0	1	3	0	15	9
1809	5	0	0	2	0	2	0	0	0	0	5	4
1810	0	0	0	3	0	0	2	0	0	0	2	3
	36	1	44	37	21	25	9	4	15	12	125	79
1811	1	0	1	1	0	0	0	0	0	1	2	2
1812	1	1	0	1	2	1	0	0	0	0	3	3
1813	2	0	0	1	0	0	3	1	0	3	5	5
1814	1	0	0	2	0	0	1	0	1	4	3	6
1815	2	0	0	0	0	1	0	1	1	4	3	6
1816	1	0	0	0	0	0	1	0	0	0	2	0
1817	0	1	0	0	0	0	0	0	0	0	0	1
1818	3	1	0	0	0	0	0	0	0	1	3	2

	<u>Conn.</u>		<u>Mass.</u>		<u>N. H.</u>		<u>R. I.</u>		<u>Vt.</u>		<u>Total</u>	
1819	0	0	0	0	0	0	0	0	0	0	0	0
1820	0	1	0	1	0	2	1	0	0	0	1	4
	11	4	1	6	2	4	6	2	2	13	22	29
1821	0	0	0	0	0	0	0	0	0	0	0	0
1822	1	0	2	0	0	0	0	0	0	1	3	1
1823	0	1	0	0	0	0	1	0	0	1	1	2
1824	4	0	3	0	0	0	0	1	0	0	7	1
1825	3	0	1	2	0	0	2	1	1	0	7	3
1826	4	1	3	3	0	0	1	2	1	2	9	8
1827	2	0	0	1	0	0	1	1	0	0	3	2
1828	3	0	0	0	0	1	0	1	1	0	4	2
1829	3	0	0	1	0	0	0	0	0	0	3	1
1830	1	1	0	0	0	0	0	3	0	0	1	4
	21	3	9	7	0	1	5	9	3	4	38	24
1831	1	0	0	0	0	0	0	0	0	0	1	0
1832	1	1	0	0	0	0	0	0	0	0	1	1
1833	1	0	0	0	0	0	0	0	0	2	1	2
1834	4	2	0	0	1	0	0	0	1	0	6	2
1835	2	0	0	0	0	0	0	0	0	2	2	2
1836	0	1	0	0	0	0	0	2	0	0	0	3
1837	0	0	1	0	0	1	0	0	0	0	1	1
1838	0	0	0	0	0	1	1	0	0	0	1	1
1839	0	0	0	0	0	1	0	0	0	0	0	1
1840	0	1	0	0	0	0	0	0	0	0	0	1
	9	5	1	0	1	3	1	2	1	4	13	14
Total, 1794- 1840	98	15	64	50	28	33	23	18	29	34	242	150

^aWood, passim; P. E. Taylor, "Turnpike Era," pp. 345-346.

^bIncluding Maine.

APPENDIX II

COST PER MILE OF NEW ENGLAND TURNPIKES

Connecticut^a

Company	Cost	Length	Cost per Mile
Hartford & New Haven	\$79,261	34 3/4 mi.	\$2,281
Rimmon Falls	9,443	6	1,574
Farmington & Bristol	15,252	10	1,525
Cheshire	22,810	17	1,342
New Haven & Milford	15,742	12	1,312
Farmington River	11,751	11	1,068
Waterbury River	38,770	41	946
Derby	7,520	8	940
Greenwoods	19,482	21	928
Bridgeport & Newtown	22,620	26	870
Stafford Pool	10,515	13	809
Ousatonic	13,885	20	694
Torrington	11,889	18	660
Hebron & Middle Haddam	7,908	13	608
Salisbury & Canaan	6,005	10	600
Hartford & Tolland	8,874	16	555
New Preston	5,405	10	540
Canaan & Litchfield	10,565	20	528
Oxford	4,046	8	506
Middlesex	17,545	35	501
Litchfield & Harwinton	5,406	11	491
Straits	16,796	36	467
Woodstock & Thompson	5,597	12	466
Talcott Mountain	8,840	19	465
Pomfret & Killingly	3,706	8 1/2	436
Granby	8,438	20	422
New Milford & Litchfield	4,507	12	376
Norwich & Woodstock	14,100	39	362
Boston	17,073	52	328

Company	Cost	Length	Cost per Mile
Windham	8,680	30	289
Hartford, New London, Windham & Tolland County	5,881	23	256
New London & Windham County	4,807	24	200
Danbury & Ridgefield	1,908	10	191
Fairfield, Weston, & Reading	1,895	12	158
Norwalk & Danbury	2,834	22	129

Massachusetts^b

Salem	182,063	12 1/2	14,600
Newburyport & Boston	417,000	32	13,031
Blue Hill	78,303	8	9,800
Dorchester	43,686	5	8,740
Andover & Medford	48,921	6	8,150
Norfolk & Bristol	228,798	34	6,729
Braintree & Weymouth	38,250	8 1/2	4,500
Worcester	150,000	40	3,750
Lancaster & Bolton	6,291	2 1/2	2,520
Essex	67,905	28	2,425
New Bedford & Bridgewater	49,662	25 1/2	1,950
Hartford & Dedham	32,029	16 1/2	1,940
Union	35,484	22	1,600
Taunton & South Boston	34,435	21 1/2	1,600
North Branch	25,740	17 1/4	1,500
Alford & Egremont	8,219	6	1,370
Tenth Massachusetts	48,000	36	1,340
Housatonic River	16,647	13	1,260
Williamstown	10,000	10	1,000
Fifth Massachusetts	54,965	58	948
Third Massachusetts	29,989	32	937
Great Barrington & Alford	8,799	9 1/2	925
Barre	10,000	11	910
First Massachusetts	11,200	13	861
Fifteenth Massachusetts	16,353	19 1/2	839
Sixth Massachusetts	33,000	43	767
Twelfth Massachusetts	12,771	20	639
Belchertown & Greenwich	4,900	7 3/4	633
Becket	4,229	7	600
Ninth Massachusetts	13,223	22	600

Company	Cost	Length	Cost per Mile
Douglas, Sutton & Oxford	6,256	11	570
Worcester & Fitzwilliam	4,300	8 1/4	500
Petersham & Monson	14,317	41	350

New Hampshire^c

Tenth New Hampshire	40,000	20	2,000
Second New Hampshire	80,000	50	1,600
Sixth New Hampshire	16,000	10	1,600
New-Hampshire Turnpike Road	55,799	36	1,550
Jefferson	18,400	14	1,314
Coos	15,074	12	1,256
Fourth New Hampshire	61,157	51	1,200
Croydon	35,948	34	1,057
Third New Hampshire	50,000	50	1,000
Branch Road and Bridge	7,510	7 1/2	1,000
Cheshire	19,610	24	817

Rhode Island^d

Providence & Pawtucket	6,800	4	1,700
West Glocester	5,500	7	785
Glocester	5,040	7	720
Providence & Norwich	7,200	19	379

Vermont^e

Passumpsic	26,000	20	1,300
Mt. Tabor	3,000	11	273

^aGallatin, American State Papers, Miscellaneous, I, 871-872.

^bWood, pp. 57-212.

^cHarmer and More, A Gazetteer of the State of New Hampshire (Concord, 1823), pp. 15-16; First New Hampshire Turnpike, Records of the Directors; Shirley, Granite Monthly, IV, 429.

^dRhode Island, Archives, Providence and Pawtucket Turnpike Accounts; Petitions to the General Assembly, X, 9; XXXII, 45.

^eWood, p. 270; Mt. Tabor Turnpike Company, Record Book.

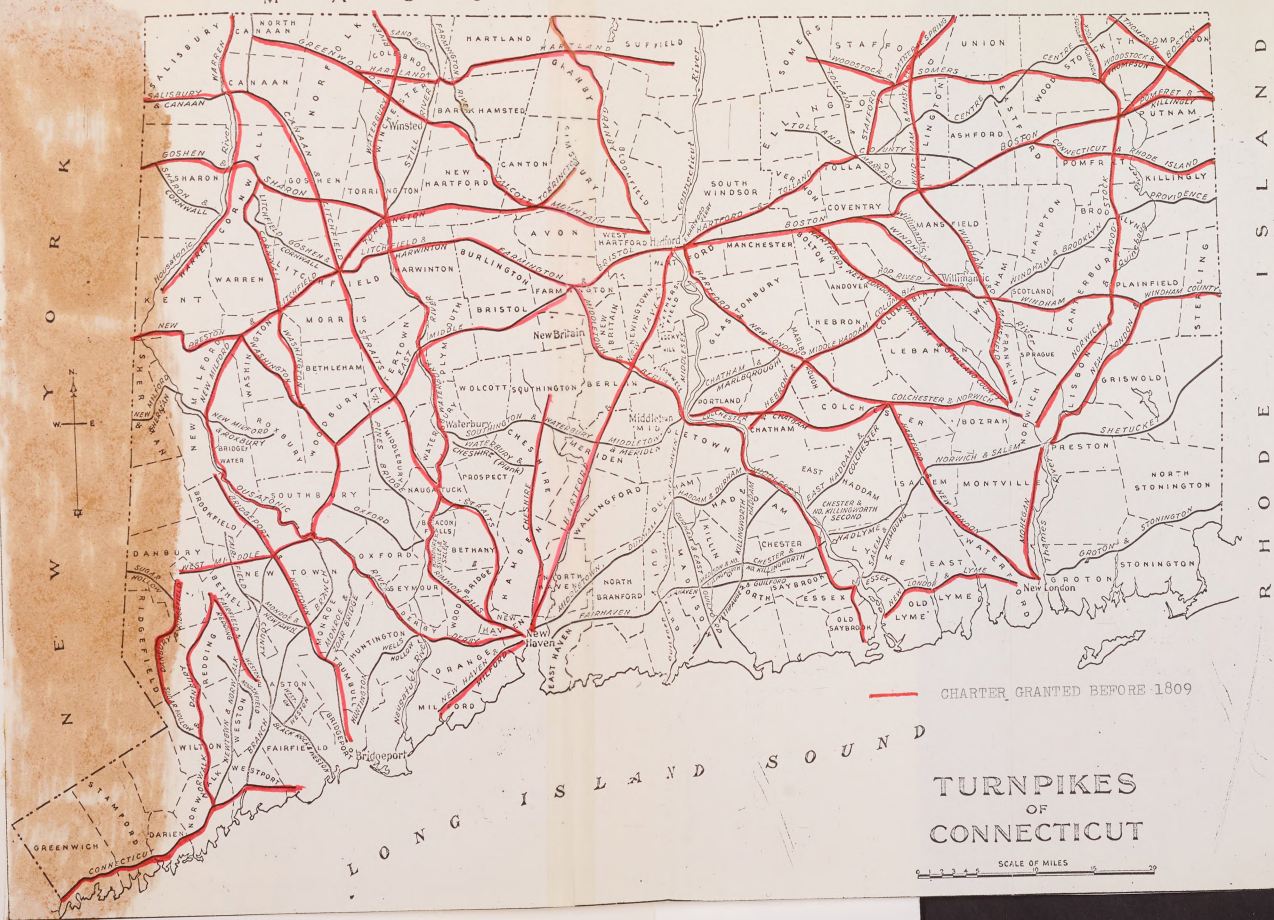
APPENDIX III

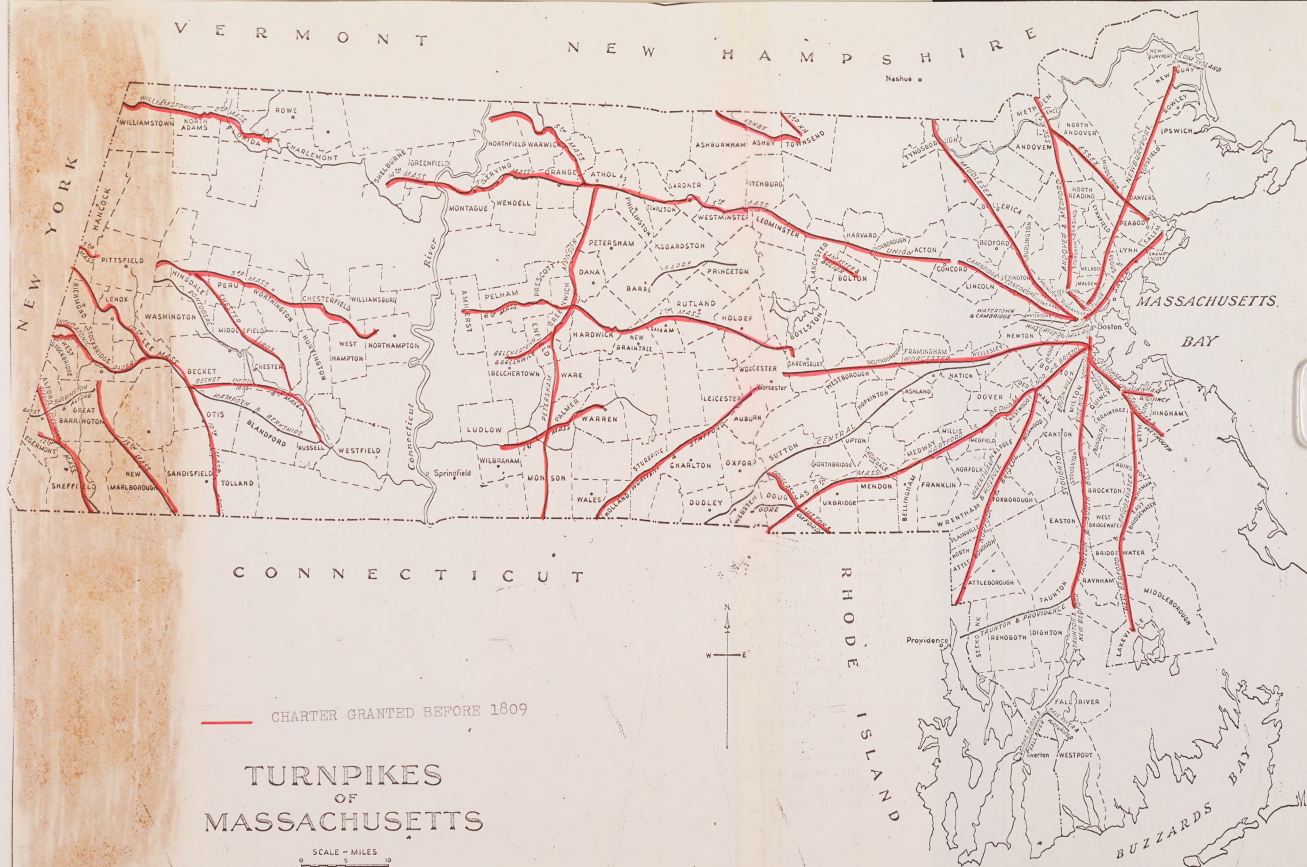
SHORT-TERM EARNINGS OF THIRTY CONNECTICUT TURNPIKES PRIOR TO 1808^a

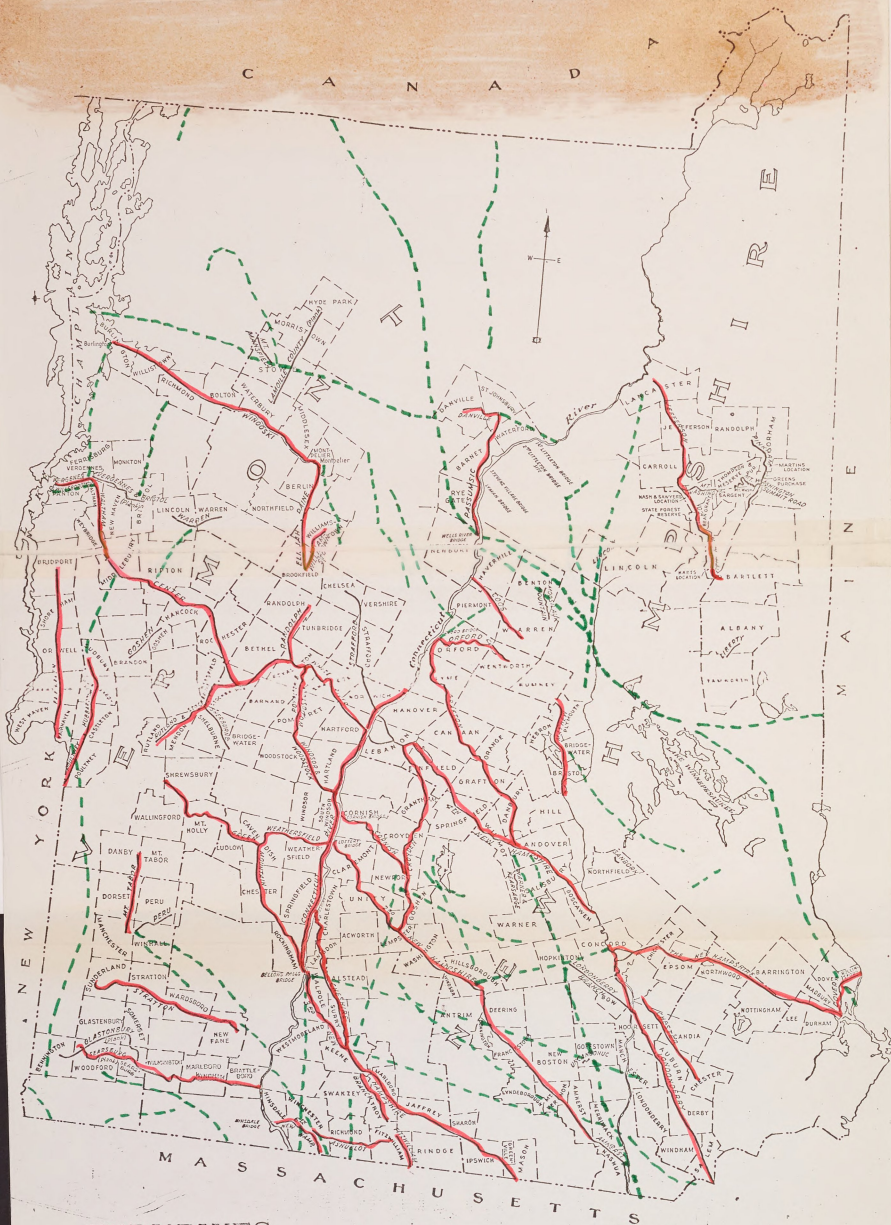
Company	Earning Period	Cost of Road	Tolls	Expenses	Average Annual Profit
Talcott					
Mountain	3 Yrs.	\$8,839.67	\$7,361.44	\$3,053.60	16.2%
Oxford	3	4,045.61	2,096.45	532.84	12.9
New Milford & Litchfield	4 1/2	4,506.95	3,313.49	1,182.53	10.5
Litchfield & Harwinton	4	5,406.28	3,094.63	1,147.48	9.0
Hartford, New London, Wind- ham, & Tol- land County	3	5,881.50	3,692.07	2,157.37	8.7
Canaan & Litchfield	4 1/6	10,565.23	7,048.78	3,753.06	7.5
Danbury & Ridgefield	2	1,907.80	409.98	140.21	7.1
Hartford & Tolland	3	8,874.17	2,489.35	726.01	6.6
Greenwoods	3 5/12	19,481.87	9,453.03	5,486.21	6.0
Straits	4	16,796.47	11,582.90	7,994.12	5.4
Bridgeport & Newtown	2	22,619.81	3,357.27	914.80	5.4
Derby	2	7,520.00	1,049.19	273.48	5.2
Cheshire	3	22,810.44	5,494.23	2,105.89	5.0
Norwalk & Danbury	2	2,833.64	677.42	429.03	4.4
Windham	1 11/12	8,679.75	2,985.75	2,309.64	4.1
Middlesex	2	17,544.88	4,494.22	3,096.73	4.0
Granby	2 3/4	8,438.13	1,753.76	991.13	3.3
New Preston	2	5,405.07	426.17	115.07	2.9

Company	Earning Period	Cost of Road	Tolls	Expenses	Average Annual Profit
Farmington River	3 1/2	11,751.28	2,110.41	1,025.32	2.6
Salisbury & Canaan	3	6,005.05	713.87	294.33	2.3
Farmington & Bristol	3	15,252.10	1,147.13	224.99	2.0
New London & Windham County	9 11/12	4,806.92	3,451.08	2,498.22	2.0
Waterbury River	2 1/6	38,769.94	1,572.40	365.67	1.4
Rimmon Falls	3	9,443.45	1,256.38	985.04	0.96
Fairfield, Weston, & Reading	2	1,895.02	198.05	165.50	0.81
Hartford & New Haven	5	79,260.95	8,800.74	5,808.02	0.76
Ousatonic	3	13,884.58	1,941.60	1,719.84	0.53
Boston	1 1/3	17,073.30	2,085.35	2,072.78	0.05
Torrington	2	11,889.07	1,089.77	1,201.15	-0.47
Norwich & Woodstock	2 11/12	14,100.00	408.90	705.00	-0.72

^aGallatin, American State Papers, Miscellaneous, I, 871-872.







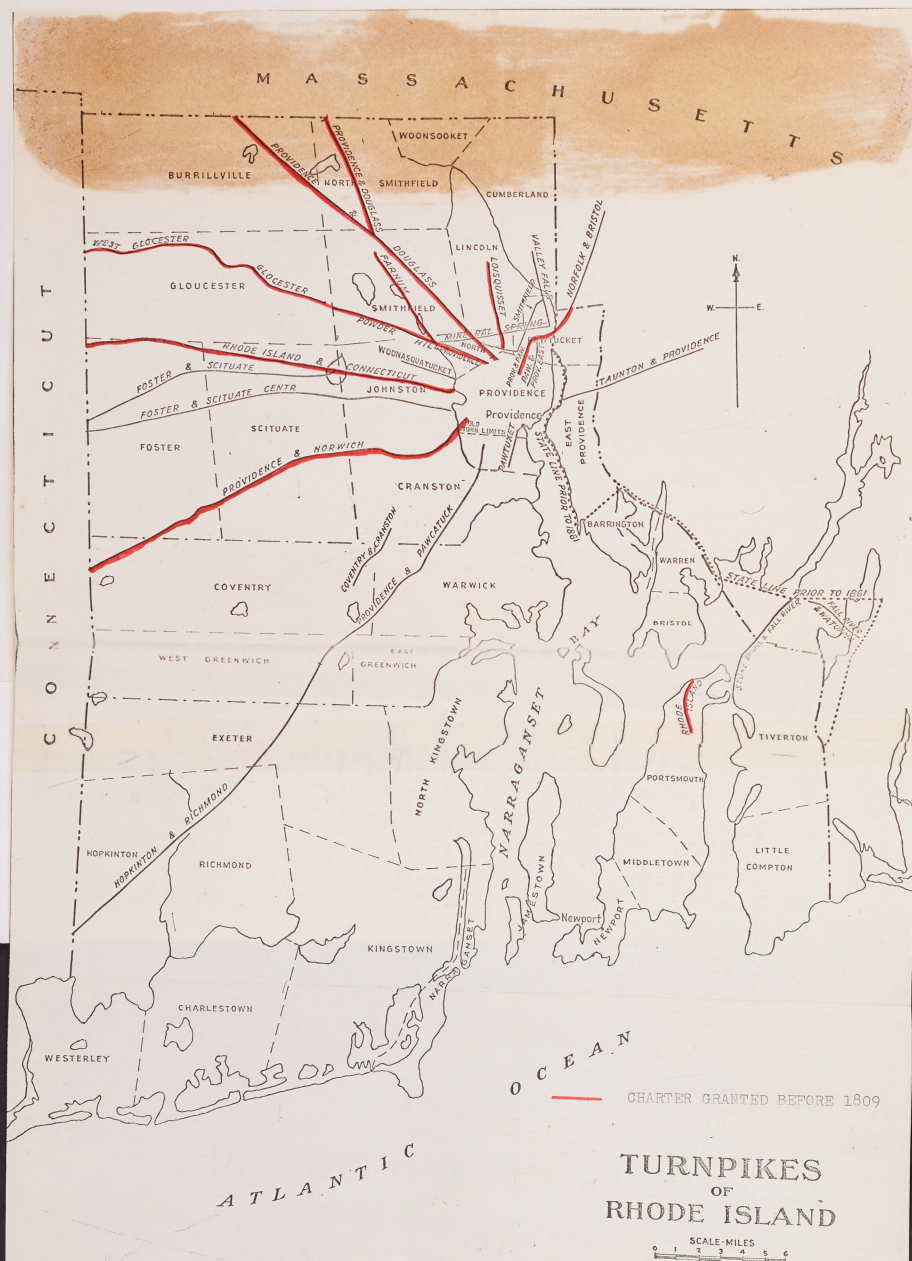
TURNPIKES OF NEW HAMPSHIRE AND VERMONT

— CHARTER GRANTED BEFORE 1809

- - - CHARTER GRANTED, BUT
ROAD NEVER BUILT

SCALE - MILES
0 10 20 30 40 50







and the New Haven Colony Historical Society. The richest collection of records for a single toll road is that of the Norfolk and Bristol Turnpike Company in the Dedham (Mass.) Historical Society.

III. Newspapers. A great deal of time was spent rewardingly in scanning newspapers of the period 1790 to 1840 for articles containing descriptions and criticisms of road and travel conditions, as well as for advertisements suggesting the types of goods being transported overland. Among the newspapers used most extensively were the American Traveller and the Columbian Centinel (Boston), the Connecticut Courant (Hartford), the Green Mountain Patriot (Peacham, Vt.), The Massachusetts Spy (Worcester), the Providence Gazette, and the Sun (Pittsfield, Mass.). Clarence L. Brigham, History and Bibliography of American Newspapers, 1690-1820 (2 vols.; Worcester, 1947) is a useful guide to the location of newspapers.

IV. Diaries and Travel Accounts. The authors of both categories of works frequently commented about the condition of the roads and the types of traffic that were to be found in them. Diaries of greatest use were: The Adams Papers: Diary and Autobiography of John Adams, ed. Lyman H. Butterfield (4 vols.; Cambridge, 1961); The

Diary of William Bentley, D.D. (4 vols.; Salem, Mass., 1905-14); The Diary of Isaiah Thomas, ed. Benjamin T. Hill (2 vols.; Worcester, 1909); Diary of Thomas Robbins, D.D., ed. Increase N. Tarbox (2 vols.; Boston, 1886); and A Journal for the Years 1739-1803 by Charles Lane of Stratham, New Hampshire, ed. Charles L. Hanson (Concord, N.H., 1937).

Timothy Dwight, president of Yale, was an inveterate traveler who visited nearly every corner of New England, as well as other parts of the United States, during the late eighteenth and early nineteenth centuries and left vivid descriptions of much of what he saw. His Travels in New England and New York (4 vols.; New Haven, 1821), although filled with pieties, is an important source for the student of New England life during that period.

Among the many travel accounts written by foreign visitors to the United States, those of greatest value for this study were: John Bernard, Retrospections of America, 1797-1811 (New York, 1887); J. P. Brissot de Warville, New Travels in the United States of America, 1788 (Cambridge, 1964); Francois Jean, Marquis de Chastellux, Travels in North America in the Years 1780, 1781, and 1782 (2 vols.; Chapel Hill, 1963); Edward A. Kendall, Travels through the Northern Parts of the United States (3 vols.; New York,

1809); John Lambert, Travels through Lower Canada, and the United States of North America, in the Years 1806, 1807, 1808 (3 vols.; London, 1810); Patrick Shirreff, A Tour through North America (Edinburgh, 1835); David Stevenson, Sketch of the Civil Engineering of North America (London, 1838); Henry Wansey, An Excursion to the United States of North America in the Summer of 1794 (Salisbury, England, 1798); and Isaac Weld, Travels through the States of North America (London, 1807).

V. Autobiographies and Reminiscences. These must be read with considerable care, as the events they describe often are hazy memories of the authors' early lives. Several such books, nevertheless, provide useful descriptions of roads and travel in New England during the period under consideration, the accuracy of which can be verified by comparison with other sources. These include: S. G. Goodrich, Recollections of a Lifetime (2 vols.; New York, 1857); Francis H. Underwood, Quabbin (Boston, 1893); and Sidney Willard, Memories of Youth and Manhood (2 vols.; Cambridge, 1855).

VI. Treatises on the Building and Repairing of Roads. Several books published in the United States during the first half of the eighteenth century proved valuable not only for what they reveal about contemporary

theories about the subject, but also for what they show about actual practices, which usually fell far short of theory. These were: Gardiner Lyceum, Report of the Committee on Roads (Gardiner, Me., 1831); William M. Gillespie, A Manual of the Principles and Practices of Road-Making (1st ed.; New York, 1847), which for many years was a standard work on the subject; and S. W. Johnson, Rural Economy (New Brunswick, N. J., 1806). Essays in The Eighteenth Annual Report of the Secretary of the Massachusetts Board of Agriculture (Boston, 1871) show that practices did not change greatly before the post-Civil War period.

VII. History of Roads and Transportation. For the colonial period, see Isabel S. Mitchell, Roads and Road-Making in Colonial Connecticut (Tercentenary Commission of the State of Connecticut, 1933). A good starting point for the study of New England turnpikes is Fredric J. Wood, The Turnpikes of New England and Evolution of the Same through England, Virginia, and Maryland (Boston, 1919), which contains information about a large number of individual turnpike companies. Philip E. Taylor, "The Turnpike Era in New England" (unpublished Ph.D. dissertation, Yale University, 1934) is especially strong in its discussion of the economic aspects of the toll-road movement.

A few conclusions, however, require updating. The best history of a single turnpike company is John M. Shirley, "The Fourth New Hampshire Turnpike," Granite Monthly, IV (1881).

Studies of turnpikes in other areas of the United States in which they were of great importance include: Joseph A. Durrenberger, Turnpikes: A Study of the Toll Road Movement in the Middle Atlantic States and Maryland (Valdosta, Ga., 1931) and Robert F. Hunter, "The Turnpike Movement in Virginia" (unpublished Ph.D. dissertation, Columbia University, 1957). Sources used for English roads and transportation were: J. W. Gregory, The Story of the Road (London, 1951) and Edwin A. Pratt, A History of Inland Transport and Communication in England (London, 1912).

Other aspects of transportation during the period are discussed in Edward C. Kirkland, Men, Cities and Transportation: A Study in New England History, 1820-1900 (2 vols.; Cambridge, 1948); Christopher Roberts, The Middlesex Canal, 1793-1860 (Cambridge, 1938); and George R. Taylor, The Transportation Revolution, 1815-1860 (New York, 1951).

VIII. Local History. The quality of local histories is extremely uneven and one must use them with great care. However, in cases in which the author was describ-

ing events with which he was personally familiar or in which he had access to otherwise unavailable materials, they can be of great help. Ellen D. Larned, A History of Windham County, Connecticut (2 vols.; Worcester, 1874, 1880) is still a model of what a good local history should be, both for its depth of research and for its relating of local events to happenings in the larger world. An excellent recent work is Peter J. Coleman, The Transformation of Rhode Island, 1790-1860 (Providence, 1963).

Other works that proved useful for a study of roads were: Jeremy Belknap, The History of New Hampshire (3 vols.; Dover, N.H., 1812); Ernest L. Bogart, Peacham; The Story of a Vermont Hill Town (Montpelier, Vt., 1948); Richard D. Brown, Urbanization in Springfield, Massachusetts (Springfield, 1962); Benjamin Chase, History of Old Chester [N.H.] (Auburn, N.H., 1869); George A. Cochrane, History of the Town of Antrim, New Hampshire (Manchester, N.H., 1880); Benjamin Hobart, History of the Town of Abington (Abington, Mass., 1866); Ezra L. Johnson, Newtown (Newtown, Conn., 1917); William Lincoln, History of Worcester (Worcester, Mass., 1837); John K. Lord, A History of the Town of Hanover, New Hampshire (Hanover, 1928); George A. Morison, A History of Peterborough, New Hampshire (Rindge, N.H., 1954); Jonas Reed,

A History of Rutland [Mass.] (Worcester, 1836); and Ezra S. Stearns, History of Ashburnham, Massachusetts (Ashburnham, 1887).

IX. General History. The standard account of economic life in inland New England ca. 1800 is Percy W. Bidwell, "Rural Economy in New England at the Beginning of the Nineteenth Century," Transactions of the Connecticut Academy of Arts and Sciences, XX (1916), pp. 241-399. As has been suggested in this work, some of Bidwell's conclusions are in need of revision. Certain shortcomings of the Bidwell thesis are pointed out by Rodney C. Loehr in "Self-Sufficiency on the Farm," Agricultural History, XXVI (April, 1952). A work of considerable merit is Margaret E. Martin, "Merchants and Trade of the Connecticut River Valley," Smith College Studies in History, XXIV (Northampton, Mass., 1938-39).

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