NEW HAMPSHIRE RAILROADS:

HISTORIC CONTEXT STATEMENT

Prepared by

R. Stuart Wallace, Ph.D.
&
Lisa B. Mausolf

April 2001

LIBRARY OF CONGRESS
JUL 21 2003
TRANSFER

NEW HAMPSHIRE RAILROADS: HISTORIC CONTEXT STATEMENT

Prepared by R. Stuart Wallace and Lisa B. Mausolf
in accord with a contract with the New Hampshire
Department of Transportation
(Haverhill -Bath BRS-RS-FA-T-X-275(009) 10340)

April 1, 2001

This project to prepare a Historic Context Statement for New Hampshire Railroads and related properties was approved by the Governor and Executive Council April 1, 1998. The contracting agency, R. Stuart Wallace, Ph.D. (prime consultant), and subconsultant, Lisa B. Mausolf, agreed to prepare a historic context statement for the contracting agency, the New Hampshire Department of Transportation (NHDOT), and two other agencies working closely with the NHDOT : the Federal Highway Administration (FHWA) and the New Hampshire Division of Historical Resources (NHDHR).

TF24
.N4 W35
2001
copy 1

Bib 13283714

LC Control Number

2003 628437

NEW HAMPSHIRE RAILROADS:

HISTORIC CONTEXT STATEMENT

Table of Contents

	Introduction and Methodology	7
I.	New Hampshire's Railroads: A Brief History	10
	A. Introduction	10
	B. Precursors to Railroads	14
	C. Early New Hampshire Railroads	17
	1. Early Promotion and Incorporation	17
	2. Early Construction Issues	19
	3. The Railroad War of 1840-1844	20
	D. A Period of Rapid Growth: 1844-1883	23
	1. The Infrastructure of Early Railroads	23
	2. Railroads as Big Business	27
	3. Railroads and Economic Development	29
	4. Government Regulation and the Need to Consolidate	30
	E. The Era of Consolidation and Progressive Reform	33
	1. The Boston & Lowell and the Colby Bill	33
	2. Consolidation: The Boston & Maine Victory	36
	3. Rise and Fall of Frank Jones	39
	4. The Tuttle Years	41
	5. Political Influence at the Turn of the Century	42
	6. Progressive Revolt	43
	7. The Morgan-Mellen Takeover	46
	F. Bankruptcy and Abandonment: 1914 to present	48
	1. Valuation and World War I	48
	2. Regional Decline and the Request for Abandonments	50
	3. Modernization and World War II	52
	4. Postwar Problems for New England Railroads	54

5. Efforts to Consolidate 56
6. Government Aid and the End of the B&M 57

II. Types of New Hampshire Railroads 60
A. Introduction 60
B. Horse Railroads 60
C. Electric Traction Railroads 61
D. Logging Railroads 62
E. Narrow and Non-Standard Gage Railroads 62
F. Berlin "paper company" Railroads 63
G. Commercial Passenger and Freight Railroads 63

III. Types of Property Associated with Railroads 67
A. Passenger Depots 67
1. Introduction 67
2. Large Depots and Architect-Designed Depots 70
3. General Passenger Depots 72
4. Smaller Union Depots 78
5. Integrity Considerations 79
B. Flag Stops 79
1. Introduction 79
2. Integrity Considerations 80
C. Support Structures 80
1. Freight House 80
a. Introduction 80
b. Integrity Considerations 82
2. Engine House 83
a. Introduction 83
b. Integrity Considerations 85
3. Car House 85
a. Introduction 85
b. Integrity Considerations 86
4. Car Shops 86
5, Section House 87
a. Introduction 87
c. Integrity Considerations 88
6. Tool House/Shanties 88
7. Watchman Shanties, etc. 88
8. Coal Packets/Coal Sheds, etc. 89
a. Introduction 89
b. Integrity Considerations 91
9. Sand Houses 91
a. Introduction 91
b. Integrity Considerations 91
10. Milk House/Milk Platform 91
11. Ice Houses 92

12. Water Tanks/Water Stations 93
13. Other Railroad Service Buildings 94
14. Signals 94
15. Rail Yards 96
16. Employee Housing 96
17. Parks & Other Facilities 97
D. Bridges 98
1. Introduction 98
2. Wooden Bridges 99
3. Wooden Through Truss Railroad Covered Bridges 100
a. Introduction 100
b. Integrity Considerations 102
4. Wooden Deck Truss Railroad Covered Bridges 102
5. Boxed Pony Truss Bridges 103
a. Introduction 103
b. Integrity Considerations 104
6. Wood Stringer Bridges 104
a. Introduction 104
b. Integrity Considerations 105
7. Metal Truss Bridges 105
8. Metal Pratt Truss Variants 107
9. Lattice Riveted Truss 108
10. Warren Truss 108
a. Introduction 109
b. Integrity considerations 110
11. Plate Girder Bridges 110
12. Through Plate Girder 111
13. Deck Plate Girder 111
a. Introduction 111
b. Integrity Considerations 112
14. I-Beam Stringers and Deck Spans 112
15. Stone Arch Bridges 113
a. Introduction 113
b. Integrity Considerations 114
16 Concrete Slab Bridges 114
a. Introduction 114
b. Integrity Considerations 115
17. Other Concrete Bridges 115
18. Other Bridges 115
19. Historic Stonework 115
20. Trestles 116
21. Frame Trestles 116
22. Pile Trestles 117
a. Introduction 117
b. Integrity Considerations 118
23. Iron Trestles and Viaducts 118

a. Introduction 118
b. Integrity Considerations 119
24. Culverts 119
a. Introduction 119
b. Integrity Considerations 120
25. Cattle Passes 120

Illustrations: 122 - 225

IV. Conclusion 226
A. Introduction 226
B. New Hampshire Geography 226
1. Terrain and Weather 226
2. The Abundance of Timber 227
C. Proximity to Boston and the Atlantic Ocean 227
1. Hinterlands, Urban Investment, and Agricultural Change 227
2. Immigrants 227
D. New Hampshire's Early Urban and Industrial Growth 228
1. Introduction 228
2. Industrial Growth 228
3. Local Pride and the Coming of the Railroad 228
4. Railroads and Community Design 229
E. New Hampshire's Political Environment 229
1. Jacksonian New Hampshire and the Fear of Corporations 229
2. The Rise of Railroad Influence 229
3. The Declining Political Influence of the B&M 230
F. The Growth of Tourism 230
1. Railroads and the Growth of Tourism 230
2. Tourism and High Costs 230
G. Railroad Competition 231
1. Competition among Railroads 231
2. Competition from Other Forms of Transportation 231
H. Railroad Consolidation 231
I. Technological Improvements 232
J. Varieties of New Hampshire Railroads 232
1. Introduction 232
2. Major Through Lines 232
3. Lines Linking Regions of New Hampshire 233
4. Local Railroads 234
5. Miscellaneous Lines 234
K. Current Infrastructure: A Summary 235
1. Introduction 235
2. Passenger and Freight Depots 235
3. Bridges and Trestles 235
4. Miscellaneous Elements 235
5. Corridors 236

L. Future Research 236

V. Appendices 238
A. Railroad Corporations in New Hampshire 239
B. Railroads: Towns and Depots 272
C. Timeline of New Hampshire Railroad History 311

VI. Bibliography 328

Maps

Railroads, c. 1860 28

A Route to the Lakes 34

New Hampshire Railroads, 1890 Folded in Pocket

New Hampshire's Current Railroads Folded in Pocked

INTRODUCTION

At the beginning of World War I, almost everyone in New Hampshire lived within twenty-five miles of a railroad; most lived within sound of a train whistle. Railroad tracks laced the state, providing rail service to the smallest of towns and the largest of cities. New Hampshire's strong industrial base depended entirely upon the railroad. Its tourism was equally dependent upon the railroad. And New Hampshire's people needed the railroad to travel any distance or to receive goods and services. Government needed the railroad as well; the Boston & Maine Railroad was the largest tax payer in the state.

The infrastructure needed to provide all of these services was impressive. Throughout the nineteenth century, private railroad corporations cut through ledges, built rail beds, laid tracks, and built bridges, trestles, and hundreds of buildings of all shapes and sizes. In all, the combined length of the commercial railroads, the logging railroads, and the electric railways in New Hampshire totaled over fifteen hundred miles--and almost all of this was built by hand. Along these lines were the depots, rail yards, water tanks, and employee housing needed to keep the passengers and freight moving.

The railroad infrastructure of New Hampshire had to be built and maintained by private enterprise. As the railroads fell onto hard times after the First World War, the infrastructure suffered as well. Today, only a small percentage of New Hampshire's original tracks are useable, and much of what is useable is in need of repair and used very little. A substantial portion of the buildings, bridges, and trestles are gone as well, while much that survives is in derelict condition. Yet much of value remains. As the State of New Hampshire acquires more and more of the rights-of-way of the state's railroads, it is imperative to evaluate the significance of that which remains, and to use this information in making decisions about the future use of the state's remaining railroad resources. Toward that end, it is the major goal of this study to look at what used to be, what is still standing, and what is the significance of the remaining railroad infrastructure in New Hampshire.

Methodology

Given the size and complexity of New Hampshire's railroad story, the methodology used in this study had to be selective by nature. Attempts were made to identify and whenever possible to examine the largest and best public collections of New Hampshire railroad materials. These materials included company records, photographs, prints, maps, government records, and more. A brief review was also made of primary material that is in print in the form of laws and reports. The extensive body of secondary material relating to railroads in New Hampshire and New England was also reviewed. This material varies from scholarly monographs to brief articles in magazines and even

newspapers. A summary of repositories, as well as primary and secondary material may be found in the bibliography of this study.

Attempts were also made to locate what had been and what is still extant. Maps, the Valuation records, "bird's eye" views, photographs, and material obtained from local histories and directories revealed much of what had once been a part of the railroad infrastructure of the state. This material was then compared to historic surveys, information provided by the NHDOT Bureau of Railroads, information provided by local historians and railroad enthusiasts, and site visits. When site visits were made, photographs were taken.

Meetings were held on a monthly basis including the prime contractor, the subcontractor later in the project, and representatives from NHDOT, FHWA, and NHDHR. At these meetings, a list of Topics of Significance was reviewed and suggestions were made regarding the final report. Draft portions of the final report were then reviewed by members of the team, as well as the Bureau of Railroads, NHDOT. Revisions were then made before assembling the final report.

I. NEW HAMPSHIRE'S RAILROADS: A BRIEF HISTORY

A. Introduction

On the night of January 8, 1833, the people of Wakefield, New Hampshire, were in for a special treat. For one night only, they were to witness the demonstration of a "Locomotive Steam Carriage." One of their very own citizens was to be drawn about in a "Rail-road Car." Better still, the farm folks of Wakefield would get a look at the machine that, according to the event's sponsors, was capable of "annihilating distance" and "beautifying our little globe, which to a great extent, has so remained a moral waste."[1]

The much anticipated event in Wakefield came five years prior to the construction of a single mile of track in the Granite State. Nor was everyone so confident of the benefits to be provided by this new invention from England. The farmers of Dorchester, New Hampshire, once voted "That our Representative to the Legislature be instructed to use his endeavor to prevent, if possible, so great a calamity to our farms as must be the location of any railroad passing through." [2] Dorchester got its wish.

Yet other communities wanted the railroad. Of New Hampshire's 234 municipalities, 176 eventually had some portion of a railroad constructed within their borders. Promoters had high hopes for railroads, even if some of the hopes were misplaced. Dartmouth professor Charles B. Haddock, an early promoter of the Northern Railroad connecting Concord with White River Junction, Vermont, envisioned the railroad to be an engine of democracy, whereby simple farmers along the way would purchase Northern stock--dictating its schedule and rates at stockholders meetings.[3]

But the Northern Railroad did not promote democracy. It was a small line, and its stock was purchased in large part by investors living in the Boston area, not the farmers of Franklin, Wilmot, and Danbury, New Hampshire.

---

[1] Broadside in the collections of the New Hampshire Historical Society

[2] Hobart Pillsbury, *New Hampshire: Resources, Attractions, and Its People. A History*, 5 vols (New York, 1927), 2:452.

[3] See Wilson Smith, "Purity and Progress in New Hampshire: The Role of Charles B. Haddock," *The New England Quarterly* 28 (December 1955): 455-472.

And the Northern was one of New Hampshire's larger and more important railroads. In all, New Hampshire either incorporated or hosted over 260 railroads--mostly steam-powered railroads providing passenger and freight service, but also including steam-powered logging railroads and electric interurban lines. If local trolleys and horse railroads were included, the number would be even higher. Some, like the Concord Railroad; the Eastern; the Cheshire; the Boston & Maine; the Boston, Concord & Montreal; the Northern; the Grand Trunk; and the Portsmouth, Great Falls & Conway provided main line service--connecting regions of New Hampshire and, more significantly, placing New Hampshire within a New England and eventually a national network of rail service. Some, like the Wolfeborough Railroad, the Franklin & Bristol; the Peterborough & Shirley; and the Upper Coos were small, local, and easily swallowed by larger lines. And some were incorporated but never built. Railroad enthusiasts were notorious for being long on impossible dreams and short on capital. One would look in vain for the Concord & Lebanon Railroad; the Pittsfield and Concord; the Marginal; the Moosilauke; or the French Pond Granite Railway.[4]

The railroads that were built in New Hampshire may not have annihilated distance, promoted democracy, or beautified the globe, but they did have an impact like no other technological development of the nineteenth century. Some of their effects are obvious. Factories in New Hampshire's growing industrial centers now had access to hitherto unimaginable quantities of raw materials and fuel, and they now had a means to deliver finished products like textiles, leather goods, industrial machinery, and wood products throughout the nation. Farmers noted the change brought about by the railroads as well. Wool, beef, and grain could be brought to New Hampshire from the West and Midwest for less money than these items could be grown or raised locally. New Hampshire farmers started giving up on sheep, cattle, and wheat--instead they turned to perishable commodities like fruits, vegetables, butter, cheese, and milk, all of which found their way by rail to nearby urban centers like Boston and Portland, Maine. The railroads of New England and New York also put the New Hampshire countryside in the backyards of virtually all urban Americans. Tourists began arriving at the New Hampshire seashore and particularly in the White Mountains in unprecedented numbers. The railroads permeated every aspect of life in New Hampshire, sometimes in subtle ways. In 1883, everyone in New Hampshire began operating on "railroad time." Even the New Hampshire General Court scheduled its sessions in Concord to be compatible with train timetables. And railroad time was not just standardized, it was quicker. Local merchants as well as managers of White Mountain "Grand Hotels" could utilize the railroads to get "next day" service. Farmers in remote New Hampshire hill towns would receive catalogs and merchandise by rail, courtesy of Montgomery Ward or Richard Sears. Railroads made it possible for residents of the Granite State to travel to any part of the state, or perhaps to Boston, in a matter of hours, not days. Railroads also changed the shape of towns and cities. Railroads cut a swath through older road systems; railroad depots

[4] There is no general history of railroads in New Hampshire. The best quick reference to particular railroads in the Granite State remains George Pierce Baker, *The Formation of the New England Railroad Systems* (Cambridge, MA, 1937). Another quick reference is Ronald Dale Karr, *Lost Railroads of New England*, 2nd edition (Pepperell, MA, 1989).

became new centers of local commerce, manufacturing, and domicile. Some towns withered when by-passed by the railroad; others flourished when rail service arrived. And finally, in the wake of railroad consolidation during the 1880s and 1890s, railroads became New Hampshire's biggest business, not only revolutionizing the way we thought about corporations in this state, but the way we conducted government business. It was often said near the turn of the century, that no matter who was elected governor, the real governor of New Hampshire was the president of the Boston & Maine Railroad.

During the process of consolidation, virtually all of New Hampshire's railroad corporations disappeared or ceased operating independently. By 1905, the Boston & Maine Railroad controlled all but 52 miles of New Hampshire's 1,174 miles of commercial track.[5] Some of the old New Hampshire lines maintained their corporate status following mergers, but management decisions for the state's railroads were coming out of Massachusetts.

Throughout the twentieth century, even the Boston & Maine began to loose its grip over its own railroad. Early in this century, the Boston & Maine was temporarily absorbed, first by the New Haven Railroad controlled by J. P. Morgan, and later by the federal government during World War I.[6] For a time in the 1920s, the Boston & Maine went into receivership, prompting the company to appeal time and time again to the Interstate Commerce Commission for the right to abandon unprofitable lines. During the Great Depression, the Boston & Maine and the Maine Central even got into the airline business in an effort to secure a New England transportation monopoly, but federal regulators brought the experiment to a halt. World War II provided temporary relief. Troops bid farewell to loved ones at railroad stations, and returned to the same old stations in triumph. The state's rail services brought everything from textiles, to boots, to eggs, to milkweed pods and mica to the war effort.[7] Following the war, even as the Boston & Maine spent money on new diesel engines, rail service was discontinued throughout much of the state. Gone too was the Boston & Maine's clout in state government. The General Court spent money lavishly on roads, but gave no help whatsoever to the railroad. By 1981-82, even the Boston & Maine was gone, bought out by Timothy Mellon's Guilford Industries. During the final decade of the twentieth century, passenger service in New Hampshire was limited to tourist railroads and a few short miles of Amtrack service. A limited quantity of freight was carried on only a small fraction of the state's original tracks. Some railroad rights-of-way have been abandoned and virtually lost. Others are being used or are being considered for use as recreational paths.

---

[5] The 52 miles of non-Boston & Maine tracks belonged to the Grand Trunk. Technically, the Maine Central Railroad, which operated one hundred miles of track in New Hampshire, was separate from the Boston & Maine, but the Boston & Maine owned the majority of Maine Central stock until 1916, and the two railroads shared management afterwards.

[6] For the New Haven episode, see Barry A. Macey, "Charles Sanger Mellen: Architect of Transportation Monopoly," *Historical New Hampshire* 23 (Winter 1971): 3-29.

[7] See Philip N. Guyol, *Democracy Fights: A History of New Hampshire in World War II* (Hanover, NH, 1951), 180-182.

Yet New Hampshire's railroads, while a mere shadow of what they once were, may stage a comeback in the twenty-first century. Highway congestion, fuel prices and shortages, and environmental considerations have forced political leaders, planners, and transportation administrators to consider returning to rail transit.

B. Precursors to Railroads: Roads & Stages, Canals, Coastal Shipping

New Hampshire's railroad story begins with geography. It was geography that largely dictated where railroads could be built, and it was the geographic proximity of Boston and Portland, Maine, that provided much of the capital and impetus for building railroads in the Granite State.

New Hampshire's terrain had been given its rough shape tens of thousands of years ago. Glacial action had left New Hampshire with river valleys that run generally in a north-south direction. European settlers first lived permanently in New Hampshire as early as 1623, and from that date to the present, New Hampshire people have found it difficult to travel in an east-west direction. This simple fact was particularly galling to early provincial and state leaders in the seacoast area. Writing about 1790, New Hampshire historian Jeremy Belknap noted that "New-Hampshire is seated in the bosom of Massachusetts with a narrow strip of sea-coast, and only one port." Given New Hampshire's peculiar terrain, Belknap concluded that "The greater part of New-Hampshire is by nature cut off from any commercial intercourse with the only port in the State."[8] Merchants in Portsmouth had been trying to remedy this situation since the 1740s. Beginning in 1796, in an effort to facilitate long distance travel in the state, New Hampshire incorporated no less than six hundred miles of turnpikes, but these did little to channel the state's commerce through the Piscataqua. Only one turnpike linked the seacoast to the Merrimack valley. Other turnpikes helped move people and goods to Boston and even Portland, Maine.[9]

One reason behind the failure of turnpikes was competition from public, hence free highways. During the first decade of the nineteenth century, stages were being developed that could carry people and a limited amount of freight between Boston and Portsmouth. The Eastern Stage Company was incorporated in 1818. It ran regular stages between Boston and Portsmouth, and eventually to Dover and Lake Winnipesaukee, where it made a connection with a steamboat. The Eastern Stage Company turned out to be a corporate forerunner of the Eastern Railroad. The company not only owned five hundred horses, but blacksmith shops and interests in hotels along stage routes, as well as securities in banks and toll bridges. In addition, the Eastern Stage Company profited by carrying the mail. The years from roughly 1820 to 1840 were golden years for stage companies in New England, a fact not unrelated to the development of the first Concord Coach in 1827. Yet for all the merits of stage travel, it still relied upon the lay of the land, and New Hampshire's land did not favor the commercial interests of Portsmouth.[10]

---

[8] Jeremy Belknap, *The History of New-Hampshire, Vol. III* (Dover, NH, 1812): 152-53.
[9] For a discussion of New Hampshire's early turnpikes, see Donna-Belle and James L. Garvin, *On the Road North of Boston: New Hampshire Taverns and Turnpikes, 1700-1900* (Concord, NH, 1988), 49-55.
[10] For a discussion of the Eastern Stage Company, see Edward Chase Kirkland, *Men, Cities and Transportation: A Study in New England History, 1820-1900*, 2 vols (Cambridge, MA, 1948), 1:51-53.

New Hampshire's geographic dilemma was not lost on merchants and government leaders in Massachusetts, Maine, and Connecticut, who did everything possible to keep New Hampshire goods flowing out of the state to places like Boston, Hartford, Portland, and Newburyport. The most ambitious plan to siphon off Granite State trade came from Boston. In the years after the American Revolution, Boston business interests feared that the port of Boston was losing ground to New York and Philadelphia. Boston needed to tap a larger hinterland. A plan developed that called for a canal system that would link Boston to the upper Merrimack, and from there to the Connecticut River, and miraculously, on to the St. Lawrence. In 1793, the Proprietors of the Middlesex Canal were incorporated, and in 1803, the 26-mile long Middlesex Canal was opened between Charlestown and Middlesex Village (Lowell) on the Merrimack. By 1814, locks and canals had been built around various falls on the upper Merrimack, and it was possible to travel between Concord, New Hampshire, and Boston by water in four or five days, depending on the direction of travel. For the next forty years, the Middlesex Canal facilitated trade between central New Hampshire and Boston. Concord's long main street took on new commercial importance as farmers and merchants brought goods to the canal company's dock at the southern end of town, and in the process stopped for a meal, or a room for the night, or to purchase something at the growing number of stores along the roadway. Farmers in the Merrimack valley and beyond became dependent upon merchants and markets in Boston.[11]

The seventy-five foot long canal boats operating on the Middlesex Canal and Merrimack River carried cotton and coal northward to textile mills in Nashua and Manchester. In 1835, Boston received 90,109 bales of cotton from southern ports, and many of these were sent northward to New Hampshire. The Middlesex Canal also provided New Hampshire with salt, lime, and plaster--the latter two needed in the fields of Granite State farmers. In return, New Hampshire sent bricks from Bedford and Merrimack to the growing mill village of Lowell. Boston received firewood, granite and even Franconia iron from New Hampshire.[12]

But Concord was as far as the Boston to St. Lawrence canal scheme ever got. Investors were to discover that northern New England was not very good canal country. Another plan to connect Dover with Alton Bay by canal never got off the ground, and efforts to link Connecticut River towns in New Hampshire and Vermont with Hartford were never successful commercially. Canals were expensive to build, they were seasonal, and boat traffic on canals moved very slowly. An Orford, New Hampshire, inventor by the name of Samuel Morey tried to remedy this last problem by applying steam power to river boats. He first tested his steam-powered boat on the Connecticut River in 1792, although the credit for inventing a practical steam-powered boat eventually went to Robert Fulton, who demonstrated his steam-powered vessel, the "Clermont," on the Hudson River in 1807. As for New Hampshire, its many falls and narrow canals and gates meant that steam-powered river boats had to be too small to have commercial value. The one steam-powered vessel to make it to the northern reaches of

[11] For the Middlesex Canal, see Christopher Roberts, *The Middlesex Canal, 1793-1860* (Cambridge, MA, 1938), and Kirkland, *Men, Cities and Transportation*, 1:65.
[12] Kirkland, *Men, Cities, and Transportation*, 1:65-66.

the Connecticut River was so small that an observer quipped that it was meant "for the navigation of heavy dew."[13]

Another means of tapping New Hampshire's resources was by sea. At least here Portsmouth had an advantage. Merchants in the Piscataqua region had been building ships and trading with merchants along the Atlantic seaboard for two centuries. Boston was the nearest and most frequent destination. New Hampshire cordwood, cut timber, and agricultural products were taken to Boston in exchange for imported manufactured items. By the 1830s, New Hampshire was also in need of coal and raw cotton. Coal was fast becoming the fuel of choice for home heating, and raw cotton was needed for the state's expanding textile mills. Mills in Exeter, Dover, and Newmarket could be reached by coastal vessels, powered by steam. While many of the vessels arriving in the Piscataqua came from Boston, many carrying cotton from New Orleans and coal from Pennsylvania bypassed Boston on their way to markets in New Hampshire.[14]

Boston was further reminded of its vulnerability when the Erie Canal was completed in 1825. Ever since the War of 1812, if not earlier, Americans had begun to turn their attention to exploring and developing the nation's vast interior. In 1808, Thomas Jefferson's Secretary of the Treasury Albert Gallatin advocated an ambitious plan for internal improvements, including expanding the nation's system of roads and canals. Boston merchants were keenly aware of the need to develop a transportation system that would keep it competitive with other eastern ports, and particularly its arch rival New York. If Boston was to survive as a commercial port, it was necessary to find a way to tap the vast watershed of the Great Lakes. Hence Boston investors not only sought ways to reach the eastern end of the Erie Canal, but they sought other ways to get to the Great Lakes as well. In 1825, the same year the Erie Canal went into operation, the Massachusetts General Court authorized a study to determine the best canal route between Boston and the Hudson River.[15] Fortunately for Boston, others were exploring more practical options.

---

[13] See W. R. Waterman, "Locks and Canals at the White River Falls," *Historical New Hampshire* 22 (Autumn 1967): 23-54.
[14] See Kirkland, *Men, Cities and Transportation*, 1:11-20.
[15] Kirkland, *Men, Cities and Transportation*,1: 97

C. Early New Hampshire Railroads and the "Railroad War" of 1840-1844

1. Early Promotion and Incorporation

In 1812, steam pioneer Oliver Evans predicted that before long, "carriages propelled by steam" would be seen on the roads of America. In a sense, he was right, but not quite in the way he envisioned. Only when steam-powered vehicles were mounted on rails did his vision become reality. One of those who saw this possibility was New Jersey's Colonel John Stevens, who acquired the first railroad charter in United States history from the New Jersey legislature in 1815. By 1825, Colonel Stevens began running his "Steam Waggon," around a circular track near his home. It had no practical use, however, and was seen by most as an interesting toy. That was not the case with the railroad put into use in England by inventor George Stephenson that same year. In an effort to transport coal from the coal fields of Stockton to the nearby port of Darlington, Stephenson had built a small railroad capable of travelling at an average speed of fifteen miles per hour. As news spread of this marvelous invention, city fathers in Boston began to consider the railroad as a possible means to expand Boston's hinterland.[16]

Massachusetts was not the first state to consider building some form of railroad. South Carolina, Maryland, New York, and Pennsylvania started earlier. Yet in 1826, for reasons that had nothing to do with developing the Boston hinterland, a man by the name of Gridley Bryant conceived and built a two-mile, horse-drawn railroad to help him bring granite to the site of the Bunker Hill Monument. Bryant's Granite Railway Company was a true pioneer in railroad construction. Not only did Bryant wrestle with problems like frost heaves, but he designed tracks, a turn table, a portable derrick, and switches. His means of mounting cars on two, four-wheel trucks to allow for turning is used to this day.[17]

The successful testing of steam-powered railroad "carriages" convinced a growing number of Massachusetts legislators that a steam-powered railroad was a far better means of expanding Boston's economic reach than canals. On June 5, 1830, the same year that the "Tom Thumb" was first used on the Baltimore & Ohio Railroad, the Massachusetts General Court chartered the Boston & Lowell Railroad. Massachusetts had officially entered the railroad age, and in the process, the Bay State was taking aim at New Hampshire.[18]

---

[16] For a good summary of early railroad history, see John F. Stover, *American Railroads*, 2nd edition (Chicago and London, 1997), 1-34. The Evans quote is on p. 2.
[17] Kirkland, *Men, Cities and Transportation*, 1:99-101; Stover, *American Railroads*, 14. Some sources give the length of the Granite Railway as being four miles in length.
[18] Kirkland, *Men, Cities and Transportation*, 1:111-112.

Authorities in New Hampshire were hesitant at first to get involved with railroads. Some thought railroads unnecessary and unpractical. A writer in the *New Hampshire Patriot* argued in 1830 that there was no need of railroads, on account of the state's good road system. In any case, it was not clear whether railroads could operate in a "frosty climate."[19] A larger problem stemmed from New Hampshire's distrust of corporations. During the decade of the 1830s, New Hampshire publisher Isaac Hill of Concord developed one of the strongest state Democratic Party machines in the country. In the tradition of Democratic Party hero Andrew Jackson, New Hampshire's Democrats distrusted corporations, which they regarded as concoctions of the privileged classes. In 1838, for instance, the General Court failed to renew the charter of the Eastern Stage Company. But at the same time, there was pressure to introduce the railroad to the Granite State. Textile mills in towns like Somersworth and Nashua desperately needed more reliable transportation. Boston investors had also recently reincorporated the Amoskeag Manufacturing Company in Manchester for the staggering sum of $1.6 million. They had big plans for the east bank of the Merrimack in Manchester, and they needed a means of bringing bricks and later cotton to the mills, alas, to the entire city they were planning to build in 1838. Therefore, in 1835, bowing to pressure from railroad interests, the General Court chartered the Nashua & Lowell Railroad, the Concord Railroad, and the Boston & Maine Railroad. A year later, the Eastern Railroad was chartered.

Some of the provisions found in the charter of the Boston & Maine Railroad are typical for the first round of railroad charters in New Hampshire. The Boston & Maine was authorized to build a line from somewhere on the New Hampshire/Massachusetts line in Haverhill to an undesignated location on the New Hampshire/Maine boundary. The Boston & Maine was envisioned as the New Hampshire portion of a rail line between Boston and Portland, and no one in 1835 was sure where the line was going to run. The right-of-way for the line could not exceed a width of six rods, and the corporation could take land needed for the right-of-way by eminent domain. If the railroad and the land owner could not reach agreement on the value of the land, the issue was to be decided by the appropriate county Court of Common Pleas. The Boston & Maine was to have a monopoly on this route for thirty years; no other railroad could build a parallel line within five miles of the Boston & Maine tracks during this period. Since no railroads were yet running in New Hampshire, it seems the legislature was unsure as to how the Boston & Maine would receive money from the travelling public. In the 1835 charter, the Boston & Maine was authorized to collect "tolls" and erect "toll houses" as well as appoint "toll gatherers." Regulation was somewhat lax. The Boston & Maine was simply to submit an annual report to the legislature giving "receipts and expenditures." It would seem that neither the legislature nor the incorporators had a handle on how much money it would actually take to build the railroad. The Boston & Maine incorporators had two years to organize, and five years to spend $10,000 on construction. Otherwise, they would forfeit their charter. [20]

---

[19] *New Hampshire Patriot*, April 19, 1830; April 11, 1831.

[20] The Boston & Maine charter, along with charters for New Hampshire's other railroads, can be found in [Boston & Maine Railroad], *Boston and Maine Railroad System, Vol 2: Statutes of Maine, New Hampshire and Vermont relating to the Boston and Maine Railroad and leased lines* (Boston, 1902).

2. Early Construction Issues

Actual construction began with the Nashua & Lowell. The line was completed in 1838, and it consisted of eighteen miles of track between Nashua and Lowell, connecting with the tracks of the Boston & Lowell. Six of the eighteen miles of track were located in New Hampshire. New Hampshire now had a rail connection to Boston, over which ran three round trips daily between Boston and Nashua. Two years later, the little Boston & Maine Railroad reached Exeter, while the competing Eastern Railroad ran a line to Portsmouth. By 1842, the Concord Railroad had completed track between Nashua and Concord. In order to accommodate the Amoskeag Manufacturing Company, Concord management had its tracks cross over to the east side of the Merrimack as construction approached Manchester from the south. Completion of the Concord Railroad spelled doom for the Middlesex Canal. The Concord Railroad proved to be both the best built and most economically important line in the state. The line was double tracked by the end of the decade. The Concord Railroad was important to New Hampshire because it connected three of the largest New Hampshire communities--Concord, Manchester, and Nashua--to Boston. The line was so important to the Amoskeag Manufacturing Company that a state law was passed allowing Amoskeag the right to buy Concord Railroad stock. But the Concord Railroad was also important because it was a vital link in the effort to connect Boston with the Great Lakes by way of Ogdensburg, New York.[21]

While the arrival of one of these early railroads to town was generally cause for much celebration, railroads caused problems as well. When the Cheshire Railroad completed its line to Bellows Falls, Vermont, for instance, the local paper summed up the experience this way: "The engine came up in Grand style, and when opposite our Village, the Monster gave one of its most savage yells, frightening men, women and children considerable, and bringing forth deafening howls from all the dogs in the Neighborhood."[22] A more practical problem came from the actual tracks. The need to provide trains with a solid bed and a level track meant that the tracks often served as a barrier--one that stopped animals, people, and water. Farmers complained that grazing animals could not get to water. Others complained when tracks acted like a dam during spring rains, causing local flooding. Still others complained that the tracks posed a safety hazard. Railroads were being sued constantly for the loss of life of both farm animals and pedestrians.[23]

Even the act of construction led to a host of problems for the early railroads. At first there was no agreement on how to build the ideal bed for a railroad. Early attempts in

---

[21] Kirkland, *Men, Cities and Transportation*, 1:161-163; Cole, *Jacksonian Democracy*, 201; Norman W. Smith, "A Mature Frontier: The New Hampshire Economy, 1790-1850," *Historical New Hampshire* 24 (Fall, 1969), 9-10; Pillsbury, *New Hampshire*, 2:452, 454, 462, 476-478.

[22] This quote from the *Bellows Falls Times* is found in Harold Fisher Wilson, *The Hill Country of Northern New England: Its Social and Economic History, 1790-1930* (New York, 1936), 38.

[23] See, for example, *West's New Hampshire Digest, 1760 to Date: Vol. 8*, 587-715, and particularly 629-634.

Massachusetts experimented with granite ties, or "sleepers," but this made for a rough ride and led to the quick destruction of the early iron rails. By 1842, most of New Hampshire's rail lines were using gravel for the bed, or ballast, and wood for the ties. Most of New Hampshire's early lines adopted the English or standard gauge of 4' 8.5". This was essential, since all of New Hampshire's early lines connected to lines built earlier in Massachusetts that all used standard gage. The rails themselves also posed problems. Early railroads in New England used iron rails. The "T" rail had been designed in 1831, but most rails used in this country at first were made in Wales. This began to change when the federal government passed a $25 per ton tariff on imported iron rails. Future iron rails would start coming from foundries in the United States. In the construction of rail beds, crews also had to worry about matters like grade and curves. In southern New Hampshire, as crews laid track along the Merrimack or in the Seacoast Region, grade was not yet a major problem. That changed as lines were extended into the Lakes Region and beyond. Curves were another matter. Early engines were not very good at holding even a very gradual curve. The problem was partially solved with the invention of "bogie" wheels placed near the front of an engine. The use of swivel, or bogie wheels was pioneered in 1832. As early as 1837, the first American eight-wheel engine was manufactured, featuring four drivers and four bogie wheels.[24]

3. The Railroad War of 1840-1844

No sooner had New Hampshire begun to build railroads than politicians in Concord got into the act. New Hampshire at the time was dominated by the Democratic Party, but on the railroad issue, the Democrats were split. A group of young radical, or "locofoco" Democrats led by Franklin Pierce and John Parker Hale argued that railroads should not be given the right to take land by eminent domain, but instead should negotiate with local landowners to determine if they could purchase land and at what price. After all, said the radical Democrats, railroad corporations were private companies. Why should one group of private individuals be favored by government policy over another? Radicals also argued that stockholders in all corporations should not be granted limited liability, but should be liable for all corporate debts. More conservative Democrats, led by Isaac Hill, a director of the Concord Railroad at the time, felt the radical position was unworkable, and that railroads should be able to take land by eminent domain. The Isaac Hill Democrats argued that the railroads should actually be thought of as public entities, since they derived their corporate charter from state government and they provided a public service. If they were not allowed to acquire rights-of-way by eminent domain, then a single landowner could in theory stop a railroad from being constructed. The Hill Democrats further argued that in order to encourage investment in New Hampshire's

[24] Kirkland, *Men, Cities and Transportation*, 1:285-290. See also Robert L. Frey, "Rails, Roadbed, and Track Gauge," in *The Encyclopedia of American Business History and Biography: Railroads in the Nineteenth Century* (New York, 1988): 340-344 and Taylor, George Rogers and Neu, Irene D., *The American Railroad Network, 1861-1890* (Cambridge, MA, 1956): 15.

transportation and industrial infrastructure, stockholders must be granted limited liability. Toward that end, they had won passage of a limited liability act in 1837.[25]

The radicals carried the day in 1840, however, passing a law that called for no state aid to new railroads, including the right to take land by eminent domain. The 1840 law only allowed for the completion of existing railroads. An amendment to the Railroad Act of 1840 even authorized farmers to remove tracks on their land if they were not satisfied with their compensation. Some of the most radical of radicals even tried to limit or halt construction of railroads under construction. They called for a limit to the number of pilings that would be allowed on the proposed Eastern Railroad bridge across the Piscataqua River. Fortunately, the thought of trains falling into the river convinced radical leaders to allow for the safe construction of the bridge. Two years later, radicals dealt railroads--and all other corporations for that matter--another serious blow. They won passage of an unlimited liability bill, making investors liable for all of the debts of corporations, and not merely liable for the amount of their investment. As a result of these acts, once the Concord Railroad reached the capital in 1842, railroad construction in the Granite State came to a screeching halt. New Hampshire had only fifty-six miles of track in the entire state.[26]

At the time railroad construction stopped in New Hampshire, the state had four lines in operation or nearing completion. A state law passed in 1843 designated a corporate headquarters for each: The Concord Railroad had its headquarters in Concord, the Eastern in Portsmouth, the Boston & Maine in Dover, and the Nashua & Lowell in Nashville (Nashua). At least two other railroads had been incorporated at this time, but they had nothing to show for it. The Concord & Lebanon Railroad had been chartered in 1836 to run between Concord and Lebanon, but the railroad was never constructed. The concept of building a railroad to the Upper Valley was sound, however, and it would be fulfilled by the Northern Railroad eleven years later. The Portsmouth and Dover Railroad had been incorporated in 1842 to connect Portsmouth and Dover, and in the process, build a bridge over Great Bay at Fox Point. It would be years before the line was built, and it would be built by another railroad.[27]

Hill and the conservative faction, now at war and not on speaking terms with their radical brethren, took the offensive in the so-called "Railroad War" of 1840-1844. Noting that other states were laying miles of track each month, and that New Hampshire was doing nothing, Hill argued that New Hampshire would fall hopelessly behind the other New England states and become an economic backwater. Needless to say, Boston investors were equally interested in seeing construction resume in New Hampshire, lest Boston fall even further behind in its efforts to tap the Great Lakes.

---

[25] The positions of the radical and conservative Democrats are covered in Cole, *Jacksonian Democracy*, 186-189, 192, 198-201; Richard H. Sewell, *John Parker Hale and the Politics of Abolition* (Cambridge, MA, 1965), 21-25; Roy Franklin Nichols, *Franklin Pierce: Young Hickory of the Granite State*, 2nd edition (Philadelphia, 1969), 118-122.

[26] Cole, *Jacksonian Democracy*, 199-201, 206.

[27] [Boston & Maine Railroad], *Boston and Maine Railroad System*, 145, 197, 299-305.

In the end a compromise was reached. A railroad bill passed in 1844 allowing for new railroad corporations to acquire rights-of-way by eminent domain, but the process of acquisition would be supervised by a three-man state Railroad Commission. In addition, the railroads would have to submit to a degree of regulation. As official "public service companies," their activities would be monitored by the Railroad Commission, although the monitoring for much of the nineteenth century was limited to collection of annual corporate reports. The Railroad Commission, only the second such commission in New England, also had the power to reduce railroad rates in cases where profits exceeded 10%. The state reserved the right to take possession of railroads after twenty years, and state permission was required for a railroad to discontinue a route. The 1844 act even gave private citizens the right to run their own rolling stock on existing tracks. Most significantly, however, the Railroad Act of 1844 stated that incorporation was a right, not a privilege. Two years later, the legislature, which for the first time in memory was not controlled by the Democrats, passed legislation calling for limited liability, as well as a law allowing proxy-voting. Stockholders would have one vote per share, instead of the old system of one vote per stockholder.[28]

The Railroad Act of 1844 was a major step for New Hampshire's railroads. While New Hampshire would continue to be hostile to corporations, and especially railroads, there would never again be an effort to destroy the railroad. For better or worse, railroads were in New Hampshire to stay.

[28] Cole, *Jacksonian Democracy*, 209, 211-212; Sewell, *John Parker Hale*, 61.

D. A Period of Rapid Growth: 1844 - 1883

1. The Infrastructure of Early Railroads

The compromise legislation of 1844 opened the floodgates for railroad interests in New Hampshire. Ten new railroads were chartered in 1844, and between 1845 and 1850, an additional twenty-nine were chartered. When Henry V. Poor published his *History of the Railroads and Canals of the United States of America* in 1860, he listed no less than fifty-seven railroads that had been incorporated in New Hampshire. In all, New Hampshire had constructed 547 miles of track, or ten times as much as had existed in the state in 1844.[29]

The new railroads, like their predecessors, were small and poorly capitalized. Henry Poor reported that only the lines running up the Merrimack River as far as Concord were turning a profit. He went on to observe that "the local roads, penetrating agricultural districts, have, without exception, proved unremunerative...."[30] Many of the chartered railroads were either never built or construction was delayed for years. In Poor's list of fifty-seven New Hampshire railroads, twenty-eight had yet to commence construction. Some never would. The Ammonoosuc Valley, the Grafton, the Conway & Meredith, the Pittsfield & Concord, and the Colebrook were among the railroads that never took tangible form. The Suncook Valley Railroad, which was supposed to run from the Portsmouth & Concord Railroad tracks (in either Hooksett, Pembroke, or Allenstown) to Pittsfield never got off the ground. It survived only because it was re-chartered to a different group of investors in 1863, and even they took several years to construct the seventeen-mile line.[31]

Many greeted the railroads with great enthusiasm. Northern Railroad president George Washington Nesmith said in 1846, "Every American who will labor, can now get employment at fair, remunerating prices, and the emigrant from foreign climes need not stand idle in our streets."[32] Railroad owners in New Hampshire were only too happy to provide work for immigrants. Building a railroad was hard work. Thanks to the potato blight in Ireland in the late 1840s, young men and women were pouring out of Ireland, and many came to New England just in time to take jobs in the textile mills or on the

---

[29] Henry V. Poor, *History of the Railroads and Canals of the United States of America* (New York, 1860), 37-68.

[30] Poor, *History of the Railroads...of the United States*, 39.

[31] For the Suncook Valley and the Suncook Valley Extension, see [Boston & Maine Railroad], *Boston and Maine Railroad System*, 245-259. Also, Suncook Valley Railroad Historical Society, *The Blueberry Express: A History of the Suncook Valley Railroad* (Littleton, MA, 1985).

[32] Quoted in J. Duane Squires, *Headlights and Highlights: The Northern Railroad of New Hampshire, 1844-1948* (New York, 1948), 16.

railroads. Irish laborers were hired to build the state's railroads by hand, requiring a man to move as much a two tons of rock and dirt each day with pick and shovel. When census takers came to the town of Wentworth, New Hampshire, in 1850, they arrived at roughly the same time as the Boston, Concord, & Montreal Railroad. The otherwise "Yankee" town of Wentworth reported seventy-six Irish railroad construction workers that year.[33] By 1870, some modest improvements were on the way. The line that would become the Concord & Claremont apparently had use of a "steam shovel" in 1870, and when crews were forced to dig the famed "Newbury Cut," they used a combination of a "steam drill" and black powder.[34]

The process of constructing railroads was complicated and expensive. There were no schools of engineering or business that could train men to design trestles and bridges over rough terrain or master the complexities of the large and growing railroad corporate structures. There was no blueprint telling presidents and superintendents how to proceed. Where "cuts" had to be made through ledge, the work had to be done by hand, with help from explosives like black powder. Where ravines had to be crossed, large amounts of fill might be used, or when the task was too great or when fill was unavailable, pile trestles were used or railroad engineers designed elaborate wood trestles. River crossings posed even greater problems. Timber bridges used for pedestrians, livestock, and wagon traffic were too lightly framed for railroad engines. New bridges, specifically designed for the size and weight of railroad engines, had to be constructed.

All of New Hampshire's early railroad trestles and bridges were made of wood. Because of the prevalence of different kinds of wood, the relatively low cost of wood construction, and the familiarity of working with wood, New Hampshire railroad corporations favored wood timber construction long after railroads in other states had switched to iron and steel. Corporate annual reports filed with the state Railroad Commission list, among other things, materials used in bridges. The Boston & Maine Railroad reported no bridges of iron or stone until 1870, and the one iron bridge reported in that year was probably the 107' long bridge in Exeter. Yet by 1873, the Boston & Maine reported 5,570 feet of iron bridges on their line. The Boston, Concord & Montreal Railroad, which traversed some of the most rugged terrain of any railroad in the state, reported nothing but wooden bridges through 1883. Meanwhile, the Cheshire Railroad reported two hundred feet of stone bridges as early as 1860, but masonry bridges were rare on most New Hampshire lines. In 1884, of the 108 bridges and trestles on the Northern Railroad, only one was made of iron. The rest were primarily built of Southern yellow pine. That same year, all of the eighty-four bridges and trestles on the Concord & Claremont Railroad, including the Peterborough & Hillsborough Railroad, were made of wood.[35]

---

[33] William L. Taylor, "The Nineteenth Century Hill Town: Images and Reality," *Historical New Hampshire* 37 (Winter 1982), 292-293, 305-306.

[34] Edgar T. Mead, *The Concord & Claremont Railroad* (1998): 18-20.

[35] Kirkland, *Men, Cities and Transportation*, 1:290-294, makes the point that New England railroads in general used wood for bridges long after other regions were turning to iron and steel. New Hampshire railroad annual reports may be found in the New Hampshire Division of Records Management and Archives, Record Group IV, Secretary of the Province and State, Railroad Records. See in particular the

Although bridges made of wood were cheaper to build than iron bridges throughout the 19th century, they had their disadvantages. Wood bridges were subject to rot, they frequently burned, and they were more easily damaged by floods and ice than iron bridges. Hence, the heavy reliance upon wood for bridges helped New Hampshire railroads keep down their initial construction costs, but the need to constantly repair and replace these bridges resulted in higher annual operating costs. Yet wood remained fashionable in the region. By 1900, it was estimated that the Boston & Maine Railroad was still using over one hundred wood covered bridges throughout New England, along with numerous smaller wood bridges and trestles.[36]

Railroads in New Hampshire soon discovered that railroad "infrastructure" required more than rail beds, cuts, trestles, and bridges. For example, corporations had to construct and maintain hundreds of buildings. The most obvious of these--passenger and freight depots--serviced the public. However, other buildings were needed to house workers, maintain rolling stock, and store materials. Railroads also had to purchase and maintain engines and cars for both freight and passenger service. In addition, railroads had to acquire and store large quantities of supplies to keep the trains running--particularly wood, coal, sand, and water. Finally, railroad corporations had not only to hire a large workforce, but one that was multi-skilled and geographically spread.

The passenger depots of New Hampshire were a diverse lot. Most of the early depots were small, unimpressive wood frame structures, often doubling as a freight depot as well. Whenever possible, the stations would have separate waiting areas for men and women. A station agent's office was generally located on the track side of the depot, and it often extended outward to allow the agent to see oncoming trains. Many of the early stations also had a wooden platform near the tracks; in some cases it was covered. Of the pre-Civil War stations built in New Hampshire, only a handful survive, and most of these have been moved and/or converted to other uses.[37]

As communities grew, or as railroads merged and had more capital, newer and better passenger depots began to replace the early generation of buildings. When the Boston & Lowell Railroad conducted an inventory of the Northern Railroad in 1884, the inspector was unimpressed with the Northern's passenger stations, noting that "they are small--have had but little repair or improvments[sic] made upon them--but are sufficient for the present limited traffic." However, in the case of Franklin he recommended "a new and more commodious one [station] to meet the wants of this more enterprising

---

inventories of the Northern Railroad and the Boston, Concord and Montreal Railroad, taken in 1884 by the Boston and Lowell Railroad upon leasing these two lines.

[36] J. Duane Squires, *The Granite State of the United States* (New York, 1956), 2: 442.

[37] See Appendix, "New Hampshire Railroad Towns, Yards, and Depots." The best study of railroad building architecture in New Hampshire was the Valuation Study conducted by the Interstate Commerce Commission shortly after the First World War. The Valuation Records are at the National Archives, Interstate Commerce Commission, although many of the architectural drawings may be found at the archives of the Boston & Maine Railroad Historical Society, University of Lowell.

community."[38] Some communities have had three or even four stations on roughly the same spot. Downtown Concord had five passenger depots; none are extant. The newer stations tended to be more elaborate, even if some were fairly plain buildings glossed over with fancy trim. Others were multi-story buildings that gave visitors a good first impression to the towns and cities they served. Even a small industrial town like Wilton could boast a passenger and a freight depot made of brick. And New Boston, which served as the terminus of the tiny New Boston Railroad, had an elaborate passenger depot designed by renowned railroad architect Bradford Lee Gilbert. The leading authority of passenger depots in the United States at the turn of the century cautioned against pretentious depots: "The ordinary wayside passenger station is not the proper field for the architect who wishes to rival the designs of the Paris Opera House."[39]

But railroads needed more than passenger and freight depots. They also needed yards that would service their rolling stock. Each railroad had at least one main yard, complete with a variety of shops needed to keep the trains running. The Atlantic & St. Lawrence Railroad (later the Grand Trunk) and the Boston, Concord & Montreal Railroad both decided to locate their main shops somewhere near the mid-way point of their lines. By 1907, the Atlantic & St. Lawrence yard at Gorham--a town of only 2,000 residents--consisted of a passenger depot with a wing for baggage and offices, a freight depot, a passenger platform, a car shop, an engine house measuring 76' by 144' and a separate engine room, a coal shed that was 491' long, a coal master's office, a machine shop, a tool room, a blacksmith shop, a boiler shop that was over one hundred feet long, a carpenter shop that was 120' long, a tinsmith shop, a stable, two dwelling houses, a switch shanty, an ash house, and at least six miscellaneous storage sheds, one being almost one hundred feet long.[40] Nor was it enough for a railroad to have only one yard. The shops at Lake Village constituted the main shops for the Boston, Concord & Montreal Railroad, but as the railroad acquired the White Mountains Railroad and started building north and east, it became necessary to build another yard in Woodsville, complete with a roundhouse and turntable.[41] Given the fact that steam engines were in need of repair approximately 50% of the time, it became necessary for New Hampshire railroads to build engine houses all along their lines.

The infrastructure of New Hampshire railroads went even further. The Boston, Concord & Montreal Railroad and the Atlantic & St. Lawrence Railroad each built large hotels in Plymouth and Gorham respectively. Railroads also had to house their workers, and as a result either built or purchased houses all along their routes. The most spectacular of these houses was the house built for the section crew at the northern end of the Willey Brook Bridge in Crawford Notch.[42] New Hampshire railroads even purchased

---

[38] Northern Railroad Inventory, 1884, made by the Boston & Lowell Railroad, at the New Hampshire Division of Records Management and Archives.

[39] John A. Droege, *Passenger Terminals and Trains* (New York, 1916, republished, 1969), 259

[40] [Grand Trunk Railway], *Location, Description and Dimensions of all Stations, Buildings, Agents' and Section Houses, Stock Pens, etc.* (1907).

[41] On the Boston, Concord & Montreal Railroad, see Edgar T. Mead, *The Up-Country Line: Boston, Concord & Montreal RR* (Brattleboro, VT, 1975).

[42] See Virginia C. Downs, *Life by the Tracks: When Passenger Trains Steamed through the Notch* (Canaan, NH, 1983).

steamboats and docks. The steamboat *Dover* was purchased by the Cocheco Railroad shortly after laying tracks between Dover and Alton Bay in 1850-51. The *Mount Washington* and the *Lady of the Lake* were the best known of the railroad-owned steamboats on Lake Winnipesaukee. Some railroads even built or acquired interest in parks. Burgett's Park in Somersworth and Canobie Lake Park in Salem were built by electric interurban lines, while the Lake Shore Railroad and the Tilton & Belmont Railroad owned at least some of the facilities at Lake Shore Park (Gilford) and Gardner's Grove (Belmont) respectively.[43]

Finally, of course, New Hampshire railroads had to buy rolling stock. Some of the earliest engines used in New England were apparently built in the machine shops of textile mills, as these were the only facilities with the knowledge and the equipment needed to build anything as complicated as a railroad steam engine. Amoskeag Manufacturing Company built more than two hundred locomotives prior to the Civil War. In 1864, however, the firm of Bayley, Blood and Company of Manchester became the Manchester Locomotive Works. Before being purchased by the American Locomotive Company in 1901, Manchester Locomotive Works built 1,793 engines, usually of the "Atlantic" (4-4-2), the "Pacific" (4-6-2), and the "Mikado" (2-8-2) types. In 1873, the Grand Trunk Railroad purchased sixty new locomotives from Manchester when the line converted to standard gauge. Later, the Laconia Car Company manufactured passenger and freight cars as well as cabooses for steam railroads, and later, trolleys used on the state's interurbans. In addition to rolling stock manufactured within the state, railroads also purchased engines and cars from out-of-state manufacturers, including palace cars from Pullman.[44]

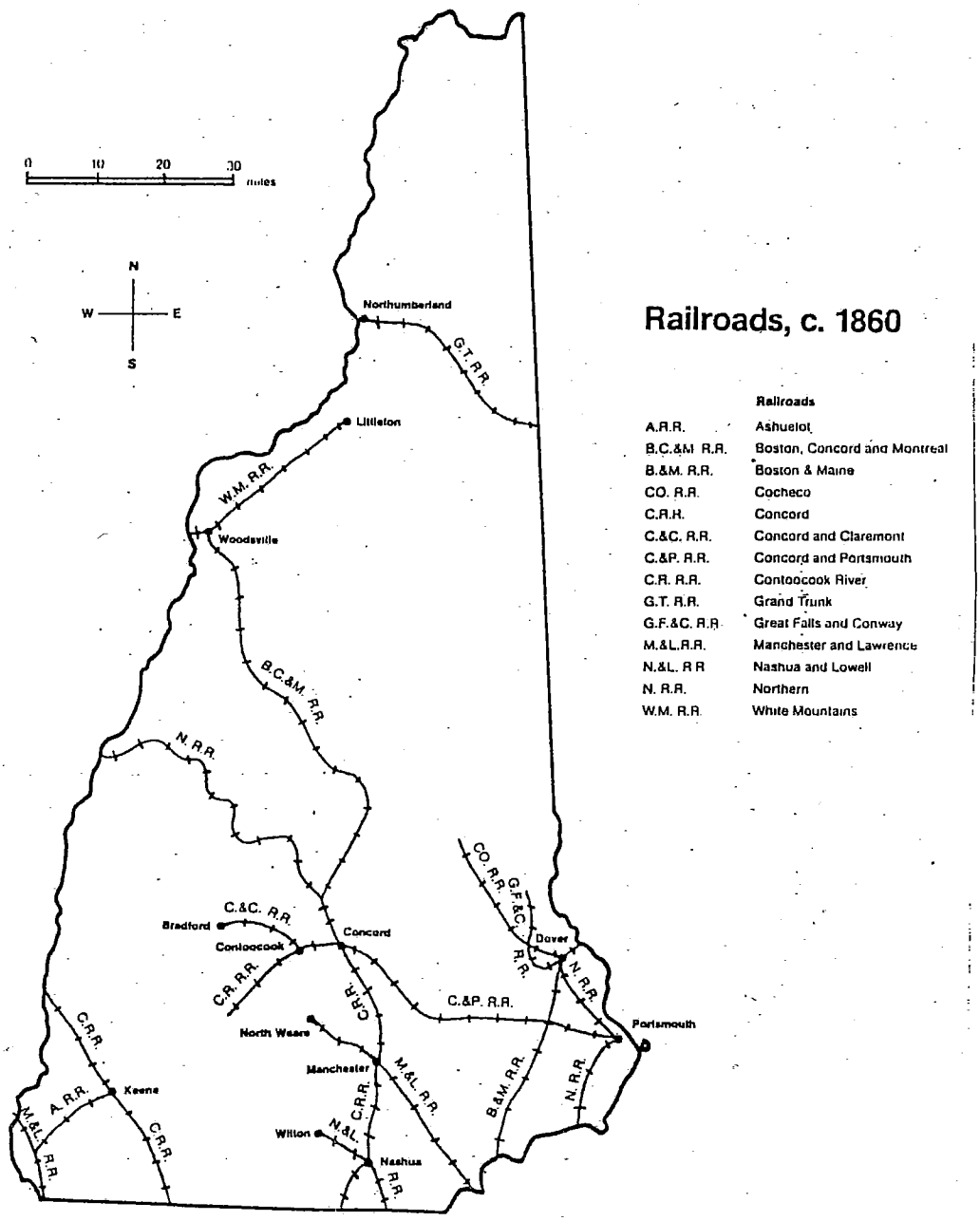
2. Railroads as Big Business

Even the early railroads were to discover that railroads were big businesses. The Boston, Concord & Montreal Railroad dutifully filled out its annual report form for the Railroad Commission in 1864, listing twenty "way stations" and eight flag stops--including the one in front of B,C&M president Josiah Quincy's house in Rumney. They built and maintained 2,500 feet of wood bridges and trestles, and they owned fourteen locomotives, eleven passenger cars, two hundred "merchandise cars," and ten gravel cars. They boasted that their passenger trains could travel one mile every three minutes; their freight trains averaged one mile in five minutes. At the time, the railroad had two hundred people on its payroll. Within twenty years, the Boston, Concord & Montreal maintained thirty-five passenger depots and ten flag stops, and 688 workers were on their payroll.[45]

---

[43] For Lake Shore Park, see Dana Philbrook, "Lake Shore Railroad: The First Forty Years," *B&M Bulletin* 19 (1993). The ICC Valuation Records include an inventory of the buildings at Gardner's Grove.
[44] Squires, *The Granite State*, 2:442.
[45] Boston, Concord & Montreal Railroad Annual Reports, New Hampshire Division of Records Management and Archives.

By 1883, the major through rail lines in New Hampshire had been constructed. While local money may have been invested in many of the early railroads, and was still invested in some of the smaller lines, most of the larger New Hampshire lines were controlled by Boston interests. These included the Northern, the Boston, Concord & Montreal, and the Boston & Maine. Meanwhile, the Grand Trunk was part of the Canadian system, while the Portland and Ogdensburg through Crawford Notch was a Maine Railroad. Yet the



Railroads, c. 1860

	Railroads
A.R.R.	Ashuelot
B.C.&M. R.R.	Boston, Concord and Montreal
B.&M. R.R.	Boston & Maine
CO. R.R.	Cocheco
C.R.R.	Concord
C.&C. R.R.	Concord and Claremont
C.&P. R.R.	Concord and Portsmouth
C.R. R.R.	Contoocook River
G.T. R.R.	Grand Trunk
G.F.&C. R.R.	Great Falls and Conway
M.&L.R.R.	Manchester and Lawrence
N.&L. R.R.	Nashua and Lowell
N. R.R.	Northern
W.M. R.R.	White Mountains

most successful and politically influential railroad in New Hampshire for much of the nineteenth century was the Concord Railroad. The Concord was seen by many as "New Hampshire's railroad." The Concord's charter even had a provision allowing state government to purchase the railroad if it wished. Roughly two-thirds of its stock was owned by New Hampshire investors, who were rewarded for their efforts. Between 1868 and 1889, the Concord paid an annual dividend of 10%, the maximum allowed by law.[46]

The Concord's success was due in part to its location, but the Concord was also quick to eliminate competition. At various times, the Concord controlled the Manchester & Lawrence Railroad, the Concord & Portsmouth Railroad, and even the Nashua, Acton & Boston Railroad. The Concord Railroad was particularly concerned about keeping competition out of Manchester, as well as protecting itself between the Merrimack and Connecticut valleys. When the rival New Hampshire Central Railroad built a line from Manchester to Henniker, both the Northern and the Concord railroads were alarmed. Concord Railroad interests, headed up by future Concord Railroad superintendent Joseph Gilmore, managed to acquire the financially troubled New Hampshire Central. On Sunday morning, October 31, 1858, Gilmore led a work crew into Henniker and tore up the seven miles of track between North Weare and Henniker. The New Hampshire Central then was reincorporated as the Manchester and North Weare Railroad and operated by the Concord.[47]

3. Railroads and Economic Development

In the years after the Civil War, railroads became vital to the economic development of New Hampshire. New Hampshire industry developed dramatically in the mid-nineteenth century. Cotton and woolen textiles, industrial machinery, ale, leather goods, wood products--even the famed Concord Coach and the Amoskeag fire engine--needed to be taken to markets around the nation (and in the case of the Concord Coach, around the world). In return, railroads brought coal from the docks of Portsmouth, plaster for farmers, cotton and wool for mill owners, and a host of consumer items, many of which were advertised in catalogs. After 1880, New Hampshire's North Country became a center for the making of paper products, and logging railroads branched off from the commercial lines into the once inaccessible forests of the White Mountains. Of course, the railroad meant that much of New Hampshire timber would never leave the state as well. The railroads needed wood for trestles, bridges, and ties. Although most New England railroad locomotives were burning coal by 1860, many of the locomotives in New Hampshire continued to burn wood. In 1883, the lines operating out of Concord consumed an estimated 70,000 cords of wood in their locomotives, which in turn drove up the price of cordwood.[48]

---

[46] Kirkland, *Men, Cities and Transportation*, 1:435.
[47] See Richard Schuster, "Railroad Collections at the New Hampshire Historical Society," *Historical New Hampshire* 45 (Fall 1990), 247-248.
[48] Wilson, *Hill Country of Northern New England*, 48.

While the vast majority of New Hampshire rolling stock was devoted to hauling freight, New Hampshire's railroads obviously carried passengers as well. Most were local people, as the railroad presented New Hampshire people with the only viable means of traveling any distance. Passenger service was never as profitable for the railroads as freight service, yet it was a necessity that could be turned to the railroads' advantage. Frequent railroad critic William E. Chandler complained in 1881 that as many as three thousand free passes had been given out to New Hampshire newspaper editors, lawyers, elected officials and their constituents, and even ministers. As a form of bribe, the passes seem to have worked. Chandler's bill to outlaw free passes in 1881 was defeated in the New Hampshire House of Representatives 176 to 35.[49]

In the years after the Civil War, the railroads began to cater to the needs of a growing number of tourists. To lure tourists to New Hampshire in ever increasing numbers, the railroads began to invest in hotels. The Alpine House (or White Mountain Station House) and the Pemigewasset House were railroad hotels. The Lake Shore Railroad doubled as a tourist railroad, for those wishing to visit the southern shore of Lake Winnipesaukee, and as an ice railroad, hauling Winnipesaukee ice to Boston in the winter. Unfortunately for the New Hampshire railroads that catered to tourists, passenger service was labor intensive, requiring conductors, porters, cooks, waiters, bartenders, and baggage handlers. Passenger service also required passenger cars, which were far more expensive to purchase and maintain than freight cars. Railroads that carried many passengers but little freight were bound to lose money.

4. Government Regulation and the Need to Consolidate

During the expansion years from 1844 to 1883, state government leaders eyed the railroad corporations with suspicion. New England railroad historian Edward Chase Kirkland wrote that New Hampshire's distrust of corporations almost amounted to paranoia.[50] Increased regulation was one means of keeping railroads in check, and the amount of railroad-related legislation coming out of Concord during these years would seem to confirm this. A state railroad act in 1850 required railroads to build passenger depots. Two years later, the General Court passed a law authorizing conductors to collect tickets. In 1874, conductors were given new powers by state statute. They were authorized to put noisy passengers in the baggage car.[51]

Most state government interest pertained to larger issues, such as taxes and appraisals, rates, ownership and stocks, and consolidation. New Hampshire state law required that all railroad mergers, including leases, be approved by the state government. Although New Hampshire's state government chose not to give state funds to railroads, they wanted to control who did. An act of 1864 allowed New Hampshire towns and cities to invest public funds in railroads. The governor who signed this act into law was Joseph Gilmore,

---

[49] Gordon B. McKinney, "The Hazen Bill of 1887 and the Ascendancy of the Boston and Maine," *Historical New Hampshire*38 (Winter 1983), 216-217.
[50] Kirkland, *Men, Cities and Transportation*, 1:274-275.
[51] Kirkland, *Men, Cities and Transportation*, 1:309.

superintendent of the Concord Railroad, a man who had won the Republican nomination for governor, according to a rival Republican newspaper, "through free passes, lavish expenditure of money and fear of his power."[52] An act of 1877 reversed this policy, forbidding municipal investments in all private ventures. On a brighter note for railroads, a state law in 1868 waived taxation on the capital of newly-constructed railroads for a ten-year period. The tax break had the desired affect, as nine new railroads were incorporated that year alone. Railroad construction boomed during the period 1870 to 1875, when the mileage of track in New Hampshire increased by 27%, the most substantial jump in the state's history.[53]

Table 1
New Hampshire Railroad Mileage in the 19th century

Year	Mileage	% Change
1860	661	
1865	667	0%
1870	736	10%
1875	934	27%
1880	1,015	9%
1885	1,044	3%
1890	1,146	10%
1895	1,171	2%
1900	1,193	2%

In the end, the biggest concern for government was consolidation. Most of New Hampshire's railroads were poor and small. Most failed. In 1883, only thirty-five of the 108 railroads incorporated to date were in operation, and many of these were under the control of other railroads. Some never began construction. Others were simply too undercapitalized to have a chance. The failure to capitalize at the right level is easy to understand. Prior to the railroads, the largest corporation in New Hampshire was the Amoskeag Manufacturing Company, which had been capitalized in 1835 at what was then the unbelievable sum of $1.6 million. While that may have been enough money to build a textile mill, it paled when compared to the funds necessary to build a railroad. For example, the cost of building the Boston, Concord & Montreal Railroad was reported to have been $2,963,584 in 1860. The cost of the Northern Railroad was $3,068.400. These were two of the state's larger railroads that had actually been completed. Even the tiny Sullivan Railroad, which ran for twenty-five miles along the Connecticut River, had run up capital costs of $1.25 million by 1860.[54]

[52] The quote was in the *Manchester Mirror*, November 12, 1866. See McKinney, "Hazen Bill," 213-214.
[53] Kirkland, *Men, Cities and Transportation*, 2:314-315.
[54] These figures are from Poor, *History of Railroads...of the United States*, 37-68.

In the economic thinking of the time, the failure of some railroads was inevitable. The classical economists of the "Manchester School" and elsewhere had long argued that competition was good; man should pursue his own selfish interests for the betterment of the whole. Adam Smith and Alexander Hamilton would have agreed. In addition, there was a new school of thought deriving from the works of Charles Darwin, and adjusted later to social and economic spheres by "Social Darwinist" Herbert Spencer, who argued that only the fittest would survive. The "natural" laws of the marketplace were simply being played out among the railroad corporations of New Hampshire.

However, railroads were breaking new ground for the modern corporation, and the laws of the classical economists and the Social Darwinists were not working. By the late nineteenth century, railroad investors were beginning to realize that competition was bad, and it could be the undoing of railroads. Railroad executives argued that rate wars between competing lines were so costly to the railroads that they were forced to skimp on maintenance, which in turn endangered the safety of passengers. It was an argument heard time and time again as a justification for railroad consolidation.

D. The Era of Consolidation and Progressive Reform: 1883-1914

1. The Boston & Lowell and the Colby Bill

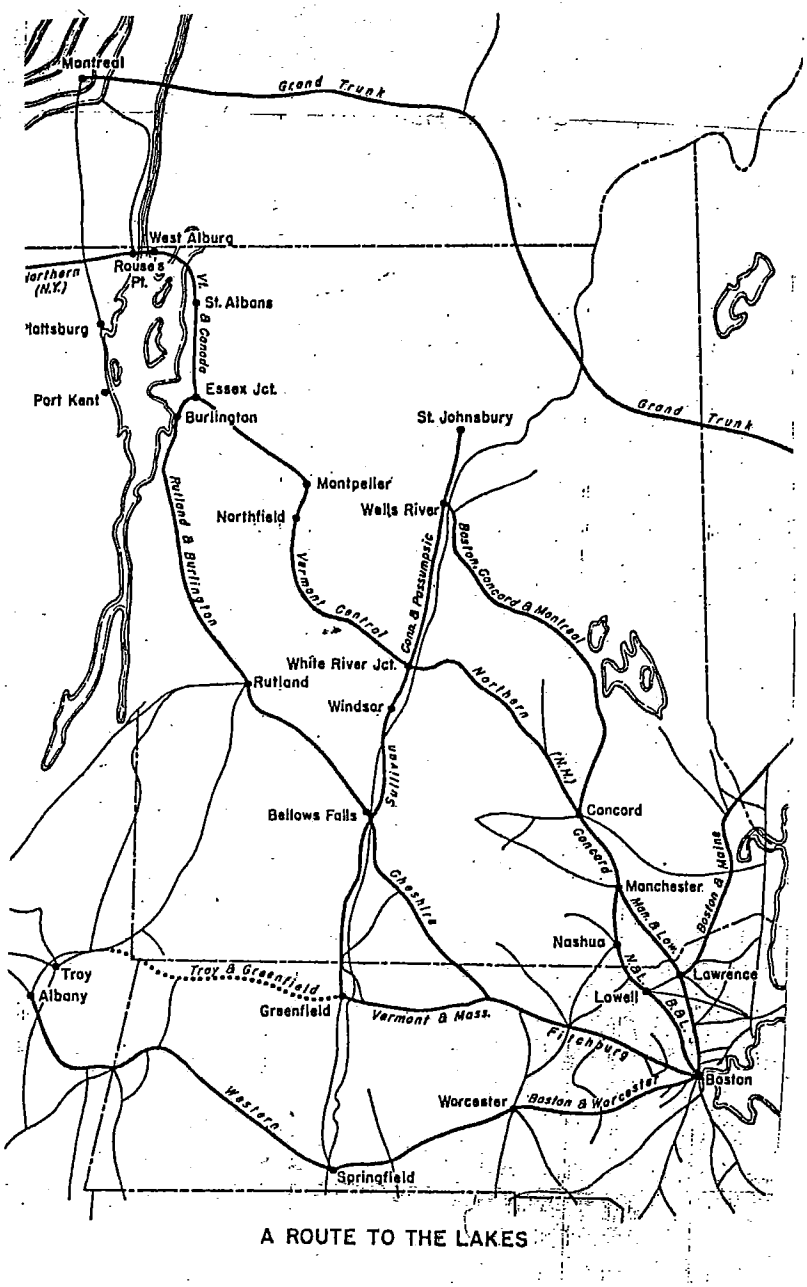
By the late nineteenth century, most agreed that some form of railroad consolidation was necessary in New Hampshire and New England. New Hampshire's railroads tended to be unprofitable, yielding little return to investors. Part of the problem in New Hampshire was common to all New England states. In most parts of the country, industry followed the railroads. Factories in need of rail service were built along existing rail lines. In New England, however, industry came before the railroads. The New England landscape was dotted with factories both large and small. Industrial interests demanded that the rails come to them, not the other way around. Railroads were often built to towns of insignificant size. As a result, the New England railroad system became overbuilt, with many small lines being unprofitable from the start. The many lines, built without any sort of regional planning, resulted in many small railroad centers and many points of transfer, where freight cars would have to sit until placed on another train. Compounding the problem was the simple fact that most freight hauled in New England originated in the region. Even freight coming into New England from other states usually traveled only a short distance once in the region. As a result, freight traffic consisted of short hauls with many transfers. In 1920, for instance, a freight car took three days to move from Nashua, New Hampshire, to Beverly, Massachusetts--a distance of forty miles.[55]

Initially, however, the drive to consolidate had little to do with profits or slow moving freight. Consolidation was driven by the need to develop "systems" that would allow Boston to tap a larger market. Just as Boston investors had tried to find a way to the St. Lawrence Valley with a system of canals at the turn of the nineteenth century, Boston investors envisioned a through rail route to the Great Lakes in the years after the Civil War. They would fail. The route between Boston and the Great Lakes involved at least a half dozen different railroads and four different state governments.[56] There was always a weak spot somewhere along the way. But they would not fail for lack of effort.

The first New England railroad to try to involve New Hampshire railroads in its system was the Boston & Lowell. In 1869, the Boston & Lowell received a Massachusetts charter for the "Great Northern Railroad Company." The Great Northern was to combine the Boston & Lowell, the Nashua & Lowell, the Concord, and the Northern railroads. From 1869 to 1887, the Boston & Lowell tried repeatedly to consolidate these lines. In the end they failed, virtually going bankrupt in the process.[57]

---

[55] Richard Saunders, *The Railroad Mergers and the Coming of Conrail* (Westport, CT, 1978), 183.
[56] Kirkland, *Men, Cities and Transportation*, 1:433-434.
[57] The story of the failed attempt of the Boston & Lowell to consolidate a "system" in New Hampshire is told in Kirkland, *Men, Cities and Transportation*, 1:449-463, and Baker, *Formation of the New England Railroad Systems*, 109-122.



From Kirkland, *Men, Cities and Transportation*

At the center of the problem was the Concord Railroad. While the Nashua & Lowell, the Northern, and its rival, the Boston, Concord & Montreal all tended to be controlled by out-of-state investors, the Concord was always a New Hampshire railroad. Roughly two-thirds of its stock and its stockholders were New Hampshire people.[58] When ownership changed hands, it was always another New Hampshire group of investors that took over. And they were rewarded for their investment. The Concord was the best built and most profitable railroad in the state and always paid a 10% dividend, the maximum allowed by law. And as "New Hampshire's Railroad," the Concord had access to state government. They used this access to crush rivals like the New Hampshire Central, and given that the Concord's "clout" in state government circles was disproportionate to the railroad's modest size, the Concord Railroad used its influence in the State House to challenge the larger railroads coming out of Boston.

[58] Kirkland, *Men, Cities and Transportation*, 1:435.

The struggle for consolidation was complicated, pitting vying groups of investors against one another. It included attempts to merge the three "Concord system" lines: the Concord, the Northern, and the Boston, Concord & Montreal. A key player in the involved transactions was Onslow Stearns, who served not only as the president and/or superintendent of the Concord and the Northern railroads, but was also governor of New Hampshire. Opposition to the proposed merger was led, by among others, future United States senator William E. Chandler. In the end, the Boston & Lowell plan failed for the smallest of reasons. In 1882, New Hampshire Supreme Court Chief Justice Charles Doe ruled the Boston & Lowell lease of the little Nashua & Lowell Railroad was invalid because it had not been approved by the New Hampshire General Court. The Boston & Lowell's plan to link Boston with the St. Lawrence valley by a rail line controlled by one corporation failed because of a six-mile stretch of track located in Nashua.[59]

The State Supreme Court decision shocked railroad interests in New Hampshire and Massachusetts. The process of winning the approval of the New Hampshire General Court was cumbersome, and it would mean that future mergers were going to be determined on political, not economic grounds. The Concord, the Boston & Lowell, and the Boston & Maine railroads were all considering future mergers. The process needed to be changed.

In the 1883 session of the New Hampshire General Court, supporters of the Concord Railroad and the Boston & Maine Railroad introduced the Colby Bill. The bill called for future mergers to be approved, first by the railroad board of directors and two-thirds of the stockholders present, and then by the Railroad Commission, but not the General Court.[60] As initially drafted, the Colby Bill was favorable only to railroads incorporated in New Hampshire (i.e., the Concord and the Boston & Maine), and discriminated against "foreign" railroads like the Boston & Lowell. However, the Boston & Lowell's new superintendent, Charles S. Mellen, lobbied for changes that would allow the Boston & Lowell to take advantage of the bill as well. After some amending, the bill became law. It's passage took mergers out of the political arena. The Colby Bill not only changed the way that railroads would conduct business in the state, but it was symbolic of a change in attitude. Once virtually paranoid about corporations, New Hampshire state government had now given the green light to unprecedented corporate growth in the Granite State.

Following passage of the Colby Bill, the Concord Railroad began negotiating with the Northern and the Boston, Concord & Montreal, seeking some kind of merger. However, while these negotiations were working their way through some legal technicalities, the Boston & Lowell and its superintendent Charles S. Mellen moved quickly around the Concord to lease the Northern and the Boston, Concord & Montreal in 1884. The move virtually sandwiched the Concord Railroad, whose directors probably now had reservations about their earlier support of the Colby Bill. Yet the directors of the Concord were up to the challenge. A group of Concord investors acquired a controlling

---

[59] Kirkland, *Men, Cities and Transportation*, 1:450-458; Squires, *Headlights and Highlights*, 11-12; Baker, *Formation of the New England Railroad Systems*, 117-118.
[60] McKinney, "The Hazen Bill," 217-218; Kirkland, *Men, Cities and Transportation*, 1:459.

interest in the Boston, Concord & Montreal Railroad, and then proceeded to ask the Boston & Lowell for the return of their railroad. A group of Northern Railroad investors also requested nullification of the 1884 lease of their line. The Boston & Lowell refused both requests, and the case of the Northern Railroad went to the New Hampshire Supreme Court. In 1887, Justice Doe ruled against the Boston & Lowell, saying that the merger with the Northern Railroad had not protected dissenting stockholders. It was clear to directors of the Boston & Lowell that the New Hampshire Supreme Court would probably also invalidate their lease of the Boston, Concord & Montreal for the same reason. By this time, the Boston & Lowell was running out of patience and money.[61]

2. Consolidation: The Boston & Maine Victory

Although the Boston & Lowell may not have found a way to reach the St. Lawrence valley, in its efforts to consolidate, it had gained control over several smaller lines. Some of the Boston & Lowell's rivals had done the same thing. For years, the Boston & Maine and the Eastern Railroad had competed for the coastal trade between Boston and Portland. The Eastern had been the more aggressive of the two lines, spending money freely to control lines in Maine. In the end, they spent their way into insolvency, and in 1875, the line was bankrupt. Its rival, the Boston & Maine leased the Eastern in 1883. Seven years later, it simply bought out the Eastern.[62]

By 1883, there were six major "systems" in New Hampshire. The Boston & Lowell system controlled the lower Merrimack valley and much of southern New Hampshire. The Boston & Maine controlled the seacoast and eastern parts of the state. The Concord dominated the central corridor of the state, along with the Northern and Boston, Concord & Montreal railroads that depended on the Concord. In the southeastern part of the state, railroads like the Cheshire, the Peterborough & Shirley, and the Monadnock eventually fell into the Fitchburg system. In northern New Hampshire two very different lines were competing to connect Portland with the St. Lawrence valley, and in the process, giving New Hampshire's North Country railroad service. The Grand Trunk (originally the Atlantic & St. Lawrence) sent a line into New Hampshire at Shelburne, then through Gorham, Berlin, and on to Groveton. Another and less successful Portland line, the Portland & Ogdensburg, actually cut through Crawford Notch, but steep grades prevented this line from being much more than a tourist line. It eventually became part of the Maine Central Railroad.

The situation changed dramatically in 1887. When the Supreme Court disallowed the Boston & Lowell's lease of the Northern Railroad, directors of the Boston & Lowell decided to call it quits. They leased their railroad to the rival Boston & Maine Railroad. The Boston & Maine had controlled very little track in New Hampshire prior to acquiring

---

[61] The actual case heard before the Supreme Court was *Samuel H. Dow et al v. Northern Railroad et al.* Kirkland, *Men, Cities and Transportation*, 1:460-463; McKinney, "Hazen Bill," 218-219; Baker, *Formation of the New England Railroad Systems*, 118-121; Barry A. Macey, "Charles Sanger Mellen: Architect of Transportation Monopoly," *Historical New Hampshire* 26 (Winter 1971): 6-7.

[62] Kirkland, *Men, Cities and Transportation*, 2: 2-12.

the Eastern Railroad in 1883. Now, only four years later, the Boston & Maine controlled 680 of the 1025 miles of track in the state, or most of southern and eastern New Hampshire. Then, in a dramatic maneuver, the Boston & Maine leased the Manchester & Lawrence Railroad, which had traditionally been controlled by the Concord. Finally, the Boston & Maine, operating through the Boston & Lowell, gained control of the Northern Railroad. The Concord Railroad was once again becoming isolated, but this time, the rival was more formidable.[63]

By the summer of 1887, it became clear that the Concord Railroad and the Boston & Maine Railroad were in a fight for control of the state's rail system, and in the process, for their very lives. The battleground would be the State House in Concord. Each railroad introduced legislation to help their respective cause. The Concord Railroad backed the so-called Atherton Bill, which would allow the Concord to control the Manchester & Lawrence, the Northern, and the Boston, Concord & Montreal railroads--in other words, all of the lines in the Merrimack watershed and northward. But the Concord, in spite of being "New Hampshire's Railroad," had its share of enemies in the state. The Concord Railroad had been ruthless in crushing competition, and particularly in maintaining a monopoly in Manchester. In addition, during the brief period that the Boston & Lowell had operated the Northern and the Boston, Concord & Montreal (1884-1887), shippers benefited from lower rates. They were in no hurry to return to the higher rates that would almost certainly result from a Concord takeover of the northern routes. As a result of ill feeling against the Concord Railroad, the Atherton Bill never made it out of committee.[64]

While the "Concord Gang" licked their wounds in the Eagle Hotel, located across the street from the State House, Portsmouth brewer and Democratic boss Frank Jones orchestrated the Boston & Maine's battle plan from the nearby Phenix Hotel. Jones and the Boston & Maine, sometimes referred to as the "Democratic Railroad," introduced the so-called Hazen Bill. It proposed to do the same for the Boston & Maine that the Atherton Bill would have done for the Concord, namely, to give the Boston & Maine control of the Manchester & Lawrence, the Northern, and the Boston, Concord & Montreal railroads. Opposition to the Hazen Bill was less heated than opposition to the Atherton Bill, although some felt the Hazen Bill would give a "foreign" company too much clout in New Hampshire. The *Dover Times* complained that if the Boston & Maine got what it wanted, it would be necessary to amend the state constitution, to "provide that the president of that corporation shall serve as the governor of the state...."[65]

As the bitter and protracted legislative battle went on throughout the summer, it became obvious that the Boston & Maine had the votes to win. At one point, the Boston & Maine was accused of trying to bribe legislators. They probably did not, although Frank Jones hardly allayed fears of bribery when he testified at a legislative hearing: "Men are a good deal like hogs; they don't like to be driven, but you can throw them

---

[63] McKinney, "Hazen Bill," 218.
[64] McKinney, "Hazen Bill," 219-220; Kirkland, *Men, Cities and Transportation*, 2: 15-21.
[65] *Dover Times* as quoted in the *Manchester Union*, July 13, 1887.

down a little corn, and you can call them anywhere."[66] The Boston & Maine did spend money for votes in a more constructive manner. Knowing that the people of Coos County wanted to have a rail extension built up the Connecticut River from Groveton, the Boston & Maine offered to match $25,000 of local money with $75,000 of their own in order to build the line. The locals raised the money, and in August, as the legislature debated the Hazen Bill, five hundred Boston & Maine workers began building an extension to the Upper Coos Railroad.[67]

Finally, in early October, the Hazen Bill passed in both the House of Representatives and the Senate, but only to be vetoed by Governor Charles H. Sawyer. In his veto message, the governor claimed that portions of the bill had been passed as a result of bribes, although it is doubtful he had any hard evidence to prove the point. The Boston & Maine then countered by having the bill broken into pieces. The legislature and the governor approved of a plan to have the Manchester & Lawrence leased to the Boston & Maine. However, measures to have the Northern and the Boston, Concord & Montreal leased to the Boston & Maine again fell victim to gubernatorial veto. Having gotten what it could from state government, the Boston & Maine reached an agreement with the Northern Railroad that allowed the Boston & Maine to run the Northern.[68] As if the Concord Railroad did not feel squeezed enough by the turn of events, Boston & Maine director Frank Jones began buying stock in both the Concord Railroad and the Boston, Concord & Montreal Railroad.[69]

Following the legislative battle of 1887, both the Concord and the Boston & Maine decided to avoid further political bloodshed and let their lawyers settle matters behind closed doors. The result was a sweeping piece of railroad legislation presented to the New Hampshire General Court in the 1889 session. The bill, which was technically an amendment to the 1883 Colby Bill, allowed the Concord to join with the Boston, Concord & Montreal, forming a new railroad called the New Hampshire Railroad Corporation. (When the merger actually took place, the line was called the Concord & Montreal.) The Concord and the Boston, Concord & Montreal, either individually or as the New Hampshire Railroad Corporation, were also allowed to acquire a number of smaller lines in the northern and central part of the state, including the Suncook Valley, the Manchester & North Weare, the Pemigewasset Valley--even the Cog Railway. However, these were small, unprofitable lines. For that matter, the Boston, Concord & Montreal was unprofitable. Clearly this part of the 1889 legislation was not going to lead to a stronger financial picture for the Concord Railroad. The new bill also allowed the Boston & Maine (or the Boston & Lowell) to acquire the Northern Railroad, along with lines like the Wilton, the Nashua & Lowell, and the Concord & Claremont. In other words, the Concord would hold a weak middle ground in New Hampshire, but would be at the mercy of the Boston & Maine to move north, west, or south. The Boston & Maine was also authorized by the 1889 bill to purchase the Eastern, along with the Portsmouth,

---

[66] Quoted in James Wright, *The Progressive Yankees: Republican Reformers in New Hampshire, 1906-1916* (Hanover, NH, and London, 1987), 57.
[67] McKinney, "Hazen Bill," 222-223.
[68] McKinney, "Hazen Bill," 226-227.
[69] Kirkland, *Men, Cities and Transportation*, 1:22

Great Falls & Conway, the Worcester, Nashua & Rochester, and the Manchester & Lawrence among others. Put another way, almost anything east of the Merrimack Valley would be within the domain of the Boston & Maine Railroad. As far as the Boston & Maine was concerned, however, the key provision of the new bill allowed for the Concord, the Boston, Concord & Montreal, or the New Hampshire Railroad Corporation (Concord & Montreal) to contract with the Boston & Maine. In other words, the bill gave the Boston & Maine authority to absorb the Concord system without returning to the legislature.[70]

No one was a greater critic of railroad consolidation in New Hampshire than William E. Chandler, a Concord native, ardent Republican, and former Secretary of the Navy. He had tried to block consolidation throughout the decade of the 1880s, and he had long called for legislation to reign in the railroads. In 1881, for instance, he had called for legislation to guarantee fair railroad rates, fair assessment of railroad property for tax purposes, and an end to the free pass system.[71] After the Colby Bill passed, Chandler tried to get the State of New Hampshire to take over the Concord Railroad in accord with a "take-back" provision in the Concord's original 1835 charter. Simultaneously, he backed the efforts of Newport millionaire Austin Corbin to purchase the Concord. Corbin's offers were refused, however, and in 1891, Chief Justice Doe determined that the state did not have the right to acquire the Concord Railroad. Chandler, who had been elected to the United States Senate in 1887, clearly saw the handwriting on the wall. Frank Jones and the Boston & Maine were going to squeeze the newly-formed Concord & Montreal Railroad out of existence, making it a part of the Boston & Maine.[72]

3. Rise and Fall of Frank Jones

Chandler was part owner of the daily *Concord Monitor* and the companion weekly, the *Independent Statesman*, and he used the newspapers to lambaste both the Boston & Maine Railroad and Frank Jones. The attacks on Jones were personal. Jones and his son-in-law Charles Sinclair were key figures in both the Boston & Maine Railroad and the state Democratic Party, which in turn led Chandler to write that "the Democratic Party of New Hampshire is controlled by two criminals."[73] When the Supreme Court disallowed a State takeover of the Concord Railroad, Chandler responded with a vicious pamphlet entitled *New Hampshire a Slave State...*, in which he accused "The Alcoholic-Ale Brewers" and "The Railroad Millionaires" of being the "Masters," while "all the Democratic leaders, many Republicans, the editors, the lawyers, the public officials and some from all classes" were the "Slaves." The means of enslavement were free passes and bribery. The consequences of railroad consolidation and corruption, according to Chandler, would be "drunkenness and crime, dividends on millions of watered stock, the

[70] [Boston and Maine Railroad], *Boston and Maine Railroad System*, 151-160.
[71] Squires, *The Granite State*, 1:417.
[72] Kirkland, *Men, Cities and Transportation*, 2:23-24.
[73] Wright, *The Progressive Yankees*, 57.

larceny of the state's railroad, gross evasion of taxation by railroads, swindling endowment orders, [and] the degradation of society."[74]

Chandler's diatribes did nothing to prevent the inevitable. Frank Jones became president of the Boston & Maine Railroad following the 1889 legislation, and he wasted no time in going after the Concord & Montreal--even stealing the Concord & Montreal's lead lawyer, Frank Streeter. Not only did the Boston & Maine try to out-compete the Concord & Montreal, but it also initiated a number of lawsuits. In one lawsuit, Jones won a settlement of $650,000 from the Concord & Montreal, which the courts felt the old Concord Railroad owed to the Manchester & Lawrence Railroad. Of this amount, $500,000 was quickly distributed to Manchester & Lawrence stockholders, one of the largest being Frank Jones. By 1895, the overmatched Concord & Montreal Railroad had no choice but to lease itself to the Boston & Maine Railroad.[75]

Ironically, Frank Jones had maneuvered himself out of a position to enjoy the transportation monopoly he had worked so hard to create. His problems began in 1892, when A. A. McLeod, the "young railroad king of Pennsylvania," or more correctly the principal owner of the Pennsylvania and Reading Railroad, purchased controlling interest in both the New York and New England Railroad and the Boston & Maine Railroad. The move caught everyone by surprise. McLeod's goal was to unite the three lines he controlled in order to create a system covering much of the Northeast. McLeod made himself president of the Boston & Maine; Frank Jones became chairman of the board. Unfortunately for Jones, McLeod's scheme was opposed by J. P. Morgan, who in 1893 took over McLeod's Pennsylvania and Reading Railroad. Before the year was out, McLeod divested his interest in the Boston & Maine. Jones temporarily resumed his role as Boston & Maine president, but Morgan had no intention of letting him stay. By the end of the year, Jones had been replaced by Lucius C. Tuttle as president of the Boston & Maine, and the majority of railroad stock passed to General S. C. Lawrence, the American Express Company, and the Pullman Company. In 1893, in the wake of the McLeod fiasco, Morgan gathered directors of the New York, New Haven & Hartford Railroad and the Boston & Maine Railroad, and they agreed to divide New England among themselves. The Boston & Maine would control everything north of the Boston & Albany tracks in Massachusetts.[76]

---

[74] William E. Chandler, *New Hampshire a Slave State...Senator Chandler's Series of Papers Commonly Known as the Book of Bargains* (Concord, 1891). All quotes are displayed in large type on the cover of the pamphlet. Copy in the collections of the New Hampshire Historical Society.
[75] Kirkland, *Men, Cities and Transportation*, 2:24-25.
[76] Kirkland, *Men, Cities and Transportation*, 2:28-31.

4. The Tuttle Years: Prosperity, Interurbans, and Logging Railroads

The Lucius Tuttle years at the Boston & Maine Railroad marked the pinnacle of Boston & Maine prosperity and political influence. Tuttle served as both president of the Boston & Maine and the Maine Central until 1910. During these years, the Boston & Maine always returned a large dividend. Financial operations at the Boston & Maine were so sound and conservative at the turn of the century, that when E. H. Harriman of the Union Pacific heard about the Boston & Maine he is said to have quipped: "Great Scott! Is there anything like that left out of doors?"[77] In 1900, the Boston & Maine completed its conquest of New Hampshire's railroads with the lease of the Fitchburg system. The lease of the Fitchburg was consistent with the long range plan to create a Boston & Maine monopoly over everything in New England north of the Boston & Albany Railroad.[78]

Boston & Maine growth did not stop here. The Boston & Maine not only wanted a monopoly of the region's steam railroads, but the Boston & Maine began to move in on some of New Hampshire electric "interurbans." New Hampshire had had the service of electric "trollies" since 1889. Most of the trolley lines built in the decade of the 1890s were inner city lines, like the trolleys running up and down Main Street Concord and Elm Street Manchester. They were descendents of the earlier "horse railroads." Some trolleys, however, began to link with one another, forming "interurban" lines. Technically, an interurban is a line "...connecting two localities at least ten miles apart, with an appreciable portion of its route on private right-of-way, over which electric cars operate at top speeds of more than forty miles per hour."[79] In all, there were better than two dozen incorporated trolley lines and interurbans operating at one time in New Hampshire. Some, like the Berlin Street Railway, were used primarily to get people to work. This line connected Berlin to Gorham, stopping at the Cascade Mills on the way. Meanwhile the Exeter, Hampton, and Amesbury Street Railway was used primarily to take people to Hampton Beach. The Union Street Railway, connecting Dover and Somersworth, tried to increase passenger traffic by building an amusement park (Burgett Park) between the two downtown centers. In 1901, the Boston & Maine Railroad incorporated the Concord and Manchester Electric Branch of the Boston & Maine Railroad. In short, they built an electric interurban to compete with their steam railroad. In time, the Concord and Manchester tracks connected with other interurbans, making it possible for a traveler to pick up the trolley in downtown Concord and travel to Hampton Beach.[80]

In addition to the interubans, or electric railways, the Boston & Maine shared the railroad environment in New Hampshire with sixteen "logging railroads" built in the

---

[77] Quoted in Stover, *American Railroads*, 136-137.
[78] Baker, *Formation of the New England Railroad Systems*, 199-201.
[79] Squires, *Granite State of the United States*, 2: 446.
[80] Accounts of the various electric lines in New Hampshire may be found in the bibliography, particularly in articles written by Osmond Richard Cummings.

White Mountains in the late nineteenth and early twentieth century. The logging railroads answered the demand for White Mountain timber, and after 1890, for White Mountain pulp and paper. The story of White Mountain logging railroads began in 1867, when the State of New Hampshire sold off its remaining land in the White Mountains. Within a few years of the sale, two developments served to change the landscape of the mountains. First, the major steam rail lines had been built to and through the White Mountains, making the once inaccessible region easily accessible. Second, in the 1870s, Americans began to develop ways to make paper from wood pulp, which in turn gave new value to the forests of the White Mountains after 1890. As a result, land speculators and logging companies began consolidating large tracks of White Mountain real estate.

In order to take logs out of the mountains, logging companies built their own chartered, standard gauge railroads. To do this, they borrowed, leased, or purchased rails and rolling stock from the commercial lines. They then built their logging railroads from the commercial lines, up the banks of mountain streams, and into the heart of their land holdings. A typical logging railroad might be only five to fifteen miles in length. There were often numerous branches, and the lines often required impressive log and timber trestles to get through the mountainous terrain. Nor did a logging railroad last very long. While some like the Sawyer River Railroad and East Branch & Lincoln lasted for better than half a century, many others lasted for ten years or less. Some were taken down after an area had been cut over. In some cases, forest fires ended operations in an area--fires that were started when sparks from a logging railroad locomotive ignited piles of slash along the tracks. The trains that operated on these logging railroads existed for the sole purpose of taking logs out of the forest to company-owned sawmills. Whole villages developed around these mills. The village of Zealand, for instance, not only included company owned mills, but a railroad station handling as many as five trains a day, a school, a post office, a number of homes, an engine shop, some car shops, and charcoal kilns. Zealand disappeared, along with the mill villages of Livermore, Johnson, and Carrigain. Yet logging railroads also serviced towns that prospered. Not only did the Success Pond Railroad bring logs into Berlin, but the town of Lincoln depended almost entirely upon the East Branch & Lincoln for its logs.[81]

5. Political Influence at the Turn of the Century

Along with Boston & Maine prosperity came Boston & Maine influence in New Hampshire politics. Following the lease of the Concord & Montreal by the Boston & Maine, the Boston & Maine under Tuttle began to build up bipartisan support for the railroad. If anything, the Boston & Maine had more support from the Republicans than the Democrats by the turn of the century. Tuttle worked primarily through Frank Streeter, the former Concord Railroad lawyer who had become the Boston & Maine's

[81] For a complete account of logging railroads, see C. Francis Belcher, *Logging Railroads of the White Mountains* ((Boston, 1980). Also see William L. Taylor, "Railroad in the Wilderness: The East Branch & Lincoln Railroad, 1892-1948," *Historical New Hampshire* 48 (Winter 1993): 187-213. The White Mountain National Forest employees are currently locating and mapping all logging railroad grades in the WMNF.

chief lawyer in New Hampshire. A talented team of lobbyists led by Benjamin Kimball helped Tuttle and Streeter keep the state legislature in line. United States Senator Jacob Gallinger was the Republican Party leader at the turn of the century, and he generally agreed on most issues with Tuttle and Streeter. Even railroad commissioner Henry Putney (known as "Put") was on the side of the Boston & Maine. Although Senator William E. Chandler remained a constant critic of the railroad, even after the departure of Frank Jones, he had a limited following, as few dared to fight the Boston & Maine publicly.[82]

The Boston & Maine was anything but subtle in the ways it controlled New Hampshire politics. Free passes were offered to legislators, as well as their family members and constituents. Also receiving free passes were newspaper editors, state and county officials, lawyers, judges, and even ministers. But railroad interests went much further than free passes to control the political process in New Hampshire. Railroad interests, and sometimes Tuttle himself, took an active role in party caucuses and conventions. Tuttle, operating at times through Gallinger lieutenant James Lyford, would see to it that railroad supporters would be nominated to positions from governor on down at times to important town and city posts. The Boston & Maine would also lobby legislators in the selection of committee chairmen and even railroad commissioners. While the General Court was in session, Railroad lobbyists would work on railroad-related legislation, operating from a room known as the "Thrown Room" in a bank building located across the street from the State House. Only an alley separated the "Thrown Room" from Republican legislators staying at the adjacent Eagle Hotel. They had access to the "Thrown Room" through an enclosed second floor walkway over the alley known as the "Bridge of Sighs."[83] Structurally, it was the weakest bridge under Boston & Maine control. Politically, it was the most important.

In spite of the best efforts of Lucius Tuttle and the management team of the Boston & Maine Railroad, however, the railroad interests of New Hampshire and New England were in for trouble in the early years of the twentieth century. The Boston & Maine Railroad reached the peak of its growth and influence at the very time that the "Progressive Movement" was building in the United States. Senator Jacob Gallinger warned friends of the railroad in 1907 that New Hampshire was in danger of experiencing the "Wisconsin situation." He was too late. New Hampshire had already begun to emulate the Progressive initiative of Robert LaFollette and the state of Wisconsin in 1906.[84]

6. Progressive Revolt

The Progressive Movement in New Hampshire related directly to the Boston & Maine Railroad. The conspicuous success of the railroad, and the even more conspicuous success of the railroad's chief lawyer, Frank Streeter, awakened the voters of New

[82] Wright, *Progressive Yankees*, 57-61.
[83] Wright, *Progressive Yankees*, 58-60, 204-205.
[84] The Gallinger quote is in Wright, *Progressive Yankees*, 62.

Hampshire to the danger of political control by "foreign" interests. But the rise of progressive feelings in New Hampshire after the turn of the century can not be attributed solely to the railroad. New Hampshire was heavily under the influence of "foreign" capital in the first decade of the twentieth century. Not only was the Boston & Maine Railroad controlled by out-of-state investors, but so too were many of the state's textile mills, logging and pulp operations, and even its "grand hotels" in the White Mountains. Nevertheless, it was the Boston & Maine Railroad that flaunted its power, and as a result, became the target of progressive wrath.

The story began with horses. In 1905 the General Court passed a bill creating something called the New England Breeder's Club, ostensibly for the purpose of improving "the breed of horses and other domestic animals in the state of New Hampshire." A provision of the seemingly harmless bill called for the construction of a racetrack in Salem. Another provision called for no gambling, but this provision was in fact weaker than the state's existing anti-wagering law. In short, the bill opened the door for betting on the horses. When the true nature of the bill became known, the public was furious. They were even more furious when it was discovered that the Boston & Maine's chief New Hampshire lawyer, Frank Streeter, had lobbied for the bill. It appeared that the Boston & Maine Railroad was promoting gambling, and that was too much for many Republicans.[85]

To some degree, the political success of the Boston & Maine led to its own undoing. Tuttle, Streeter, and their allies had been too successful in influencing legislation and legislators. Worse yet, Boston & Maine lobbyists in the years from 1901 to 1905 had been throwing their weight around on issues that had little to do with transportation. For instance, Streeter had lobbied for a bill to weaken state regulation of alcohol, which in turn angered prohibition advocates in the Republican Party. The "racetrack" bill of 1905 simply confirmed the perceived arrogance of the Boston & Maine.[86]

By 1905, New Hampshire's old distrust of corporations re-surfaced, and in a relatively short period of time, the Granite State went from being a state dominated by one corporation to one of the most Progressive states in the East. The Progressive "seed" was unimpressive at first. A group of thirteen disenchanted Republicans formed something called the Lincoln Republican Club in the spring of 1906. Their goal was to take on the "syndicate of bosses and grafters" who were running the state's two major parties. Their target was the Boston & Maine Railroad. Their order of battle was to nominate a suitable "reform" candidate for governor at the September Republican Convention. No one gave them much of a chance.[87]

On the Fourth of July, the Lincoln Republicans announced that their choice for the Republican gubernatorial nomination was Winston Churchill of Cornish. Churchill was well known in New Hampshire, but as a novelist, not as a politician. A native of St. Louis, Churchill was a nationally-known novelist when he moved to New Hampshire in

[85] Wright, *Progressive Yankees*, 65.
[86] Wright, *Progressive Yankees*, 61-64.
[87] Wright, *Progressive Yankees*, 68.

1899. He built a large estate in Cornish, and by 1903, he had entered the state legislature, where he stood out as a famous but undistinguished political oddity. He was not only a "Roosevelt " Republican, but a personal friend of the Old Rough Rider. Churchill seems to have genuinely liked his new home state, and his selection by the Lincoln Republicans gave him a chance to travel the state and stir up support for New Hampshire Progressives. His primary target was the Boston & Maine Railroad, which he felt "stands squarely in the way of all needed reforms and progress...." In the September party convention, Churchill narrowly missed being nominated, and in the process, sent a warning to the conservative, or "stand pat" wing of the party that Progressive reform was gaining popularity.[88]

Over the next four years, leadership of the Progressive branch of the Republican Party fell to another non-native--Robert Bass of Peterborough. Although a Chicago native, Bass had family roots in New Hampshire, and after attending Harvard, he chose to stay in the East, moving into his mother's old family farm in Peterborough. He first ran for the state house of representatives in 1904, and during his two terms in the house he became known as a Progressive with a keen interest in forestry. Against conservative opposition in 1908, he ran successfully for the state senate, where he quickly became the front man for Progressive legislation. Under Bass' leadership, the state passed legislation outlawing the free railroad pass, established the direct primary as the means to nominate party candidates, and brought about some reform in lobbying practices. In 1910, he ran for his party's nomination for governor, and in the state's first party primary, he handily defeated his conservative rival. When accused during the primary campaign of spending an inordinate amount of his own personal wealth to "buy" the nomination, Bass reminded the voters that his conservative opponent's campaign was being funded by the Boston & Maine Railroad.[89] In November, he easily won the general election. Although he campaigned on a full range of Progressive issues, his main target was the "corrupt, selfish and altogether baneful rule of the Boston and Maine."[90]

New Hampshire's efforts to reign in the railroad was part of a national effort as well. Throughout the 1870s and 1880s, states and organizations like the Grange had tried to regulate the railroads in an effort to eliminate unfair rates, rebates, free passes, unfair lobbying, and underassessment for tax purposes. But regulation had proved impossible at the state level. In 1887, the federal government passed the Interstate Commerce Act. The five-member Interstate Commerce Commission (ICC) was given the authority to examine railroad records, and it required railroads to make rates known to all. Unfortunately, the ICC could only enforce its findings against the railroads by taking the guilty parties to court. During its first fifteen years, the ICC lost most of its cases before the United States Supreme Court. Only with Progressive demands for legislation to curb the abuses of railroads and corporations in general, did the ICC receive the power to actually fulfill its original purpose. In 1903, Congress passed the Elkins Act, which

---

[88] Geoffrey Blodgett, "Winston Churchill: The Novelist as Reformer," *The New England Quarterly* 47 (December 1974), passim, quote on p. 514, and Wright, *Progressive Yankees*, 68-74.
[89] Wright, *Progressive Yankees*, 99.
[90] Jewell Bellush, "Reform in New Hampshire: Robert Bass Wins the Primary," *The New England Quarterly* 35 (December 1962): 469-488. Quote on p. 485.

further outlawed rebates and made railroad officials subject to criminal prosecution. In 1906, Congress passed a far more sweeping piece of regulatory legislation with the Hepburn Act. This act gave the ICC the power to set maximum rates. The ICC, now a panel of seven men, also had authority to regulate all forms of interstate trade, including pipelines. The Hepburn Act further outlawed most free passes and all rebates. Powers of the ICC were further increased with passage of the Mann-Elkins Act of 1910, which extended ICC power to telephone and telegraph companies, and gave the ICC the authority to suspend railroad rate increases for a period of ten months, pending proof by the railroad that the rate increase was justified. Clearly, by 1910, the Boston & Maine Railroad was under siege, at both the national and state level.[91]

7. The Morgan-Mellen Takeover

At the very time that government regulation seemed to be closing in on the Boston & Maine Railroad, directors of the railroad discovered that they were under attack from a far more ominous quarter: J. P. Morgan and the New Haven Railroad (officially, the New York, New Haven & Hartford Railroad). Early in the twentieth century, Morgan had decided that the only way to compete with the large trunk lines in the West and Midwest was to create a transportation monopoly in the Northeast, and that monopoly would include the Boston & Maine Railroad. Morgan's instrument in the takeover was the new president of the Morgan's New Haven Railroad, Charles S. Mellen, the same man who had been involved two decades earlier in the efforts of the Boston & Lowell to consolidate the railroads of New Hampshire. In 1906, New Englanders were shocked to discover that the Boston & Maine had been secretly taken over by the New Haven. Louis Brandeis, the future U.S. Supreme Court justice, led the efforts to recover the Boston & Maine from the control of Mellen and Morgan. After much complicated maneuvering, Mellen managed to not only retain New Haven control over the Boston & Maine, but by 1910, Mellen had become president of the New Haven, the Boston & Maine, and even the Maine Central. At this point, when Mellen, Morgan, and the New Haven seemed to be at their peak, things began to unravel.[92]

Some of the trouble for the New Haven monopoly came from unexpected competition. Morgan and Mellen had assumed that by combining the New Haven, Boston & Maine, and the Maine Central that they had eliminated competition in New England. But they had forgotten one of the players. The Grand Trunk, a Canadian railroad, had been overlooked. At the time, the Grand Trunk's only presence in New England was the line from Portland to Montreal, which served the communities of Berlin, Gorham, and Groveton in New Hampshire. In 1911, Charles Melville Hayes, the aggressive president of the Grand Trunk, proposed building a railroad south through New Hampshire to the ice free port of Providence, Rhode Island. It was part of a grand plan to upgrade the Grand Trunk and, hopefully, solve its current financial woes. As part of his plan, Hayes had the Southern New England Railroad incorporated, and construction was begun on the new line. Surveys were made through New Hampshire towns from Claremont to Nashua.

---

[91] Stover, *American Railroads*, 123-130.
[92] Macey, "Charles Sanger Mellen," 16-24.

For towns like Antrim, the proposed route meant they would finally have in-town service Opponents of the New Haven were delighted because the new railroad would break the monopoly of the New Haven. Mellen and Morgan were appalled for the same reason. As things turned out, luck was on the side of the New Haven. Charles Melville Hayes went to England to sell his plan to the Grand Trunk board of directors. Upon his return trip in 1912, he went down in the *Titanic*, and the Southern New England Railroad was liquidated.[93]

Unfortunately for Mellen, some of his problems were of his own making, or at least those of his boss, J. P. Morgan. In consolidating the rail lines of New York and New England, Morgan and Mellen had made some bad investments, paying far too much for some of their acquisitions. When a recession hit the country in 1911, the New Haven may have been strong politically, but it was weak financially. Investors in the Boston & Maine were among the losers. The Boston & Maine had paid large dividends during the Lucius Tuttle years, but in 1912, the Boston & Maine dividend slipped to only 4%. The New Haven had to cut wages and lay off workers, which in turn may have been related to a series of tragic accidents on the line in 1913. Said one newspapers editor, "...if the energy that the New Haven spends in stifling competition, in buying up trolley lines, in operating street railways and gas companies and electric-light companies and waterworks, were devoted to the management of a railroad, the record would be quite different."[94]

The brief New Haven venture into Northern New England came to a close in 1913. In March of that year, J. P. Morgan died. Mellen had been under fire for the obvious deterioration of the New Haven. He resigned his presidency, first from the Boston & Maine, and the Maine Central; by July, he had stepped down from the presidency of the New Haven. By 1914, the New Haven was in receivership. Mellen stayed on long enough to participate in ICC hearings and to defend himself in a number of lawsuits before retiring to Concord, New Hampshire. The Boston & Maine was once again an independent railroad, but gone were the days when profits were taken for granted. In addition, the Boston & Maine lost control of the Maine Central in 1916. In the wake of the New Haven episode, the Boston & Maine experienced decades of loses and retrenchment.[95]

---

[93] Macey, "Charles Sanger Mellen," 25; Squires, *Granite State of the United States*, 2: 442; *Parades and Promenades: Antrim, New Hampshire...the second hundred years* (Canaan, NH, 1977): 81-83. For Hayes, see *Dictionary of Canadian Biography, 1911-1920, Volume 14* (Toronto, 1998).
[94] Quoted in Macey, "Charles Sanger Mellen," 16.
[95] Macey, "Charles Sanger Mellen," 26-27.

E. Bankruptcy and Abandonment: 1914 to present

1. Valuation and World War I

When the First World War broke out in Europe in 1914, American Railroads were at their peak--at least in terms of mileage of track. But at the same time, there were obvious problems with the nation's and New Hampshire's rail systems. A strike was narrowly averted in 1916, and during the war, the nation's rail system was taken over by the federal government as a measure to assure wartime performance. When the nation's railroads were returned to private management after the war, many if not most faced the prospect of bankruptcy. The Boston & Maine Railroad joined a chorus of others that appealed to the Interstate Commerce Commission for the right to abandon unprofitable lines. During the decade of the 1920s, few requests for abandonment were approved in New Hampshire. Only the Great Depression convinced the ICC to approve a number of abandonments in New Hampshire in the 1930s. Boston & Maine attempts to eliminate potential competition by starting a commercial airline did little to help. For a time during the Second World War, New Hampshire's and the nation's railroads staged a comeback. In the blush of apparent success, the Boston & Maine modernized its system after the war, most notably by converting its steam locomotives to diesel. Yet the prosperity was illusory. The simple fact was that New Hampshire and its state government had abandoned the railroads long before they were allowed to abandon their tracks. The state had fallen in love with the automobile and the good roads needed to keep the automobile moving swiftly through the New Hampshire countryside. State laws assured the development of a system of good roads; no state laws helped to develop the state's rail lines. Forced to maintain its own infrastructure, the Boston & Maine Railroad had no choice but to continue to ask the ICC for the right to abandon more tracks. By the early 1970s, New Hampshire's rail service was a pale shadow of what it had once been. Passenger service was dropped first; freight service followed. A number of smaller lines were transferred by the Boston & Maine to others who hoped to make success of them. By 1982, both the Boston & Maine and the Maine Central had finally disappeared--swallowed by Guilford Transportation Industries.

As war came to Europe in 1914, the railroads of New Hampshire and the Boston & Maine in general found themselves under the regulatory microscope. Congress had passed the Valuation Act of 1913, and for the next two decades, and particularly from 1914 through 1921, the ICC would take inventory of the nation's railroads. The Valuation Act was sponsored by Progressive congressmen who felt that the nation's railroads were funded by "watered" stock. The only way to prove the point was to take inventory, to provide "for physical valuation of the property of carriers subject thereto and securing information concerning their stocks and bonds and boards of directors." The ICC eventually created a Bureau of Valuation, which grew to a size exceeding that of

the rest of the agency. Each railroad had to appoint a Valuation Engineer to assist in the inventory. The Valuation Engineer for the Boston & Maine operated out of the corporate headquarters in North Station, Boston. From 1914 through 1921 or 1922, Valuation engineers not only took inventory of every mile of track in New Hampshire, but every building, switch, culvert and bridge in the system. Even brick-lined cesspools failed to escape the process.[96]

By 1916, however, the nation's railroads had more to worry about than Valuation. Early in the year, the presidents of the nation's four railroad brotherhoods (engineers, firemen, conductors, and trainmen) demanded an eight-hour work day.[97] Predictably, railroad management refused. The timing of the labor demands was opportune, as the United States was moving closer to entering the war in Europe, and the nation's railroads were busy hauling munitions and war supplies bound for the Allies. The nation could ill afford a nation-wide railroad strike. President Woodrow Wilson intervened to break the impasse between the unions and railroad management. Failing to budge either side, but declaring that demands for the eight-hour day were just, he urged Congress to end the impasse with legislation. The result was the Adamson Act, which called for all railroads to institute the eight-hour day, effective January 1, 1917. It took a Supreme Court decision to get the railroads to comply. Two days after the Supreme Court ruled the Adamson Act constitutional, Wilson called for a special session of Congress to receive his war message.[98]

The nation's railroad were poorly prepared to meet wartime needs. Since the war was in Europe, it was imperative to send munitions and other supplies needed by the Army to ports on the East Coast. Railroad executives tried at first to work together to get the job done, pledging to create a "continental railway system." Unfortunately, they not only had no experience in cooperation, but anti-trust legislation had made such cooperation illegal. Before long, the nation was desperately short of freight cars needed to send supplies East. Part of the problem was simply that the railroads did not have a sufficient work force to unload cars, which started piling up in eastern rail yards. Turnover rates were high in rail yards, as well, as workers either volunteered for service or were drafted. As a result of the inability of the nation's railroads to keep the freight moving, Wilson decided to use his wartime powers and have the federal government take over the nation's railroads. This was done on December 28, 1917.[99]

The federal government operated the nation's railroads under the terms of the Railroad Control Act, passed on March 21, 1918. The act established the Railroad Administration, headed by Wilson's Secretary of the Treasury William G. McAdoo, styled the "Director General" of the Railroad Administration. McAdoo not only streamlined the operation of the railroads, but he initiated substantial capital improvements, including the manufacture

---

[96] See G. Wallace Chessman, "Valuation Act of 1913," *Encyclopedia of American Business History and Biography: Railroads in the Age of Regulation, 1900-1980* (New York, 1988), 119.

[97] The actual number and names of railroad brotherhoods changed over time. See Walter Licht, "Railroad Unions and Brotherhoods," in *Railroads in the Age of Regulation*, 354-357.

[98] Stover, *American Railroads*, 169-170; Arthur S. Link, *Woodrow Wilson and the Progressive Era* (New York, 1954), 235-237.

[99] Stover, *American Railroads*, 170-173.

of new freight cars and locomotives. He also ordered substantial increases in the wages of railroad workers, particularly the lower paid workers. Both the costs of the new rolling stock and the wage increases were eventually passed on to the corporations. Nor did government operation stop with the Armistice of November 11, 1918. McAdoo suggested government operation for another five years; some of the railroad unions suggested a permanent takeover. The issue was decided with the Esch-Cummins Act, or the Transportation Act of 1920, which returned the railroads to private hands.[100]

The Railroad Act of 1920 outlined the terms of railroad operation in the country in the years ahead. The powers of the Interstate Commerce Commission were increased. After 1920, the ICC could not only fix railroad rates, but the commission had final say on all railroad mergers or consolidations, construction, and abandonments. The 1920 legislation also established a study commission headed up by Harvard University professor William Z. Ripley, which among other things, recommended consolidating the nation's railroads into nineteen great systems. While the Ripley Commission made sense to some, it was not persuasive in Ripley's own backyard. The New England governors met in 1923 as the so-called Storrow Committee, and they recommended that New England railroads adapt a policy of "home rule" and remain separate from larger systems.[101]

2. Regional Decline and the Request for Abandonments

The years after World War I were not particularly good years for the railroads of New Hampshire. For that matter, the economic picture for the entire state was bleak. New Hampshire's industrial base was old and far removed from both the source of raw materials and markets. If there was an exception, it was probably Berlin. Alone among New Hampshire's major industrial centers, Berlin relied upon a raw material native to the state. The Brown Paper Company and the International Paper Company converted logs from the forests of New Hampshire and Maine into paper and paper products. In the process, the Brown Paper Company operated its own "railroad division" on twelve miles of company owned tracks. Berlin was also the only city in the state that was served by two competing railroads, the Boston & Maine and the Grand Trunk.[102] But Berlin was the exception after 1920. As government wartime contracts ended, textile and shoe factories in the southern part of New Hampshire had no choice but to cut production and lay off workers. This action came at the very time that veterans were returning to New Hampshire in search of jobs. Worse yet, with the lifting of wartime price controls, inflation quickly erased any gains that workers made in wages during the war. The result was labor unrest and strikes. In Manchester, the so-called "strikeless city," workers at the Amoskeag Manufacturing Company went on a disastrous nine-month long strike in 1922.

---

[100] Stover, *American Railroads*, 173-179.

[101] Stover, *American Railroads*, 180; Richard Saunders, *The Railroad Mergers and the Coming of Conrail* (Westport, CT, 1978), 183.

[102] Photographs and maps of the Brown Paper Company's railroad may be found in the Brown Company Collection in the Lamson Library, Plymouth State College. The current railroad operating for the paper company in Berlin is a separate corporate entity.

That same year, a national strike of railroad shopmen temporarily disrupted rail traffic on the Boston & Maine Railroad.

The decline of New Hampshire's old textile mills and shoe factories was not the only problem for New Hampshire railroads in the years after the First World War, however. During the 1920s, if not a little earlier, New Hampshire's railroads began to experience competition from the automobile. Later, trucks and buses would join the attack. Problems for the railroads first appeared in resort areas before the war. Wealthy Americans, having both the leisure time to travel and money to afford a luxury car, traveled by automobile to New Hampshire's seacoast and particularly the White Mountains in increasing numbers after 1910. In 1912, 70% of the guests staying at the Mt. Washington Hotel at Bretton Woods arrived by car. Clearly, the railroads had lost the monopoly they once had in the region.[103]

In response to increasing financial troubles, the Boston & Maine Railroad petitioned the Interstate Commerce Commission in 1924, requesting the right to abandon one-third of its tracks. But the move was contested by businesses, farmers, and frequent travelers in the region who would be adversely affected by the loss of railroad service. Governor John Gilbert Winant opposed the Boston & Maine request as well, and received funding from the New Hampshire General Court to legally challenge the Boston & Maine before the ICC. In the end, just over fifty miles of railroad was abandoned in New Hampshire during the 1920s, out of a total of 1,256 miles of track in the state. It would take the Great Depression to convince the ICC to let the Boston & Maine abandon unprofitable lines.[104]

Many of the problems faced by New Hampshire railroads in the 1920s and 1930s were not of the railroad's own doing. Massive and destructive floods in 1927 and 1936, along with the Hurricane of 1938, damaged and destroyed bridges, buildings, and track beds. In the end, however, the Great Depression turned out to be more than the Boston & Maine could handle. When John Gilbert Winant was inaugurated again as governor in 1931, at least 20% of the state's work force was unemployed. By the end of the year, better than one-third would be out of work. During the first few weeks of his term, twenty of the state's largest factories closed their doors. By 1936, both the Amoskeag Manufacturing Company in Manchester and the Cocheco Manufacturing Company in Dover had shut down permanently. The affect on the already troubled Boston & Maine Railroad was devastating. Passenger service had never been profitable, but could be tolerated as long as there was a healthy demand for freight service. That was no longer the case as the Depression wore on. With production down, and with many factories out of business, the Boston & Maine found itself operating miles of unprofitable track in the Granite State. Meeting in 1931, the New England governors discussed the region's railroad problems. Concerned that the Pennsylvania Railroad was making a move to buy

---

[103] Frederick W. Kilbourne, *Chronicles of the White Mountains* (Boston and New York, 1916), 405-407.
[104] Bernard Bellush, *He Walked Alone: A Biography of John Gilbert Winant* (The Hague and Paris, 1968), 70-71, 75. For a list of abandonments, see Ronald Dale Karr, *Lost Railroads of New England*, 2nd edition (Pepperell, MA, 1989), particularly 80-83. The trackage figure of 1,256 miles is for the peak year of 1915. See Pillsbury, *New Hampshire*, 2:453.

out both the New Haven and the Boston & Maine, the governors (with Rhode Island dissenting), called for the formation of a New England "terminal" railroad that would have the ability to compete with the nation's trunk lines. In reality, the New Haven and the Boston & Maine were both facing bankruptcy. The Pennsylvania Railroad was not in a position to purchase the two New England railroads, nor were the two New England lines agreeable to consolidation.[105]

Meanwhile, the nation's railroads were faring no better than the lines in New England. Congress passed the Emergency Railroad Transportation Act of 1933, which among other things established the office of Federal Co-ordinator of Transportation. The goal was to get the nation's railroads to work together and eliminate duplicated services. The effort failed, however, as American railroad corporations had neither the experience nor the will to cooperate or to take suggestions from the federal government. The act expired after only three years. The one lasting legacy of the Emergency Transportation Act of 1933 was the formation of the Association of American Railroads (AAR), which was formed in 1934 at the recommendation of the federal coordinator. The AAR serves as the not-for-profit umbrella organization for the nation's railroads, and particularly the larger lines.[106]

Given the gloomy prospects, the Boston & Maine still made some improvements to service and safety. The company introduced Centralized Traffic Control to Dover in 1930, for instance, and in 1935, the "Flying Yankee, the first light streamlined diesel in the East began operating in New Hampshire. In 1931, the Boston & Maine responded to local efforts to develop downhill skiing as a winter tourist attraction by running the first of its "snow trains" from North Station to ski areas in the Granite State. In 1933, the Boston & Maine Railroad also regained control of the Maine Central Railroad, retaining control of the Portland-based line until 1955.[107]

3. Modernization and World War II

Perhaps the most progressive effort made by the Boston & Maine Railroad to reverse the dismal economic situation in the 1930s was the decision to expand into air service. Laurence Whittemore, a New Hampshire resident who served as Assistant to the President of both the Boston & Maine and the Maine Central from 1932 to 1946, suggested as early as 1931 that the New England railroads become involved in air travel, particularly since the northern New England states were without any form of commercial air service. Whittemore had vision. He believed that a railroad "should act as a transportation medium for its region...should run buses and trucks over the highways, locomotives over the rails, boats along the coasts and across inland waterways, and planes through the skies." Toward that end, the Boston & Maine formed a partnership

---

[105] Saunders, *Railroad Mergers*, 183-184.
[106] Ari Hoogenboom, "Emergency Railroad Transportation Act," *Railroads in the Age of Regulation*, 135; Stover, *American Railroads*, 200-201; Wallace W. Abbey, "Association of American Railroads," *Railroads in the Age of Regulation*, 9-10.
[107] Bellush, *He Walked Alone*, 86, 92; Squires, *The Granite State of the United States*, 448-449.

with Pan American Airways in 1931, but this proved unsatisfactory and did not last the year. Whittemore then encouraged a small group of experienced aviation enthusiasts, including Amelia Earhart, to form a new airline that would be funded by the Boston & Maine and the Maine Central. The resulting Boston-Maine Airways ran its first flight between Boston and Bangor, Maine, on August 11, 1932, with Earhart on board. Before long, the airline had expanded its route to Burlington, Vermont, and by 1934, it had a route to Montreal. That same year, in the wake of a federal shake-up of airmail contracts, Boston-Maine Airways won the right to carry mail. To be competitive as a commercial airline, the airline purchased Lockheed Electras in 1936-1938, and DC-3s in 1941. In 1940, the name of the railroad-controlled airline was officially changed to Northeast Airlines. During the war, Northeast flew military missions to Labrador, Greenland, Iceland, and Scotland. However, the Civil Aeronautics Board was unhappy about having railroads running an airline, and in January 1944, the CAB forced the Boston & Maine and the Maine Central to sell their stock in Northeast Airlines. Whittemore's vision may have had merit, but once again, government regulators proved to be no friend to the railroad.[108]

In spite of the fact that the Boston & Maine still listed three hundred stops in New Hampshire in 1932, abandonments proved to be the order of the day. An additional 148 miles of tracks were abandoned in the 1930s. Requests for addition abandonments had been made and would be granted in the early 1940s. In addition, many trains began to run less frequently, carrying less freight and passengers. Nor did all curtailment require ICC permission. The interurban lines began to give way to busses throughout the 1930s. The Portsmouth Electric Railway had stopped running back in 1926; the Dover, Somersworth & Rochester Railway closed the same year. The Claremont Railway survived until 1932. The Concord & Manchester Branch of the Boston & Maine ran its last trolley in 1933.[109]

When the United States entered World War II, the railroads were better prepared than they had been at the outset of World War I. Railroad executives had no desire to have their railroads returned to government control. Hence, in spite of much government regulation and the formation of the Office of Defense Transportation (ODT) in the early days after the attack on Pearl Harbor, the nation's rail lines remained private during the war. Only during the threatened labor strike in December 1943 did the federal government move in to take over the railroads, and that crisis was over in less than a month's time.[110]

In New Hampshire as in the nation, the Second World War brought a measure of prosperity to the state's railroads. At the time the war began, the Boston & Maine was only operating 840 miles of track in the state. By the peak year of 1942, the Boston & Maine was running trains on 1,150 miles of track in New Hampshire, in spite of the fact

---

[108] David W. Lewis and Wesley Phillips Newton, *Delta: The History of an Airline* (Athens, GA, 1979); William M.Leary, ed., *Encyclopedia of American Business History & Biography: The Airline Industry* (New York, 1992), 317; Squires, *Granite State of the United States*, 3: 222. The Whittemore quote is in Lewis and Newton, *Delta*.

[109] Karr, *Lost Railroads of New England*, 85-107; Squires, *Granite State of the United States*, 447-448.

[110] Stover, *American Railroads*, 184-191.

that some service was prohibited during the war years. Snow trains and trains to sporting events were eliminated, for example. Some of the increased traffic stemmed from cutbacks in other forms of transportation. Gas and tire rationing forced New Hampshire people to do the "patriotic" thing and take the train. Military personnel always traveled by train. In addition, wartime contracts also led to re-opened floor space in some of the state's older mills, which in turn meant more freight for the railroads. Annual operating revenue for the state's railroads jumped during the war, from $9,300,000 to $15,000,000, although greatly increased costs reduced profits after 1942.[111]

The Second World War was a "total war," in that every man, woman, and child was expected to play a role in the war effort. Railroads in New Hampshire were no small part of this effort. Freight cars were left at various locations so that local volunteers could load them with salvaged paper, tin cans, rags, and even milkweed pods. The Boston & Maine tore up unused rails and even a steel bridge for scrap metal. During the war, the state's railroads also experienced labor shortages. To get around this problem, women were trained and hired by the Boston & Maine to be crossing tenders, telegraphers, ticket agents, car cleaners, or to do office work. Older men and boys were used in these capacities as well. Even foreign workers were used on railroad work in New Hampshire during the war. One hundred Mexican workers helped to build the signal tower in Manchester in 1944.[112]

4. Postwar Problems for New England Railroads

In the years after the Second World War, the most dramatic change in New Hampshire's railroads was the conversion to diesel. Diesel locomotives may not have had the horsepower of the old steam engines, and they were expensive to build, but they had several advantages over steam. They were cleaner and quieter, they did not require a couple of hours to "fire up," and they required far less maintenance. Steam engines were in the shop half of the time. As a result of the conversion to diesel, the infrastructure of New Hampshire railroads changed. Gone were the ubiquitous water towers. Gone were the coal sheds. Gone were most of the old roundhouses and turntables. Gone too were some of the employees. The diesels did not need a fireman (although the practice of "featherbedding" kept many of the firemen employed), and less employees were needed in the smaller yards.[113]

Many thought the conversion to diesel would save New England's railroads. They were wrong. Neither the Boston & Maine nor the New Haven could compete. The Maine Central Railroad, which had won its independence from the Boston & Maine in 1955 under its dynamic president E. Spencer Miller, was not doing much better. When the United States Postal Service stopped using the railroad to take mail between Boston

---

[111] Guyol, *Democracy Fights*, 180-181.
[112] Guyol, *Democracy Fights*, 181-182
[113] On the impacts of dieselization, see George H. Drury, "Dieselization," *Railroads in the Age of Regulation*, 119-121.

and Portland in 1959, Miller responded by converting to Budd Cars for passenger service. Even this measure failed, however, and by 1966, the Maine Central had not only discontinued passenger service, but sold its passenger cars and passenger depots.[114]

New England's railroads also suffered because they were located in New England. During the snowy winter of 1947-48, the Boston & Maine Railroad had to hire one thousand extra men just to remove snow from its tracks, yards, and depots. The snow removal cost for the winter was roughly $2.5 million. And even when the weather cooperated, New England railroads operated at a geographic disadvantage. By law, when freight cars from one railroad move onto the tracks of another railroad, the host railroad must pay the railroad owning the car a per diem fee on the car after it has been unloaded. The port facilities at Boston attracted the cars of many non-New England railroads. In addition, New England imported much of its food. Roughly 80% of New England's freight originated from outside the region. As a result, more freight cars coming from outside of New England tended to sit in Boston & Maine rail yards than the other way around. The Boston & Maine was a perennial net loser when it came to per diem fees to other lines. In 1948, the net loss to the Boston & Maine was $2.8 million. The situation worsened in 1949 when the ICC raised the nation-wide per diem fee on freight cars from $1.50 to $1.75. Boston & Maine rail yard employees were ordered to unload freight cars quickly and send the "foreign" cars back to their owners.[115]

Meanwhile, the Boston & Maine continued to ask for more abandonments. The railroad had lost money every year after 1957. The Suncook Valley Railroad was abandoned in 1952, and allowed to try its luck as an independent line. The tracks and bridges between Plymouth and Haverhill were abandoned in 1954. The Boston & Maine Railroad sold off some of its lines; the old Concord & Claremont was sold to S. M. Pinsly of Boston in 1954. Pinsly tried unsuccessfully to operate the line as a small independent line, under the name Claremont & Concord Railroad, but passenger service over most of the line was discontinued within a year of acquisition.[116]

Since passenger service was both costly and more susceptible than freight service to competition from cars and airplanes, passenger service was dropped on a number of lines while freight service continued. By 1960, E. Spencer Miller had eliminated all passenger service on the Maine Central, including the old Portland & Ogdensburg tracks through Crawford Notch. When the Rutland Railroad discontinued its passenger service in Vermont in 1953, passenger service in Keene declined markedly. And while limited freight service continued on the old Nashua & Lowell (Wilton) line running between Nashua and Elmwood, any "passengers" were relegated to the caboose.[117]

---

[114] E. Spencer Miller, *Maine Central Railroad, 1940-1978* (Portland, ME, 1977).
[115] R. M. Neal, *High Green and the Bark Peelers: The Story of Henry A. Beaulieu and His Boston and Maine Railroad* (New York, 1950), 40-42, 75.
[116] Squires, *Granite State of the United States*, 2:782.
[117] For abandonments, see Karr, *Lost Railroads of New England*, passim. Also, George H. Merriam, "E. Spencer Miller," *Railroads in the Age of Regulation*, 299. Neal, *High Green and Bark Peelers*, has an a good first hand account of the trip from Nashua to Elmwood.

5. Efforts to Consolidate

Throughout the 1950s and 1960s, New England railroad executives tried to find ways to salvage the region's troubled railroads. E. Spencer Miller of the Maine Central was probably the most active and most respected of the group. The biggest problem according to Miller was lack of cooperation among the competing lines. Railroads were simply not moving the freight cars of other lines, or they were very slow about it. Miller even called a summit meeting of the New England railroad presidents on one occasion, but antagonism among some members made the effort to cooperate, much less merge, impossible. Said a reporter for *The New York Times*, "How are these railroads going to sit down and work out a merger when they can't even work out the freight charges between them on a bushel of potatoes?"[118]

Yet, numerous proposals were made to combine New England's troubled railroads, and/or to make the New England railroads part of a trunk line. For instance, in 1955, Boston & Maine president Patrick McGinnis proposed a merger between the Boston & Maine and the New Haven. That same year, there was talk of a merger between the Boston & Maine and the Delaware & Hudson.[119] In 1963, the New England governors met to discuss the railroad problem in the region. They concluded that the best New England lines ought to seek affiliation with a trunk line, hence reversing the policy of creating a "New England railroad" adopted in 1931. A merger almost came to pass later in the decade. The Norfolk & Western looked into acquiring the Boston & Maine Railroad between 1965 and 1970. The union, which would have included other lines as well, was part of a plan to create a northeastern system that could compete with the proposed Penn Central Railroad. However, the Norfolk & Western could not have been pleased when it looked more closely at the Boston & Maine. The Norfolk & Western inspector described the Boston & Maine as "rundown." Little ballast had been replaced recently, and train speeds could not exceed 45 miles per hour. Nevertheless, talks continued. The U.S. Supreme Court even got into the act in 1968, ordering the Norfolk & Western to take over the Erie-Lackawanna, the Delaware & Hudson, and the Boston & Maine. The New Haven was to be acquired by the Penn Central. But the Boston & Maine thwarted the merger and held out for a high price. Simultaneously, as they held out for a higher price, Boston & Maine officials began quietly buying Boston & Maine stock at bargain prices. As a result, the president of the Boston & Maine was eventually fined $5,000 and sentenced to eighteen months in jail. The proposed merger never took place. Instead, the Boston & Maine was taken to court in March 1970 for failure to pay interest on its mortgage bonds. The company had no choice but to file for bankruptcy

[118] Saunders, *The Railroad Mergers*, 90.
[119] Saunders, *The Railroad Mergers*, 87; Squires, *Granite State of the United States*, 2:782.

and reorganize.[120] The Boston & Maine's troubles were overshadowed when the Penn Central filed for bankruptcy in July 1970.

6. Government Aid and the End of the Boston & Maine

The decade of the 1970s were critical years for New Hampshire's and the nation's railroads. The faltering economy did not help. As the decade wore on, inflation soared, as did federal government deficits. New England seemed to be faring even worse than the rest of the country. As older factories closed their doors, freight service dwindled. An additional one hundred miles of track was abandoned in New Hampshire during the 1970s, and by 1974, there was virtually no passenger service in the state. Instead, tourists and commuters alike took advantage of the Interstate highways and state turnpikes that made it possible to travel from Boston to all parts of the Granite State in a matter of a few hours or less.

During the 1970s, the federal government finally took steps to help the nation's troubled railroads. Shaken no doubt by the Penn Central bankruptcy, along with the threat by many railroads to discontinue passenger service, Congress passed the National Railroad Passenger Act of 1970. As a result, "Amtrak" began running a national network of passenger trains in 1971. But no Amtrak service came to New Hampshire. Northern New England had been left out. Even when Amtrak expanded its service, to include the "Montrealer" (now the "Vermonter") between New York and Montreal, only a few miles of Amtrak ran through the Granite State on the lines of the old Sullivan (County) Railroad. Congress then took on the problem of the nation's freight service by passing the Regional Rail Reorganization Act of 1973, which sent $2 billion of federal aid to northeastern states to modernize equipment and track. In 1976, Congress passed the Railroad Revitalization and Regulatory Reform Act, which created the Consolidated Rail Corporation, or Conrail, to partially replace the old Penn Central. Yet these plans had little direct effect on the dying lines of New Hampshire.

Abandonments in the Granite State, if anything, accelerated in the early 1980s. Between 1980 and 1985, another 113 miles of track was abandoned in New Hampshire; another 23 miles of track was abandoned later in the decade. The biggest single abandonment in New Hampshire history came in 1992 when the ICC approved abandoning the Northern Railroad along a 59-mile stretch between Boscawen and Lebanon. For a century and a half, the Northern had been the main "route to the lakes" through New Hampshire. It had opened in 1847 with a stirring speech by Daniel Webster, it had been a critical factor in New Hampshire politics throughout the Gilded Age, and upon its tracks in the 1940s ran a little train running between Boston and Montreal called the "Peanut," immortalized by Donald Hall in his book *String Too Short to be Saved* (1961).[121]

---

[120] Saunders, *The Railroad Mergers*, 184, 255, 260.
[121] Karr, *Lost Railroads of New England*, 139-152; Squires, *Headlights and Highlights*, passim.

In 1980, Congress finally realized that the nation's railroads were no longer the all-powerful corporations that had been the targets of Progressive reformers on the early twentieth century. The Staggers Rail Act of 1980 greatly reduced the regulatory authority of the Interstate Commerce Commission over the railroads. The Northeast Rail Services Act of 1981 further deregulated eastern railroads. In the wake of these two acts, the railroads of northern New England merged into a larger system. The Maine Central was acquired by Guilford Transportation Industries (GTI) in 1981; the next year, the Boston & Maine became a subsidiary of Guilford. Guilford's owner Timothy Mellon wanted to create a truly regional rail system, one that would include northern New England. Toward that end, Guilford acquired the Delaware & Hudson Railroad in 1984, which put four thousand miles of track under Mellon's control. Guilford acquired a shortline railroad in Vermont, the Springfield Terminal Railway Co. in 1986, and for awhile, the Boston & Maine and the Maine Central were subsidiaries of the Springfield Terminal. Guilford's primary competition was Conrail, but its biggest problem in the late 1980s was organized labor. Efforts to cut labor costs led to a strike against Guilford in 1986-87. In the end, the most visible reminder of the labor troubles of the 1980s was the elimination of the caboose on Guilford trains. During the 1990s, Guilford began to cooperate with its rival Conrail, and railroad service in parts of New England improved as a result. In 1995, the Boston & Maine and the Maine Central became known as Guilford Rail Systems (GRS).[122]

Today, Guilford operates freight service along the old Boston & Maine tracks running through Dover, as well as coal trains running up the old Concord Railroad tracks, through Manchester, to the Public Service power plant in Bow. Some of Guilford's track in New Hampshire is not in use. Other small portions of Guilford track are being operated by small railroads leasing the track. The Milford & Bennington Railroad operate on the Guilford line running between Nashua and Wilton. The New Hampshire Northcoast Railway operates trains on Guilford track between Rollinsford and Ossipee, while the Conway Scenic Railroad operates a tourist railroad from Conway through Crawford Notch. Nor does Guilford Rail Systems own all of the track in New Hampshire. The Grand Trunk Railroad, later the Canadian National, now operates its 52-mile line from Shelburne to North Stratford under the new name of St. Lawrence & Atlantic Railroad. Meanwhile, the State of New Hampshire owns the 57-mile stretch of line from Concord to Lincoln. The freight carrier for this stretch in the New England Southern Railroad, although the tracks from Laconia to Lincoln are also operated by two tourist railroads under joint ownership.[123]

Aside from the passenger service provided on tourist or excursion railroads, the only passenger service in New Hampshire today is provided by the "Vermonter," the Amtrak train that passes through Cornish, Claremont, and Charlestown. This is destined to change when Amtrak begins running a train between Boston and Portland along the old Boston & Maine tracks through, among others, the towns of Atkinson, Exeter, Durham,

---

[122] David H. Hickcox, "Guilford Transportation Industries," *Railroads in the Age of Regulation*, 180; Guilford Rail Systems web page, listed in the bibliography.
[123] Guilford Rail Systems web page.

Dover, and Rollinsford. Toward that end, the City of Dover is designing a new passenger depot, to replace the old depot that was torn down. It remains to be seen if this new passenger depot, the first of its kind to be built in several decades, will mark a reversal of the fortunes of New Hampshire's railroads.

II. TYPES OF NEW HAMPSHIRE RAILROADS

A. Introduction

Since 1833, over two hundred and fifty "railroads" operated or were authorized to operate in New Hampshire. Some railroads were quite small and met the needs of a municipality or a business. Larger lines served to connect disparate parts of the state. Some were even meant to be parts of "trunk" lines linking New Hampshire to other regions of the United States and Canada. The trains that traveled on New Hampshire's rails were as different as the railroads themselves. They carried passengers and freight, and they were powered by steam, diesel, electricity, and even horses. What follows is a brief summary of railroad types and a brief analysis of the purposes served by state railroads.

B. Horse Railroads

A horse railroad is simply a car or cars, running on tracks, and pulled by a horse. New Hampshire's first chartered horse railroad was the Manchester Horse Railroad Company, originally chartered in 1864, but it was slow to get started. It was not in operation until 1877. Dover and Concord also had functioning horse railroads. Another was chartered to run in Portsmouth, but it was never built. Other chartered horse railroads were the Exeter, the Laconia & Lake Village, the Franklin, the Nashua, and even the New Fabyan Hotel Horse Railroad and the incomprehensible Centre Harbor and Conway Horse Railroad. Horse railroads ran in New Hampshire from 1877 until approximately 1890, when they were superseded by the electric trolley. Some "street railroads" incorporated in 1887 and 1889 had the option of using horse or electric power. The horse railroads that operated in New Hampshire were only two to five miles in length. Their tracks ran down the main streets of their respective towns. Besides requiring the need to care for horses, the obvious disadvantage of horse railroads was their slowness. In addition, most cars used on horse railroads were quite small, meaning that the horse railroads barely met the requirements of "mass" transportation. Since horse railroads operated along existing rights of way, and since their tracks were quickly absorbed by trolley lines, they have not been dealt with in any substantive way in this report.

C. Electric Traction Railroads

Beginning in 1887, Americans began to operate electric traction railroads. These are generally divided into two classifications. The local "trolley" and the "interurban," although all were classified by state law in 1895 as "street railways." Differences between trolleys and interurbans are sometimes blurred. The term trolley is generally used for local electric street railways. New Hampshire began chartering street railways that had the option of using electric power as early as 1889, and between 1889 and 1903, most of the state's cities and large towns invested in electric railways. Many of those incorporated between 1899 and 1903 were never built, however, either for lack of capital and/or as a result of the nation-wide recession of 1907.

Local trolleys usually began by taking over the old horse railroads, and in most cases, they began limited service along the main streets of towns and cities. In the case of Concord, for instance, the Concord Street Railway Company was chartered in 1890 and simply began running along the old horse railroad tracks on Main Street. Later, the tracks were run up to Penacook, with a separate loop going westward to the State Fair Grounds (Memorial Field). Sheds used for parking and maintenance were built in West Concord. A 1903 state law allowed the Concord & Montreal Railroad (controlled by the Boston & Maine Railroad) to acquire the Concord Street Railway and link it to the Manchester Street Railway, thus creating an interurban line.

An "interurban" is technically a trolley line "...connecting two localities at least ten miles apart, with an appreciable portion of its route on private right-of-way, over which electric cars operate at top speeds of more than forty miles an hour." Given this definition, some of the electric traction railroads that serviced more than one community in New Hampshire might not be considered interurbans. For instance, the Berlin Street Railway connected the city of Berlin with neighboring Gorham. It was not a full ten miles in length, and given that one of its main stops was the Cascade Mills, located roughly equidistant from the two downtown areas, it is doubtful that the trains reached a speed of forty miles an hour. For that matter, many of New Hampshire's interurbans almost certainly operated at much lower speeds. For example, interurban authority O. R. Cummings reported that the 102 mile interurban ride from Concord to Portsmouth, by way of Massachusetts and Hampton Beach, took seven hours in 1915. Nor was this trip made on one interurban line. It took four connecting lines to make the trip.

In all, it is estimated that New Hampshire had roughly two hundred miles of interurban tracks. Some served as a means of getting to work; others, like the Union Street Railway between Dover and Somersworth or the Exeter, Hampton & Amesbury Railway served as a means of getting to recreational sites. The unusual Uncanoonuc Incline Railway and Development Company was its own attraction, running to the summit of the southern peak of Uncanoonuc from 1906 to 1949. In many parts of the country, interurbans were considered competition for the steam railroads, prompting steam railroads to acquire the electrics. That does not seem to have been the case in New

Hampshire, with the possible exception of the interurban between Concord and Manchester, which became the Concord and Manchester Electric Branch of the Boston & Maine Railroad. Most interurbans in the Granite State operated from the decade of the 1890s until the early 1930s, when people found it more convenient to travel from town to town by private cars or on commercial bus lines. In the case of the Claremont Electric Railway, the tracks were later used by diesels. However, the tracks of the remaining interurbans were torn up; in many if not most cases the rights of way, if they were not already roads, were converted to roads.

D. *Logging Railroads*

New Hampshire's logging railroads are in a class by themselves because they were owned by logging and paper companies, their operation in New Hampshire was restricted to the area of the White Mountains, and they existed for the sole purpose of getting logs out of the forests to the company-owned mills. The logging railroads of New Hampshire's White Mountains generally ran from a commercial railroad into the heart of a company's timberland. They were usually only five to fifteen miles in length, with branches built where needed. The logging railroads were standard gauge, steam railroads. Their construction differed from construction of commercial railroads only in that they were hastily built, not meant to last for any duration, and they featured some of the more spectacular wooden trestles in the state. Since the logging railroads were subsidiaries of companies in the wood business, their rails and rolling stock were usually leased from the commercial railroads to which they were connected. Logging railroads were also unusual in that they did not last very long. C. Francis Belcher, the leading authority of New Hampshire's logging railroads, found that most of the state's seventeen major logging railroads were built in the period from 1880 to 1895, and that only three of the railroads were still operating after 1920. Several of the logging railroads lasted for less than ten years. The Sawyer River Railroad and the East Branch & Lincoln Railroad were the exceptions, lasting sixty and fifty-five years respectively. Unlike trolleys and interurbans, the logging railroads almost always cut their own rights of way, and in many if not most cases, the rights of way disappeared when the logging railroads were torn up. The Bear Notch Road and the Kancamagus Highway are located in part on the rights-of-way of logging railroads, and portions of the Zealand Valley and the Whitefield and Jefferson logging railroads became commercial lines. The exact grades of the old logging railroads are currently being mapped by the staff of the White Mountain National Forest.

E. Narrow and Non-Standard Gauge Railroads

New Hampshire experimented very little with narrow and non-standard gauge railroads. The primary reason for the early use of standard gauge in New Hampshire stems from the fact that New Hampshire's first commercial railroads were planned as extensions to commercial lines coming up from Massachusetts, all of which were standard gauge by 1838. The best known narrow gauge railroad in the state was the

Profile & Franconia Notch Railroad, a small tourist railroad that latter converted to standard gauge. The Conway & Mt. Kearsarge Railroad was originally incorporated as a "two-footer," but it was never built. The Atlantic & St. Lawrence Railroad (later the Grand Trunk) was the wider Canadian gauge until converting to standard gauge in 1874. Finally, the Mt. Washington Railroad is not only a narrow gauge, but a "cog" railway.

F. Berlin "paper company" Railroads

In the paper-making city of Berlin, both the Brown Paper Company and the International Paper Company had their own chartered railroads to operate in and around their mills. The Berlin Mills Railway was a division of Brown Paper Company, while the Glen Junction Transfer Company ran a 1.5 mile line for the International Paper Company. The Berlin Mills Railway operates today as a separate corporation, serving the needs of the mills in Berlin and Cascade (Gorham).

G. Commercial Passenger and Freight Railroads

The vast majority of railroad activity and railroad track mileage in New Hampshire was associated with regular passenger and freight service to New Hampshire towns and cities. At one time or another, 176 of New Hampshire's 234 incorporated municipalities had a commercial passenger and/or freight railroad operating with their bounds. Almost all of these communities had at a minimum a combined passenger/freight depot. Most had separate depots for passengers and freight, and many had several depots, as well as yard facilities and miscellaneous railroad buildings and structures. At the beginning of the First World War, New Hampshire had 1,256 miles of commercial railroad track, and that did not include the many feeder lines extending to factories around the state. At one time or another, approximately 150 commercial railroad corporations were authorized to operate in New Hampshire, although some of these never got off the ground, some were re-chartered versions of earlier companies, some were out-of-state railroads that received permission to extend their lines across the New Hampshire border, and a few were (and still are) corporations that own rolling stock but no track. Most of New Hampshire's railroad companies were very small by railroad standards, and many railroads did not exist as separate corporate entities for more than four or five years--some less. By the decade of the 1880s, New Hampshire's railroads had consolidated into six "systems": the Boston & Maine, the Boston & Lowell, the Concord, the Fitchburg, the Maine Central, and the Grand Trunk. By the turn of the century, the Boston & Maine Railroad controlled all but the fifty-two mile stretch of track in northern New Hampshire owned by the Grand Trunk.

Most of New Hampshire's standard gauge railroads were "bridge" lines, in that they served to connect two railroads. That made sense, given the fact that New Hampshire is a small state, it is centrally located in northern New England, it lies between Boston and Portland, and it also must be traversed in order to connect the St. Lawrence Valley and either Portland or Boston. The state's first railroad, the Nashua & Lowell, was a bridge

line even before it was built, as it was built, not just to run between the manufacturing centers of Nashua and Lowell, but to connect with the Boston & Lowell Railroad to the south, and the yet-to-be-built Concord Railroad to the north. The larger systems that developed in the decade of the 1880s were also bridge lines, serving to connect railroads coming out of Boston or Portland to lines in Vermont.

Only a very few railroads in New Hampshire were terminal lines, and many of these were originally meant to connect with other lines, but for some reason, did not. Terminal lines that were meant to stop at a fixed point include the Wolfeborough Railroad, the Mount Washington Railroad, the New Boston Railroad, the Pemigewasset Railroad, the Franklin & Bristol Railroad, the Tilton & Belmont Railroad, and portions of the Boston, Concord & Montreal Railroad. Some terminal railroads were meant to be bridge railroads, but they never made the connection. These include the Peterborough & Shirley Railroad, the New Hampshire Central (later the Manchester & North Weare) Railroad, and the Suncook (and Suncook Extension) Railroad.

New Hampshire's various railroads were built for a variety of reasons, reflecting the hopes of early investors, politicians, businesses, and the general populace. Many of the early railroads were built for the simple purpose of providing passenger and freight service to the state's communities. Unlike the case in the West and Midwest, virtually all of New Hampshire's municipalities had been incorporated well before the coming of the railroad. Many were served by stage lines and established postal routes. In addition, New Hampshire had begun developing a strong industrial base two decades before the arrival of the Nashua & Lowell Railroad in 1838. Turnpikes and water transportation served only some of the needs of the "mills" that were being built in the southern part of the state. Finally, New Hampshire's White Mountains were already attracting tourists in growing numbers, and as the number of urban tourists grew, they sought faster, easier, and more comfortable ways of reaching the once-inaccessible mountains.

In short, many of New Hampshire's railroads were built to serve interests separate from those of the corporate interests of the railroad. Investors realized that their municipality or their business would survive and thrive only if serviced by a railroad. The profit or loss of the railroad was a secondary concern. Others built railroads for the sole purpose of generating competition. They realized that their railroad would entice the envy of larger lines, and they would be "bought out" by larger lines in the effort to eliminate competition.

While New Hampshire's commercial railroads carried both freight and passengers, different railroads in the state provided different services in varying proportions. The Concord Railroad, for instance, was envisioned as a line that would carry passengers, given that it linked three of New Hampshire's largest communities with Boston. However, it was built at the very time that the Amoskeag Manufacturing Company was constructing mill buildings in Manchester, and Amoskeag became a major investor in the Concord, assuring them of the freight transportation that would help Amoskeag become the world's largest textile mill. The Portland & Ogdensburg was built with Portland money to haul freight between Portland and the St. Lawrence Valley. However, steep

grades through Crawford Notch turned the Portland & Ogdensburg, later the Maine Central, into more of a tourist railroad. The Northern Railroad was envisioned as a line that would be owned by and cater to the needs of local farmers along its right of way. However, the farmers of little towns like Danbury and Enfield had little surplus to ship and little money to invest. Freight instead was generated by the industrial centers of Franklin and Lebanon, and passenger service resulted from the need to go to and from Concord, Manchester, and Boston. The Boston, Concord & Montreal Railroad was supposed to be an alternate "route to the lakes" from Concord, competing with the Northern, but the poorly built and poorly financed railroad wound up becoming a major means of bringing tourists to the White Mountains. Meanwhile, the Atlantic & St. Lawrence Railroad was intended to carry freight between Portland and Montreal, but during construction, the railroad was diverted up to Berlin Falls. It eventually served the needs of paper and pulp operations in the future industrial centers of Berlin and Groveton.

Many lines were built for the express purpose of competition. The Manchester & Lawrence and the ill-fated New Hampshire Central were constructed to give the Concord Railroad competition. No less than three railroads spanned New Hampshire to connect Massachusetts with Maine. The Boston & Maine and the Eastern competed for the Boston to Portland traffic, while the Worcester, Nashua & Rochester by-passed Boston altogether. Competition also led to the threat of railroad construction. When the Northern Railroad and the Central Vermont Railroad could not get along in 1880-81, the Central Vermont threatened to build the "Forest Line" from Windsor, Vermont, to Greenfield, allowing the combination of Forest Line and Wilton Railroad to eliminate the need for either the Concord or the Northern railroads. The Forest Line was never built.

A few railroads were built for very limited purposes. The Lake Shore Railroad was built along the southern shore of Lake Winnipesaukee to bring tourists north in the summer and to take ice south in the winter. The Upper Coos Railroad was extended by the Boston & Maine Railroad purely as a public relations gesture. The Cocheco Railroad was built as a gamble. Its incorporators were sure that a line between Dover and Alton Bay could be sold at a profit to the Boston & Maine Railroad. The Pemigewasset Railroad was built to bring tourists to the southern end of Franconia Notch. It was acquired by the Boston, Concord & Montreal, only to become the most successful component of the line when it started carrying freight for the mills in Lincoln and Campton. Today it survives, thanks again to the tourists.

The one generalization that can be made about New Hampshire's railroads is that very few served their intended purpose with any degree of financial success to the investors. The Concord Railroad was the most profitable railroad in the long run in New Hampshire, and for a few years following consolidation at the turn of the century, the Boston & Maine was profitable. Yet even at the height of its successful operation, the Boston & Maine was a relatively small railroad by national standards. It was "out of the loop" and tucked away in the northeastern corner of the United States. After World War I, railroad executives and political leaders in New England could never seem to agree as to whether the region's railroads should try to combine into a "New England Railroad" or

try to align the best of their lines into an existing "trunk" line. After years of uncertainty, the decision was made in 1981 and 1982, when Guilford Transportation Industries acquired the Maine Central and the Boston & Maine respectively, making them part of a "northeastern" network to compete, and ultimately to cooperate with Conrail.

Many of the railroads operating in New Hampshire since the end of the Second World War do not actually own rights of way. The Conway Scenic Railroad, the Goodwin Railroad Corporation, the Hobo Railroad, the North Stratford Railroad, the Winnipesaukee Scenic Railroad, and the Citizens Railway Materials Company have operated or are operating under lease arrangements. The Springfield Terminal Railway Company has been operating portions of the Boston & Maine and the Maine Central for Guilford Transportation Industries.

A few "short line" railroads also emerged when portions of the Boston & Maine system were abandoned or released. The Suncook Valley Railroad, for instance, was released from the Boston & Maine as early as 1924 to operate under its old charter. In 1949, Samuel M. Pinsly, a noted short line operator, purchased the old Portland & Rochester Railroad, calling the new line the Sanford & Eastern Railroad, although the New Hampshire portion was abandoned by 1952. In 1954, Pinsly purchased the old Concord & Claremont, renaming the new line the Claremont & Concord Railroad, although passenger service along the full length of the line ceased within a year of purchase. Meanwhile, the old Wolfeborough Railroad was revived briefly (1972-1978) as a short line tourist railroad.

III. TYPES OF PROPERTY ASSOCIATED WITH RAILROADS

A. Passenger Depots

1. Introduction

The purpose of this section of the study is to discuss general characteristics of railroad station features in the state and to provide specific examples from different railroads. Because there is little or no primary information available on New Hampshire depot design, much of the discussion of depots in this report has been gleaned from field visits to existing depot buildings, historic photographs, the New Hampshire Railroad Commissioners' Reports, and the records of the valuation completed by the Boston & Maine Railroad for the Interstate Commerce Commission.

There were once more than four hundred railroad stations in the state, ranging from the simple flag stop to major railway centers where multiple lines intersected. As late as 1932 the Boston & Maine was still serving more than 300 localities in the state. One hundred and seventy-six of the state's 234 incorporated towns and cities had, at one time, a railroad located within their boundaries. In some cases, a railroad passed through only a limited portion of the community and no railroad structures were located there.

With the advent of the railroad beginning in the 1830s, the railroad depot first emerged as an entirely new type of building. As one might expect, the early railroads looked to current architectural styles for inspiration, within the limitations of functional considerations. Changing architectural styles continued to affect the design of railroad stations throughout the 19th and early 20th century.

There is very little information available on the identities of the designers of New Hampshire's smaller depots. It is assumed that very few of New Hampshire's railroad stations were architect-designed. Most of the depots were no doubt planned by the railroad engineering department and built under their supervision by their carpenters or in some cases local builders.

In the late 19th century sources of design inspiration were readily available for even the smallest railroad company. Articles in trade journals such as *Railway Age*, *Engineering News*, and *Railroad Gazette* frequently included drawings of plans used by different railroads. In 1892 Walter Gilman Berg, chief engineer of the Lehigh Valley Railroad and a well-known authority on railway building published a critical sourcebook entitled *Buildings and Structures of American Railroads: A Reference Book for Railroad Managers, Superintendents, Master Mechanics Engineers, Architects and Students*, in which he includes surveys of station plans used by many different railroads. The book

includes illustrations of two of New Hampshire's largest and most impressive architect-designed depots, at Concord and Laconia (both are no longer extant).

Most carriers in New Hampshire were employing standardized designs by the 1870s. The most common form consisted of a single-story building, rectangular in plan and capped by a hip roof with overhanging eaves. Varied exterior details could be used to effect visual differences among what would otherwise be identical stations. The coordinated paint schemes of various lines was another facet of the standardized approach. For example, stations on the Boston & Maine line were painted in a B & M colors depot buff and dark red while the Fitchburg Railroad utilized medium drab (gray) with terra cotta (brownish orange) trim.[124]

In 1883 (prior to the passage of the Colby Act) the state had eleven separate independent broad gage railway systems and many of these systems imparted had their own unique architectural style onto their depot buildings. Another significant factor in the design of the local stations may relate to the fact that the money which produced the various lines in New Hampshire was locally-based. Whereas in other parts of the country, "foreign" capitalists invested in the railroad, in New Hampshire funds were furnished in small amounts by people living on the lines or by towns. Funds were limited and practicality won out over extravagant expressions of architectural style. In some cases, stations were remodeled rather than reconstructed. After the merger of the Boston, Concord & Montreal Railroad with the Concord Railroad in 1889, the new corporation, the Concord & Montreal, began an aggressive modernization that included the replacement and remodeling of many of its stations. For example, one station that we know was transformed into a "modern structure" during this period was the depot at Ashland, which survives today[125].

By 1895 the number of railways operating in New Hampshire had been reduced to just four - the Grand Trunk, the Fitchburg, the Maine Central, and the Boston & Maine. With the lease of the Fitchburg to the B & M in 1900, the B & M controlled all but about 150 miles of the roughly 1,100 miles of rail in the state. Given that the B & M also tended to control the Maine Central, only the 52-mile stretch of the Grand Trunk in northern New Hampshire remained permanently outside B & M control.

Despite its overwhelming importance to the history of New Hampshire railroads, on a national scale, the Boston & Maine was considered a rather small, if not insignificant, line. The fact that the B & M had overextended itself in the acquisition of neighboring railroads in northern New England left little extra capital available for innovative or

---

124 Dana R. Philbrook and R. Richard Conard. "Fitchburg Railroad Passenger Station, Marlboro, Massachusetts", *B & M Bulletin*, Winter 1983-4, p. 16.

125 David Ruell, National Register Nomination for Ashland Railroad Station. Listed 11/10/82. Originally constructed in 1869, the Ashland station was moved a short distance and remodeled after the merger of the Boston, Concord & Montreal Railroad with the Concord Railroad. In September 1891 the *Laconia Democrat* reported, "The Ashland passenger station is fast being transformed into a modern structure. The interior has been torn out and is being sheathed up in artistic style, while the slaters are just now busy with the roof".

elaborate railroad stations. A nationwide economic depression in the early 1890s, which did not improve until about 1898, also seriously cut into the railroad's profits and led to the postponement of some proposed permanent improvements.

Under B & M management, some lines experienced vast improvements while others did not. The lease of the Concord & Montreal to the B & M in 1894 provided that the B & M reconstruct the terminals at junction points and make other improvements on the line. As a result Manchester saw the erection of a new passenger depot, a new freight house and large additions to its yards while extensive shops and a new freight yard were constructed at Concord. Between 1895 and 1899 the B & M spent more than $2 million on the Concord & Montreal and the Eastern Railroads for the construction of new yards, stations, sidings, and bridges; the elimination of grades and curves, the separation of crossings and the construction of roadbeds and tracks.[126]

Under the control of the B & M, many of the stations on the old Northern and Cheshire Railroads, remained (in the words of the State Railroad Commissioners) "antiquated, inconvenient and unattractive".[127] The old, gable-roofed stations building were, and are, in stark contrast to the later hip-roofed structures. Similarly, on other older lines across the state, stations were only sporadically updated or replaced when absolutely necessary. Major improvements to the railroad's stations were minimal between 1910 and 1920.

The numerous small independent early railways each appeared to have their own station design policies. Later mergers and the replacement of earlier structures contribute a whole overlay of additional information, although sometimes obscuring what were once fairly standardized lines. This makes the inspection of historic photographs critical to a complete understanding of New Hampshire depots. Replacement stations are often far different that the original depots due to changing national architectural tastes and the changing design policies of the individual railroads. By focusing only on the replacements and remodeling, the standardization which did exist on certain lines may be overlooked.

Lastly, while many of the state's major railroad landmarks were lost to the wrecking ball in the 1960s, it should be noted that the loss of the state's railroad buildings and structures had already been taking place for many years by that time. As early as the 1940s the B & M had a policy of retiring unused buildings, structures and tracks to save maintenance costs and obtain the financial benefits of salvaged timber, steel and other materials.[128] The conversion to diesel in the 1940s made many structures which catered to steam-driven engines redundant.

---

[126] *New Hampshire Railroad Commissioners' Report*, 1899-1900, p. x.
[127] *New Hampshire Railroad Commissioners' Report*, 1895, p. 9.
[128] *Boston & Maine Railroad, Annual Report*, 1947.

2. Large Depots and Architect-Designed Depots

New Hampshire's most impressive, architect-designed stations, built in the cities of Concord, Manchester and Nashua, are no longer extant and were all demolished in the name of progress in the 1960s. In 1885, the Concord Railroad built a new (the fourth) depot at Railroad Square [figure 1]. It was designed by New York architect Bradford Lee Gilbert (1853-1911) who served as a consulting architect to a number of large railroad companies and later in his career remodeled the old Grand Central Station in New York City. The massive 3 1/2-story building was constructed of brick, rock-faced granite and terra-cotta. Inside the central gablefront was a large open rotunda over sixty feet high, which was flanked by two symmetrical, hip-roofed wings dotted by gables, small corner towers and chimneys. Extending behind the depot was a train shed which measured 770 feet long and 120 feet wide [fig. 2].[129]

The third and final Manchester Station was an impressive Richardsonian Romanesque structure constructed by the Boston & Maine Railroad in 1897 [fig. 3]. According to an article appearing in the *Railroad Gazette* in 1897, it was built under the direction of Chief Engineer H. Bissell with plans made in his office by "Mr. Fletcher".[130] Nashua's station [fig. 4], built in 1880 for the Concord Railroad, was a two-story, brick building with a hip roof and central tower. The building was designed by Concord architect, Edward Dow, and his partner, Giles Wheeler.[131] It was demolished in 1965.

Among the larger stations which survive today is the North Conway depot, built in 1874 for the Portsmouth, Great Falls & Conway Railroad [fig. 5]. It was designed by Boston railroad architect, Nathaniel J. Bradlee (1829-1888) who designed Union Station in Portland, Maine in 1888 (no longer extant). Perhaps the state's most unusual depot building and apparently unique in Bradlee's work, the structure has been described as a Victorian interpretation of Russian architecture. The two ends of the symmetrical, clapboarded building are capped by concave and convex-roofed towers.

Constructed in 1892, the Laconia Railroad Station [fig. 6] is an excellent example of the Richardsonian style and was designed by Bradford Gilbert. Rambling platforms capped by expansive hipped roofs and an attached porte cochere give the station a strong sense of heavy horizontality which is broken only by a central, three-story, forty-foot square rotunda enclosed in a pyramid-roofed, squat tower. The building is constructed of rusticated gray granite with red sandstone trim, all set with red mortar. Other Richardsonian features include the eyebrow dormer on the porte cochere and the bands of windows.

---

[129] Walter C. Berg, C.E. *Buildings and Structures of American Railroads*. New York: John Wiley & Sons, 1893.

[130] *Railroad Gazette*, vol. XXIX, no. 25, June 18, 1897.

[131] "New Passenger Station at Nashua", *Concord Monitor*, March 26, 1880. Dow also designed Concord's third passenger depot in 1859.

Bradford Lee Gilbert was also responsible for designing two other, much smaller stone depots in New Hampshire. These stations are also still extant and among the state's most significant small depots. The former Amoskeag station in Manchester [fig. 7] served passengers in the affluent neighborhoods north of the Amoskeag millyard and was reportedly constructed to accommodate Concord & Montreal Railroad president and Manchester resident Frederick Smyth in particular. Constructed in 1892, the building now serves as a private residence but retains considerable integrity. The small terminal station at New Boston [fig. 8] is located on a five-mile rail line constructed by a group of local men in 1893. The line was then leased to the Concord & Montreal (which soon became the Boston & Maine). The unusual fieldstone, shingled and half-timbered building dates to 1895, replacing an earlier fieldstone and stucco depot. It is now a private residence. The nearby flag stop at Lang is a small stone building built at the same time.

There are few known examples of depots designed in New Hampshire by independent architects. One railroad which appears to have utilized the services of various architects was the Concord Railroad. As discussed above, New York architect Bradford Lee Gilbert designed stations for the railroad at Laconia, New Boston and Amoskeag, although the railroad also utilized more local architects as well. In 1881, Concord architect Edward Dow designed the passenger depot at Tilton [fig. 9] on the Boston, Concord & Montreal line.[132] In 1890, Manchester architect William Butterfield prepared the plans for a new passenger station at Massabesic for the Concord Railroad.[133] Neither the Tilton or Massabesic stations are still standing.

On the Western Division line, the station at Exeter [fig. 10] was designed by the Damon Brothers of Haverhill, Massachusetts and was completed in 1891. The Richardsonian Romanesque station is constructed of granite block, trimmed with sandstone with a high hip roof, stone roof gables and two one-story conical projections at the corners of the building. While the track side retains much of its original integrity the street side has been remodeled and the granite wall covered with siding.

Representative Extant Examples:
Laconia, 1891-2; New Boston, 1895; Amoskeag (Manchester), 1892; Exeter, 1891

Non-Extant Representative Examples:
Concord, 1884-5; Union Station, Manchester, 1897; Nashua Union Depot, Nashua, 1880

[132] The Tilton station was later reportedly moved to Boscawen and converted to a private dwelling. Dow was the architect for various structures at Tilton including alterations to Charles Tilton's home (1881) and the Memorial Arch (1882-3). His only other known railroad works are the station constructed for the Concord Railroad at Nashua in 1880 and Concord's third depot, constructed in 1859.

[133] "Massabesic Station", *Mirror and American*, June 16, 1890. Butterfield is not known to have designed any other railroad structures. The former Massabesic station was moved across the track and fitted up as a freight station.

3. General Passenger Depots

By the late 1830s an almost universal interior arrangement had been developed nationwide which perpetuated for the next hundred years. The basic components of the typical passenger station consisted of one or two passenger waiting rooms, a room for baggage, express and small freight and an agent's office. The agent's office was usually at the center of the station and by the 1870s almost always included a projecting track-side bay window to give the stationmaster a view of track movements.

The need to shelter waiting passengers from the elements was the primary consideration behind even the earliest New Hampshire depots and manifested itself in exterior features as well. The earliest small stations on lines such as the Eastern, Northern, Suncook and Boston & Lowell were commonly capped by gable roofs with overhanging eaves [figs. 11 & 12]. Many of the early depots on the Concord & Claremont Railroad were 1 1/2-story, gable-roofed buildings with prominent overhangs, unified by common features including solid triangular pieces (rather than open brackets) under the eaves at the ends of the buildings and peaked window lintels. At Warner a 2 1/2-story version of the same form was constructed which survives today in an altered state. In some cases, when stations were remodeled, early passenger depots were converted to use as freight depots. Such was the case in Goffstown, where the original c.1850 board-and-batten depot was moved westward to make way for a new c.1880 depot on the same site. Today, the original Goffstown depot houses an auto parts store.

Among the earliest and best-preserved small, early stations in the state is the station constructed about 1849 by the Sullivan Railroad at Charlestown [fig. 13]. The single-story station is sheathed in flush board siding. The gable end features a deeply recessed central arch vault supported by large triangular braces with lesser arches running the length of the building. The wide eaves no doubt acted as an exterior shelter. A Greek Revival-style influence is evident in the peaked window lintels, cornerblock moldings and pilasters.

An excellent example of an Italianate-style station is that erected by the Wilton Railroad at Milford c. 1852 [fig. 14]. The building is sheathed in flushboard siding with heavy segmental window lintels. The asymmetrical gable roof has an exaggerated overhang on the trackside, supported by large wooden braces. On the gable end, there is a bracketed cornice and a bull's eye attic window. A modern addition has been constructed on the street side although the track side retains much of its original integrity.

Historic photographs of the c.1854 Farmington depot on the Cocheco Railroad (no longer extant; fig. 15) show that the long, trackside elevation of the gable-roofed building was heavily recessed and supported by large trusses to provide cover for waiting passengers. The bracketed cornice and arched window openings also reveal an Italianate-style influence. Manchester's first railroad station, constructed in 1842 [fig. 16] was a gable-roofed building with pillared porticoes on each of its long elevations.

The c.1855 Italianate-style passenger depot which survives at Newmarket is a wood-shingled building which displays a series of round-headed arched windows. The overhang of the hip roof is supported by oversized S-curve brackets. The Italianate style depot at Peterborough had a gable roof with bracketed cornice, a tripartite, round-arched gable window and eared surrounds.

In the larger cities, passenger depots were more frequently replaced by new buildings. Nashua's first passenger depot, constructed in 1839, was a wood-frame Greek Revival-style building. A more substantial railroad station was constructed in the same area in 1849 after Nashua laid its second railroad track. The large, gablefront Italianate-style brick building featured none of the character-defining characteristics of a depot other than its trackside location. The building housed the depot on the first floor and an auditorium/opera house on the second floor. In Concord, a temporary wooden station was constructed in 1842 but was replaced just five years later by a brick depot designed by Boston architect Richard Bond. As in Nashua, a ticket office and waiting areas occupied the first floor with a meeting hall upstairs. Classical in its inspiration, the symmetrical building was adorned by fanlights, modillion cornices and a central cupola. After it was damaged by fire in 1859 the building was rebuilt with a flat roof.

Manchester's first depot was replaced in 1852 [fig. 17] by a long, barrel-vaulted building bisected by a two-story box-like projection. Although the historic print does not show train tracks, the building has the appearance of a train shed and probably offered protection to passengers and trains alike. There are various features which are classical, if not Italianate in feeling, including front arcade and arched window openings, brick corbelling and a bracketed cornice. Clerestory openings along the roof ridge would have served as ventilation for smoke. In later photographs it appears that the large arched openings have been blocked and a canopied platform was erected outside.

As at Manchester's station, there are other instances where it appears that the trains actually ran through the station buildings. An historic photograph of the Alton Bay station [fig. 18] shows the train track leading through a wide arch cut into the gable end of the building. However due to the fire threat from sparks, it was soon found preferable to instead provide a separate covered platform for waiting passengers. The depot which was constructed by the Cheshire Railroad at Keene in 1848 also appears to have accommodated locomotives [fig. 19], as did that at Portsmouth [fig. 20].

By the 1870s the design of the typical small-scale depot had been largely standardized. Almost all of the buildings were clapboarded and displayed a hip roof with a wide, extended eaves supported by large, decorative brackets. The overhang of the roof sheltered both waiting passengers and working railroaders.

The interior plans were variations on the same general plan, differing only in the proportion of space reserved for the various interior functions and depending on whether the building served solely as a depot or as a combination passenger station/freight station. The plans of the Suncook and Ashland stations seen in figures 21 & 22, (taken from the

1914 valuation report) are typical of the structures erected solely as passenger depots. In both of these plans the building is divided into ladies' and mens' waiting rooms with the station office centered on the trackside, set behind a curved wall with grilled ticket windows. At Ashland the toilets are located in an extension on the outside of the building while at Suncook a storeroom and baggage room are appendages. Another variation is seen in the plan for the depot at Potter Place, which includes a milk room addition on one end [fig. 23].

In many smaller New Hampshire towns, the combination depot fulfilled the functions of passenger shelter, train control and freight in a single building [fig. 24]. Generally, combination stations were constructed where the freight and passenger business was comparatively light and where an economy of scale and operation was desirable. In the combination station the office of the station was typically located near the center of the building, facing the track side, with a bay window offering views up and down the track. Flanking the central office, at one end of the station is one or more waiting areas (often separated by gender) with the freight section at the other end. Other rooms in the passenger depot might include a baggage room, telegraph/express office, milk room and toilet facilities. A good example of a vernacular combination depot is that at Gerrish in Boscawen [fig. 25]. The three-room station is supported by a granite foundation and is sheathed with clapboards and plain trim. The projecting track-side bay and freight door bay on the road-side elevation identify it as a railroad station. The building survives today in an extremely tenuous state.

The exterior detailing simple frame structures were often standardized by each railroad's engineering department. Throughout the state there are various good examples of the typical wood-frame depots which were being constructed by the railroad lines.

Many stations constructed on the Nashua & Rochester Railroad in the 1870s (examples included Barrington, Hudson, Sandown, Anderson, Windham Junction and Epping) [fig. 26], displayed two-tone clapboarded exteriors with a darker tone below the level of the windows. The buildings were also unified by the consistent use of scalloped trim on the hip roof eaves; trussed braces supporting the deeply projecting eaves and the use of beaded and matched ceiling board for exterior and interior trim. The Sandown Depot is the best-preserved station on the Nashua & Rochester Railroad still standing on its original site. It is owned by the local historical society and is listed on the National Register of Historic Places Of the other above named stations, the Windham Junction survives in a much altered state and in very poor condition and the Hudson station was moved from its original location to Benson's Animal Farm in 1986.

Numerous stations on the Portsmouth, Great Falls & Conway Railroad, (including Conway, Sanbornville, Milton and Ossipee) [fig. 27] were unified by a similar rectangular massing, church-like spires and hip roofs with scalloped trim with a slightly lower scalloped projection wrapping around the entire building, supported by large trussed members. Additional scalloped trim capped the window and door openings. A nearly identical form was used nearly at the Wolfeborough depot on the Wolfeborough

Railroad. Here in addition to the twenty-foot tall, church-like steeple, ten hip-roofed dormers punctuated the roof, with identical jigsawn trim.

The Potter Place depot [fig. 28] erected in Andover by the Northern Railroad in 1875 is widely regarded as one of the state's finest 19th century wooden railroad stations.[134] The 1 1/2-story, hip-roofed building is embellished by Stick Style decoration including jigsawn bargeboards, chamfered roof braces, and applied stickwork which divides the walls into rectangular panels. Much of the wall surface is sheathed with horizontal flush boarding. Under the eaves, narrow upper panels are filled with flush vertical boarding.

The clapboarded depot at Ashland is noteworthy for the fact that it still retains its 19th century interiors as well as an almost unchanged exterior. Carefully renovated and now used as offices, the North Hampton depot was constructed in 1870 by the Eastern Railroad. The station displays a hip roof, with a lower level canopy that extends eight feet from the building. The Plaistow passenger depot on the Western Division is another well-preserved example of a rural depot. The c.1880 depot at Goffstown [fig.29] retains its original exterior materials and trim despite its conversion to commercial use. Constructed in 1893, after fire destroyed the previous building, the Raymond depot [fig. 30] is a well-preserved wood-frame depot which is notable for retaining its side canopies supported by square posts with chamfered corners and sawn braces. The exterior of the building is sheathed in a combination of clapboards and scalloped wood shingles. The interior of the depot is equally well-preserved and retains many original features including the central ticket area with original gates and original seats in the waiting room.

Increases in tourist traffic had a major impact on determining the size, location and number of passenger stations. In the Lakes Region, there is a group of small-scale Queen Anne-style depots which were all constructed by the Lake Shore Railroad about 1889. Built according to an identical plan, the depots were sheathed in a combination of clapboards and fancy shingles and capped by slate, hip roofs with hip knobs and a small gable rising from the front roof slope. The overhang of the roof was supported by large notched braces. The windows contained 12/1 windows. Today the stations in Alton, at Loon Cove [fig.31], Spring Haven and West Alton are still extant. Two unusual Queen Anne small-scale stations were erected at Franklin Falls and Franklin Junction [fig. 32] by the Franklin & Tilton Railroad when it was established in 1889 but are no longer standing.

The Alton Bay railroad station was constructed for the Boston & Maine in 1907. Builder Lewis Killam of Haverhill, Massachusetts was paid $6800 to erect the passenger station as well as a separate freight house. The building is a good example of the Shingle Style, which was rarely applied to railroad buildings. Typical of the style are the shingled exterior, gable end pents, diamond-paned windows and trackside recessed porch. A

[134] Bryant F. Tolles, Jr. *New Hampshire Architecture: An Illustrated Guide*. Hanover, NH: University Press, 1979.

variation on the same design was once located in Franklin as well, but incorporated a gable end Palladian window and eyebrow dormers.

During the late 19th century small but attractive wood-frame depots were also constructed in the mountains along railroads including the Maine Central and Profile & Franconia Notch, to serve large resort hotels. The depot building which survives at Glen Station (Bartlett) is typical of the early depots constructed soon after the arrival of the Portland & Ogdensburg Railroad (later the Maine Central) in the early 1870s. The simple building displays a rectangular plan and deeply extended eaves supported by elaborate truss brackets. Illustrative of a later generation of stations on the line is the Maine Central's Crawfords depot (1891; fig. 20), dominated by its corner octagonal tower which breaks through the hip roof overhang. The clapboarded and wood-shingled building is decorated by dentil molding and flat panels; its freestanding covered platform is no longer extant. The depot building also served as a post office and freight station. It is listed on the National Register of Historic Places. The Fabyan depot, which stands nearby at Bretton Woods, displays similar siding and wooden brackets. The Profile House depot (no longer extant) was a nearly flat-roofed station with a central cupola and jigsawn bargework. Constructed c.1881, the Maplewood depot was constructed with a church-like cupola and extensive platform canopies. The Stick-style building is presently vacant and in a deteriorating state.

On the White Mountains Railroad, a standardized design was utilized for three Queen Anne style depots with high hip roofs and gable and shed dormers at Littleton, Lisbon and Woodsville about 1890. The Woodsville depot [fig. 34] was reconstructed and saw the addition of a third story after a 1921 fire. However, the first story of the original building remain intact, including fenestration patterns and the projecting first story porch roof supported by massive knee braces. The Lisbon station also survives, but in an altered version. The Littleton building burned and was replaced in 1929.

The Grand Trunk Railroad cut through a rather small portion of the northern part of the state. As evidenced by historic photographs of Coos Junction and Waumbek Junction (both no longer extant), the basic form of the Grand Trunk depot followed the standard hip-roofed form popular in the late 19th century - rectangular in plan with overhanging eaves decorated by brackets and gingerbread work. The Groveton depot in Northumberland (1897) shares many characteristics of these other stations including its hip roof supported by ornamented trusses. In this case however, the building is constructed of brick with contrasting stone belt courses and elaborated window arches. Several Grand Trunk stations displayed more decorative features such as towers, dormers and rounded ends. Constructed in 1907, the Gorham depot [fig. 35] is a combination passenger and freight station building which exhibits many characteristics of the Queen Anne style. It displays an asymmetrical plan, a curved end, banks of multi-pane windows, a low horizontal massing emphasized by a flared hip roof and a combination of cut granite and clapboards. The Lancaster Station (fig. 36,1891, no longer extant) was a

wood-frame station crowned by a clock tower, much like that on the railroad's station at Skowhegan, Maine.[135]

In the southern portion of New Hampshire and in neighboring Massachusetts, the late 19th century depots of the Fitchburg Railroad all share rich decorative detailing, porte cocheres and an ubiquitous clock tower, which served to identify the location of the station and beckon passengers as train time approached. Constructed in the 1890s, the Milford depot [fig. 37] shares marked similarities with other Fitchburg Railroad depots in Athol and Marlborough, Massachusetts suggesting the buildings were probably the work of an unknown company architect. At Milford, the former passenger station now serves as an auto parts store but retains considerable integrity and hallmarks of the line including the tower, surmounted by a locomotive weathervane, and stained glass window transoms that display the railroad's initials

In the 1880s American architect Henry Hobson Richardson (1838-1886) was responsible, among his many accomplishments, for a nationwide radical change in depot design. The stations which Richardson designed for the Boston & Albany Railroad in the Boston area became the inspiration for countless imitators across the country. Constructed of quarry-faced stone, with brownstone trim, Richardson's stations were capped by sweeping roofs of tile or slate, sometimes punctuated by eyebrow dormers. In New Hampshire, Richardson's influence is seen most clearly in the Laconia passenger depot [fig. 6], designed by Bradford Gilbert; Manchester's Union Station [fig. 2], and the Exeter depot [fig. 10]. But the Richardsonian Romanesque style was also applied to much smaller stations. The brick depot at Newport, constructed in 1897 by the Boston & Maine (extant) is a good example of a Richardsonian-style station with its flared hip roof, ribboned transommed windows, the contrast between rock-faced masonry and brick and eyebrow dormer. The Meredith depot (also extant), erected several years later, also displays a flared hip roof and eyebrow dormer.

The number of brick depots constructed in New Hampshire is fairly small and includes buildings which survive at Newport, Claremont, and Groveton (Northumberland). Another extant example, the brick depot at Wilton [fig. 38], was constructed by the Nashua and Lowell RR in 1892, replacing an earlier structure. Simplified Queen Anne detailing includes decorative bands of brickwork, tile roof cresting and decorative end chimneys. In 1910, the Boston & Maine constructed a new station at Plymouth [fig. 39], at the junction of the Lincoln branch and the old main line to Woodsville. The buff brick building has contrasting brownstone trim including quoining, belt course and gable parapets. The design of the station incorporated a restaurant which has served it well in its reuse as the local senior center. In 1911 the former station at Lynn, Massachusetts was dismantled and brought to Durham where it was reconstructed brick by brick. The single-story building is constructed of glazed buff brick with a hip roof displaying projecting eaves and exposed rafters. The round-headed windows are capped by splayed brick arches and sandstone quoins. Original drawings for both the Plymouth and Durham depots(as well as Derry) are located in the collections of the Boston & Maine Railroad

[135] Julian Cavalier. *North American Railroad Stations*, p. 140.

Historical Society in Lowell. Another masonry depot, constructed in Keene in 1910, is no longer extant.

A reflection of suburban trends, some of the larger late 19th and early 20th century stations incorporate canopies or covered platforms to shelter commuters. Stylistically, the platforms gave the stations an exaggerated horizontal effect. At Durham the platform is protected by a wooden hip roof with heavy wood posts and curved, flat-sawn brackets. At Exeter two covered waiting platforms once flanked the depot; only one survives. Other stations with integral platforms include Raymond [fig. 40].

In rare instances, such as at Bow Junction, the depot constructed was two stories in height with bedrooms upstairs. In Northfield [fig. 41] the Queen Anne-style combination depot has an attached house for the station agent. Constructed prior to 1860, the form of the passenger depot at East Kingston owes more to domestic prototypes than the typical single-story depot. The 2 1/2-story, 5 x 2-bay side-gabled building was also a residence with the station and freight agent living upstairs. The building is also unusual for its Italianate style details including paneled corner pilaster, eared surrounds and arched lintels. Other stations which where the agent lived in the depot included Melvin (Warner), Bethlehem and Auburn. Damaged by fire in 1921, the station at Woodsville saw the construction of two new upper stories to serve as the headquarters for the White Mountain Division. The stations at Newington, Atkinson and Boscawen all included separate quarters for station personnel.

In some cases, the combination depot was not constructed specifically by the railroad but utilized a preexisting building. For example, the Emerson station in West Henniker was actually a three-story house in which the upper two stories were used as a residence with the smaller lower level housing the West Henniker Post Office and the small railroad station.

4. Smaller Union Depots

The term "union" passenger depots refers to the facilities that were constructed to accommodate passengers and related support services at important junction points of two or more railroads. In addition to the major union terminals constructed at Nashua, Concord, and Manchester, small-scaled union stations were constructed throughout the state at the junction of two or more lines. These included Windham Junction (Manchester & Lawrence; Nashua & Rochester); Elmwood Junction (Keene-Nashua & Winchendon-Concord); Waumbec Jct. (B & M, Maine Central); North Stratford (Upper Coos and Grand Trunk); Groveton (Grand Trunk and Concord & Montreal); Claremont Junction (Sullivan RR and Concord & Claremont); Coos Junction (Maine Central and Grand Trunk); Epping (Portsmouth & Manchester and Worcester, Nashua & Portsmouth); and Mount Pleasant House (Boston, Concord & Montreal and Maine Central). In other cases (such as Milford, Conway, Berlin and Jefferson), competing railroads in the same community maintained separate stations and yards, rather than utilizing union depots.

In most cases, the designs of the small union depots differed little from their single line counterparts. The smaller union stations were typically L-shaped or polygonal in plan as opposed to the rectangular plan of the common station. In some cases, the irregular plan reflected the intersection of two sets of train tracks. The Rockingham Junction depot at Newfields (extant) is a one-story, asymmetrical building sheathed in clapboards with a high hip roof with extended eaves. An historic view of the Elmwood Junction depot at Hancock (no longer extant) is visible in figure 42. The Windham Junction passenger depot is still extant but has seen many alterations including the loss of its entire yard [figs. 43 & 44].

Representative Extant Examples:
Rockingham Junction; Windham Junction (much altered)

5. Integrity Considerations (all passenger depots)

The surviving New Hampshire depots reflect a wide range of integrity. In some cases the depot buildings have been moved, resulting in a loss of integrity of location. In cases where depots are eligible under Criterion C for their architectural significance, it may not be necessary for them to retain their original location as long as an appropriate setting is provided and significant architectural features have been retained.

In order to be eligible under Criterion C a depot should retain original design and construction material. Significant character defining-elements including the trackside bay, roof overhang, retention of the interior plan , interior finishes and any evidence of original workmanship.

Many depots will be eligible for the National Register under Criterion A as the focus of a community's transportation system and commerce. This argument may not be defensible where depots have lost their integrity of feeling and association, such as when they have been converted to a new use and are no longer able to tell anything about their original use. Even under Criterion A depots should still retain their proximity to the right-of-way as well as original design and construction material.

B. Flag Stops

1. Introduction

Flag stops offered the most basic of passenger facilities and were constructed where only a limited number of trains stopped, usually only upon passenger request. Some flag stops consisted only of an open platform, other stops were merely grade crossings, lacking a platform or station sign to identify them. In some cases the flag stops included modest shelters for waiting passengers. In one version, the simple wooden structure had three walls and a roof and was open toward the track [fig. 45]. Others were small, wood-

frame buildings, rectangular or square in plan and capped by a hip roof [fig. 46]. Flag stops appear to have been especially prevalent on lines where passenger volumes fluctuated seasonally. For example, on the Lake Shore Railroad, there were twenty stops on a total trackage of 17 1/2 miles.[136] Most of these were flag stops with small shelters [fig. 47].

While on some lines trains could be "flagged" by a hand or lantern signal, many flag stops were equipped with a special signal designed to allow the waiting passenger to set the signal to alert the train to stop. On the B & M branch lines, the signal consisted of a board about three feet long, painted green and white. The board was hung on a short post and the passenger would extend it in a horizontal position to signal a passing train. On main lines, the board was typically mounted on top of a post about fifteen feet high. The passenger would move a lever about three feet from the ground to turn the board perpendicular to the track and signal the train. The number of these signals which exist is not known but is thought to be very few.[137]

The modest nature of the flag station and its adaptability for other purposes suggests that there are few of these structures left in New Hampshire. The flag stop shelter from Candia [fig. 48] has been relocated to a site adjacent to the Raymond depot and is maintained by the Raymond Historical Society. An unusual flag stop shelter made of fieldstone is still extant at Lang (New Boston) [fig. 49]. The DOT data base does not specifically label "flag stations" although the listing of depots may include some shelters.

Representative Extant Examples:
Lang (New Boston); Candia (moved to Raymond)

2. Integrity Considerations

The most important aspects of integrity for the flag stop would be location (proximity to the railroad right-of-way) and design. As there are so few known examples of extant flag stations and due to the ease of transporting these small buildings to new locations, it may not be necessary for them to retain their original location as long as an appropriate setting is provided (i.e. the former Candia flag station which has been preserved by the Raymond Historical Society near the Raymond depot.

C. Support Structures

1. Freight House

a. Introduction

[136] Dana Philbrook, "Lake Shore Railroad: The First Forty Years", *B & M Bulletin*, vol. XVI, no. 4.
[137] Rodney P. Cowen, "Flag Stops", *B & M Bulletin*, vol. XIX, no. 3, p. 27.

Freight houses vary in size according to whether they are located at intermediate stations along a rail line or are located at important terminal points of a railroad.

The freight house serving a local line is typically small, and often the passenger depot and freight house stood side by side [fig. 50]. Where passenger and freight trade were not heavy and/or where freight traffic was of more importance than passenger use, a station may not even have a separate freight house but instead freight and passenger functions were housed together in the combination depot. It was not unusual for an early depot to be recycled into a freight house when station growth necessitated construction of a new depot. Terminal freight houses are typically larger and are located near a main road and close to the business section of the town. At many stations local businesses also built their own storage buildings in proximity to the rail line, buildings which may be mistaken for the freight houses erected by the railroad. The current DOT data base includes entries for approximately fifty freight houses, of which sixteen have been verified in the field. Clearly, this does not capture all the freight houses which were constructed throughout the state, even if once assumes a large number of combination depots.

Writing on the subject of small freight houses in 1893, Walter Berg noted: "a substantial brick or stone building is not essential, as the increased cost of the large number of similar structures along a line compared with the value of the small amount of freight stored in one building, in case it is lost by fire, would hardly warrant the extra expense, unless a road is in a very flourishing condition or the contiguity of other buildings increases the danger from fire."[138] In New Hampshire the typical local freight house is a single-story frame structure, usually surrounded by a freight platform on one or more sides and located adjacent to the tracks. Most of the freight houses which are known to survive are unassuming frame buildings sheathed in clapboards or vertical siding, capped by gable roofs. Large loading doors to accommodate the movement of freight in and out of the building are the defining architectural element, as are platforms on trackside elevations. Inside, the small town freight buildings typically consisted of a single room, left unfinished with the freight office often located in the nearby passenger depot. In some cases the buildings were windowless, with sufficient light obtained through the doors.

Examples of wood-frame, local freight houses are scattered across the state. The freight house at Lebanon [fig. 51] is a single-story, gable-roofed structure with a broad massing which suggests it dates to the early days of the Northern RR (c.1849). The original flush horizontal siding has been covered by vinyl siding and the trackside loading platform has been removed. Another early freight house is still extant at Charlestown and is notable for its architectural detailing in the Greek Revival style. The clapboarded building has large sliding doors on the east and west ends and is outlined by corner pilasters which support pediment ends; several 6/6 windows are capped by peaked lintels. The freight house at Potter Place (Andover) [fig. 52] is windowless and is surrounded by an elevated wooden platform. The Northfield freight house [fig. 53] is a well-preserved

[138] Walter G. Berg, *Buildings and Structures of American Railroads*. New York: John Wiley & Sons, 1893.

building which is capped by a gable roof with projecting eaves. The former freight house on Bridge Street in Nashua [fig. 54] echoes the architectural detailing of contemporary c.1870 depots with its wide overhanging eaves and jigsawn bargeboard decoration. Similar trim is seen on the former Raymond freight house, although this building has been greatly changed and added onto. The freight house erected by the Wilton Railroad at Milford is quite large for a small town station [fig. 55]. The clapboarded building is capped by a jerkinhead roof with a shed-roofed cupola punctuating the roof for ventilation. A siding once ran through the building via large vertical board doors on the narrow ends. At Goffstown, the former freight house [fig. 56] was originally constructed in 1850 as the passenger depot; it was replaced by a new depot about 1880 and moved westward to become a freight depot. The long building is sheathed in board-and-batten siding and retains large loading doors and platforms.

Examples of small brick freight houses are rare in the state. The Wilton freight house [fig. 57] is a simple, one-story brick building constructed in 1893 which exhibits a high degree of integrity. At the former Rochester railyard, only the brick freight house is still extant today. The 1 1/2-story building rests on a granite foundation and its gable roofline is adorned by full returns and dentils. Fremont also has a brick freight house. The four bay trackside elevation is punctuated by four single recessed arch windows. At Nashua, only a portion of the c.1853 freight depot erected by the Nashua & Lowell Railroad is still visible in Railroad Square. The single-story brick building has been greatly altered for commercial purposes but retains a curved north elevation, arched window hoods and a corbelled cornice. The building was originally attached on its west end to Nashua's wood-frame passenger depot. At Exeter, an unusual hip-roofed freight house of cut and fitted granite blocks echoes the detailing of the adjacent passenger depot.

Brick construction was also used for larger freight stations, especially at terminal locations. A large brick freight house in Keene survives today in poor condition.

Representative Extant Examples (Wood frame):
Northfield (Boston, Concord & Montreal RR); North Conway (Maine Central); Bartlett (Maine Central); Milford (Wilton RR & Fitchburg RR); Fitzwilliam (Cheshire Branch); Jaffrey (Monadnock RR); Nashua; Lebanon (Northern);Goffstown; Mt. Whittier Station (Ossipee, Conway Branch)

Representative Extant Examples (Brick or Stone):
Wilton; Rochester; Fremont; Exeter; Keene (poor condition)

b. Integrity Considerations

The freight houses which remain today in New Hampshire display a wide range of integrity. In some cases, the buildings are still utilized for a warehousing purpose and have thus, retained a higher level of integrity in comparison to those which have been converted to other purposes. Freight houses must retain their proximity to the railroad right-of-way as well as their original design and construction material to be eligible under Criterion A for association with the transportation industry. The defining architectural

element would be large door openings, typically siding, which accommodated the movement of freight in and out of the building. The integrity of the interior is of lesser importance since by definition buildings were basic storage spaces, without need for any architectural refinement.

2. Engine House

a. Introduction

Engine houses were located at terminal stations, division yards or junction stations, in close proximity to coal chutes, water tanks, oil houses, and sand houses which supplied the engines with necessary supplies. Engine houses were used to house engines when they were not in use, for cleaning engines after runs, and for making light repairs. Smaller engine houses may be rectangular or square in plan [fig. 58] but more common is the roundhouse, which accommodated several engines with tracks leading from a turntable radially into the house [fig. 59]. Contrary to its name, a roundhouse typically consisted of a segment of a circle. In 1898, there were approximately 35 engine houses on the various Boston & Maine lines in the State of New Hampshire.[139]

Engine houses could be either wood-frame or masonry construction. The advantages of the roundhouse included a good supply of light for all the stalls, the fact that the roundhouse could be built in sections or readily expanded, and that the walls between sections doubled as fire walls. However, roundhouses were also more costly to construct and the oversight of work going on in a roundhouse was more complicated than in a square house.

Engine houses could be either frame structures or built of brick. The exterior walls of most roundhouses were more typically in the shape of a polygon, with the circle divided into stalls or panels. The use of ventilators was a common feature as were double doors with glass panes to let in light. Ideally, the doors swung inwardly so as not to get stuck in ice and snow. In other cases light was brought into the engine house by transom lights over the doors or skylights in the roof. Another feature common to engine houses was the engine pit, designed to facilitate working under the engine [figs. 60 & 61]

Changes in technology and the advent of larger engines resulted in the abandonment or reconstruction of many early engine houses. The newer engines had problems clearing the doors of the old engine houses. There are no known extant examples of mid 19th century enginehouses in the state. The roundhouse constructed at Nashua in the mid 19th century [fig. 62] is unusual in that the exterior walls of the building were actually circular. Today, there are very few engine houses remaining in the state. The DOT database only lists twelve engine or roundhouses of which only Lebanon, Bartlett and Keene are listed

[139] Ellis E. Walker, "Boston & Maine Railroad Pits and Turntables", *B & M Bulletin*, vol. XV, no. 3. This list is compiled from B & M records dating to 1898 and does not include the Fitchburg Division which had not yet been acquired.

as being extant. At Bartlett, the frame roundhouse has been reduced from six to four bays. A wood-frame roundhouse is visible at North Conway, in this case with four stalls. The North Walpole yard retains an active five-stall roundhouse. A 16-stall brick roundhouse is still visible in Lebanon at the Westboro yard, although it is in poor condition [fig. 63]. Only a portion of Keene's roundhouse survives today.

Most, but not all, of New Hampshire's engine houses were accompanied by turntables.[140] Like the engine house, the destiny of turntable was also directly linked to changes in rolling stock. In various places turntables were removed when they were not long enough to accommodate the new longer, engines. The earliest turntables were made of wood but by the turn-of-the-century these were generally considered obsolete except for very small engines on lines with light traffic. Cast iron turntables gave way to those of wrought iron or steel plate girder.

In 1898, there were 34 turntables on the B & M lines operating in New Hampshire.[141] The longest turntables on the B & M line at that time were 60 feet long. Sixteen of the New Hampshire turntables were 60 feet long including iron turntables at Portsmouth, Exeter, Dover, North Conway, Manchester, Nashua, Wentworth and Woodsville. Wooden turntables 60 feet in length were still found at that time at Rockingham Junction, Conway Jct., Somersworth, Sanbornville, Alton Bay, and Henniker. The remainder of the turntables in 1898 were between 40 and 50 feet long, made of wood, cast iron or wrought iron. Despite their size, turntables were not considered stationary. They were frequently updated but could also be reused. The 1914 valuation inventory indicates that Lakeport station had a 60 foot turntable originally built by the Boston Bridge Works in 1895 but not installed in Laconia until 1910. As technology changed, turntables continued to be replaced. In 1929 the Westboro yard in Lebanon was updated with a new turntable, 110 feet in length (no longer extant). By the 1940s many turntables were being scrapped for their metal content.

In some cases wyes (or "Y"-shaped track terminations) led to the enginehouse, rather than the turntable. In 1898 seven wyes were being utilized on the White Mountains Division. In many locations turntables were later replaced by wyes. As of 1974, wye tracks were located at Nashua, Rockingham Junction, Rochester, Rollinsford, Woodsville and Lincoln.

The DOT database lists seven turntables at Stratford, Sunapee, Franklin, New Boston, Wakefield, Newbury and Henniker; none of which are known to be extant. The only known extant working turntables in the state are located at North Conway and North Walpole. The turntable at North Conway is a heavy steel turntable, 85 feet in length, installed in 1918 to replace a smaller table. It is set in a circular pit lined with granite blocks.

---

[140] The 1898 list of pits and turntables indicates that the following stations had turntables but no engine houses: West Ossipee, Belmont and Groveton Junction.
[141] Ibid.

Representative Extant Examples: - Engine Houses:
Westboro (Northern RR), 142.50; Bartlett (Mountain Division), 70.85;
North Conway, 1893; North Walpole (Cheshire); Dover

Non-Extant Representative Examples - Engine Houses:
Nashua, c.1870?; Fabyans' (Carroll), 1889; Manchester, 1889; Wentworth, 1891;
Lancaster, 1891; Rochester, 1892; Lakeport (Laconia), 1895; Plymouth, 1917;
Sanbornville (Wakefield), 1917; Dover, 1920; Portsmouth, 1923; Woodsville (Haverhill),

Representative Extant Turntables:
North Conway, 1918; North Walpole (Walpole)

Representative Extant Wyes:
Nashua; Rockingham Junction (Newfields); Rochester; Rollinsford;
Woodsville (Haverhill); Lincoln

b. Integrity Considerations

The fact that such a small number of New Hampshire engine houses survive today contributes to the enhanced significance of those which do survive. In order to be eligible under Criterion A for their association with the transportation industry, engine houses should retain their proximity to the right-of-way as well as critical design features such as double-doors with large areas of glazing, roof ventilators, and their distinctive plan. It is not necessary for them to retain their turntable or wye track although this would certainly boost the case for eligibility. Eligible buildings must be able to convey the original purpose of the building and its associations.

3. Car House

a. Introduction

Car houses or car sheds were typically constructed at terminal or junction points to shelter passenger cars that were not in use or that needed to be cleaned. In general, the car house or car shed resembled a rectangular engine house [fig. 64].

The car house does not seem to have been used widely in New Hampshire, or at least was not labeled as such. The DOT database includes only two listings for carhouses. Both buildings are on the Mountain Division - at Conway and Carroll; it is not known whether they are extant. The Conway car house measured 20' x 20' while that at Carroll was 20' x 10'. In Nashua, the remains of a much-altered c.1853 car house constructed by the Nashua & Lowell Railroad are barely visible behind a modern Main Street facade. The building was converted to commercial use in the 1930s. Limited brick, Italianate-style detailing is visible on the side elevation.

Examples of a related building type, the early 20th century trolley car barn, were constructed in several of the state's more urban communities. The streetcar lines were served by open cars in the summer and closed cars in the winter, resulting in the need for storage facilities. The brick car barn of the Southern New Hampshire Electric Railway Company is still visible on Main Street in Salem [fig. 65]. It was constructed in 1902, large enough to house thirty-six streetcars as well as a foundry, electrical substation, paint shop and company offices.[142] In Manchester a total of five carhouses served the Manchester street railway during the early years of the 20th century [fig. 66]. All of the carhouses were one-story, wood-frame buildings with sheet metal siding and tar and gravel roofs. The only one which survives today, on Candia Road, was greatly altered c.1945 for commercial use and bears little resemblance to its historic appearance [fig. 67].[143]

Representative Extant Examples:
Nashua (severely altered)
Salem (brick streetcar barn converted to commercial use)
Manchester (frame streetcar barn converted to commercial use)

Non-Extant Representative Examples:
Peterborough (listed in 1914 val. records)

b. Integrity Considerations

A National Register-eligible car barn should retain the ability to convey its original use through integrity of design, materials and workmanship. Streetcar barns may be eligible even though the integrity of setting and feeling have been lessened by the removal of all of the tracks. To be eligible, the buildings should retain their original location.

4. Car Shops

The B & M operated under the philosophy of having a few well-equipped shops on its line instead of smaller, less complete shops. By 1900, Concord had the largest company shops between Boston and Montreal, and oversaw the repair work of the Concord, White Mountains and Worcester, Nashua & Portland Divisions and a part of the Southern Division. Six acres of buildings were devoted to the maintenance of the railroad's engines, cars and other apparatus. In all, 1,300 people were employed in the operations. The capacity of the one-story, brick car shops was about four hundred freight cars and fifty passenger cars a month. The freight and passenger car repair shops were combined in one building, 323 x 170 feet. The freight work was done at the west end, which could

[142] Katherine Khalife and Douglas W. Seed, *Salem, NH: Volume I.* Dover: Arcadia Publishing, 1996, p. 84.
[143] Lisa Mausolf, "Inventory form for 1645 Candia Road, Manchester", prepared for the NHDOT, Feb. 1998.

accommodate thirty-two cars at the same time. The passenger car repair shop was capable of holding sixteen cars at one time.[144]

5. Section House

a. Introduction

In other parts of the country in the late 19th century "section house" generally applied to the dwelling-houses supported by the railroad for the use of the men employed on the track. However, in New Hampshire the term "section house" instead refers to a small track shack used to house the small hand car which section maintenance workers used to travel up and down the line.

The best available information concerning the appearance and construction of these small, largely-vanished buildings is found in the 1914 valuation inventory prepared by the Boston & Maine RR. The small, single-story buildings generally contained one, or at most two, rooms. The buildings were usually clapboarded and capped by gable, or less often hip, roofs. A few were apparently constructed of brick as in the case of one at Nashua, while the section houses at Loon Cove and Lakeport were sheathed in a combination of shingles and clapboards. The section houses appear to have been built according to standard plans. Any company specific details or paint schemes would generally correspond with those of the main depot buildings. A large exterior door, usually sliding but sometimes hinged on the outside of the building, often distinguishes the section house from general shanties. Another distinguishing feature is a short segment of rail set perpendicular to the main line, on which the little car could be maneuvered into the shack [fig. 68].

The DOT data base includes more than seventy section houses although only five have been field-checked as still being extant. It should be emphasized that this may be an understatement of the total number of section houses which existed at the height of the railroad era as it only includes those section houses that were standing in 1914 and the 1914 valuation data does not include all of the rail lines in the state. As with most of these small, utilitarian railroad structures, only a few are known to exist today.

Four of the known extant examples of section houses are found on the Mountain Division. Another well-preserved example is located in Raymond [fig. 69], displaying the main opening on the gable end. The former section house at the Westboro yard in Lebanon [fig. 70] is presently in poor condition but retains its sliding door on the lateral elevation, with an additional door opening in an attached shed.

Representative Extant Examples:
Sawyer's River, Harts Location (Mountain Division), 74.80

[144] "The Concord Repair Shops: The Boston & Maine's Magnificent New Plant, and What It Can Accomplish", *Boston & Maine Messenger*, vol. 1, no. 8, December, 1, 1900, p. 1.

Mount Willard, Harts Location (Mountain Division), 83.64
Crawfords, Carroll (Mountain Division), 84.70
Fabyans, Carroll (Mountain Division), 89.53
Westboro, Lebanon (Northern RR), 138.14
Raymond (Concord & Portsmouth RR)

b. Integrity Considerations

Only a handful of the 70+ section houses constructed around the state are known to survive today. To be eligible under Criterion A for associations with the transportation industry, section houses should retain integrity of location and integrity of design, including critical elements such as a trackside sliding or hinged door, which allow the building to convey its historic associations. Most likely a section house would be eligible as part of a larger rail yard.

6. Tool Houses/Shanties

Tool houses were constructed to store tools and supplies necessary for the construction or maintenance of the track and roadbed. Architecturally speaking, there appears to be very little distinction between a tool house and a shanty although the 1914 valuation records include entries for both. The buildings typically measured about 13 feet by 20 feet, a few were 15' x 24'.

The DOT data base includes 35 entries for shanties, 19 for sheds, 9 shim shacks and one tool house; a pair of shanties have been identified in Grafton and Enfield on the old Northern line although it is not clear whether they were tool shanties or watchman shanties (see below). There are currently no other known examples or photographs of examples.

7. Watchman Shanties/Crossing Shanties/Switchman's Shanty/Crossing Tenders/Signal Shanties

These small buildings, known by a variety of names, were erected along railroads at exposed points, at crossings, drawbridges, sharp curves, yards - wherever a watchman or switch tender was required [fig. 71]. In 1909 the *State Railroad Commissioners' Report* indicated that the Boston & Maine had 909 grade crossings of which 49 were protected by gates, 84 by flagmen and 16 by electric signals. Due to the large number of buildings of this type in use on a railroad, standard designs were developed. The size of the building was limited due to its location among the tracks, between the tracks or on the edge of the right of way. Inside the building, there was typically space for a small stove, a bench for a man to lie down, and storage for signal flags, lamps, oil, coal, etc. The windows would be placed to allow a good view of the tracks or any other points which

warranted oversight. The 1914 valuation plans show various sizes ranging from seven and a half feet square to 8 feet by 12 feet.

The defining feature of the watchman's shanty is the window designed to provide a view of the tracks and crossing. Less common was the elevated signal tower which once stood in the Woodsville (Haverhill) yard [fig. 72]. The mix of clapboards and wood shingles echoes the Queen Anne detailing of the depot. The design of the tower is very similar to a New Jersey example illustrated in Walter Berg's 1893 compendium of railroad structures [fig. 73].

Using the DOT data base, it is difficult to differentiate watchman's shanties from other small railroad structures. There are 35 entries for shanties, three signal shanties, seven watchman's buildings and a crossing shanty. A pair of shanties have been identified in Grafton and Enfield on the old Northern line although their intended use is not clear.

8. Coal Pockets/Coal Sheds/Coaling Stations/Ash Pits

a. Introduction

Coaling stations were usually found on side tracks at important stations, junction points, division yards and where engines are likely to have been changed. Wood was largely replaced by coal as locomotive fuel about 1886. Stations had to include ample provision for storing the coal as well as a method of coaling the locomotives. It was desirable to limit the number of handlings of the coal as much as possible, both to reduce the cost of operation and to avoid breakage of the coal. The coal-carrying capacity of the tender of a steam locomotive ranged from 2 to 7 tons, depending on the size of the engine.[145]

At the rail yard the amount of coal to be delivered to the engines could be ascertained by actual scale weight or more often, by measuring the coal in bulk in buckets, dump cars or "pockets" (storage piles) [fig. 74]. In northern climates such as New Hampshire a shed or roof was usually erected over the pockets to prevent the coal from getting wet or freezing into a solid mass.[146] Coal sheds were inexpensive frame buildings which sheltered the coal from the elements but provided an opening through which coal could be shoveled.

Various methods were employed to deliver the coal onto platforms and from there delivering it from the platform to the locomotives. In some cases the coal was unloaded from freight cars into a coal shed by hand. A second siding was then built on the far side of the shed, running gradually into a pit about eight feet deep so that locomotives could then be backed down into the pit. With the top of the tenders nearly level with the floor of the shed, the coal could be easily shoveled. In other cases coal could be dumped from

[145] Berg., p. 130.
[146] Ibid.

a raised trestle. An example of this type is still visible at Milford [fig. 75]. Each of the fence gates in the photograph led to a pit in the shed that held a different size or grade of coal.

Some stations utilized stationary cranes to hoist coal to a high platform where it could be shoveled or tipped into the tender. A coal crane and bucket system of handling coal was used at Rochester. In this case iron buckets were loaded with coal from storage piles or directly from cars. A crane was used to swing the buckets over the tender; the contents dumped into the tender either by tipping the bucket or opening trap doors in the bottom of the bucket. Illustrations of various coal sheds and coaling stations appear in Berg's 1893 *Buildings and Structures of American Railroads* [figs. 76 & 77].

Where rapid coaling was required, elevated chutes were constructed. In 1917, a new coaling plant was erected at Nashua, replacing an old coal trestle that had been destroyed by fire. The new wooden frame plant operated on a bucket conveyor system including two coal chutes with automatic weighing devices. At Westboro (West Lebanon) a new coaling plant was completed in 1915. Dover also utilized an elevated system [fig. 78]. Walpole had an automatic coal conveyor.

The DOT data base includes 22 entries for coal sheds, ten coal pockets, four coal trestles, and four coal bins. Of those listed, the existence of coal pockets has been verified in Lisbon and Haverhill, as well as a coal trestle in Winchester. The Milford coal trestle is not included in the DOT data base.

Ashpits were required along the main line of a steam railroad to allow the ashes and clinkers collecting in the fireboxes of engines to be dumped and to a lesser extent, to facilitate the oiling of engine machinery and inspection from below. The length of an ashpit varied depending on its location, the quality of the coal used (lesser grades of coal produce a much larger volume of ash and clinkers) and the volume of material received. The width of the pit generally corresponded to the gauge of the track. Deep pits ranged from 3 to 4 feet deep below the top of the rail. The foundation of the ashpit could be concrete, stone rubble or stone paving grouted with cement. The side walls were usually constructed of stone or hard brick and sometimes had a cast-iron facing as protection from the deterioration caused by the hot ashes. Coping on the side walls consisted of large stones, timber stringers or iron plates.[147]

Ashpits in New Hampshire remain relatively undocumented. The DOT database notes the existence of ash pits in Portsmouth, on the Portsmouth to Manchester line, and in Claremont, on the Concord to Claremont line although whether they are extant today remains unknown.

Representative Extant Examples:
Lisbon, coaling pocket; Woodsville, Haverhill, coaling pocket;
Milford, coal shed and trestle; North Conway, coal pocket;

[147] Berg, p. 50-54.

Winchester, 6.22, coal trestle (?)

Representative Non-Extant Examples:
Dover, elevated coaling station; Rochester, coal crane & buckets; Nashua, coal plant

b. Integrity Considerations

As with the other small service buildings associated with the railroad, a coal shed may be eligible under Criterion A for its associations with a local transportation industry, as part of a larger rail yard or set of rail-related resources. The building should retain integrity of location and design and be able to evoke a sense of its original purpose.

9. Sand Houses

a. Introduction

Sand houses were provided wherever engines are supplied with coal, water, oil, etc., generally in proximity to an engine house, yard, coaling or water station. Sand houses were installed on railroads to store sand for use on engines to increase friction on heavy grades or when the rails are slippery. The sand was fed into the engine sand box from which it would run freely through pipes onto the rails in front of the driving wheels. Because moist sand would not flow freely, the function of the sandhouse was to store wet sand, dry the sand and keep it dry. Ideally the sand house structure would provide cover and admit plenty of light and air to circulate air over the pile. The interior of the building was divided into compartments for wet sand and dry sand with another section serving as a drying room and equipped with a stove [fig. 79].

The DOT data base does not include any entries for sand houses. The best extant example is found in the Westboro yard in Lebanon [figs 80 & 81] although the building is in a seriously deteriorated condition. The tower encouraged the free circulation of dry air over the sand pile. An example of a simpler sand house is still visible in Plymouth.

Representative Extant Examples:
Westboro, Lebanon

b. Integrity Considerations

As with the other small service buildings associated with the railroad, a sand house may be eligible under Criterion A for its associations with a local transportation industry, as part of a larger rail yard or set of rail-related resources. The building should retain integrity of location and design and be able to evoke a sense of its original purpose.

10. Milk House/Milk Platform

A number of New Hampshire's more rural stations were equipped with separate milk houses and milk platforms owned by the railroad to facilitate the movement of milk from local farms to markets such as Boston. The 1914 valuation records indicate that many of the stations on the Worcester, Nashua and Rochester line, including Epping, Hampstead, Fremont, Lee, Barrington, were equipped with milk houses and/or platforms [fig. 82]. It is not known whether any of these are extant. According to the valuation records, the milk houses on this line were small buildings measuring approximately 7 x 12', without openings other than a sliding door and fronted on one or more sides by a high platform. How the rooms were kept cool, or if they were kept cool, is not known. According to the DOT data base, the milk house at New Boston, on the New Boston Branch, was considerably larger, measuring 30' x 50'. Historic views of the milk houses on the Suncook Railroad at Pittsfield and Allenstown are visible in fig. 83. Neither are known to be extant.

In other cases, milk rooms were integrated in passenger depots, as was the case at Potter Place (Andover), where the milk room occupied the north end of the building.

The DOT database lists two entries for milk houses (in Newport on the Concord to Claremont line and in New Boston on the New Boston branch) and five entries for milk platforms (in Newport and Claremont on the Concord to Claremont, in Haverhill on the Plymouth to Woodsville, in Fitzwilliam on the Cheshire and in Bennington on the Hillsborough Branch). None of these have been field-checked. There are no known extant examples of a railroad-related milk house in New Hampshire.

11. Ice Houses

A limited number of New Hampshire stations were equipped with ice houses to preserve perishable freight while it was in transit or stored in freight. Ice houses were also built where the railroad company operated in conjunction with an entertainment area, such as at Lake Shore Park in Gilford (owned by the Lake Shore Railroad) and at Fabyan's. Construction of an ice house gave the railroad company autonomy from local ice companies. Additional ice houses were constructed to store ice that had been harvested by private entities and was to be sent to Boston by rail. The DOT database includes listings for three ice houses: in Claremont, on the Concord to Claremont line; in Hart's Location, on the Mountain Division; and in Lyndeboro, on the Hillsboro Branch.

According to Berg [fig. 84], most ice houses were of frame construction, due to the economic cost and because wood is not a good conductor of heat. The features critical to a good ice house design were non-heat conducting walls, the prevention of air penetrating the house from the sides and bottom, ample ventilation on top of the ice, and good drainage. The walls were typically filled with sawdust, shavings, ashes or another non-heat-conducting material. Holes under the eaves allowed any moisture in the building to

evaporate. The ice house was painted a light color and doors and ventilator openings were located on the north side of the building. Ideally, the doors would be arranged at different levels to facilitate the handling of ice into and out of the house. Small board windows half-way down the walls allowed for the circulation of air. Larger ice houses were divided into compartments so that the ice is only exposed in one compartment at a time when the doors are opened.[148]

There is no known example of an extant railroad ice house in New Hampshire.

12. Water Tanks/Water Stations

Water stations were typically located every five to twenty miles on a steam rail line to supply water for locomotive boilers. In the 19th century wooden water tanks were an integral feature of many New Hampshire rail yards [figs. 85 & 86]. The tanks were usually located along a track near the engine house or coaling station or at the head of the yard so that engines could take on water. A heavy freight engine burning 100 lbs. of coal per mile used about 80 gallons of water per mile and on heavy grades the consumption would be considerably larger. The capacity of tender tanks ranged from 2200 to 4000 gallons.[149]

The water tanks in railroad yards were typically circular in plan with a diameter between 16 and 30 feet and set above the track about twelve to fifteen feet. (Suncook's water tank is described in valuation records as being shingled and octagonal.) The water was either gravity fed to the tank from a dammed source, or by utilizing a mechanical pump or less frequently, a windmill (Lake Shore Park).

In a few known cases, the water tank was enclosed to prevent freezing during the winter. Covered water tanks were rare in southern New England. Covered water tanks once existed at Epsom [fig. 87] and Lancaster [fig. 88]. Henniker also had a tank enclosed in a timber house.

A list of New Hampshire tanks compiled from 1914 Valuation Records shows that in that year all but four of the 53 tanks in the state were still wood; the remaining four were constructed of iron or steel. The largest capacity was 50,000 gallons and at least sixteen of the tanks were recorded as being of that size in 1914.[150]

In the late 1920s and early 1930s, new 100,000 gallon steel water tanks were constructed to replace the earlier 50,000 gallon tanks at selected locations including Canaan, Westboro and Rockingham.[151] Undoubtedly many water tanks were taken down by the railroad in the 1940s after the conversion to diesel engines.

---

[148] Berg, p. 61-62.
[149] Berg, p. 113-114.
[150] Donald Clarke and Harry Frye, "Water Tanks - Part II", *B & M Bulletin*, Fall 1983, p. 16-20.
[151] *Boston & Maine Railroad, Annual Reports*, 1929 & 1930.

The only known New Hampshire water tank that is still extant and in use is that on the Cog Railway. An additional water tank is visible at Clark's Trading Post in North Woodstock and was moved from Lincoln. Water tanks must retain their proximity to the right-of-way as well as their original design to be eligible under Criterion A for association with the transportation industry. For watertanks to be eligible under Criterion C it is not necessary for the tank to retain its original location as long as an appropriate setting is provided and the engineering features of the tank have been retained.

13. Other Railroad Service Buildings

The previous sections on railroad buildings addresses only those service structures which were once considered fairly common in the state. The DOT data base also includes a limited number of entries for other specialized features such as oil house, relay house, railway express office, boiler house, tank house, pump house, etc. No known examples of these structures were uncovered during this study.

14. Signals

The Boston & Maine Railroad and its predecessors played an important role in the history of railway signaling in America. Although it was a relatively small road, the B & M was consistently in the forefront in trying new signaling devices and techniques.[152]

In the late 1800s the various lines which later became part of the Boston & Maine used several different types of signals, including the ball, automatic clockwork, manual semaphore and trainstaff systems. Manual in their operation, ball signals consisted of masts outfitted with a rope and pulley to raise one or more metal balls to the top [fig. 89]. Balls were lowered into a tube or were removed from the rigging to signal "STOP". The clockwork signal was activated by a passing train and would indicate the time which had elapsed since the previous train left the location. Manual semaphores were used at interlocking towers and at some stations as a holding signal. The train staff system used a wooden or metal "staff" to give a train authorization to occupy a portion of the main line.[153]

The development of the closed track circuit in 1872, using the rails themselves as electrical conductors, was the next notable development in signaling. By 1890 electric motors were being utilized to move semaphore arms. Various companies offered their own individual designs of signals. Among those used on the B & M were the Hall Disk signal (also known as the "banjo" signal), the Union Banner signal, the Hall Style "F" Semaphore and the Union Switch and Signal Company's Style "B" semaphore signal.

---

[152] Vincent H. Bernard. "Signal Systems on the B & M", *B & M Bulletin*, vol. XV, no. 2, p. 10.
[153] Brian R. Dame, "Silent Sentinels", *B & M Bulletin*, vol. XVIII, no. 2., p. 14.

By 1890 the two-armed Home and Distant lower quadrant semaphore was the main signal design for automatic block signalling. [154] "Home and distant" refers to the functions of the two blades whereby the top blade reflected the track immediately in front of the signal ("home") and the lower blade indicated the position of the next home signal ahead ("distant") [fig. 90].

In the 20th century two other styles of signals were developed - the color-light and the searchlight signal [fig. 91]. The color-light resembled a modern traffic light but with the order of the colors usually reversed. The searchlight signal, developed by the Hall Signal Company prior to 1920 used a small elecro-magnetically operated spectacle inside the mechanism to position colored lenses in front of a beam of light. [155] The 1930s and 1940s witnessed the widespread installation of automatic crossing protection and the near disappearance of gate tenders.[156]

The installation of Centralized Traffic Control (CTC) was another major modification leading to the retirement of Style "B" signals. This included the installation of the Rollinsford-Portland CTC at Dover and a project on the New Hampshire Division Main Line between Concord and White River Junction, completed in 1957. In 1960 the Style "B" semaphore on the Boston & Maine was retired. [157] Today, there are few examples of the signals on display. Due to the difficulty of transporting the full-sized signals (which stood 31 feet high), the short-masted versions (10 feet high or sixteen feet high if on a base) survive in greater numbers.[158] Examples are found at the Conway Scenic Railroad in North Conway and the Plymouth and Lincoln (Hobo) Railroad at Plymouth. Many former mechanism cases are still in use as relay cases along various lines.

A few electric interlocking (local signal towers) with mechanical lever locking were erected on the New Hampshire lines of the B & M in the early 20th century. This included a tower at Dover. Traffic increases generated by World War II resulted in a new and replacement CTC installations and all-electric interlockings on the B & M. New Hampshire structures include the Dover CTC, Manchester CTC and Concord tower [fig. 92].

The DOT data base includes 2,617 entries for signals. These include tell tales (bridge guards), mile posts, flags, crossing signs, whistle posts, speed signs, balls, fouling posts, section posts, yard limits, and other miscellaneous signs. A signal would only be eligible as part of a larger rail yard or rail-related property and would not contribute to the significance of a property if the signal had been moved to its present location after the property's period of significance.

---

[154] Ibid, p. 18.
[155] Ibid, p. 24.
[156] Vincent H. Bernard, "Signal Systems on the B & M", *B & M Bulletin*, vol. XV, no. 2, p. 10.
[157] Dame, p. 26.
[158] Information from Finn Posner, NH Department of Transportation, Bureau of Rail and Transit, March 1999.

15. Rail Yards

Rail yards were concentrations of railroad-related services that included substantial facilities for maintenance and repair of rolling stock, for use by part or all of a railroad line.

Fixtures in a typical rail yard [fig. 93] included a freight house, express office, engine house, machine and blacksmith shops, tank house, sand house, car house, freight house, coal pockets/coaling plants, storage buildings for industries, milk station, ash pits, and a heating plant. Large yards such as the one at Concord included additional facilities such as a repair and painting shop, transfer table, print shop, tin/pipe/pattern/cabinet shop, planing mill, erecting shop, motive power department, and bus garage.

The last major yard built by the Boston & Maine in New Hampshire was the Concord yard built in 1902-3 and the largest in the state [fig. 94]. Today a good number of the yard buildings exist today although most have been altered for other uses. The earlier rail yard located on Storrs Street, just south of Bridge Street, was torn down in 1897.

In 1914, the Westboro yard in Lebanon included a machine shop, sand house, heating plant, freight houses, section house, bunk house, roundhouse and turntable, garage, fan room, shanty, and store house. Today, the latter six are no longer standing and the others survive in a severely deteriorated condition.

Despite the loss of some buildings including the office and coal shed, the rail yard at North Conway retains many of its original features including the depot, turntable, engine house, bunk car, freight house, car house, coal pocket, drop pit and stock yards.

In Woodsville, an initial yard was constructed about 1890 with a second larger lower yard built in 1895 [fig. 95]. The upper yard was largely demolished by fire in 1907 and the lower yard has given way to a shopping center.

Little also remains of the once extensive Keene yards. Today only parts of the roundhouse and locomotive repair shops remain, in a much altered form, as part of a shopping plaza.

Active rail yards include the North Walpole yard, operated by the Green Mountain Railroad, and the yard at North Conway. In order to be eligible a rail yard must retain a majority of its original features and still be able to convey its original purpose or associations.

16. Employee Housing

Little is currently known about housing which was built by New Hampshire railroad companies for the use of their employees, other than it seems to have been very limited. The DOT data base includes thirteen entries for "houses" in Claremont on the Concord to Claremont line and four "dwellings" including three in Concord on the Concord to Claremont line and one in Bennington on the Hillsboro Branch. Whether these buildings were constructed by the railroad or were later purchased by the railroad due to their proximity to the right-of-way is not known.

The provision of housing was more common when stations were located in more sparsely-settled areas. For example, the Maine Central Railroad constructed the Mount Willard section foreman's dwelling [fig. 96] south of Crawford's Notch in 1887. The building, which burned in 1972, shared several similarities with the Crawford Depot in Carroll.[159] In the village of Glen, within the town of Bartlett, the Maine Central constructed a dwelling for the railroad's station agent. The square, wood-framed structure displays eaves which project similarly to the depot and a polygonal projection. It is still extant today.[160]

There is scattered evidence of employee housing throughout the state. At the Westboro yard in Lebanon, are the fire-damaged remains of a two-story, hip-roofed brick bunkhouse, probably constructed in the early 20th century [fig. 97]. A building at Danbury is thought to have functioned as a dormitory for railroad employees. [fig. 98] The 1914 B & M valuation records list a "Rest House" at the Rochester railyard, a dwelling at 20 Spruce Street in Nashua and another at 36 Railroad Ave. in Rochester. The railroad also owned a dwelling at Loon Cove. It is not known if any of these latter structures survive today.

17. Parks & Other Facilities

The buildings erected by the railroads in New Hampshire also included those associated with attracting and maintaining a tourist trade, and were thus concentrated in the Lakes Region and the White Mountains.

In the early 1890s, Lake Shore Park in Gilford was developed by the Lake Shore Railroad and its president, Charles A. Busiel. The effort was backed by the Boston, Concord & Montreal Railroad. The park was planned to attract visitors and vacationers as well as cottage owners. It had its own hotel, the Lake Shore Inn, with a capacity of 35 persons. Prominent railroad men acquired building lots at the park while the railroad also gave some of the Lake Shore Park lots away free to responsible individuals with the condition that a respectable cottage be built at once. Park facilities owned by the railroad included a small bath house, refreshment stand, pavilion/dance hall, bowling alleys and a

[159] Barbara Wagner, "National Register Nomination for Crawford Depot", 1981.
[160] Lynne Emerson Monroe, "Area Form for Glen Village Center, Bartlett", 1991.

wharf. The line was abandoned in 1935 but today the large pavilion for concert and stage productions and the 30 x 30 foot annex devoted to crowd-size cooking facilities are still extant, as is the Lake Shore depot [fig. 99].[161]

At Gardner's Grove (Belmont) in the 1890s the Tilton & Belmont Railroad constructed a store, observatory, restrooms and a cafe.[162] The Boston, Concord & Montreal Railroad was responsible for rebuilding the Pemigewasset House at Plymouth after it was destroyed by fire in 1872. The BC & M also financed the Summit House atop Mt. Washington in 1872 and the Fabyan House in 1876 (both are no longer extant). The B& M also operated the Mount Washington steamboat on Lake Winnepsaukee for many years while the Lady of the Lake served the Concord & Montreal Railroad's Lake Shore Park for several years.

In 1903 the Boston & Maine Railroad owned and operated three electric railways in New Hampshire - those in Portsmouth, Concord and Manchester. Many of the state's best known amusement parks including Canobie Lake Park in Salem, Pine Island Park in Manchester and Merrimack Park in Somersworth were developed by public transportation companies to induce people to use their street railways.

D. Bridges

1. Introduction

The information in this report concerning New Hampshire railroad bridges comes from several sources. The 1914 valuation of the railroad right-of-way completed by the Boston & Maine shows all buildings, track, bridges, culverts, directional devices, and water and coal storage within the railroad as well as changes to the line since 1914. The location of most major structures, such as bridges and stations, is designated by a four-digit milepost number (i.e. 12.34). The Department of Transportation currently maintains a data base on bridges (and other railroad structures) containing information taken off 1914 valuation sheets, supplemented by additional information gathered by the DOT in recent years as portions of rail lines have been studied as part of acquisition or improvement projects. The data base does not include information for all of the lines covered by the 1914 valuation and no attempt has been made by the consultant to capture this missing information from the valuation sheets. Another important source of information is the List of Bridges in New Hampshire prepared by the Boston & Maine Railroad in 1953. Taken together the 1914 and 1953 data often provides useful information on the evolution of a specific crossing and larger engineering concerns, as earlier bridges were replaced by new spans and materials. Additional information contained in this report, including the construction of specific bridges, was gleaned from the *New Hampshire Railroad Commissioners' Reports* between 1889 and 1910.

---

[161] Dana Philbrook, "Lake Shore Railroad: The First Forty Years", *B & M Bulletin*, vol. XVI, no. 4.
[162] Boston & Maine Railroad, 1914 Valuation Records.

The following table provides interesting data on the status of New Hampshire's railroad bridges at the peak of railroad activity and prior to the use of concrete for bridges. By the early 20th century the Boston & Maine system embraced all but one hundred miles of the state's 1,190 miles of steam railroad line. The remaining mileage was controlled by the Grand Trunk and Maine Central in the northern part of the state.

Railroad Bridges and Trestles in New Hampshire on B & M Lines, 1910

Structure	Number	Aggregate Length (feet)	Min. Length (feet)	Max. Length (feet)
Stone Bridges	43	1,164	10	324
Iron Bridges	173	15,694	10	691
Wooden Bridges	365	19,330	10	465
Combination Bridges	1	139	139	139
TOTAL BRIDGES	582	36,327		
TRESTLES	139	14,862	11	1,302

Source: *N.H. Railroad Commissioners' Report*, 1910

2. Wooden Bridges

Largely due to financial constraints, wooden railroad bridges were a mainstay on New Hampshire's rail lines (along with other Boston & Maine states) well past the time frame seen in other parts of the country. By 1910, contrary to B & M practice, national engineering practice was already favoring bridge building with more durable iron or stronger, and increasingly available, steel. Well into the 1940s, however, the Boston & Maine often chose to replace wooden structures, with in-kind structures.

In New Hampshire, two engineers in particular, David Hazelton of the Concord Railroad and Willis Pratt of the Eastern (both later absorbed by the B & M) are identified with the construction of wooden covered railroad bridges. Turn-of-the century B & M bridge engineer J. Parker Snow and his younger protégé, Benjamin W. Guppy, who was with the railroad until 1950, were both instrumental in continuing the tradition of wooden bridges on the line. The philosophy appears to owe as much to a need for cost-cutting as it does an interest in a long-established regional tradition. Writing in 1895, Snow stated that the building of wooden bridges is "a live business on the Boston & Maine Railroad, although the impression seems to be prevalent in many quarters that such construction is

obsolete and out of fashion".[163] In 1895, 1,085 of the 1,561 bridges on the entire Boston & Maine system were wooden bridges. As noted by Snow, the proportion of wooden bridges was decreasing each year, although more than half of the new structures built to replace old bridges were of wood.[164] The fact that New Hampshire's dominant railroad continued to build and maintain wooden bridges for so many years, contributes heavily to the state's unique wooden bridge legacy.

3. Wooden Through Truss Railroad Covered Bridges

a. Introduction

Like their highway counterparts, the covered railroad bridge developed according to standard designs. However, in the case of the railroad bridges the structures are distinguished by trusses as high as twenty-three feet to allow ample clearance for the engines. The Howe, Town and Lattice trusses were the most common types of railroad covered bridges although other types, including the Whipple and Burr, were also used.

The first step toward the modern truss was the wooden lattice bridge patented by Ithiel Town in 1820 [fig. 100]. In this form, the horizontal chords consisted of two or more parallel sticks, spaced so that diagonal web members or lattice work would pass between them. The web members were placed closer together for longer spans. Where the web members intersected or joined the chords, wooden treenails acted as fasteners. The popularity of the bridge was furthered by the fact that the timbers were all uniform in size and readily obtainable. Bridges of this design could be built by average carpenters. The initial design also did not require bolts, straps or rods of iron, although some later designs included them. The bridge later became the prototype of the early iron lattice bridge.

The Howe truss [fig. 101]was patented in 1840 and became the standard for wooden railroad bridges, although it was not used greatly in New Hampshire, perhaps because spruce was not well adapted to Howe truss work but was excellent for lattice bridges.[165] An intermediate between wooden and iron bridges, in the Howe truss, the chords and braces are made of timber and the vertical web members are made of round iron with screw ends. Patented in 1844, the Pratt truss [fig. 102] was the reverse of the Howe system - it had diagonal members of iron (tension) and the vertical members of wood (in compression). To its detriment, the Pratt required a greater quantity of wrought iron and was not as well suited to the joint use of wood and iron. However, the Pratt truss later became the favored form for iron bridges. Other less-common designs include the Burr Arch truss which include multiple kingpost trusses and a heavy timber arch

[163] J.Parker Snow, "Wooden Bridge Construction on the Boston and Maine Railroad", *Journal of the Association of Engineering Societies*, vol. 15, no. 1, 1895, p. 31.
[164] Ibid.
[165] Ibid, p. 36.

Wooden covered railroad bridges were vulnerable to both rot and fire. Wood-burning engines with sparks and hot ashes posed particular threats. As a precaution, the insides of the bridges were coated with whitewash and each bridge was equipped with water barrels, buckets and a ladder. Still, many were lost despite these preventative measures.

The Contoocook Village Railroad Bridge (Hopkinton) [fig. 103], a Double Town lattice truss bridge, is considered the oldest covered railroad bridge still standing in the United States. It was originally constructed by the Concord and Claremont Railroad in 1849-50 and was totally rebuilt in 1889. The Clark's Bridge in North Woodstock was originally constructed in 1904 in Barre, Vermont. It was moved to its current location in 1965. It is thought to be the only Howe railroad bridge left in the country.[166]

As late as 1900 there were more than 100 covered railroad bridges on the B & M's New Hampshire Division. On a six-mile stretch of the Northern Railroad near Lebanon, there were fourteen covered bridges over the Mascoma River.[167] The Concord and Claremont Railroad was especially well known for its use of the double Town/Pratt lattice truss bridge. In 1915, there were fifteen such bridges on the rail line.[168]

Several of the covered railroad bridges that survive today date to the B & M's revival of interest in wood bridges in the early 20th century. Cost was one consideration - a 120-foot iron bridge cost $5300 to built while a Town lattice was only $3500. [169] As J. Parker Snow wrote in 1895, "On the Boston & Maine system, there are many Howe and Pratt bridges, a few Burr, Briggs and Child's trusses and many of mongrel type; but the Town lattice has a large plurality over any other kind...".[170] The B & M made the Town lattice its standard bridge but developed trusses designed to overcome the lack of lateral and transverse bracing in the older bridges and provide for increasing weight of rolling stock.[171] The structures were tightly enclosed, with heavy latticed trusses. Sometimes the bridges were built with laminated arches and sometimes these were added later to accommodate heavier traffic. The company was still building bridges of local lumber to replace older lattice and Howe truss bridges as late as 1907. The Pier Bridge and Wright's Bridge[fig. 104] in Newport were reconstructed by the Boston & Maine Railroad in 1907 and 1906 respectively. The original bridges on each of these sites were constructed in 1871 or 1872 by the Sugar River Railroad which merged with the Concord and Claremont Railroad in 1873.

---

[166] Richard G. Marshall, *New Hampshire Covered Bridges...A Link with our Past.* Concord: NH Department of Transportation, 1994.
[167] Richard Sanders Allen, *Covered Bridges of the Northeast*, 1957, p. 99.
[168] Edgar T. Mead, Jr. *Through Covered Bridges to Concord: A Recollection of the Concord & Claremont RR (NH).* Brattleboro, VT: Stephen Greene Press, 1970, p. 18.
[169] Allen, p. 99.
[170] J. Parker Snow, "Wooden Bridge Construction on the Boston and Maine Railroad", *Journal of the Association of Engineering Societies*, vol. 15, no. 1, 1895, p. 39.
[171] Robert Fletcher and J.P. Snow, "A History of the Development of Wooden Bridges", *American Society of Civil Engineers Transactions*, Paper No. 1864, Nov. 1932, vol. LVIII., reprinted in *American Wooden Bridges,* 1976, p. 48.

Until about 1890 lattice bridges could be built with spruce lumber for one-half the cost of iron bridges. Twenty years later, in 1910, steel bridges could be built as cheaply as those of wood and by 1931, steel construction was much cheaper.[172]

Representative Extant Examples:*
Contoocook (in Hopkinton), 11.99, Double Town lattice truss, 1849/ reconstructed in 1889
Pier Bridge, Newport, 49.09, Double Town-Pratt lattice truss, 1907
Wright Bridge, Newport, 50.26, Double Town-Pratt lattice truss w/arches, 1906
North Woodstock (moved from Vermont to Clarks Trading Post), Howe truss, 1904

Non-Extant Representative Examples:
Boscawen (Burr type with arches)

*see also Richard Marshall, *New Hampshire Covered Bridges*, list of Covered Bridges of the Past (including railroad bridges)

b. Integrity Considerations

The fact that so few of the state's wooden covered railroad bridges survive, greatly enhances the significance of those which are extant. To be eligible under the category of engineering (Criterion C) a bridge must be an example of a bridge design that was important in the construction of bridges in the state. The bridge remains eligible even through structural elements may have been replaced; such replacements are considered essential to the structural integrity of the wooden spans.

4. Wooden Deck Truss Railroad Covered Bridges

Less common than the through truss bridge, the deck truss bridge the railroad tracks are laid on the top of the structure rather than running inside. Among the more unusual early wooden deck bridges was the Wells River-Woodsville combination bridge, built by the Boston, Concord and Montreal Railroad over the Connecticut River in 1852 (no longer extant). The bridge had a single span of 231 feet. The single train track was laid on the upper chords of the bridge.

The Sulfite Bridge in Franklin [fig. 105] was constructed by the Boston & Maine Railroad in 1896 (B & M Bridge List states 1931) and appears to be the only wooden deck-covered railroad bridge left in the United States. The Pratt truss bridge was damaged by fire in 1980. It is listed on the National Register of Historic Places.

Representative Extant Examples:
Franklin Falls, 2.86, 1896, Pratt truss (partially destroyed by fire)

[172] Ibid, p.50.

Non-Extant Representative Examples:
Woodsville; Suncook

5. Boxed pony truss bridges

a. Introduction

The boxed (or covered) pony truss railroad bridge [fig. 106] is considered a cousin of the covered railroad bridge which was constructed earlier. The pony bridge was used where a railroad bridge was fairly short (between 30 and 60 feet) and it took too much timber to get sufficient height to enclose the whole bridge. The pony bridge could be constructed in either a through or deck configuration. The through pony truss was useful where there was not sufficient clearance below the bridge for maximum high water. In New York state the wooden pony truss bridge was used extensively over the upstate canal system in the mid 19th century, largely due to the efforts of bridge designer and builder, Squire Whipple. Beginning in the 1870s and 1880s the Boston & Maine Railroad utilized the boxed pony truss bridge as a cost-saving device, as an alternative to iron or steel. The boxed pony truss was often used by the B & M to eliminate dangerous grade crossings on its rights of way. When they needed replacement, the boxed pony bridges were rebuilt in kind by the B& M through the 1940s, valued for their simplicity and clever design.[173]

In the pony truss bridge, the free-standing trusses (usually two) are connected only by load-bearing floor beams and are not connected by upper lateral bracing. The trusses were generally of the Howe type. The Boston & Maine covered (or boxed) the trusses in order to increase the lifespan of the load-bearing members. Over the years many boxed pony bridges were destroyed and/or replaced by steel girder bridges. At the turn-of-the century numerous wood pony bridges found on the White Mountain Division were replaced by other types of bridges.[174]

The last three known B & M boxed ponies are all found in New Hampshire (seven additional B & M boxed ponies in Maine and Massachusetts have been removed in recent years).[175] The boxed pony truss railroad bridge in Randolph was built in 1892 according to Harry Frye of the B & M Historical Society although the 1953 B & M Bridge List indicates it was built in 1918. This bridge was one of three ponies constructed on the Berlin Line (two are extant) and is a hybrid Howe-Whipple truss, based on one of Squire Whipple's c.1850 designs but strengthened with the addition of iron vertical rods. Another similar bridge is found nearby in Gorham. On the Portsmouth line, the Rollins Farm Bridge (69.19) in Rollinsford is the only surviving overhead boxed pony truss bridge in New Hampshire and has been listed on the National Register. Last constructed

---

[173] Nelson H. Lawry, "Boston & Maine's boxed ponies: galloping into oblivion?", *Trains,* February 1994, p. 46.
[174] *New Hampshire Railroad Commissioners' Reports*, 1889-1911.
[175] Letter from Nelson Lawry to Nancy Muller, NH Division of Historical Resources, November 1996.

in 1929, this modified Howe truss bridge includes a third truss for a cattle run. Unlike the other two track boxed ponies, it lacks sway braces.

The 1953 B & M Bridge List included three additional overhead wood pony truss bridges on the Fitchburg Division, Cheshire Branch, in Keene and Westmoreland. Their status is not known.

Representative Extant Examples:

Randolph (over Snyder Brook), 143.06, boxed pony truss, 1892, 1918
Gorham, 148.81, boxed pony Howe truss, 1918
Rollinsford, 69.19, overhead boxed pony truss, 1929

Non-Extant Representative Examples:

Randolph (over Bumpus Brook), 144.13, boxed pony Howe truss, 1918
Tilton (two on White Mtn. Division replaced by pile trestle in 1903 & 1908)
West Rumney (replaced by pile trestle in 1908)
Epsom (Southern Div., repaired in 1905)
Bridgewater (White Mtn. Division, repaired in 1905)
Everett (Southern Div., rebuilt in 1904)
East Concord (White Mountain Division, replaced with pile trestle in 1903)
North Woodstock (White Mountain Division, replaced with keyed stringer in 1903)
Wolfeborough Falls (Northern Division, two ponies rebuilt in 1901)
West Thornton (White Mountain Division, Howe pony repaired in 1901)
Cherry Mountain (White Mountain Division, Howe pony repaired in 1901)
Concord (White Mountain Div., two wood ponies replaced by pile trestle in 1899)
Meadows (White Mtn. Division, Howe pony repaired in 1906)
Bowman (White Mtn. Division, Howe pony repaired in 1906)
Highland (White Mtn. Division, Howe pony repaired in 1906)
Milton (Eastern Division, Pony Queen truss replaced by wood stringer in 1910)

Unknown Status:

Salmon Falls (Gen. Electric), 73.06, pony truss foot bridge, 1943
Keene (Dickerson's), 95.33, overhead pony truss
Keene (London Bridge), 99.78, overhead pony truss
Westmoreland (Gary's - near Gilboa Station), 101.43, overhead pony truss
West Bridgewater (White Mtn. Division, repaired in 1903)

b. Integrity Considerations

The remaining pony truss bridges are all of local and statewide significance due to their rarity. The bridges are eligible even though elements have been replaced; such selective replacement is considered essential to the continued preservation of these unique structures.

6. Wood Stringer Bridges

a. Introduction

The simplest of bridges, the plain wood stringer bridge, was used all over the state for small spans, generally less than twenty feet long. A related variation is the keyed stringer bridge, used when the span is too great for convenient and available depths or thicknesses of timber. The keyed stringer [fig. 107] is made by placing one stick on top of another and framing cast-iron keys between them with a vertical bolt at each key to prevent the timbers from separating. Although the stringer bridge required considerably more material than a truss bridge of equal strength, its advantage was a relatively low labor cost and high speed of assembly relative to the trusses. Spruce timber was used for most stringer bridges on the northern lines; on lines in southern New Hampshire, Southern pine was used.[176] The New Hampshire keyed stringer bridges are typically 20 to 25 feet long.

The DOT data base includes 51 wood stringer bridges. Of these, the existence of ten has been field verified, including examples on the Northern, Monadnock and Main Line from Woodsville to Berlin. An additional nine bridges are listed as key stringers. Almost all of those listed were constructed on the Manchester to Milford branch, a branch line laid out in 1901. It is not known whether any of the key stringer bridges are extant today.

Railroad records indicate that stringer bridges were regularly replaced in-kind, due to their relatively low cost of construction and the timber's relatively high rate of deterioration.[177]

Representative Extant Examples:
- Grafton, 121.02 (wood stringer)
- Randolph, 140.50 (wood stringer)
- Concord, 1.92 (wood stringer)
- Gorham, 146.05 (wood stringer)

b. Integrity Considerations

Wood stringer bridges lack the engineering complexity which would make them eligible under Criterion C for their engineering significance. More likely, a stringer bridge would be eligible as part of a larger rail line, under Criterion A. The bridge would be eligible under this context even if structural elements have been replaced as such replacements are considered essential to the continuing operation of the railroad line.

7. Metal Truss Bridges

The evolution from wooden to metal truss bridges was a gradual one that began in the 1840s when wooden and iron members were combined in the patented Howe truss bridge.

---

[176] Snow, "Wooden Bridge Construction on the Boston and Maine Railroad", *JAES*, 1895, p. 31.
[177] *New Hampshire Railroad Commissioners' Reports*, 1889-1910.

In the late 19th century, a wide range of truss types were developed, designed to be built of cast iron, wrought iron and later, steel [see figs. 108 & 109 for a summary of various truss types]. The vast majority of these metal trusses were based on two truss bridges originally developed in the 19th century for use in wooden or wood-and-iron bridges - the Pratt truss, patented in 1844 and the Warren truss, patented in 1848.

The truss developed by Thomas Pratt employs straight upper and lower chords and a series of evenly-spaced vertical members in compression, with a series of diagonal members in tension. The advantages of the Pratt truss included both its strength and its straightforward design. Variations on the Pratt truss include the Whipple truss (in which the diagonal tension members extend over two panel lengths) and the Baltimore truss (in which the panels are subdivided). In the Warren truss, the straight upper and lower chords are connected by diagonal members that form equilateral triangles.

Metal truss bridges are also distinguished by the way in which the metal members are connected [fig. 110]. For most of the late 19th century, American truss bridges utilized pin connections. In this system, cylindrical pins were slipped thorough drilled openings in the ends of the members to form the structural connection. Generally, trusses connected with square-head pins predate those with hexagonal-head pins and nuts. Pin connections allowed for speedy erection of trusses but were also susceptible to loosening. Riveted connections provided a more solid, rigid way of joining together the truss members but could not be easily hand driven in the field. With the development of portable pneumatic riveting systems in the late 1880s and 1890s, riveted connections became more feasible. Truss designs that were typically built with riveted connections include the Warren truss and the all-metal lattice truss. Few new bridges of pin-connected construction were built after 1910. Beginning in the early 20th century, Pratt trusses commonly display riveted connections although pin-connected Pratt trusses continued to be built in some regions of the country into the 1920s.[178] By the mid 1890s improvements in the processes for making steel brought the cost of "mild" or low-carbon steel as low as that of wrought iron and steel immediately supplanted all other metals for most new bridges.[179]

In the late 19th century, the increased standardization of truss bridge technology gave rise to the establishment of numerous private bridge companies who specialized in a few particular types of truss designs and fabricated the bridges as well. Companies that erected bridges in New Hampshire include the Boston Bridge Works, New England Structural Co., Pennsylvania Steel Co., Phoenix Bridge Company and the Union Bridge Company. The era of the private bridge company was largely over by the end of World War I, as wrought iron bridges largely gave way to steel, and bridge companies were replaced by consulting engineers who provided designs that were then erected by steel-fabricating firms.[180]

---

[178] Ibid, p. 29.
[179] Information from James Garvin, May 1999.
[180] Ibid, p. 30.

There is much work still to be done to enhance our understanding of the state's railroad metal truss bridges. The Railroad Commissioners' Reports, the 1953 B & M Bridge List and the DOT database are rarely specific and/or consistent in describing the type of metal truss used and the method of connection. Additional field work is necessary to add to our understanding of New Hampshire's metal truss railroad bridges.

8. Metal Pratt Truss Variants

New Hampshire's only known examples of Whipple trusses are two privately-owned railroad bridges built by the Brown Company of Berlin, probably in the 1880s. The Whipple truss takes its name from Squire Whipple who developed this particular truss arrangement. Both of the Berlin bridges are double-intersection Pratt truss designs and are constructed of "Phoenix" columns, wrought iron columns made from flanged quarter-rounds that are riveted together to create tubular members. One of the bridges is a double span which still carries rail traffic; the other is a single span which now supports a pipeline.[181]

The bridge which spans the Connecticut River at Woodsville [fig. 111] is a noteworthy example of a pin-connected Baltimore truss, a variant of the Pratt truss with subdivided lower panels. The deck truss has the railroad tracks on its top and originally had a lower deck for highway traffic. The span of the bridge is 239 feet and it contains 460 tons of open-hearth steel. It was constructed in 1903 for the Boston & Maine Railroad by the American Bridge Co. from plans by engineer Jonathan Parker Snow. Another railroad deck truss spans the Androscoggin River in Gorham. This is a pin-connected Pratt truss.[182]

A series of five Baltimore truss bridges was erected on Mountain Division in 1906. The bridges were erected as part of a major rehabilitation of the route by the Maine Central to accommodate the increasing size and weight of rolling stock. Four of the five bridges were erected in 1906 by the Pennsylvania Steel Co. In the last bridge, the two-span Willey Brook Bridge (83.52), the Baltimore truss is used in a deck configuration.[183]

The DOT data base and B & M Bridge List include various entries for iron pin bridges but unfortunately the type of truss is often not specified. Since most pin-connected trusses are Pratt trusses, these unidentified pin-connected bridges are being grouped under the Pratt truss section. Very few examples of through truss bridges with pin connections have been identified in New Hampshire although additional field investigation would probably uncover more. According to Finn Posner of the NHDOT Bureau of Railroads and Public Transportation the bridge on the Concord to Lincoln line, over Lake Winnepsaukee and near Silver Lake, is one example of a pin-connected truss.

---

[181] Information from James Garvin, May 1999.
[182] Ibid.
[183] M.H. Bowers, "Area Form for Maine Central Railroad: Mountain Division", May 1994.

Representative Extant Examples:

Berlin (Brown Company), c.1880 [Whipple]
Woodsville (Haverhill), 93.74, 1904 [Baltimore]
Bartlett, 2 span, 65.55, 1906, Pennsylvania Steel Co. [Baltimore]
Bartlett, 72.18, 1906, Pennsylvania Steel Co. [Baltimore]
Hart's Location, 73.58, 1906, Pennsylvania Steel Co. [Baltimore]
Hart's Location, 74.27 (no builder's plate - probably 1906, Pennsylvania Steel Co.) [Baltimore]
Willey Brook Bridge, 2 span deck, Hart's Location, 83.52, 1905, Boston Bridge Works [Baltimore]

Status Unknown:

Three Mile Bridge, Bethlehem, 117.01, pinned connection, 1940(?)
Goffe's Falls (Southern Division), iron pin, 1897
Alder Brook (Mountain Division), steel pin, 1898
Thornton (Southern Division), through iron pin truss, before 1909

9. Lattice Riveted Truss

Riveted, lattice iron bridges were being constructed in New Hampshire by 1889. That year's *Railroad Commissioners' Report* indicates that a contract had been signed with the Boston Bridge Works to erect a new riveted, lattice iron bridge over the Connecticut River at Windsor, Vermont to replace a wooden structure (it was replaced in 1930 by a deck plate girder).[184]

Also in 1889, a riveted, lattice iron bridge 487 feet long was constructed at Salmon Falls (Rollinsford) on the Western Division of the Boston & Maine RR, at a cost of $121,139. The bridge was constructed of sufficient strength to allow passage of the heaviest rolling stock known in the country without straining any member more than ten thousand PSI.[185] This impressive latticed deck truss (bearing the tracks on its upper chords) is still extant today.

On the former Ashuelot Railroad, south of Keene, there is a grouping of four "through" riveted lattice trusses and one "pony" lattice truss. The through trusses average about 120 feet in length. The bridges probably represent a line-wide upgrade in the late 19th century.

Representative Extant Examples:

Salmon Falls Bridge, Rollinsford, 71.16, 1889
Sawyer's Bridge, Swanzey, 20.40, 1887?
Winchester, 9.29, 1887
Winchester, 13.75, 1887
Keene, 23.32, 1887
Swanzey (over Ash Swamp Brook), 22.21, 1889 [pony]

Unknown Status:

[184] *New Hampshire Railroad Commissioners' Report*, 1889, p. 15.
[185] Ibid, p. 22.

Israels River (Maine Central), iron deck lattice bridge, 1891

10. Warren Truss

a. Introduction

The Warren Truss is the final major truss type developed in the 19th century [fig. 112]. The simple, light-weight truss was patented in 1838 by two Englishmen, James Warren and T.W. Morzani but did not become widely used in the United States until the early 20th century. The steel bridge design found particular use for railroad bridges. It is built in both single and double system types. The single type originally consisted of a series of diagonal timbers placed in the form of a W with no rods or panel posts. In the double system, a second set of diagonals intersects the first. Warren trusses of riveted construction, modified with vertical members, became the standard long-span bridge on many railroad in the early 1900s. The trusses were rarely built with pin connections. The Warren is used for both through and deck bridges.

A series of four Warren trusses were erected on the New Hampshire Mountain Division between 1892 and 1917, as part of a rehabilitation of the route by the Maine Central to accommodate the increasing size and weight of rolling stock. The oldest of the trusses is the double-intersection Warren, or lattice, truss span over the Ammonoosuc River in Carroll near Fabyans, built by the Boston Bridge Works in 1892. The bridge at Conway consists of two Warren through truss spans.

The DOT data base identifies only the Mountain Division bridges as Warren trusses. Because the data base is not always specific and/or consistent in identifying bridges of a particular style, it is likely that most of the "through riveted truss" bridges on the list are, in fact, Warren trusses. There are twenty-one through riveted truss bridges listed on the DOT data base. Almost all of these are more than 100 feet and several span between 200 and 400 feet. The bridges were erected between 1909 and 1931. Visible in fig. 113 is a double span Warren truss over the Souhegan River at Wilton. The Ashland double Warren is illustrated in fig. 114.

The "through riveted truss" bridges were used throughout the state although there are now fewer on lines that were subject to substantial upgrading. For example, there are only two through truss bridges extant on the Northern line today.

Representative Extant Examples:

Conway, 55.37, 1917, Boston Bridge Works
Bartlett, 63.64, 1906, New England Structural Co.
Bartlett, 64.81, 1906, New England Structural Co.
Carroll (near Fabyans), 89.00, 1892, Boston Bridge Works
Boscawen, Contoocook River, 80.06, 1930
Andover, Blackwater River, 102.30, 1909
Newmarket, Lamprey River, 58.99, 1911
Wilton, Souhegan River, 16.43, 1911

Chase Bridge, Claremont, 53.90, 1909
Penacook #1, Boscawen, 80.06, 1930
Sibley Bridge, Newport, 45.91, 1909
Andover, 102.30, 1909
Ossipee, 119.13, 1911
Littleton, 114.50, 1911
Littleton, 114.61, 1924
Bath, 100.23, 1911
Dover, Cocheco River, 66.84
East Concord, over Merrimack River, 1.72, 1907, Boston Bridge Works

b. Integrity Considerations (All Metal Truss Bridges)

For the metal truss bridge, the most important aspects of integrity are integrity of location, design, materials and workmanship. To be eligible under Criterion C for their engineering significance, railroad resources must be an example of a bridge design that was important in the construction of bridges in the state. Bridges may be eligible even though ties and rails have been removed and the integrity of feeling and association have been diminished.

11. Plate Girder Bridges

There are more extant plate girder bridges [figs. 115 & 116] in New Hampshire than any other type. Girder bridges are iron or steel bridges designed so that the load is carried by a horizontal member that spans the gap between two supports. In some cases girder bridges are encased in concrete.

Plate girder iron bridges were being used in New Hampshire in the 1880s. However, the large number of plate girder bridges appears to be a direct result of the upgrading of various lines in the early twentieth century. Plate girder bridges were specified in American railroad standards of the 1920s wherever spans of 30 to 125 feet were required. On spans of lesser length, bridges of rolled beams were recommended. Pratt or Warren trusses were suggested for longer spans.[186] Girder bridges were often used by railroads because they could provide solid, stable crossings capable of accommodating fast-moving, heavy traffic. The major disadvantage of the girder bridge was the amount of material required, especially in comparison to truss designs. However, for small spans this cost difference was not very significant.

Due to fabrication and transportation considerations, the most practical plate girder length was 30 to 70 feet. When ballasted tracks were laid over the bridge, solid floors were used, usually constructed of railroad ties laid side by side to form a continuous deck. Otherwise an open floor system was utilized consisting of track ties laid about four inches apart, on which the rails were laid. The decision of whether to use deck or through girder

[186]David Weitzman, *Traces of the Past: A Field Guide to Industrial Archaeology*. New York: Charles Scribner's Sons, 1980, p. 114.

construction was based on how close the tracks would be placed (parallel deck bridges can be placed closer together) and the clearance under the structure (through spans required less clearance than deck spans). The girder bridges are generally seated on cut, quarry-faced granite abutments.

12. Through Plate Girder

The DOT Data Base includes more than fifty through plate girder bridges, of which at least thirty are known to survive. The survey of the Northern Railroad prepared by the NHDOT in 1994-95 noted the existence of twenty-one through plate girders on that line. Erected between 1912 and 1931, the bridges are evidence of the Boston & Maine's physical upgrade of the line in the early 20th century. Additional clusters of through plate girder bridges include eight bridges erected on the main line between Woodsville and Berlin. The bridges include those in Jefferson, Randolph and Gorham, all of which appear to date to 1917.

The earliest known through plate girder on the list appears to be the Eastern Division bridge over the Hampton River, erected in 1900. There are few known examples of the half-through plate girder being used in the state. One of the bridges, formerly in Haverhill, is no longer extant. The other was built in Lebanon, over I-89, in 1965. A typical through plate girder bridge is illustrated in fig. 117.

A Girder and Pratt truss hybrid, two-span bridge spans the Connecticut River at Hinsdale with a length of 912 feet. It was constructed in 1913.

Representative Extant Examples:
- Hampton, 45.34, 1900
- Lisbon, 109.07, 1929, Phoenix Bridge Co.
- Chandlers Bridge, Lebanon, 136.84, 1928
- Jefferson, 133.34, 1917
- Hinsdale, 59.26, 1913

Non-Extant Representative Examples:
- Oliverian (Haverhill), 80.32, 1917 (half through plate girder)

Unknown status:
- Milford, 1895 (half through plate girder)

13. Deck Plate Girder

a. Introduction

The DOT data base includes approximately seventy listings for deck plate girder bridges [see figs. 118 & 119]. Approximately 30 of these have been field checked as still being extant. Single spans predominate; deck plate girders with two spans include

structures in Hart's Location and Ossipee. Most of the bridges are less than one hundred feet in length. The state's longest deck plate girder through riveted truss bridge was constructed over the Piscataqua River in 1940 (57.23). Connecting New Hampshire and Maine, it had a span of 1600 feet and a height of 83 feet. The longest of the extant deck plate girders, at 496 feet, crosses the Connecticut River in Lebanon (142.74) and was constructed in 1929. A 650 ft. bridge in Gorham (149.21) has been altered in recent years. The earliest extant deck plate girder bridge in the data base is the two span bridge in Ossipee over Dan Hole River, constructed in 1883.

Lines with concentrations of deck plate girders include the Main Line running from Woodsville to Berlin where at least seven of nine bridges are still extant. Twelve deck plate girders survive on the Northern line. At least ten were built on the Plymouth to Woodsville line about 1895 although almost all of these have been removed, as have eight former deck plate girders on the Cheshire Branch.

A number of deck plate girders were constructed about 1935 as part of an extensive $200 million national campaign to eliminate grade crossings.[187]

Representative Extant Examples:
- North Conway, 59.24
- Hart's Location, 80.88
- Hart's Location, 2 span, 84.33
- Gorham, 146.80, 1917
- Franklin, 89.98, 1929
- Madbury, Bellamy River, 64.38, 1896

b. Integrity Considerations

In order to be eligible plate girder bridges should retain integrity of location and design. Plate girder bridges may be eligible under Criterion A as a key element in the in the continuing operation of the state's railroad lines in the 20th century. The bridges reflect the upgrading of various lines and were part of a nationwide effort to eliminate grade crossings. The fact that so many of these bridges survive today may diminish the relative significance of a single bridge.

14. I-Beam Stringers and Deck Spans

The DOT data base lists twenty-two I-Beam or Steel Stringer bridges. The I-Beam stringer was typically used for shorter spans of less than twenty feet. All of the I-Beam stringers in the data base were constructed between 1918 and the late 1930s. There are several extant I-Beam stringers on the Northern line.

[187] *Railway Age*, vol. 98, no. 25, June 22. 1935.

I-Beam deck spans are less numerous. The DOT data base lists two representative extant examples, both on the Mountain Division.

Representative Extant Example:
Beecher Brook Bridge, Crawfords, 85.31 (I-Beam deck)

15. Stone Arch Bridges

a. Introduction

The 1910 *Railroad Commissioners' Report* indicates that there were then 43 stone bridges on the B& M line in New Hampshire. The current DOT data base includes a total of twenty-eight, although additional smaller bridges could be recorded as culverts due to inconsistencies in data entry.

Statewide, the Cheshire Railroad stands out for its high number of granite bridges, the quality of their construction and their survival. The 1953 B & M Bridge List includes fifteen stone arch bridges on the Cheshire line, of which three are double stone arch bridges, as well as four stone arch culverts. According to a 1994 survey of the line by the NHDOT, there are seven stone arch bridges (as well as thirteen large stone arch culverts) located along the 42.75 miles of track in New Hampshire. Several of the arched bridges are elliptical in shape; others are high, stilted semicircular arches. The wide use of stone arch bridges on this line is due in large part to chief engineers, Lucian Tilton and W.S. Whitwell and the availability of local granite, sometimes within one-half mile of rail bed. The most impressive stone arch bridge on the line and the most impressive masonry arch ever built in New Hampshire is the bridge Tilton designed over the South Branch of the Ashuelot River in Keene, near the Marlborough town line [fig. 120].[188] The 60 foot high, 90 foot span was considered one of finest examples in the country when it was constructed in 1849.

A total of seven stone arch bridges were constructed on the Northern Railroad, under the direction of company engineers. The Glen Road stone arch bridge at Lebanon [fig. 121] measures 12 feet high, 18 feet wide and 12 1/2 feet deep and served as an overpass for railroad traffic. It was probably constructed about 1848 and was listed on the National Register in 1985.

One of the earliest stone arch bridges constructed in the state spanned Salmon Brook in Nashua, 37.87, and was constructed in 1840. Another stone arch bridge on the line was constructed in Merrimack in 1887 (50.21). The Bridge Street tunnel in Westminster (83.80) was constructed in 1851 and another mid 19th century stone arch bridge was constructed on the same line in North Charlestown, over the Sugar River (96.75). A group of four other early stone arch bridges were constructed on the Portsmouth Division Manchester & Lowell Branch.

[188] Information from James Garvin, April 1999.

The double-arched stone bridge over the Connecticut River at North Walpole and Bellows Falls was built by the Fitchburg Railroad in 1899. Each of the spans measures 140 feet but has a rise of only twenty feet, giving this bridge two of the longest masonry arches with the least rise in the United States.[189]

There are a few examples of stone arch bridge construction, particularly on the White Mountains Division into early 20th century. The Ashland Arch (44.75) was constructed in 1893. A 30 ft. stone arch was constructed in 1896 at Rumney to replace a plank lattice bridge. In 1907 a 15' wood stringer bridge at Sewalls Falls, also on the White Mountains Division, was replaced by a stone arch bridge. The latter work was done by S.C. Douglas & Co. There are four stone arch bridges and one stone arch culvert on the New Hampshire segment of the Portsmouth Division between West Lowell and Rigby. It appears that all of these date to the early 20th century.

Representative Extant Examples:
West Lebanon, 141.35
Fitzwilliam (Cheshire Branch) - double arch
Rollinsford, 69.60, 1900
Artists Brook Bridge, Conway, 59.24
Whitefield, 1892
Keene, (South Branch of Ashuelot), 89.41, 1849

b. Integrity Considerations

Stone arch bridges which are eligible under Criterion C retain integrity of location, design, materials, workmanship, and feeling. A loss of integrity of setting or association (the abandonment of the railroad) would not undermine the structure's eligibility if the other elements of integrity are still apparent.

16. Concrete Slab Bridges

a. Introduction

The Boston & Maine 1953 Bridge List includes over 80 concrete slab bridges. The current DOT data base includes about 50 concrete slab bridges, the disparity probably reflects the fact that information for all lines has not yet been entered into the data base rather than the replacement of some of the bridges. All of the concrete slab bridges are 20 feet or less in length. Almost all of the bridges were constructed between 1928 and 1932, replacing earlier spans. During this period the B & M operated a concrete plant at Concord to manufacture precasted bridge slabs.[190] A large number of bridges were strengthened at this time to accommodate heavier trains. There are approximately

[189] Ibid.
[190] *Boston & Maine Railroad, Annual Report*, 1929.

seventeen on the Northern line (8 in Andover alone) and on the Main Line between Woodsville and Berlin. One such bridge on the Northern RR at Lebanon is shown in fig. 122. Many of these bridges utilize earlier cut block granite abutments.

Representative Extant Examples:
Lebanon, 139.28, 1931
Gorham, 145.09, 1930
Andover, 95.88, 1930
Walpole, 110.72, 1929

b. Integrity Considerations

Bridges of this type must exhibit integrity of location, design and materials.

17. Other Concrete Bridges

There are a few other types of concrete bridges represented in New Hampshire's railroad bridge inventory including concrete slab trestles, concrete arches, and concrete boxes. The earliest concrete railroad bridge in the 1954 state inventory appears to be a concrete arch bridge over the Oyster River in Durham, constructed in 1911.

The reinforced concrete trestle was one of the bridge types recommended in the 1930s during an extensive $200 million national campaign to eliminate grade crossings.[191]

Unknown Status:
Durham, 61.09, 1911, (concrete arch)
Wentworth, 64.08, 1930 (concrete slab trestle)
Concord, 0.3., 1930 (overhead reinforced concrete trestle)
Gerrish, 87.18, 1927 (concrete arch)
Conway, 136.45, 1912 (concrete arch)

18. Other Bridges

The history of railroad bridges in New Hampshire also includes several specialized railroad bridges, of which only a few were constructed. For example, a riveted steel draw bridge 241 feet long was constructed on the Eastern Division across Dover Point. The bridge was erected by the N.E. Structural Co. and was removed in 1935. Another draw span bridge was constructed in Stratham on the Portsmouth to Manchester line over Great Bay. The 32 foot span was constructed in 1939 and is no longer extant.

Another unique type of bridge, the signal bridge, is represented by a series of four overhead signal bridges which were constructed in Dover and Rollinsford. These are no longer extant.

[191] *Railway Age*, vol. 98, no. 25, June 22, 1935.

19. Historic Stonework

Areas for future research include the existence of masons' marks on stones in the piers and abutments of various bridges in the state. One such bridge spanning the Merrimack River in Bedford and built by the Concord and Nashua Railroad in 1842 incorporates about a dozen markings, presumably left by the mason working for the railroad.[192] Similar markings have been observed on the masonry of the Canton, Massachusetts viaduct which dates to the 1830s and were long a part of Scottish Guild traditions.[193]

20. Trestles

New Hampshire railroads also built many trestle bridges. It has been said that trestle bridges constituted approximately 50 percent of all the railroad bridges in the country until well into the 20th century. Trestles were ideally suited to support rail lines over long and deep valleys but were more often less dramatic. In 1910 the Boston & Maine had 139 trestles, spanning a total of 14,862 feet. Additional trestles were constructed by logging railroads such as the East Branch & Lincoln Railroad.

21. Frame Trestles

The timber trestle has been called a distinctly American type of construction. When early railroad construction was at its peak, the timber trestle was widely used because of the availability of materials at or near the site. Those timber trestles that survive have generally been renewed several times since their original construction.

In simplest terms, a trestle is defined as a framework consisting of vertical, slanted supports and horizontal crosspieces supporting a bridge [fig. 123]. Trestles are constructed with either framed bents or driven pile bents. In the framed bent, the column is constructed of sized timbers supported by a horizontal grade beam. The continuous frame of inward-sloping posts are tied together by beams and braced in both directions by diagonal members. The bents may be one story (15') or multi-story [fig. 124]. In the construction of very high trestles, piles may be driven and capped at ground level with a frame bent built on top of the piles.

The 1953 B & M Bridge List indicates that at that time at least fifty framed bent timber trestles survived throughout the state (many had no doubt already been replaced). The current DOT data base lists approximately fifteen frame trestles, ranging in length

---

[192] Information provided by Susan Holstein, Bedford, NH to James Garvin, NH Division of Historical Resources, March 1992.

[193] Information provided by James Garvin, NH Division of Historical Resources, to Elizabeth Hostutler, NH Department of Transportation, April 1995.

from 40 feet to more than 300 feet long and with heights averaging between 15 and 25 feet. Only two of the frame trestles on the list have been field verified. A representative example at Franklin is shown in fig. 125. Many timber trestles were eventually replaced with solid fill or other more permanent structures, including pile trestles or plate girder bridges.

Frame trestles appear to have been especially numerous on the Portsmouth Division, the Northern and the Main Line between Concord and Woodsville.

Logging railroads also relied heavily on frame trestles [fig. 126]. The last of the logging railroad trestles in the state, the Black Brook Railroad Trestle located in the White Mountain National Forest, was the subject of extensive documentation in 1991, prior to its imminent demolition. Completed between 1903 and 1917, the functional wooden trestle had been modified by the addition of buttresses and stone piers to handle the logging trains and to withstand flash floods.[194]

Representative Extant Examples:
Concord, 1.66, 1937
Danbury, 108.84, 1941
Franklin, 3.22, 1921-2

22. Pile Trestles

a. Introduction

In the pile bent trestle system, a shaft-like member of timber, steel, concrete or composite material is driven into the ground to carry structure loads, through weak strata, to lower strata capable of bearing such loads. The standard spacing of bents in pile trestle bridges in the late 19th century was 15 feet.[195] The deck system is either open or ballasted. In a ballasted system, there is a solid deck consisting of a continuous bed of wood or some other material. Ballast, usually in the form of crushed rock or gravel, is laid on top of the solid bed, underneath the railroad ties. The number of spans on a pile trestle varied widely. On the Tilton and Belmont Railroad there was a pile trestle with 35 spans.

The 1953 B & M Bridge List indicates that there were over sixty extant pile trestles at that time. The pile trestle was most commonly used on the Portsmouth Division, the Northern Railroad, the Pemigewasset Valley and the Fitchburg lines. Today, the DOT data base captures about twenty-six pile trestles of which at least ten are known to survive. An additional thirteen bridges are listed as ballasted deck pile trestles; at least eight of these have been verified in the field. A pile trestle at Concord is illustrated in fig. 127.

---

[194] William L. Taylor, "Railroad in the Wilderness: The East Branch & Lincoln Railroad, 1892-1948", *Historical New Hampshire*, vol. 48, no. 4, Winter 1993.
[195] J.Parker Snow, "Wooden Bridge Construction on the Boston and Maine Railroad", p. 33.

Representative Extant Examples:
Concord, 1.12, 1936
Manchester, 24.17, 1932 (pile and frame)
Jefferson, 132.61, 1926
Ossipee, 119.17, 1938-1944

b. Integrity Considerations

The most important aspects of integrity for wooden trestles would be location and design. It is understood that the replacement of elements is considered essential to the continuing operation of the railroad line.

23. Iron Trestles and Viaducts

a. Introduction

The necessity of supporting rail lines over long and deep valleys resulted in the construction of some of New Hampshire's most dramatic railroad bridge structures. Several of these iron trestles were constructed on the rugged Maine Central Railroad Mountain Division, which by 1907 included 1,003 feet of steel trestle bridging. Located in Hart's Location, the 518 foot Frankenstein Trestle dates to 1905 and replaces an earlier 1893 iron viaduct, which in turn replaced an earlier iron bridge [figs 128 & 129]. The towers and thirteen deck girder spans were manufactured by the Union Bridge Company of Buffalo. An additional iron trestle on the same line is located at Conway Center. It consists of six spans supplied by the Phoenix Bridge Company and forms a 260 foot approach to the pair of Warren through truss spans over the Saco (55.37).

Additional iron trestles were concentrated in the hilly, south central, Monadnock region of the state. The Lyndeborough Trestle or Gulf Viaduct was constructed in 1882 and replaced in 1982. The 257 foot structure spanned about 50 feet over the Stony Brook valley with four bow-string trusses. The wrought iron bridge was constructed by the Boston Bridge Company. It was one of three bridges built on the Peterborough Railroad in 1882-3; the line was leased to the Boston & Lowell beginning in 1883.[196] The other ravine trestles which were constructed in 1882-3 at Hancock and Keene are no longer extant and were probably removed when the rails were removed from the western portion of the line in 1943.

Among the high trestles constructed on the line which later became the Worcester, Nashua and Portland Railroad was an iron trestle at Marlborough, known as the Gulf Bridge [fig. 130]. According to the 1892 *Railroad Commissioners' Report*, it was erected by Fitchburg Railroad to replace old iron bridge. The two-spans, single intersection-pin, connected trusses were built by Edge Moore Bridge Works.

[196] "Want to buy a bridge?", *New Hampshire Historical Society Newsletter*, vol. XX, no. 2, March 1982.

On the Greenville Branch of the Fitchburg Division, massive stone piers of cut and fitted granite blocks nearly a hundred feet high carried the 600 foot High Bridge steel viaduct over the Souhegan River. The original wooden trestle was built in 1851 and burned in 1907. It was rebuilt in 1908 in steel utilizing the same granite piers and with the addition of four extra steel pillars. The steel viaduct was erected by the Boston Bridge Works. The steelwork was dismantled in 1985 and only the granite piers remain today.

A pair of steel trestles, dating to 1929-30 were constructed on the Main Line between Concord and White River Junction. The overhead trestles, each over 170 feet long, were constructed at Webster Lake (95.79) and near Danbury (111.18). The 1953 B & M Bridge list also includes a 80 ft. overhead steel trestle (33.90) at Weirs Station on the Main Line between Concord and Woodsville, constructed in 1917 and a 59 foot overhead iron viaduct at Kelley Street in Manchester.

Representative Extant Examples:
Frankenstein Trestle, Hart's Location, 79.42, Union Bridge Company of Buffalo
Conway Center, Phoenix Bridge Co.

Non-Extant Representative Examples:
Lyndeborough Trestle or Gulf Viaduct, 20.98, 1882 (removed 1982), Boston Bridge Co.
High Bridge, Greenville, 58.97 (only piers remain)
Marlborough

b. Integrity Considerations

In order to be eligible, structures of this type must exhibit integrity of location, design and materials.

24. Culverts

a. Introduction

A culvert is a drainage structure that carries surface water from one side of the road bed to the other and discharges it away from the track. The distinction between bridge and culvert may be somewhat unclear as both permit the passage of the railroad line over another feature, such as a roadway, valley, river or rivulet. On many railroads culverts are defined as having a span or opening size of 72" or less. The Boston & Maine Railroad distinguished between bridges and culverts by calling bridges any support structure that carried the rail line on its deck. Culverts were topped with fill which carried the rail line.

The vast majority of structures providing drainage along railroads in New Hampshire are stone box culverts, rectangular in section with granite block walls and a granite slab roof. Other types of culverts used include the stone arch, double stone box, wooden box,

wooden stringer, rail box, rail top and rolled box beam culverts. Concrete culverts include arch, box, pile and slab configurations. Many of the smaller drainage structures are difficult to locate, and may have been filled in, removed or buried.

Among the more noteworthy culverts in the state are those of the Cheshire Railroad, known for the quality of their construction and their survival. An inspection of the line by DOT personnel in 1994 noted the existence of thirteen large stone arch culverts, 120 stone box culverts, and four double stone box stone culverts along 42.75 miles of track in New Hampshire. Because the railbed was situated on substantial amounts of fill, numerous large granite culverts were constructed to carry the line over relatively small water bodies. Some of culverts are hundreds of feet deep. Many of the cut granite culverts were built wide enough to accommodate double track although none were ever built.

The existence of double stone box culverts is also noted on several other early railroad lines including the Northern and Manchester & Lawrence. Several stone arch culverts are noted on the Mountain Division although the bulk of the culverts on the line are constructed of dry stone masonry.

Located in Seabrook, on the Eastern Line, the culvert at Mill Pond Bridge (42.04) is the only known example of a Gothic stone arch culvert in the state. It is thought to date to the 1830s. The Ashuelot Branch in the Keene area appears to have been unique for the construction of several large brick arch culverts, it is not known whether they survive.

Representative Extant Examples:

Rochester (double stone box culvert) 79.37
Rochester (stone arch culvert, 80.08
Walpole (double stone arch culvert)
Walpole two single stone arch culverts
East Westmoreland (15' stone arch culvert)
Seabrook (Eastern), Mill Pond Bridge, 42.04

b. Integrity Considerations

The most important aspects of integrity for a structure of this type are location, design, materials, and workmanship.

25. Cattle Passes

Throughout the state, cattle passes were constructed to accommodate the movement of farm animals under the railroad tracks. The 1953 B & M Bridge List includes approximately 70 cattle passes. Dates of construction are not noted for most of the structures, although many are thought to date to the early 20th century. Most of the cattle passes in the state are of three types - the stone box, rail top or wood stringer. The listing also includes two iron stringer cattle passes, in Newton Junction (2.02) and Wakefield

(106.48). A concrete pipe cattle pass was constructed in Milford (13.16) in 1928. On the Cheshire Railroad, four cattle passes were constructed of stepped blocks of local granite. Later farm crossings on this line were constructed of concrete slabs.

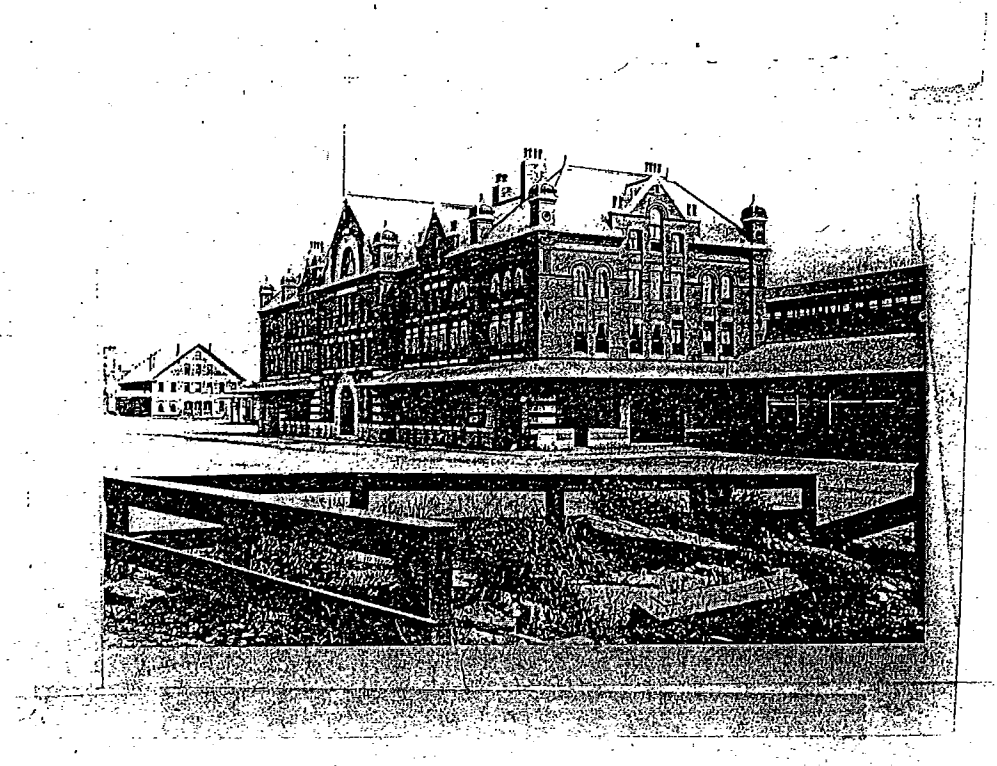


Figure 1. Concord Depot, constructed 1885 (no longer extant).

Source: Hengen & Samson, *Capital Views*, p. 5.

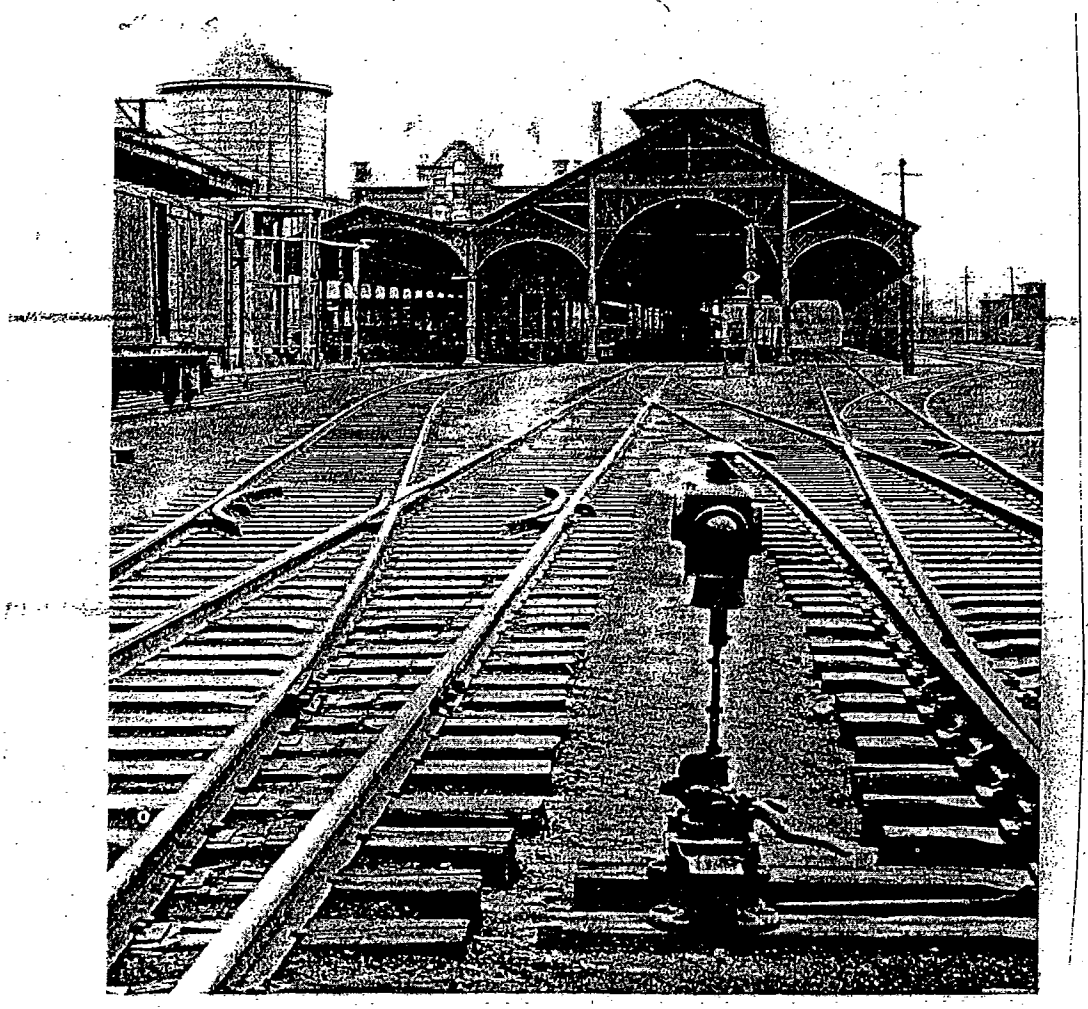


Figure 2. Concord Train Shed in 1931 (no longer extant).

Source: *B & M Bulletin*, vol. XV, no. 2, p. 27.

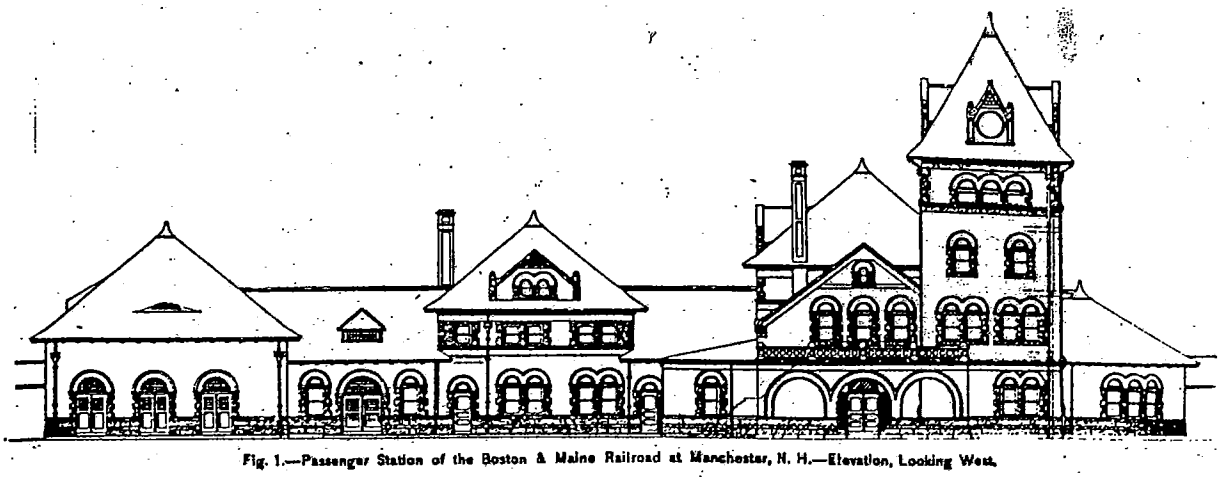


Fig. 1.—Passenger Station of the Boston & Maine Railroad at Manchester, N. H.—Elevation, Looking West.

Manchester Depot, built 1897 (no longer extant).

Source: *Railroad Gazette*, vol. XXIX, no. 25, June 18, 1897.

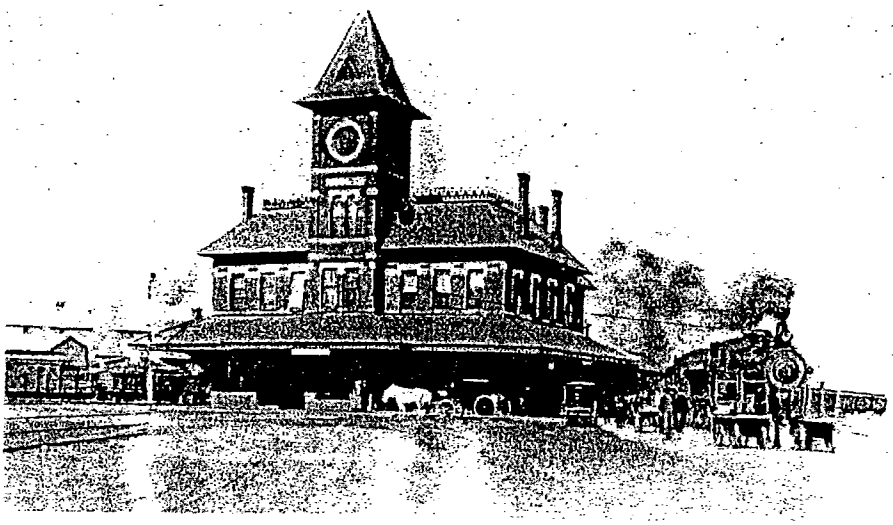


Figure 4. Nashua Station, built 1880 (not extant).

Source: Shepard, *Nashua, NH: A Pictorial History*, p. 186.

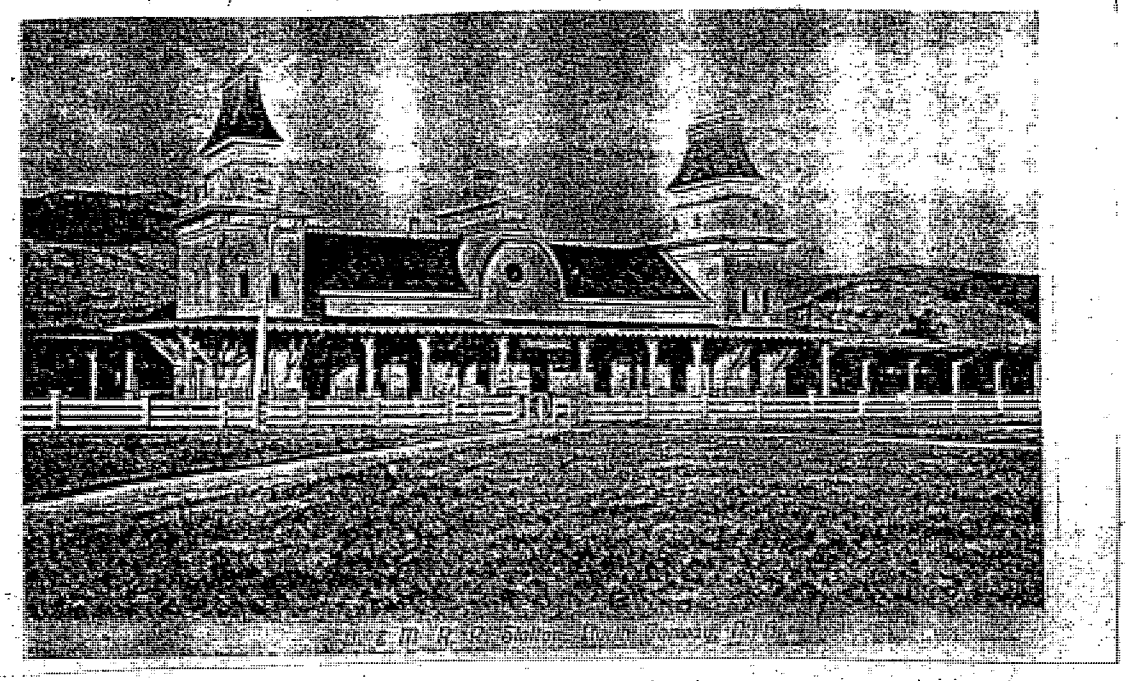


Figure 5. North Conway Station, constructed c.1873 (extant).

Source: Lewis, *New England Country Depots*, p. 46.

Figure 6. Laconia Depot, built 1892 (extant).

Source: Potter, *Great American Railroad Stations*, p. 105.

Figure 7. Amoskeag Depot, built 1892 (extant).

Figure 8: New Boston Depot, built 1895.

Photograph by Lisa Mausolf, 1999.

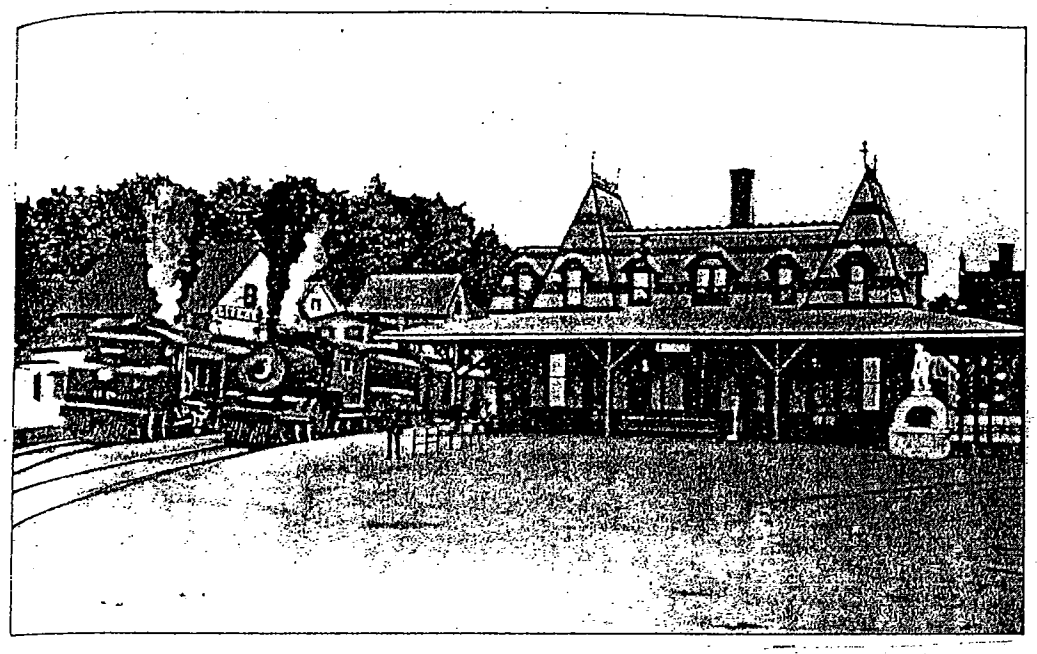


Figure 9. Tilton Passenger Station in a 1912 view.

Source: Heald & Bush, *The Upper Merrimack to Winnipesaukee by Rail*, p. 89.

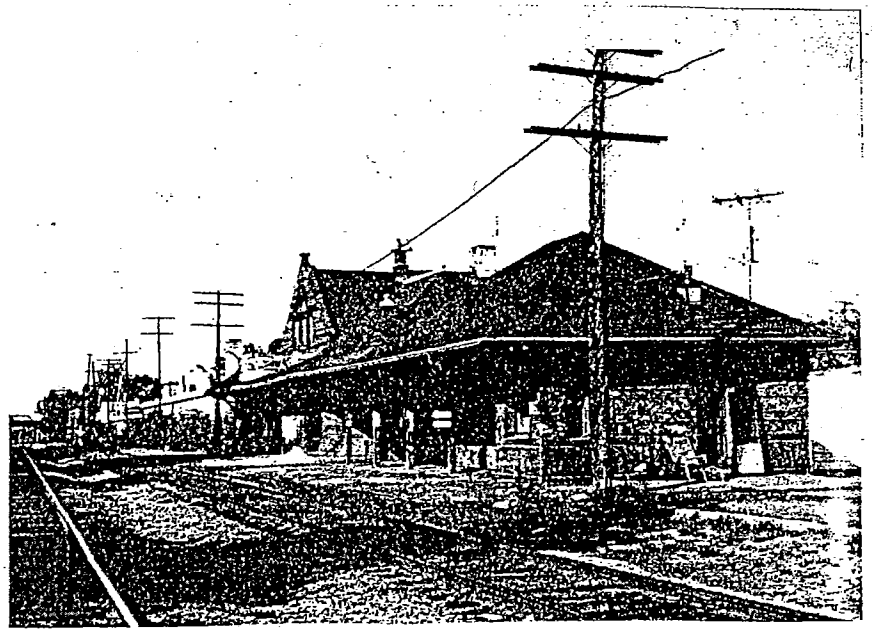
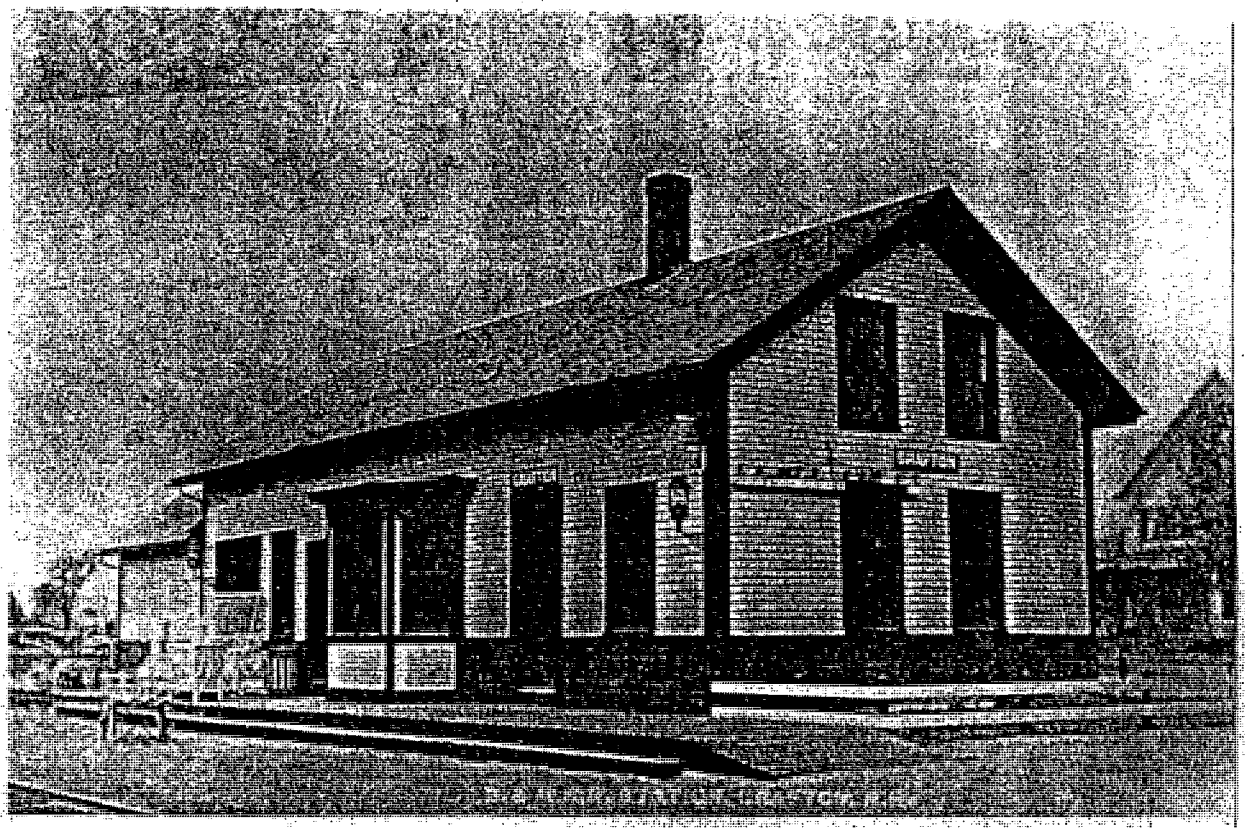


Figure 10. Exeter Passenger Station (extant).



Grafton Depot from trackside, the upper story served as an apartment for the station agent.

Figure 11. Grafton Depot (no longer extant).

Source: Cushing, *Isinglass, Timber & Wool: A History of the Town of Grafton, 1761-1991*, p. 130.

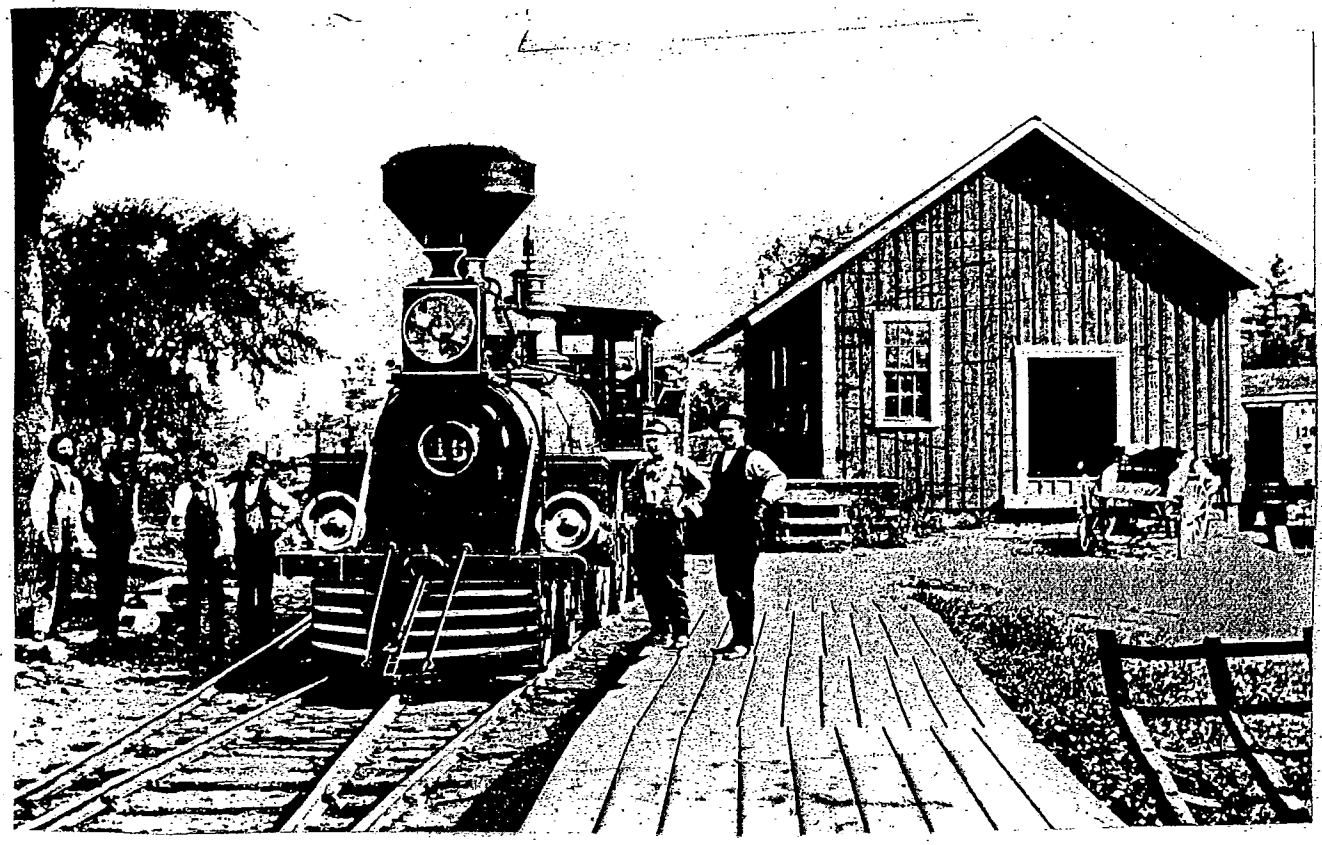


Figure 12. Suncook Depot in Pembroke, c. 1860 view (no longer extant)

Source: Hutchins, *Blueberry Express*, p. 3.

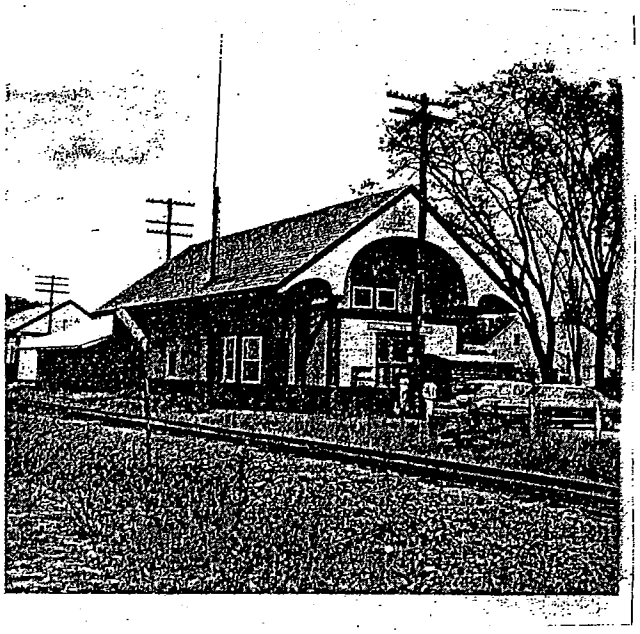


Figure 13. Charlestown Depot, built c.1849 (extant).

Source: Tolles, *NH Architecture*, p. 166.

Figure 14. Milford Passenger Station, built c. 1852 (extant).

Photograph by Lisa Mausolf, 1999

Figure 15. Farmington Depot, built c.1854 (not extant).

Source: *B & M Bulletin*, Summer 1977, p. 11.

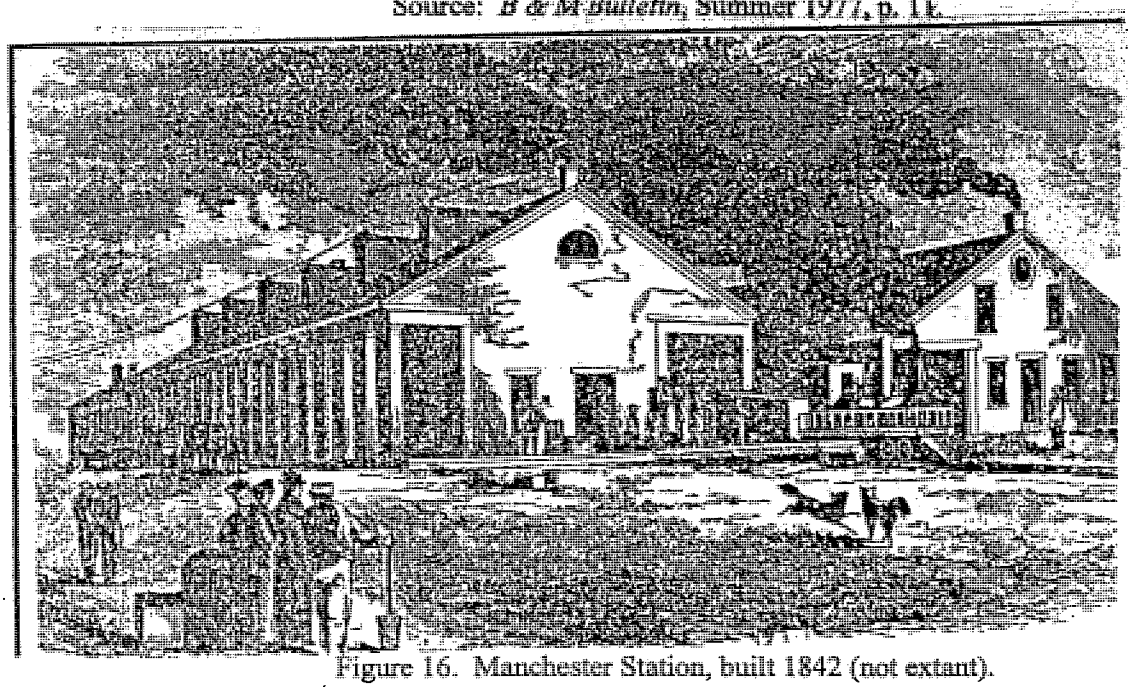


Figure 16. Manchester Station, built 1842 (not extant).

Source: *The Weirs Times*, October 12, 1995.

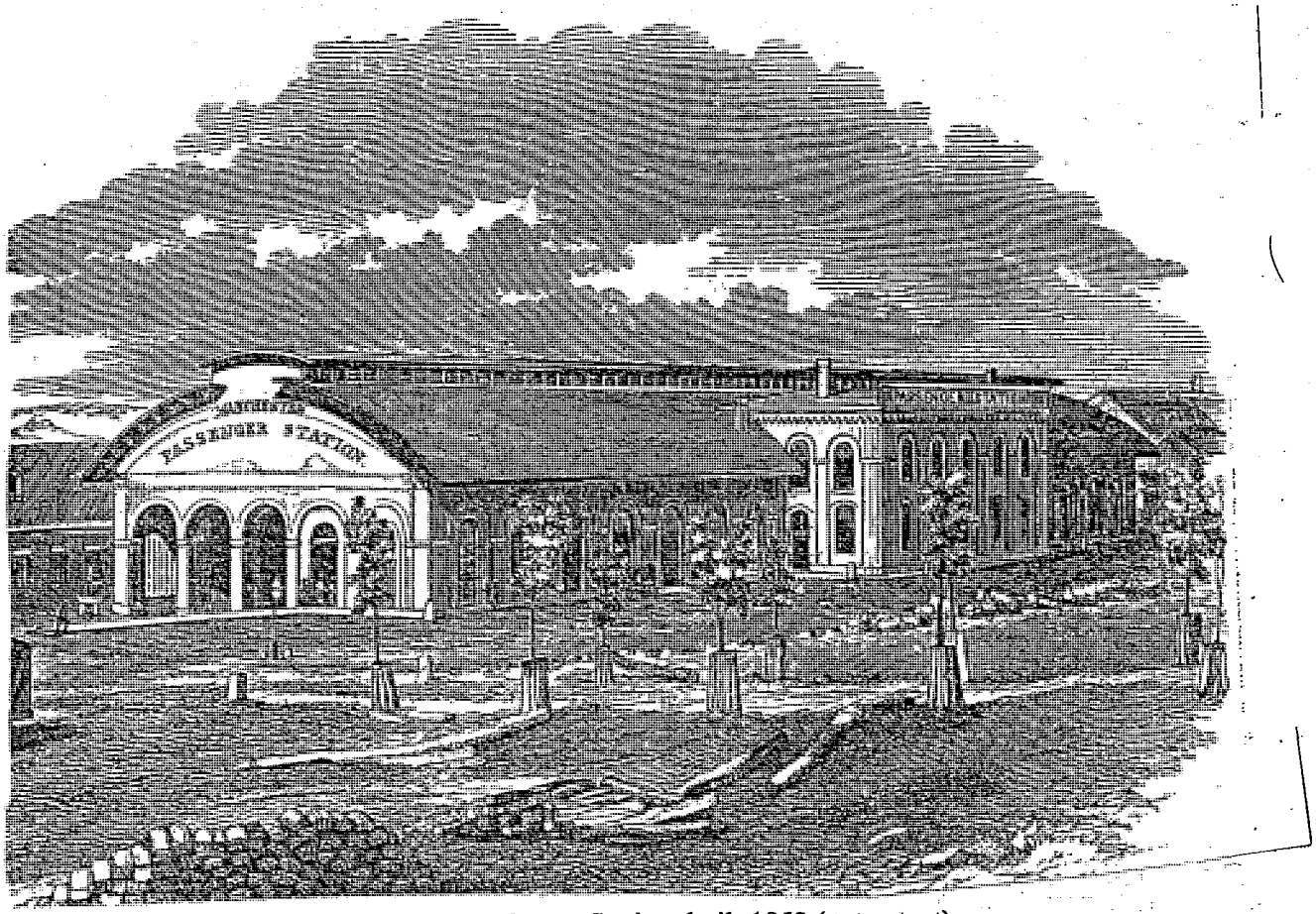


Figure 17. Manchester Station, built 1852 (not extant).

Source: *Manchester Yesterday & Today*, 1946.

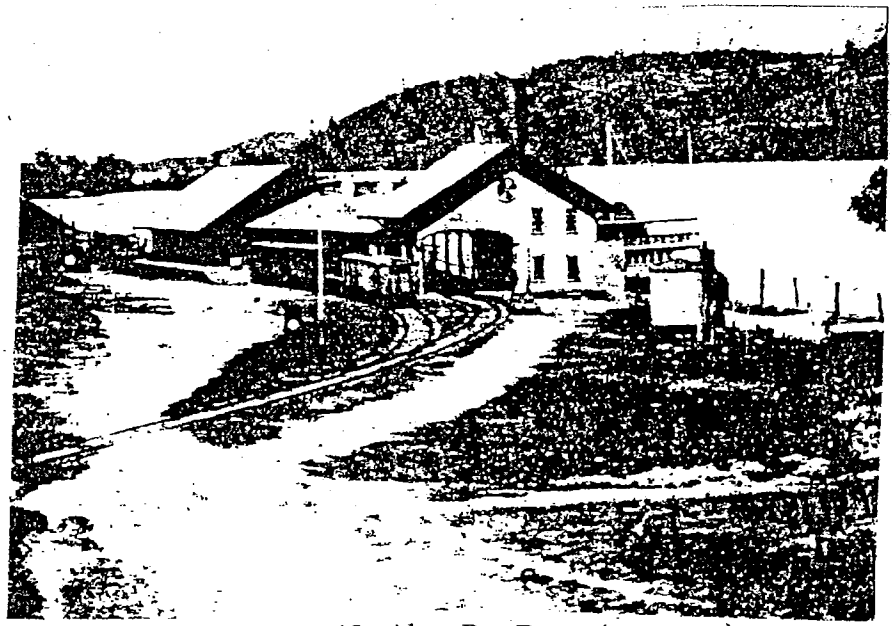


Figure 18. Alton Bay Depot (not extant).

Source: *B & M Bulletin*, vol. XVI, no. 4, p. 16.

The former depot on Main Street. This state-of-the-art station was constructed for the Cheshire Railroad in 1848, but larger and more powerful locomotives rendered it obsolete. It was a sad day in Keene when the Boston & Maine, which took over the line in 1900, replaced the old depot with a new one in 1910.

Figure 19. Keene Depot, built 1848 (not extant).

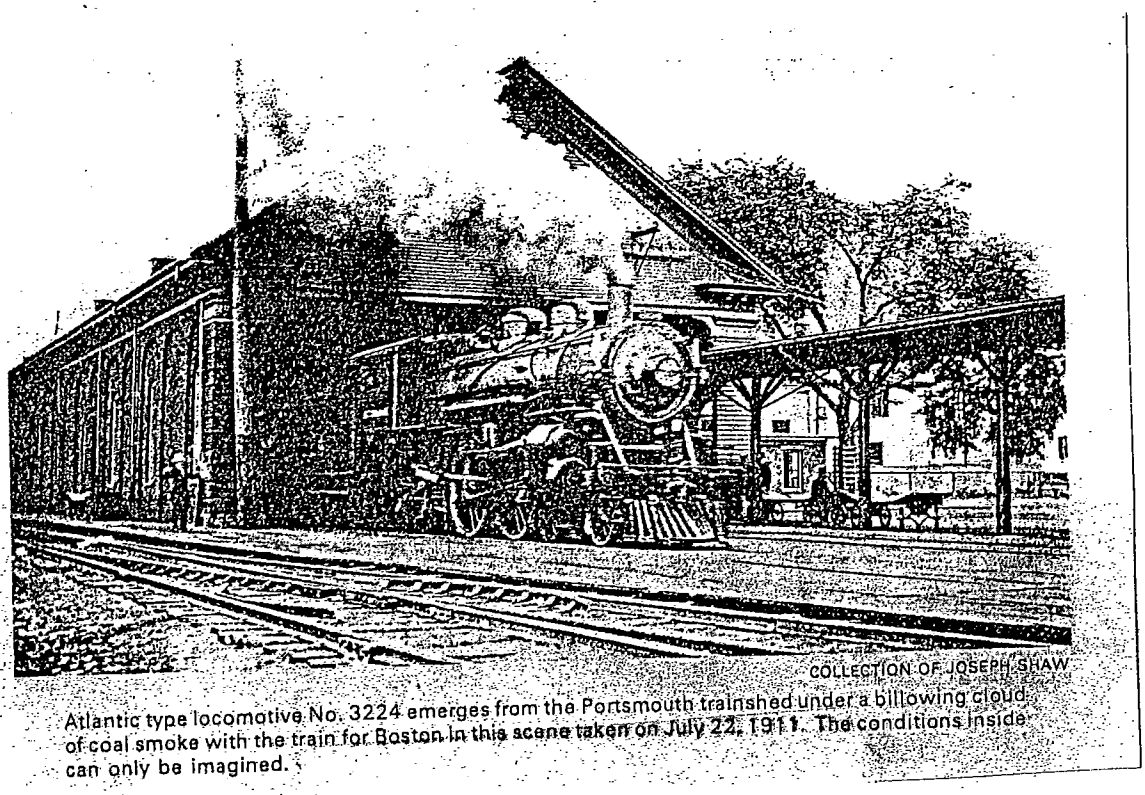


Figure 20. Portsmouth Depot, 1911 view (not extant).

Source: *B & M Bulletin*, Winter 1979-1980, p. 16.

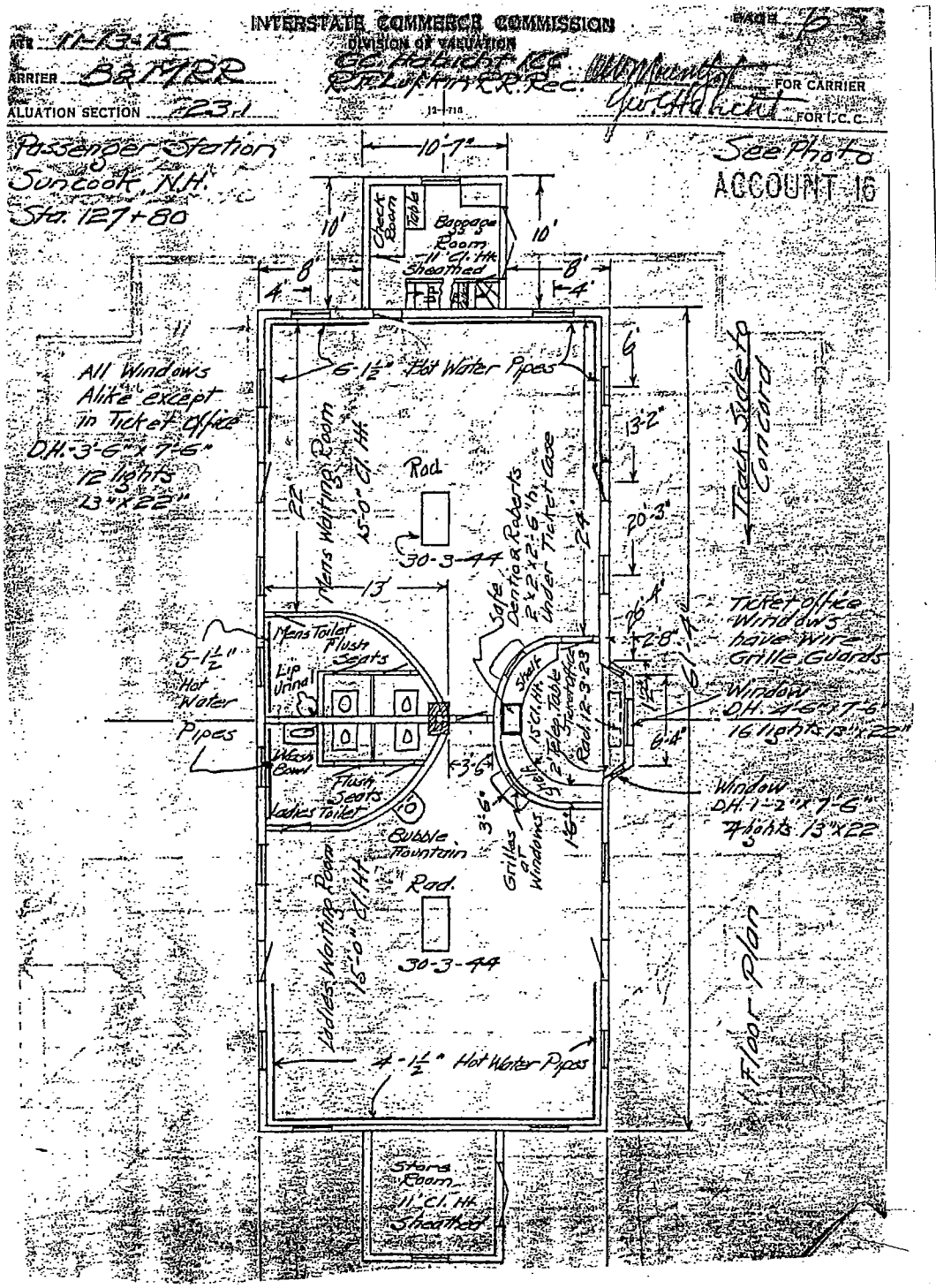


Figure 21. Plan of Suncook Passenger Station.

Source: B & M RR, Valuation Plan, 1915, B & M Historical Society, Lowell

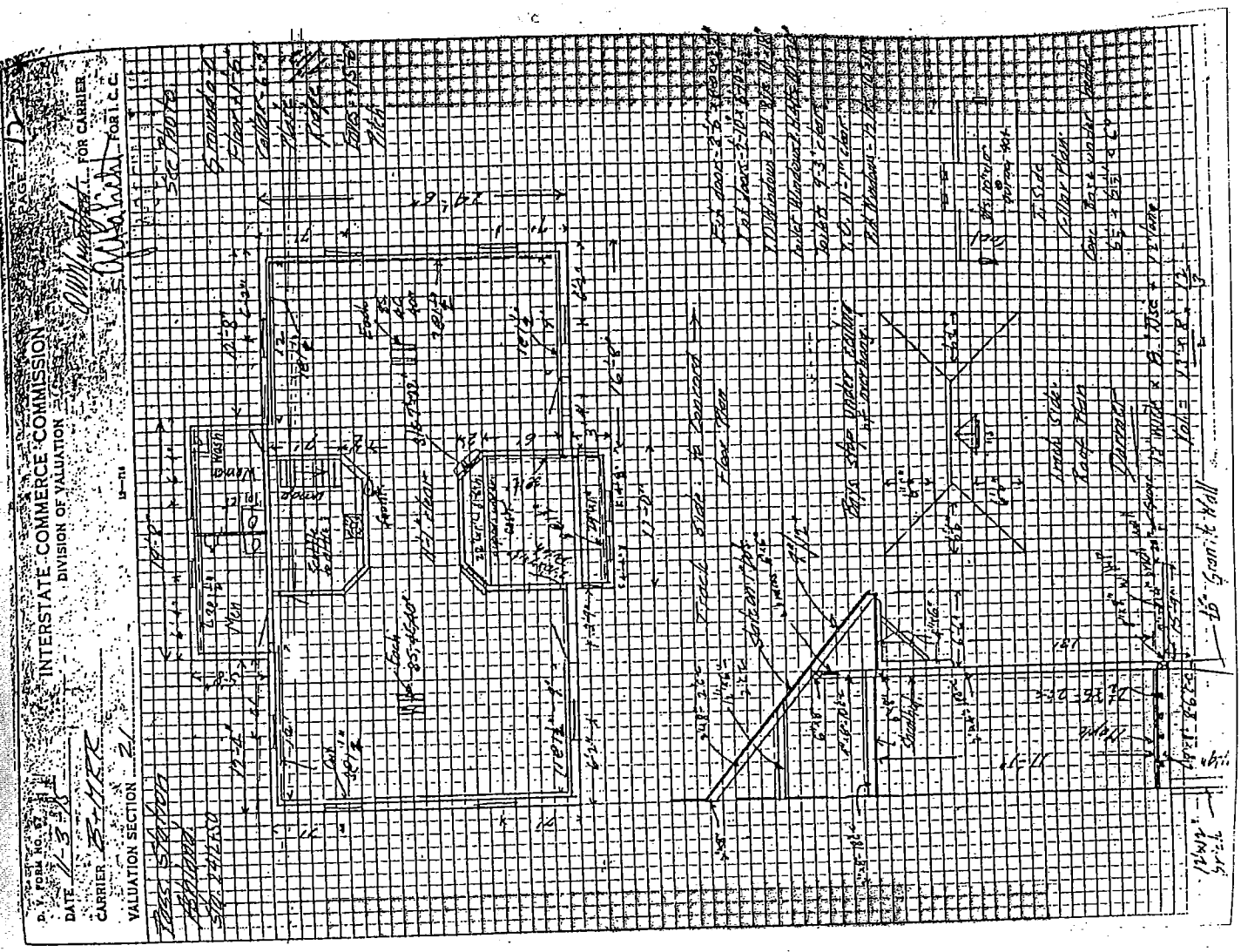


Figure 22. Plan of Ashland Passenger Station.

Source: B & M RR, Valuation Plan, 1915.
B & M Historical Society, Lowell

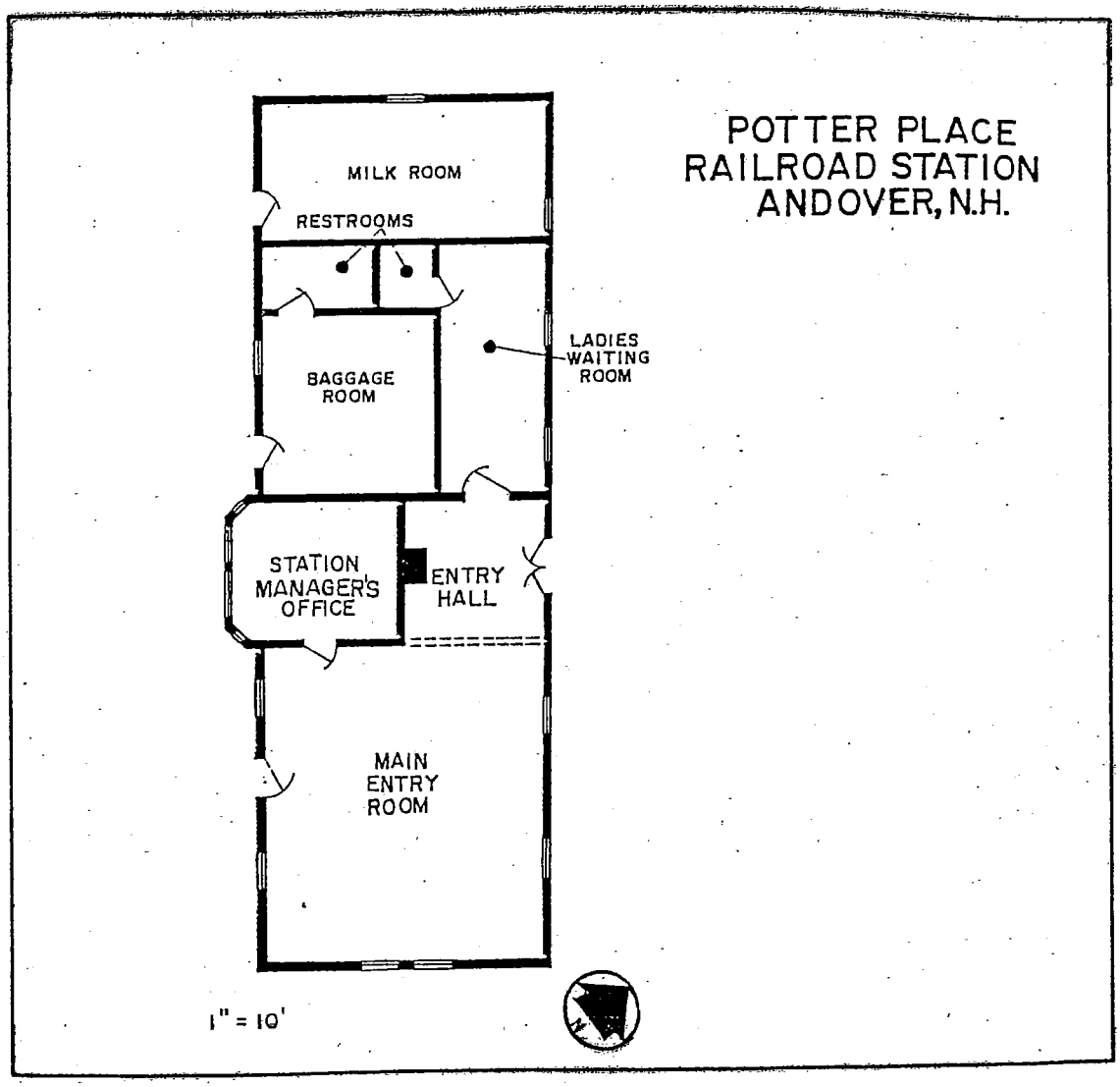


Figure 23. Plan of Potter Place Railroad Station, Andover

Source: Ruell, National Register Nomination for Potter Place Station.

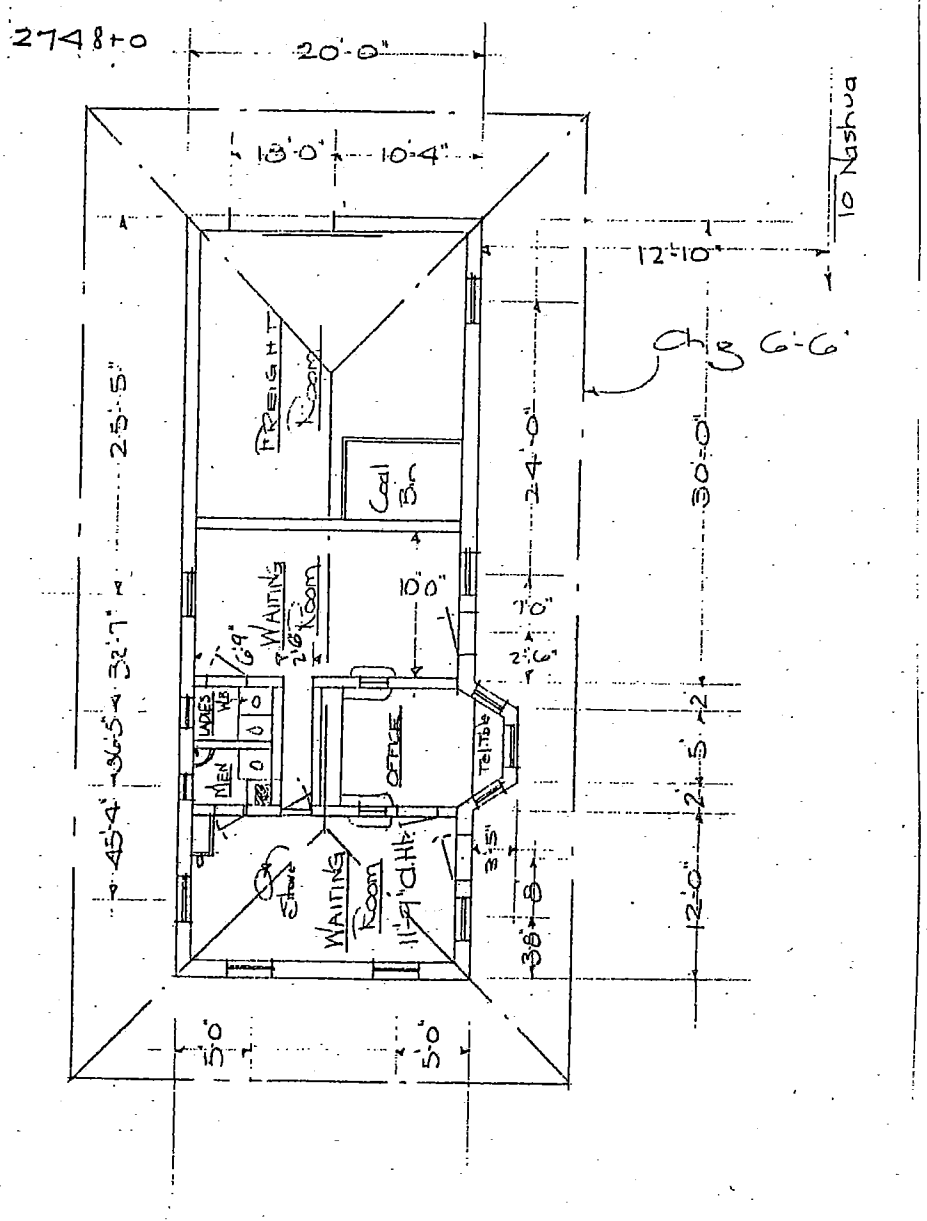


Figure 24. Plan of Passenger Station at Anderson (not extant).

Source: B & M RR, Valuation Records, 1916
B & M Historical Society, Lowell

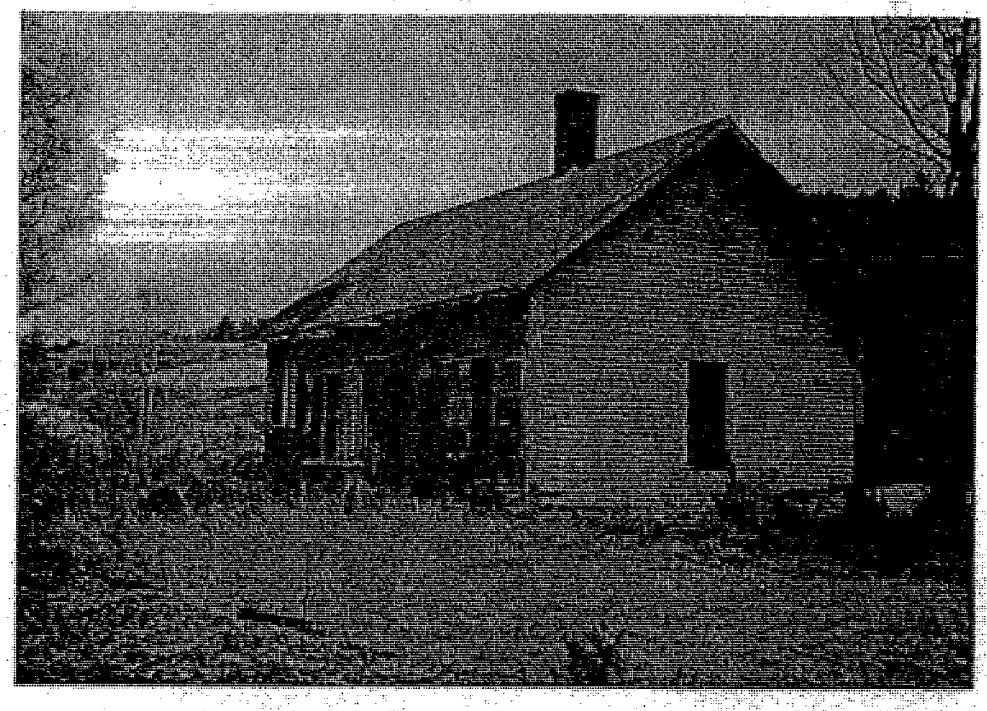


Figure 25. Gerrish Depot at Boscawen.

Photograph by R. Stuart Wallace, 1999

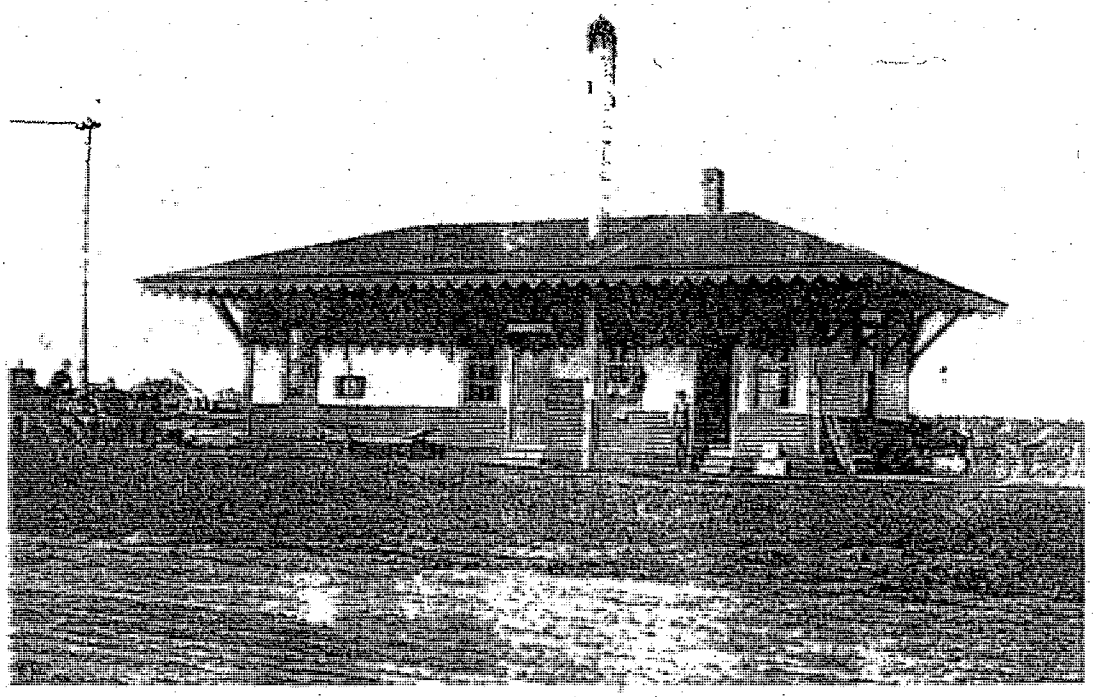


Figure 26. Barrington Station, built c.1870.

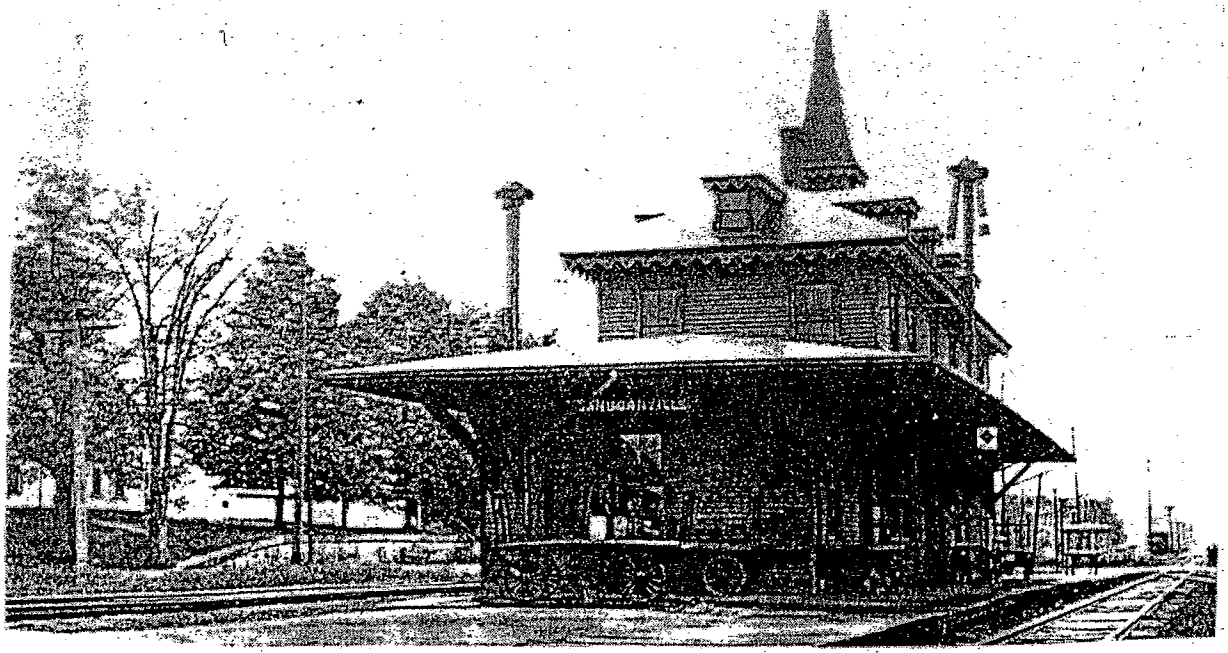


Figure 27. Sanbornville depot at Wakefield, built 1871 (extant?)

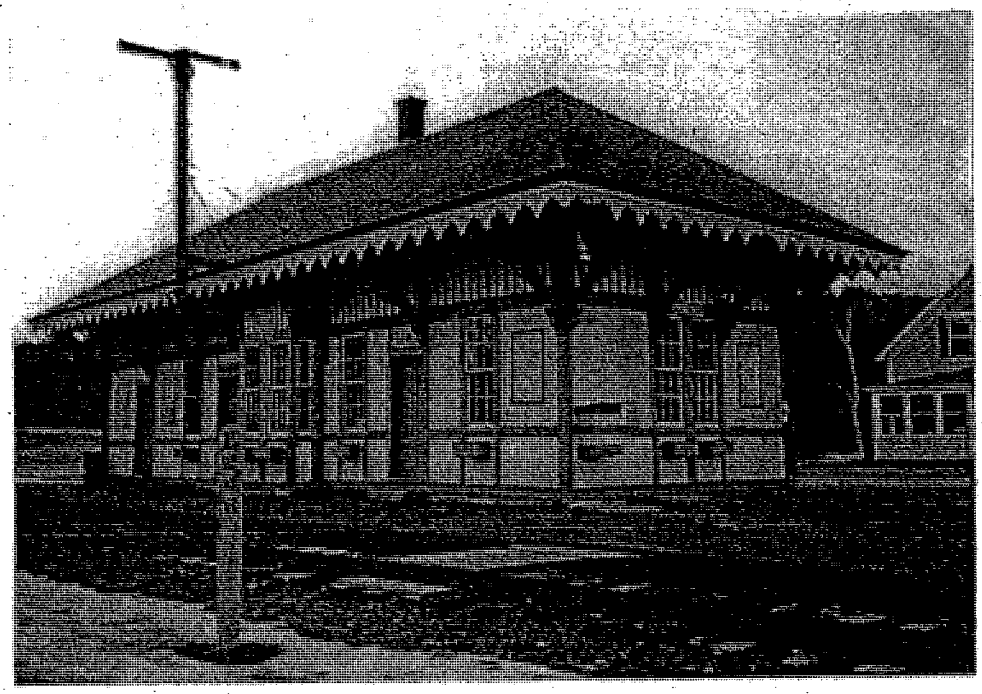


Figure 28. Potter Place Depot at Andover, built 1875 (extant)

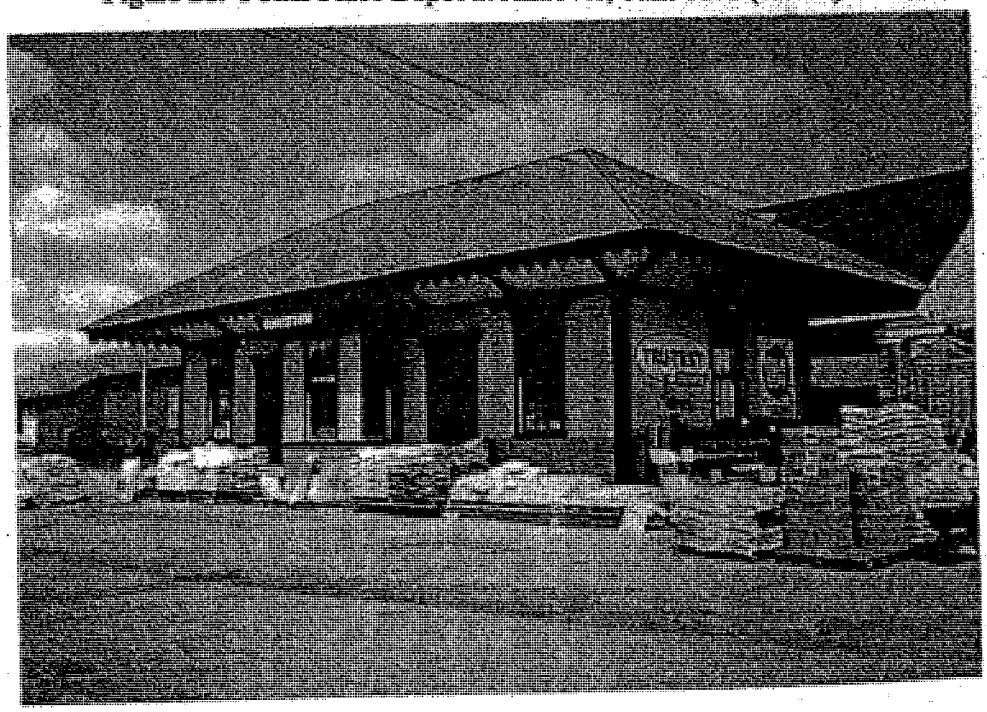


Figure 29. Goffstown Depot, built c.1880 (extant)

Photograph by Lisa Mausolf, 1999

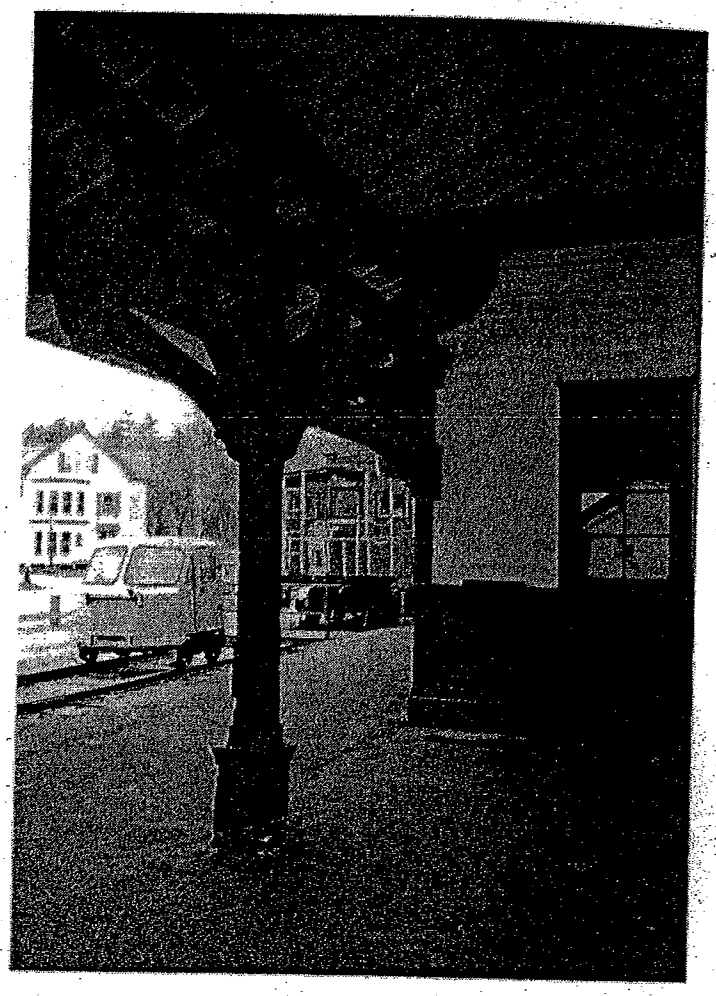


Figure 30. Raymond Depot, built 1893.

Photograph by Lisa Mausolf, 1999

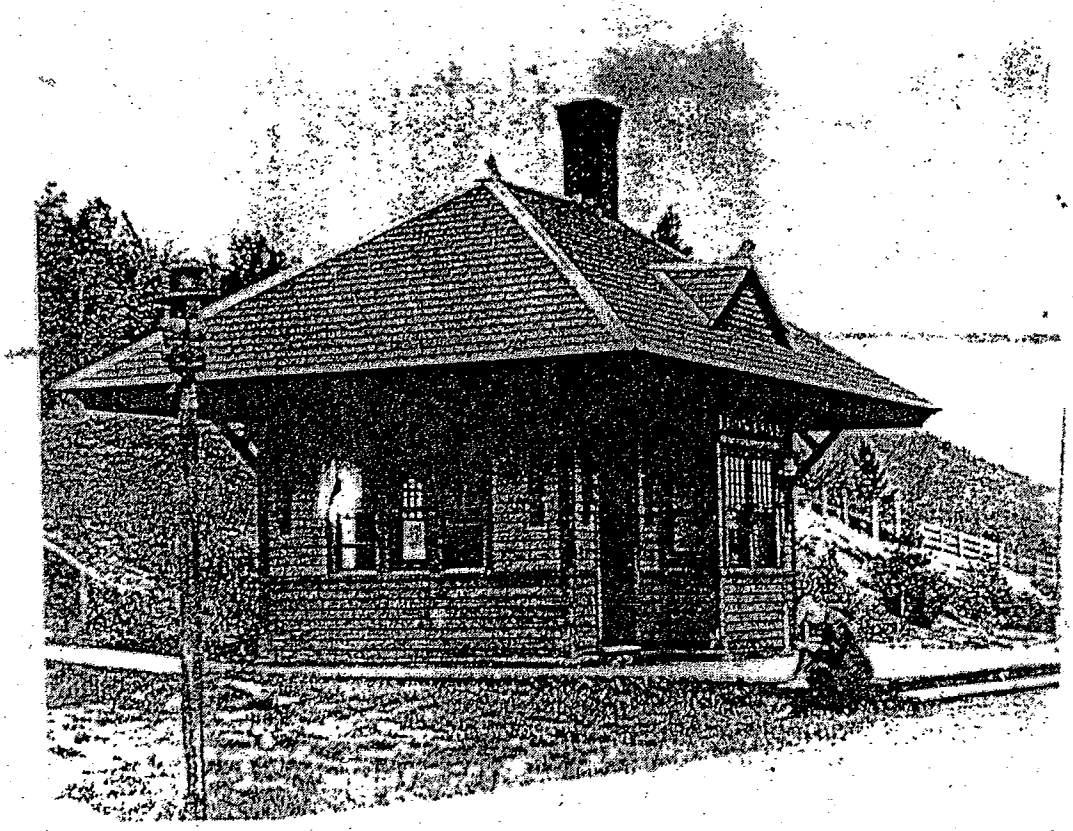


Figure 31. Lone Cove depot (extant).

Source: *B & M Bulletin*, vol. XVI, no. 4, p. 19.

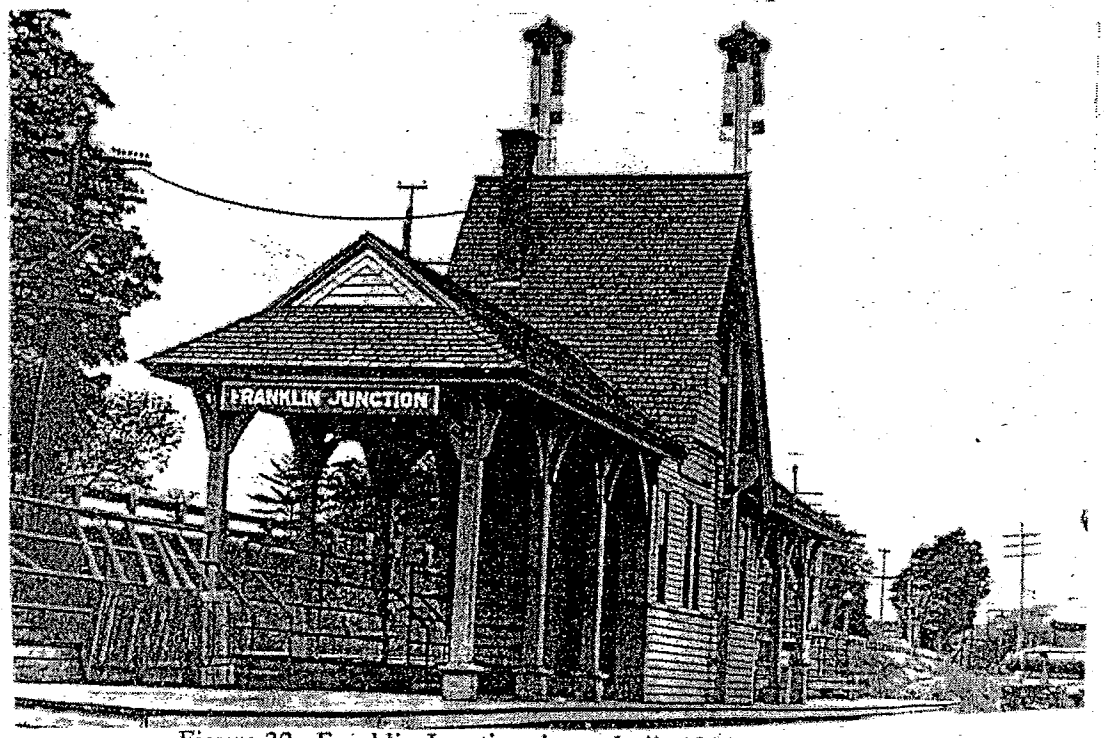


Figure 32. Franklin Junction depot, built 1889 (not extant).

Source: Lewis, *New England Country Depots*, p. 44.

Figure 33. Crawfords depot, built 1891 (extant).

Source: *Great American Railroad Stations*, p. 103.

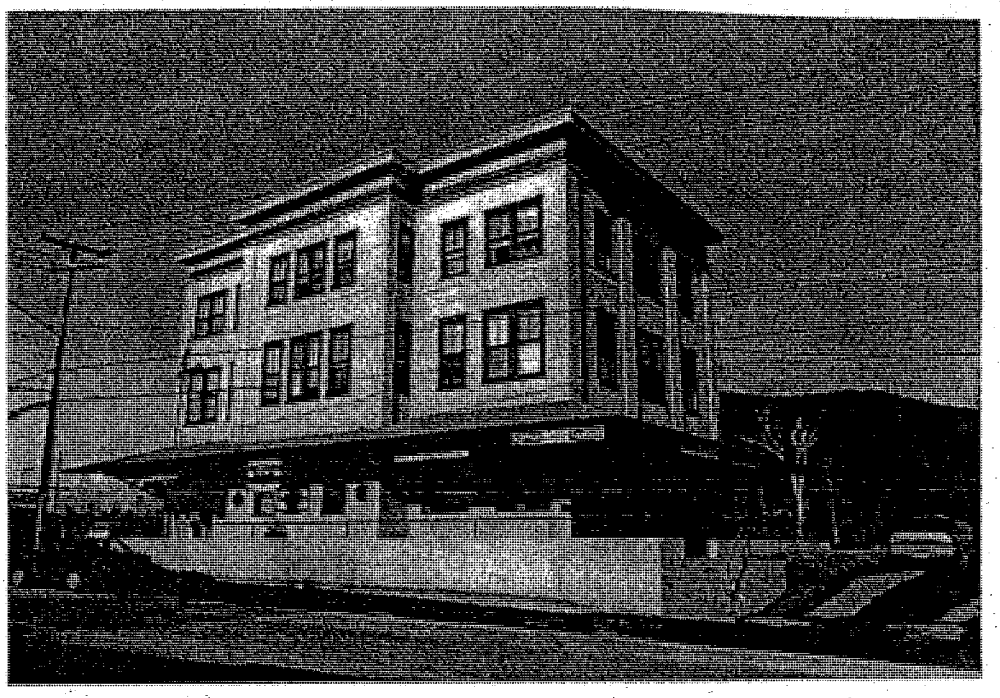


Figure 34. Woodsville depot in Haverhill, rebuilt in 1921 (extant).

Photograph by Lisa Mausolf, 1998.

Figure 35. Gorham Depot (extant).

Source: NH Division of Historical Resources.

Lancaster depot in 1951 (no longer extant).

Source: Johnson, *Maine Central Mountain Division*

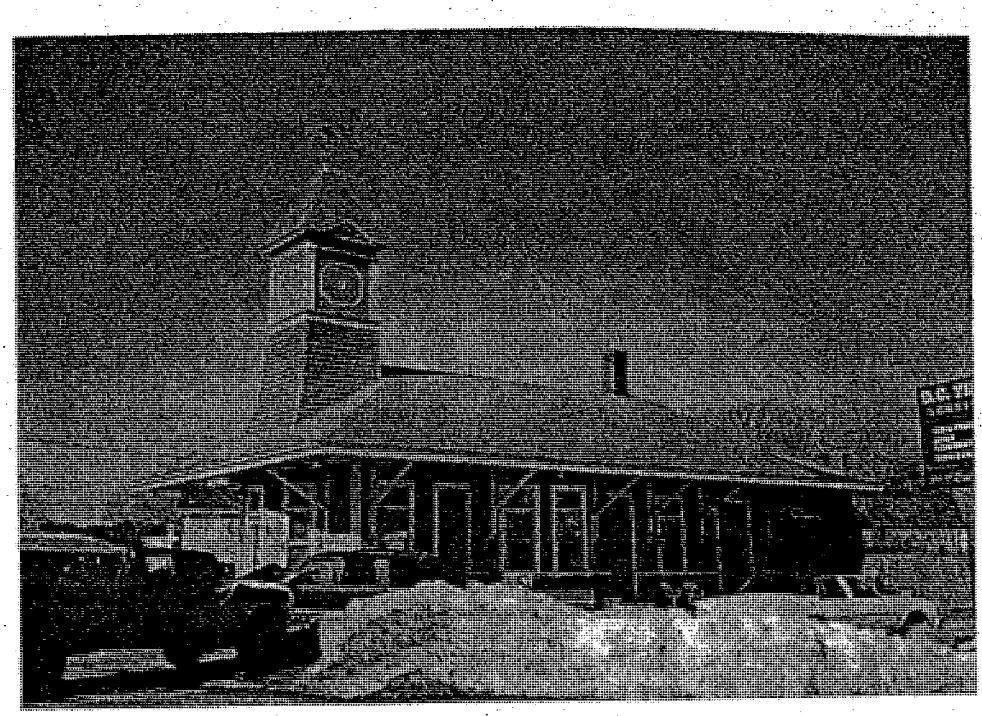


Figure 37. Milford depot (Fitchburg RR), built c.1890 (extant)

Photograph by Lisa Mausolf, 1999

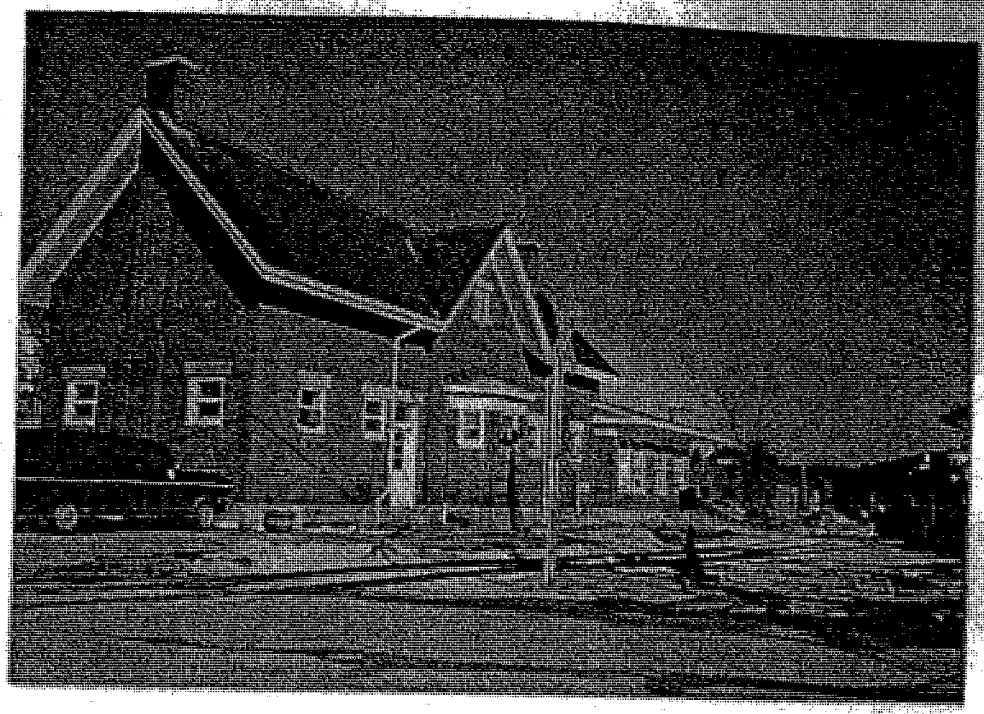


Figure 38. Wilton depot, built 1892 (extant).

Photograph by Lisa Mausolf, 1999

Figure 39. Plymouth depot, built in 1910 (extant)

Photograph by R. Stuart Wallace

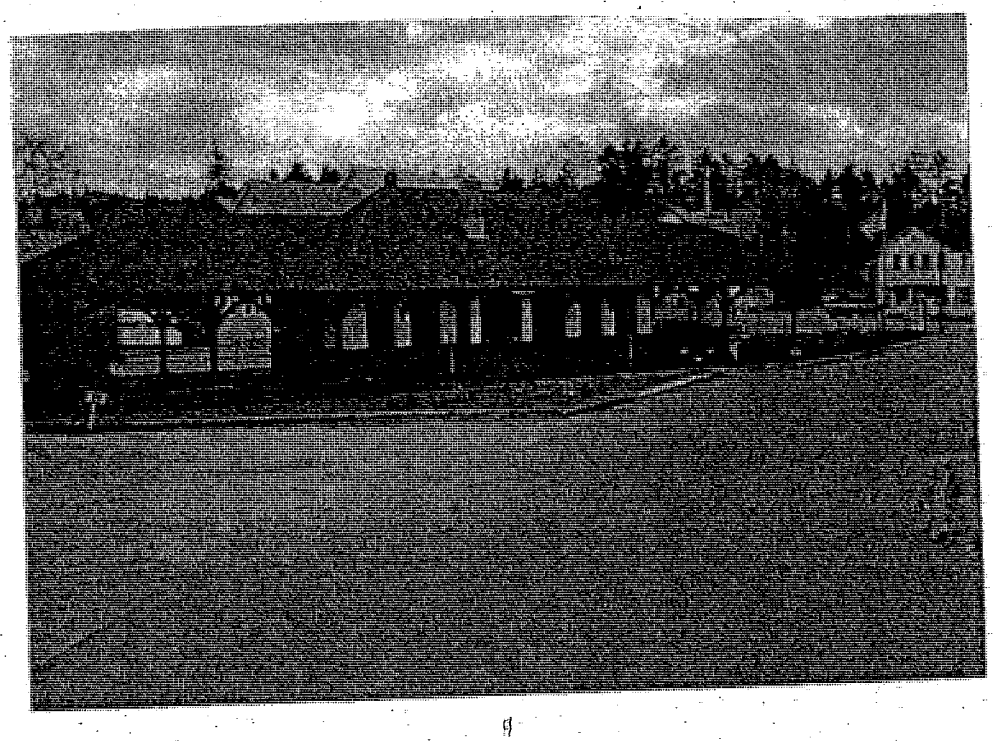


Figure 40. Raymond Passenger Depot (extant)

Photograph by Lisa Mausolf, 1999

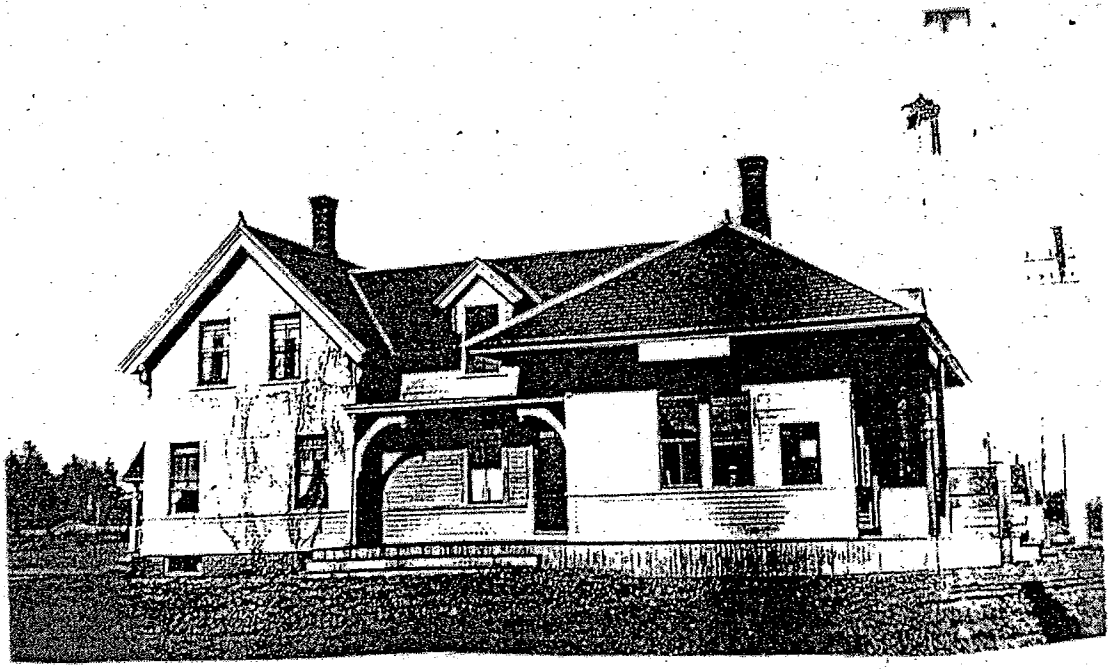


Figure 41. Northfield station (extant)

Source: B & M Valuation Survey, B & M Historical Society, Lowell

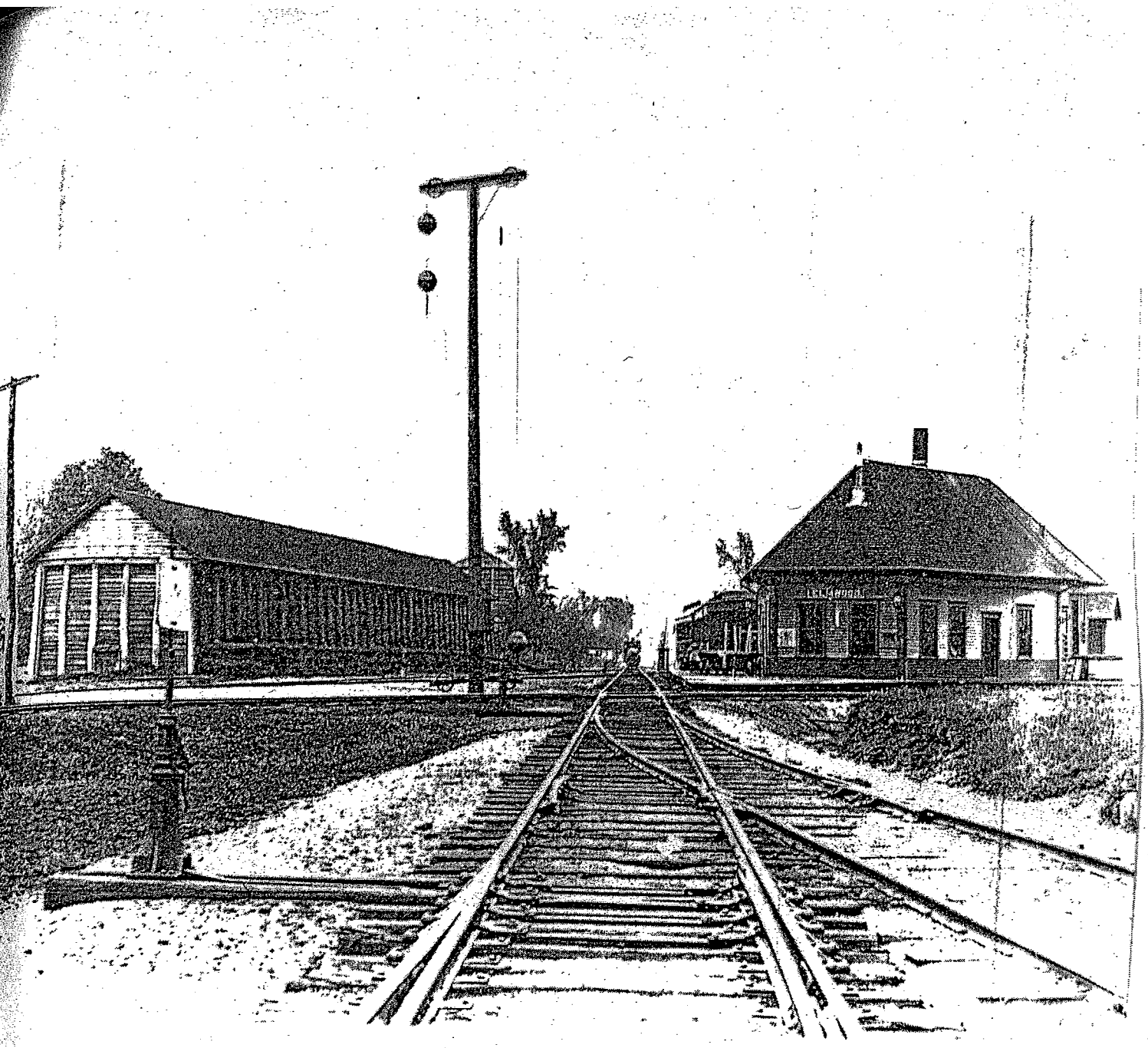


Figure 42. Elmwood Junction at Hancock (not extant).

Source: B & M Historical Society, Lowell

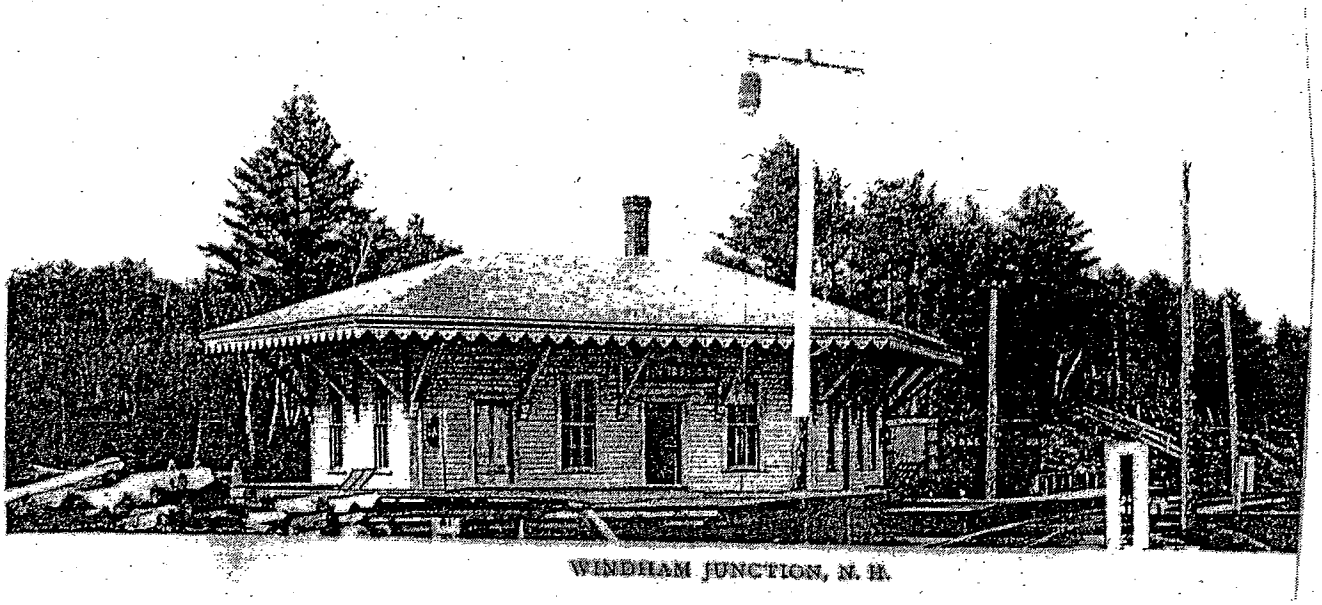


Figure 43. Windham Junction depot (extant)

Source: Morrison, *History of Windham, 1719-1883*, p. 193.

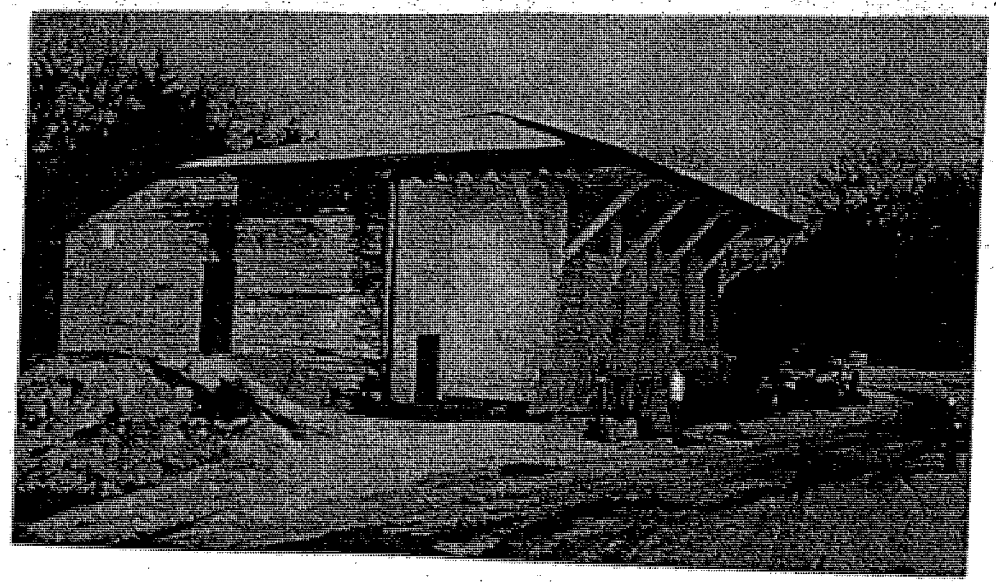


Figure 44. Windham Junction (extant)

Photograph by Lisa Mausolf, 1999

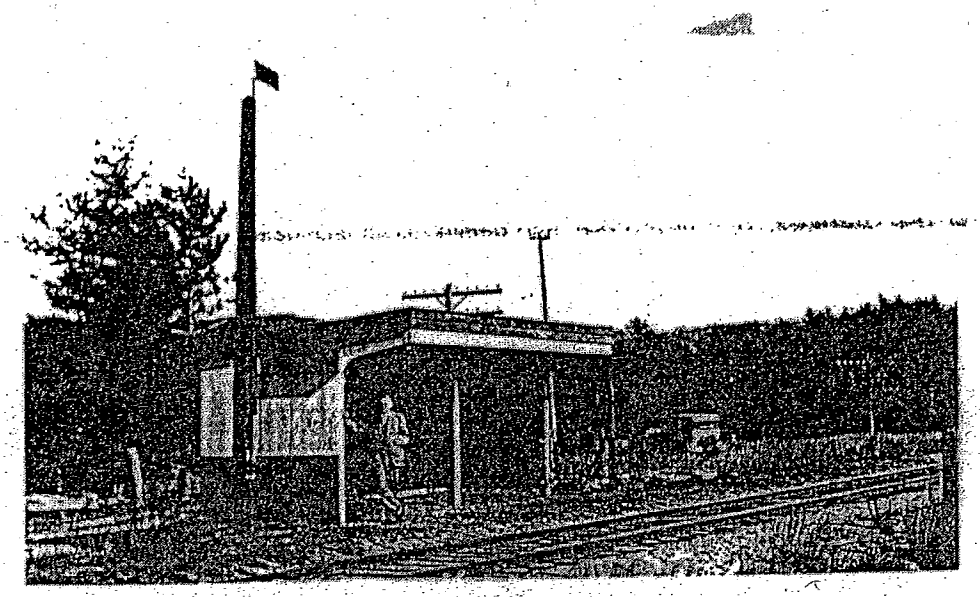
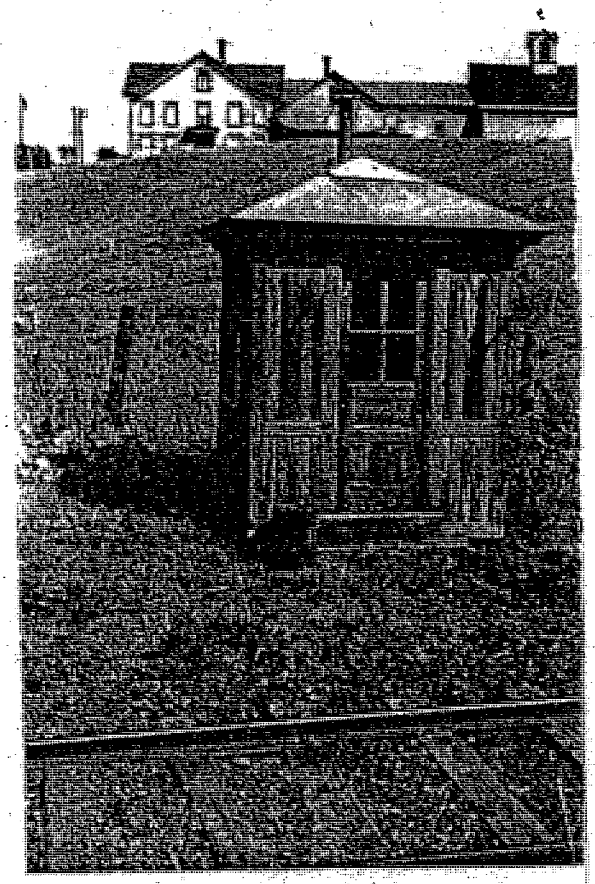


Figure 45. Keewaydin flag stop, c.1930 view (not extant)

Source: *B & M Bulletin*, vol. XVI, no. 4, p. 18.



Maine Central flag stop shelter,
Columbia Bridge, New Hampshire, 1948.

Figure 46. Flag stop at Columbia Bridge, 1948 view

Source: Hastings, *The Boston & Maine*, p. 15.

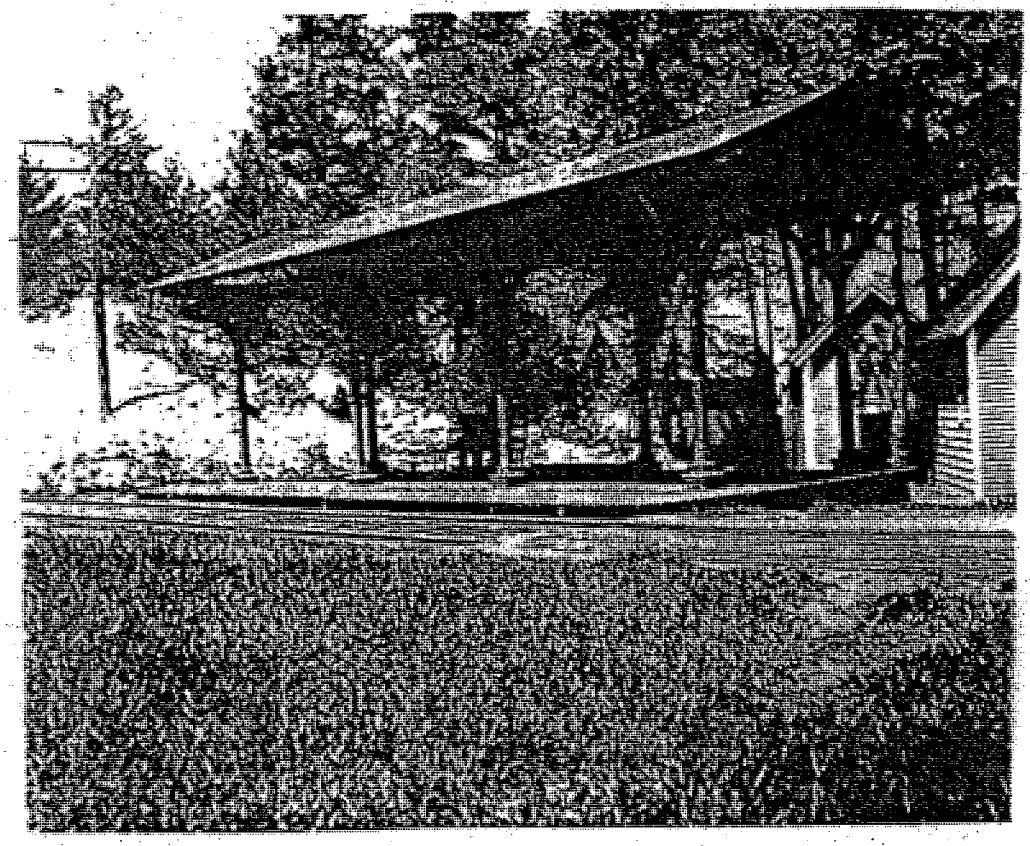


Figure 47. Mt. Major flag shelter (not extant).

Source: *B & M Bulletin*, vol. XVI, no. 4, p. 19.

Figure 48. Candia flag stop (extant at Raymond)

Photograph by Lisa Mausolf, 1999

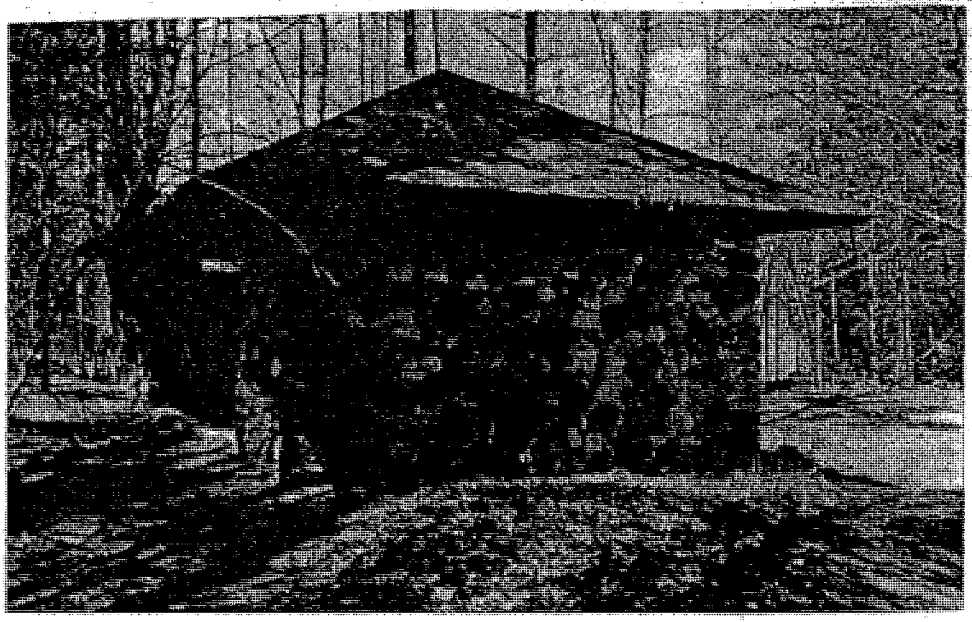
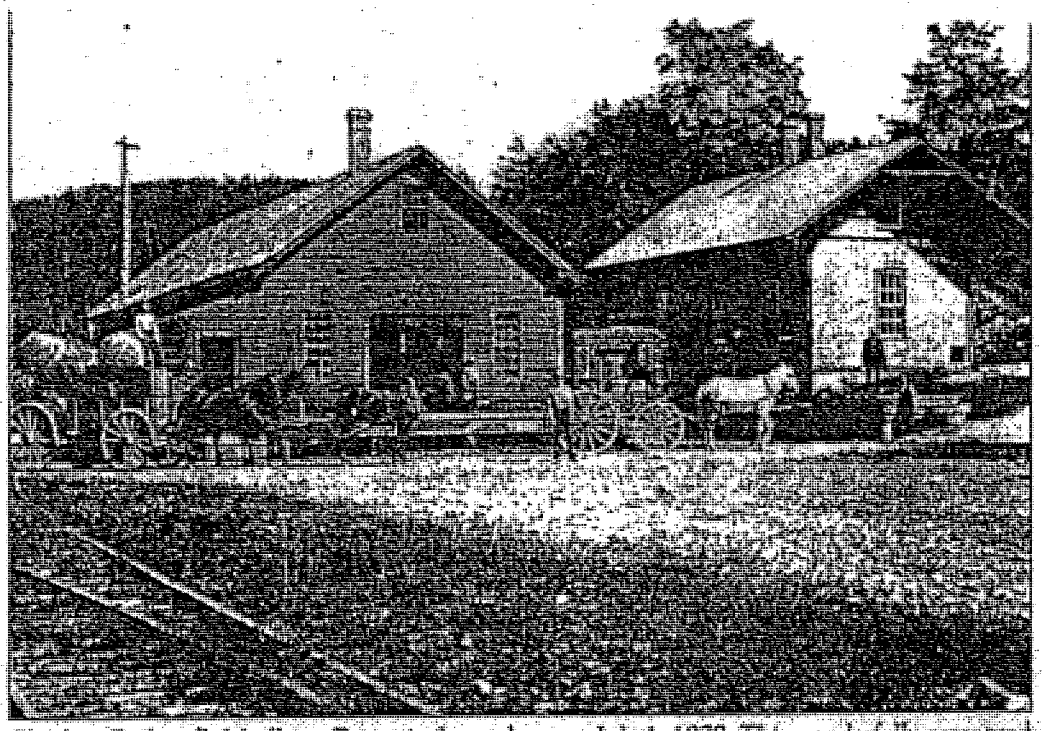


Figure 49. Lang flag stop, New Boston (extant)

Photograph by Lisa Mausolf, 1999



Cheshire Railroad's Marlboro Depot is shown here on July 1, 1878. This wonderfully composed view illustrated the importance of the "iron horse." The passenger depot and the freight house stood side by side. The horse-drawn carriage and wagon parked at the depot would transport passengers and freight to and from the station. The townspeople of Marlborough realized the advantages of the railroad's fast and inexpensive transportation.

Figure 50. Marlboro depot and freight house, 1878 view (not extant).

Source: Rumrill, *J. A. French's Cheshire County*

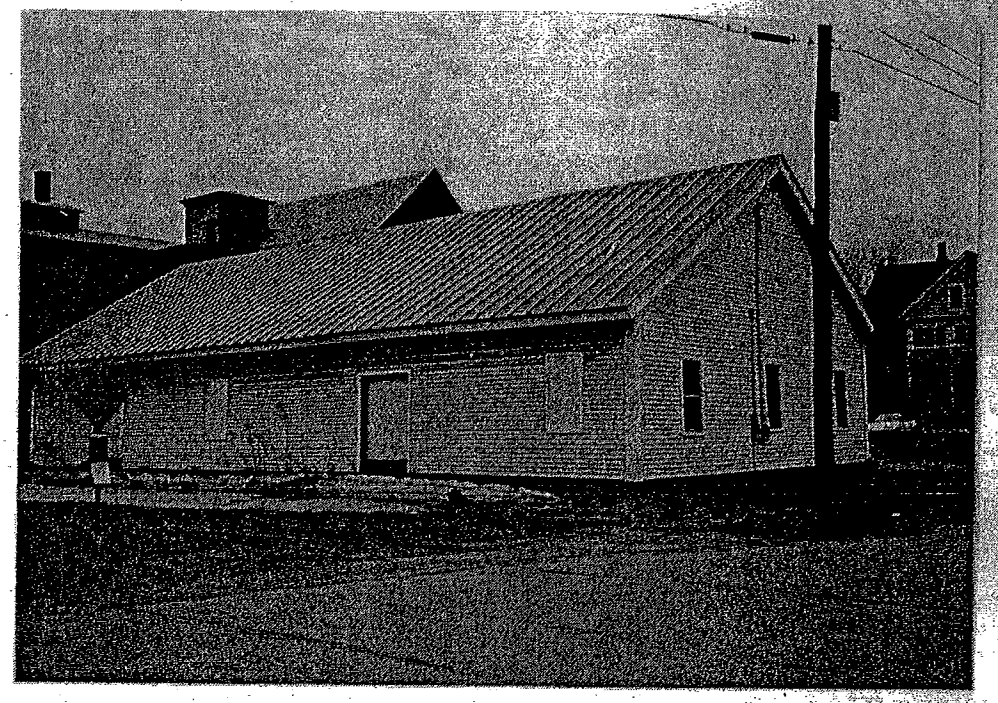


Figure 51. Lebanon freight house (extant)

Photograph by Lisa Mausolf, 1999

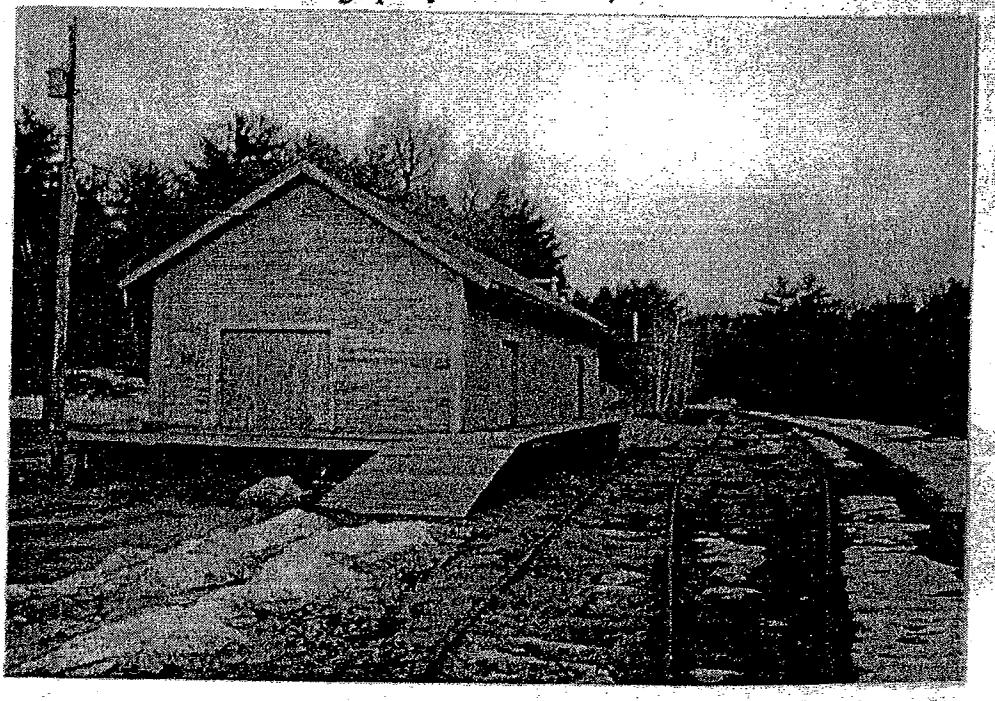


Figure 52. Potter Place (Andover) freight house (extant)

Photograph by Lisa Mausolf, 1999

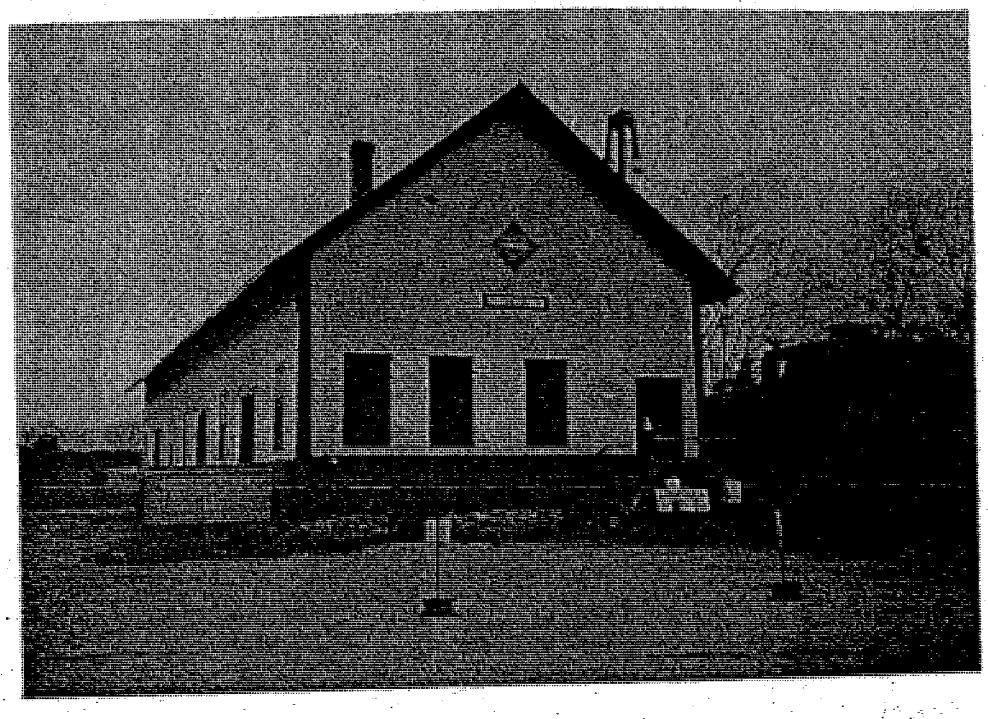


Figure 53. Northfield Freight House (extant)

Photograph by R. Stuart Wallace, 1999

Figure 54. Freight house at Nashua (extant)

Photograph by Lisa Mausolf, 1999

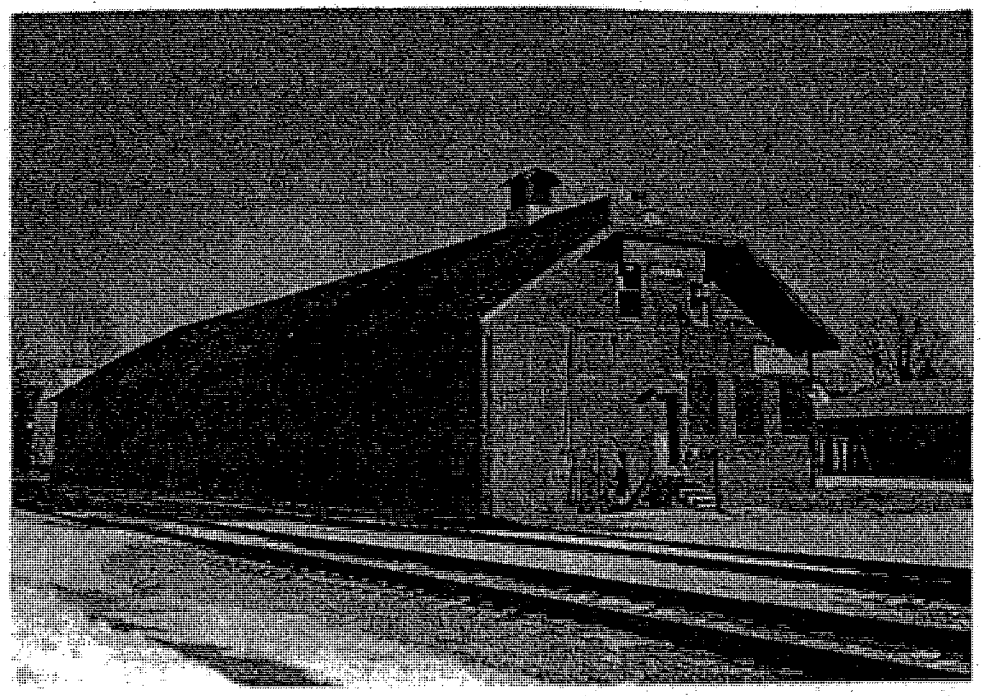


Figure 55. Freight house at Milford (extant)

Photograph by Lisa Mausolf, 1999

Figure 56. Goffstown freight house (extant)

Photograph by Lisa Mausolf, 1999

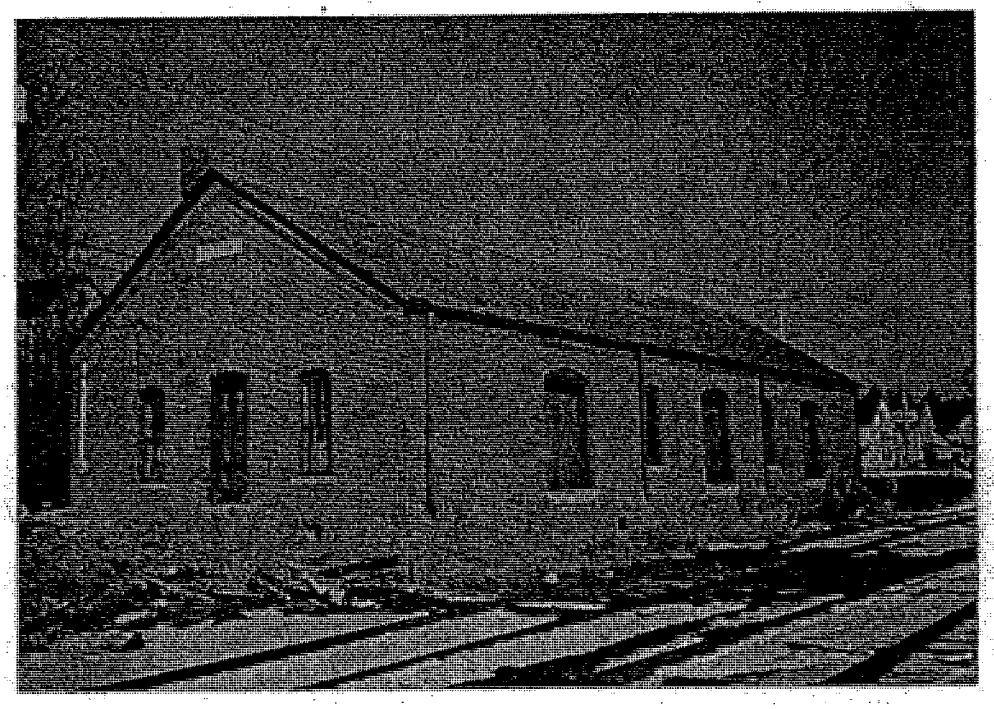


Figure 57. Wilton freight house (extant)

Photograph by Lisa Mausolf, 1999

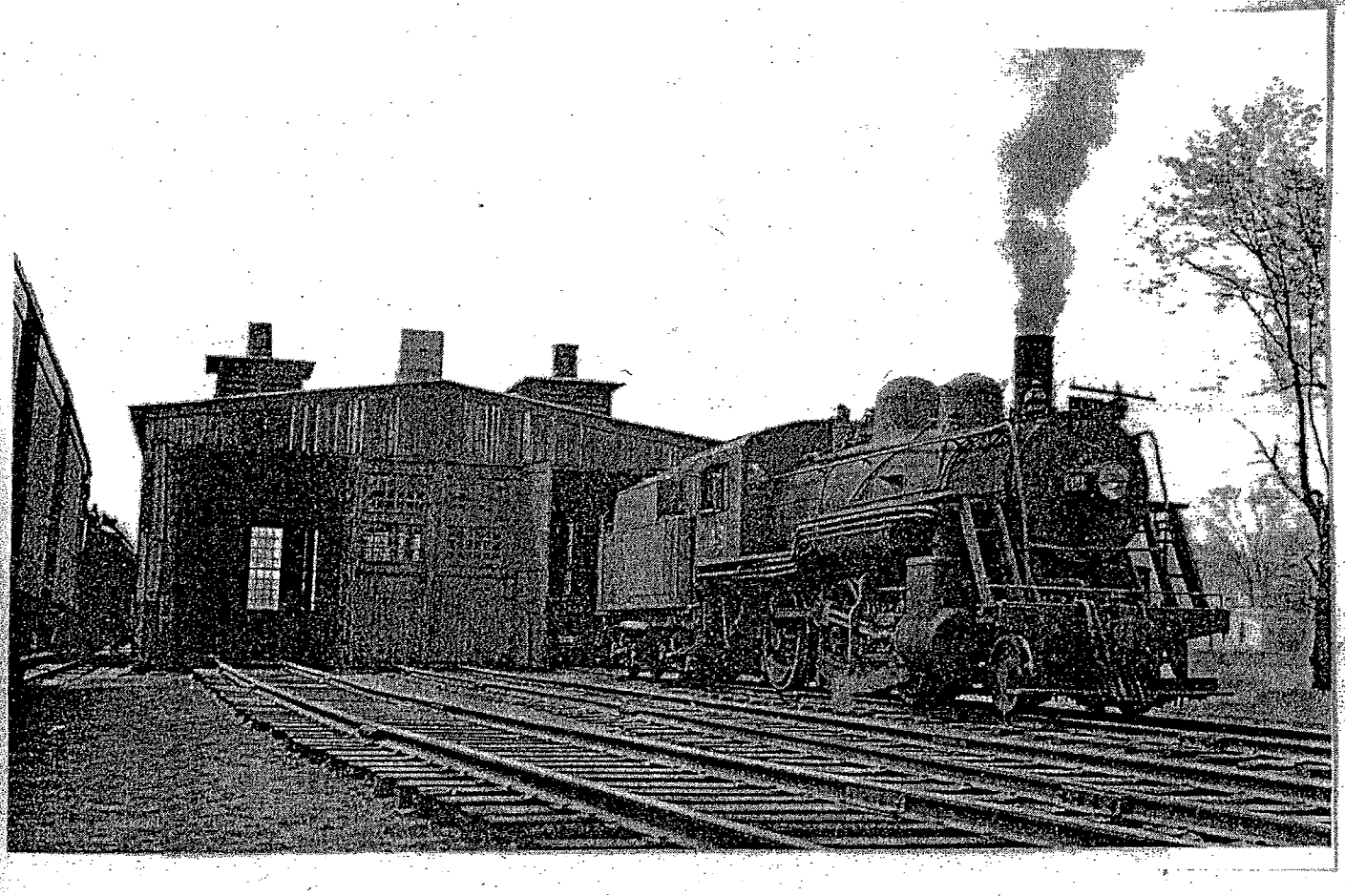


Figure 58. Claremont Junction engine house on May 24, 1947 (not extant).

Source: *B & M Bulletin*, Summer 1974, p. 14.

Engine-house at Beardstown, Ill., Chicago, Burlington & Quincy Railroad.—The engine-house of the Chicago, Burlington & Quincy Railroad at Beardstown, Ill., shown in Figs. 333 to 337, plans for

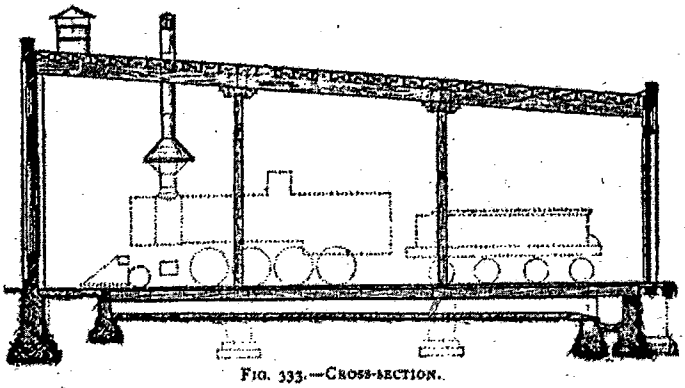


FIG. 333.—CROSS-SECTION.

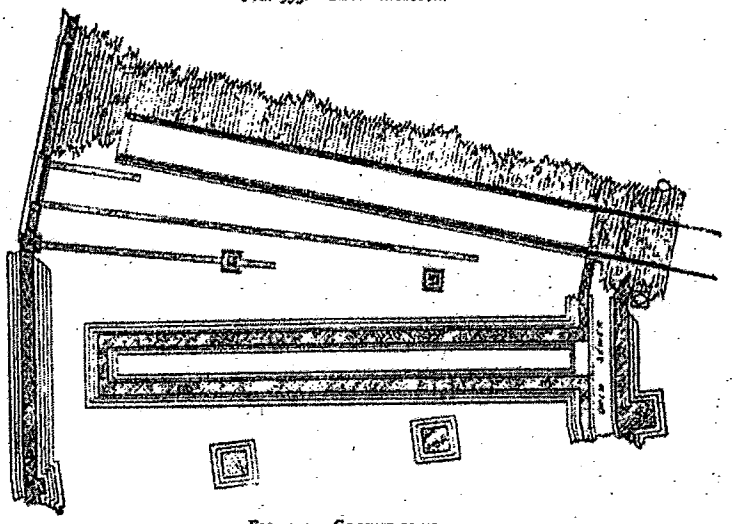


FIG. 334.—GROUND-PLAN.

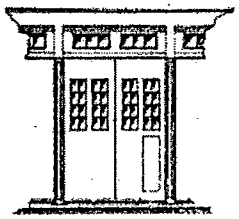


FIG. 335.—ELEVATION OF INTERIOR WALL AND ENGINE-DOORS.

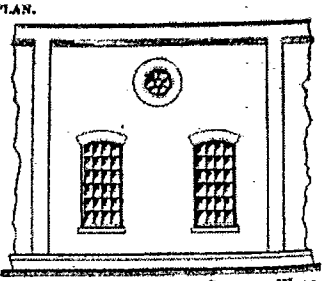


FIG. 336.—ELEVATION OF OUTSIDE WALL.

which were kindly furnished by Mr. Wm. Forsyth, Mechanical Engineer, C., B. & Q. R. R., is an ra stall segment of a 30-stall brick roundhouse, with a low flat girder roof resting on timber posts in the

Figure 59. Typical Engine House

Source: Berg, *Buildings and Structures of American Railroads*, 1893

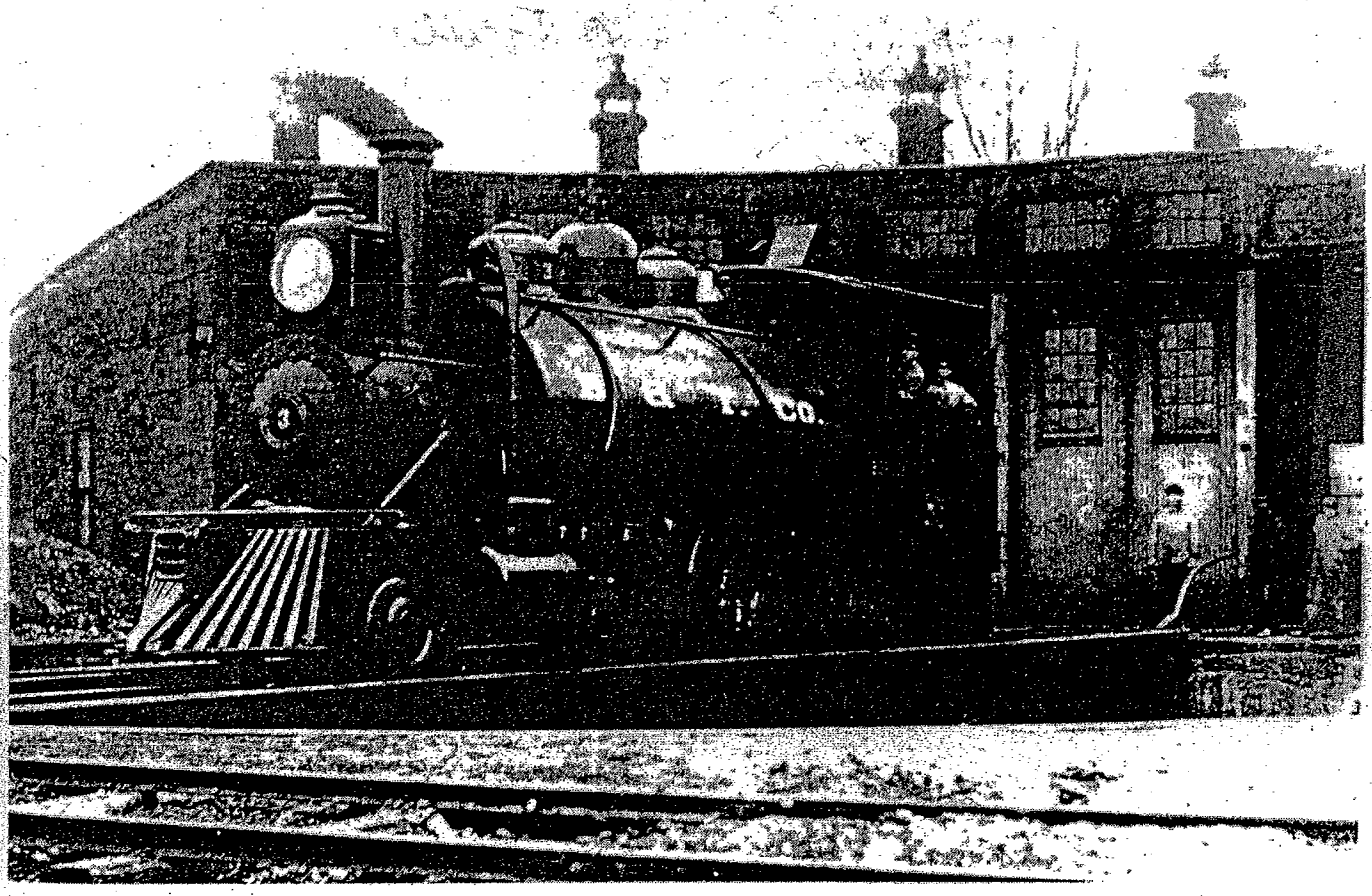


Figure 60. Roundhouse

Source: Belcher, *Logging Railroads of the White Mountains*, p. 44.

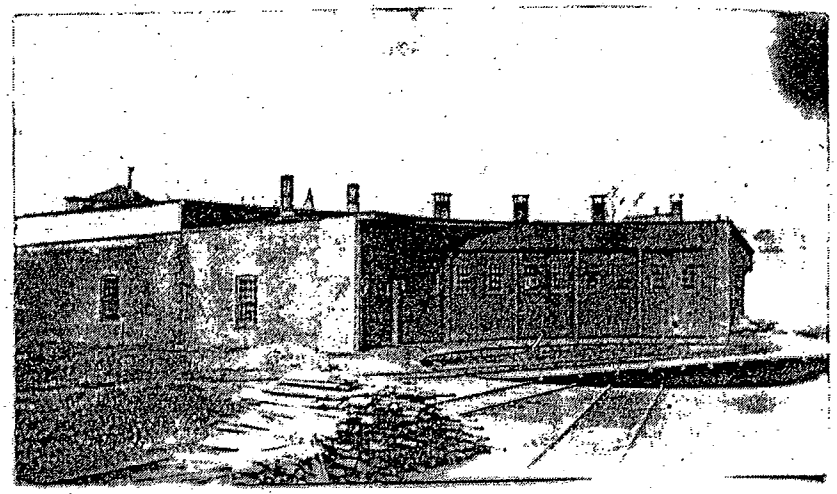


Figure 61. Rochester roundhouse (not extant)

Source: B & M Valuation Records, c.1914. B & M Historical Society, Lowell

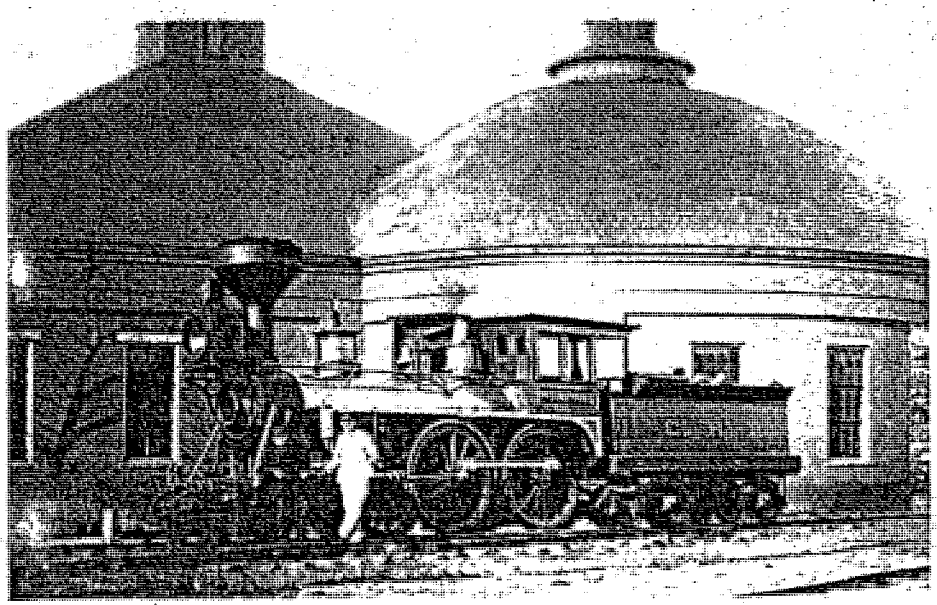


Figure 62. Nashua roundhouse, c.1870 view (burned in 1909).

Source: Shepard, *Nashua, NH: A Pictorial History*, p. 59.

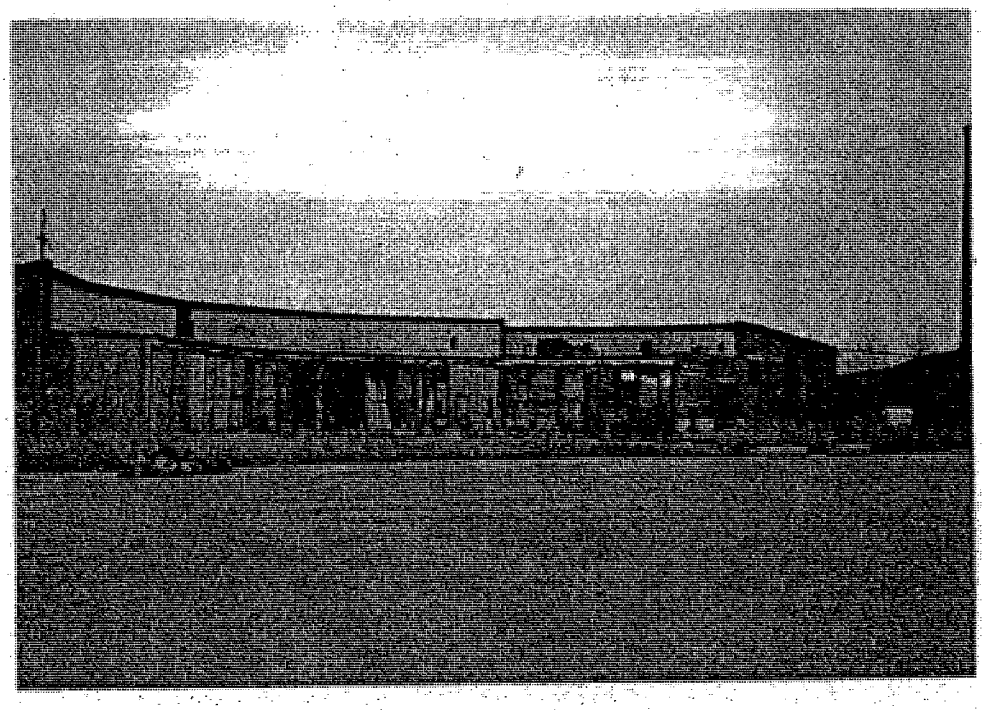


Figure 63. Westboro (Lebanon) roundhouse

Photograph by Lisa Mausolf, 1999

Brick Car-shed at Mauch Chunk, Pa., Lehigh Valley Railroad.—The brick car-shed of the Lehigh Valley Railroad at Mauch Chunk, Pa., shown in Figs. 128 to 131, was built to accommodate the

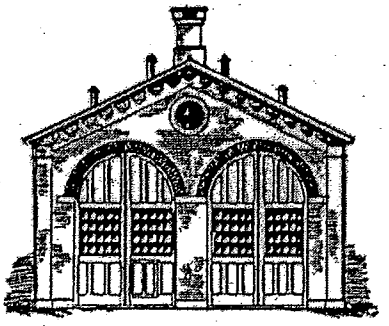


FIG. 128.—FRONT ELEVATION.

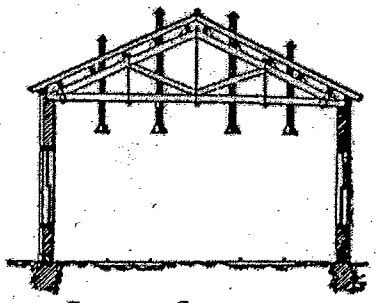


FIG. 129.—CROSS-SECTION.

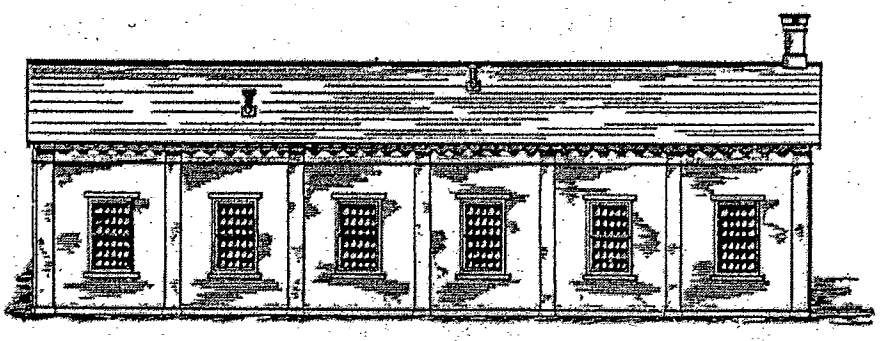


FIG. 130.—SIDE ELEVATION.

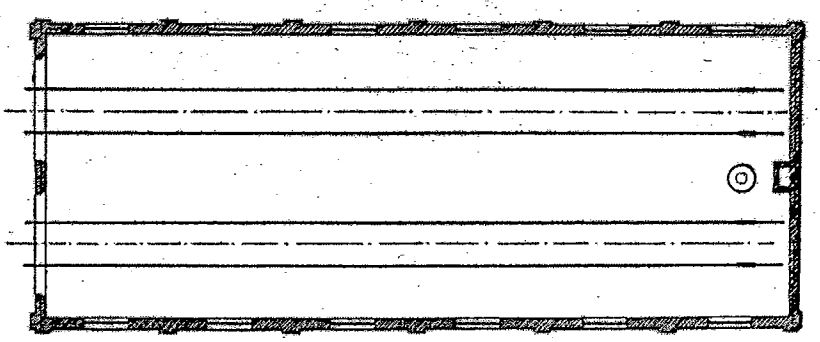


FIG. 131.—GROUND-PLAN.

Figure 64. Typical car shed.

Source: Berg, p. 47

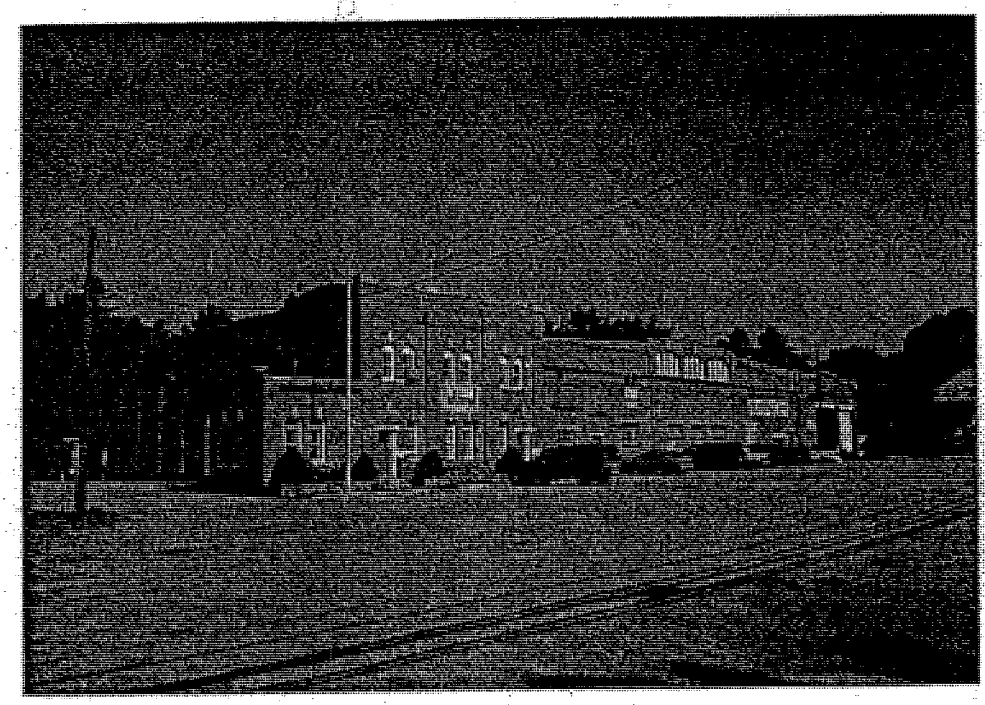


Figure 65. Streetcar barn at Salem (extant)

Photograph by Lisa Mausolf, 1999

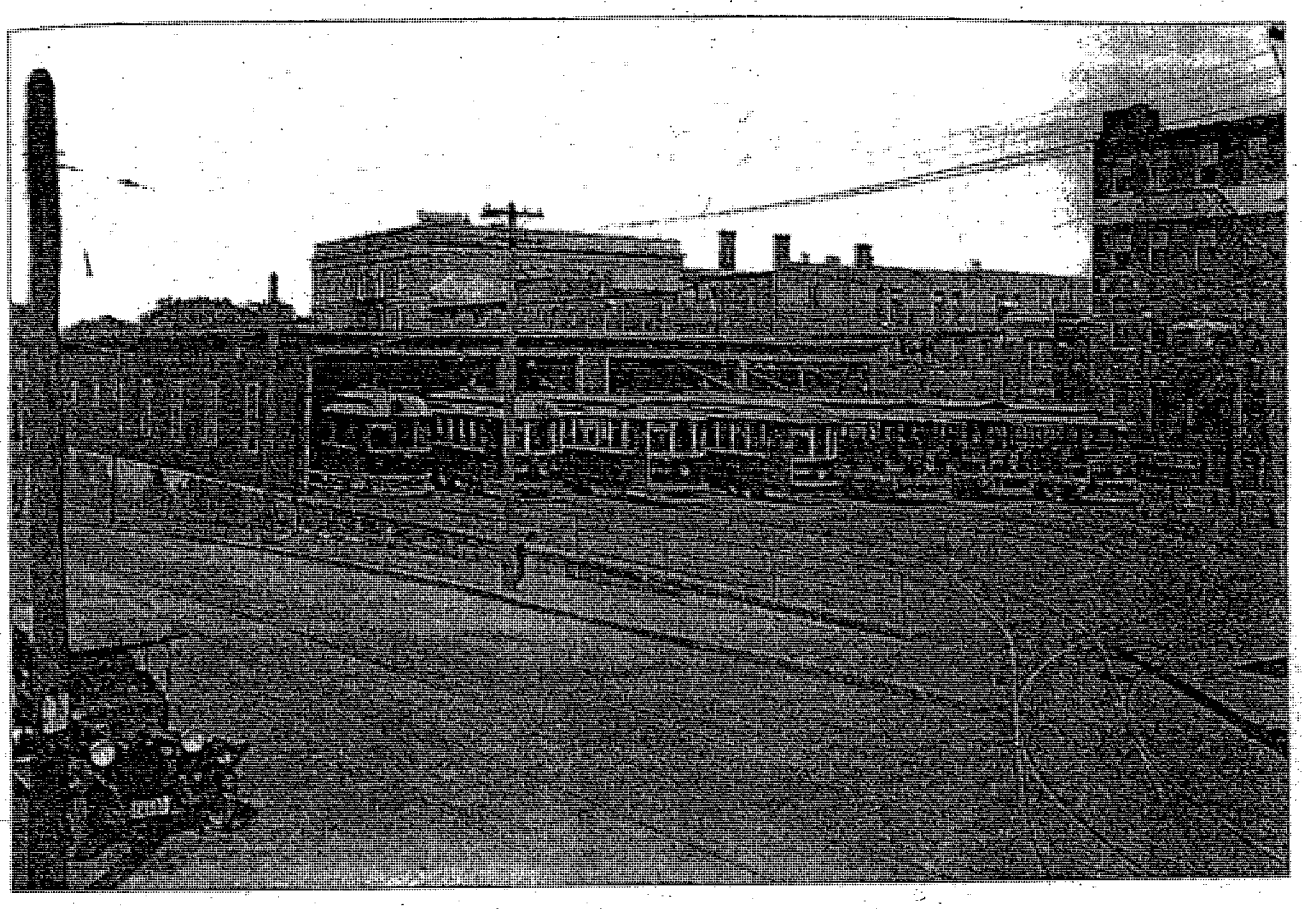
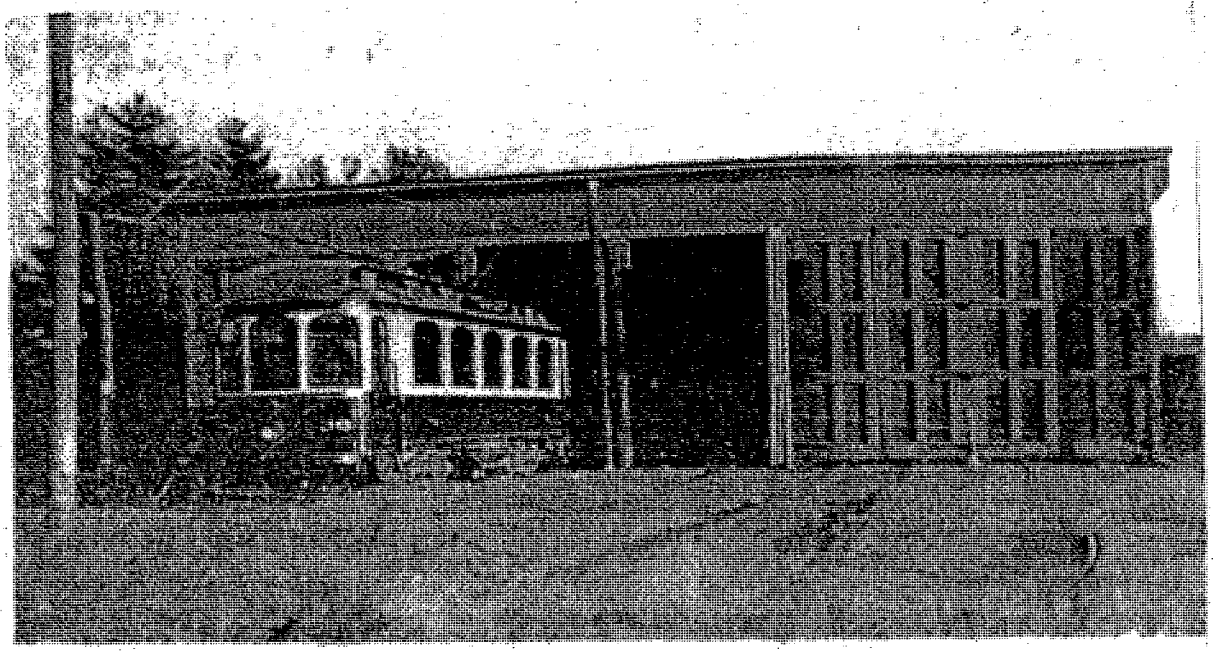


Figure 66. Trolley Car Barns, Manchester, c.1920 view (not extant)

Source: Lessard, *Picturing Manchester*, p. 55.



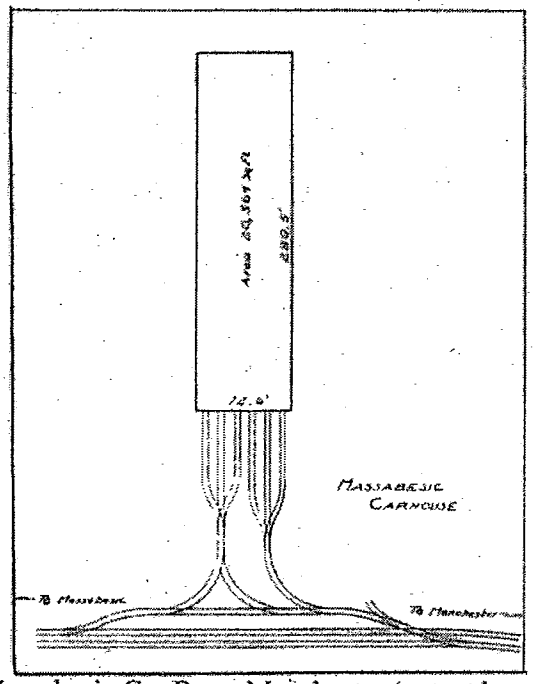


Figure 67. Massabesic Car Barn, Manchester (extant but altered)

Source: *Electric Railway Historical Society Bulletin*, no. 35, 1960.

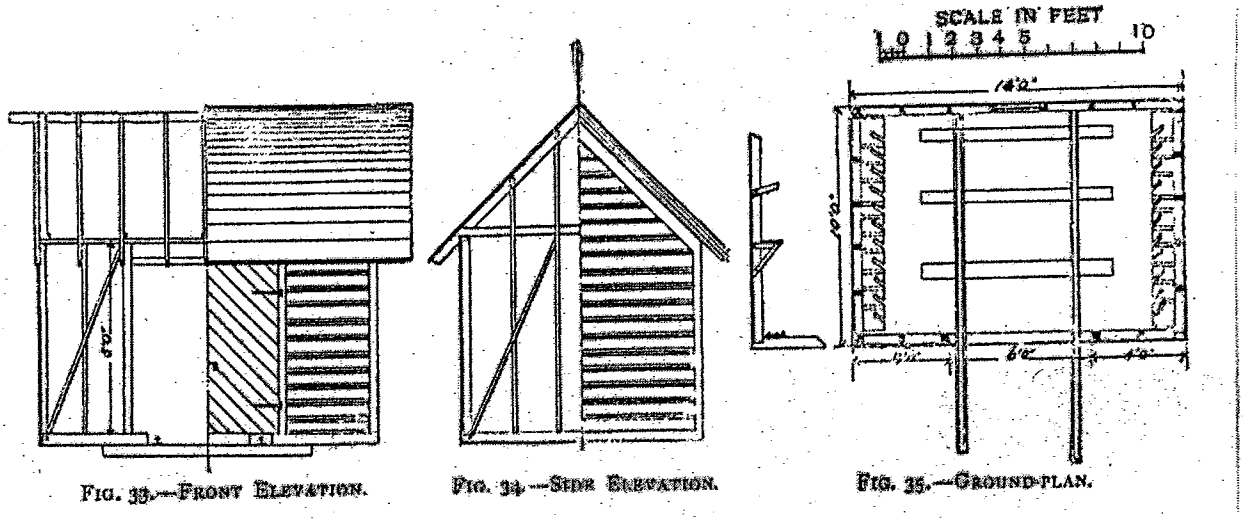


FIG. 33.—FRONT ELEVATION. FIG. 34.—SIDE ELEVATION. FIG. 35.—GROUND-PLAN.

Figure 68. Section House, Northern Pacific RR

Source: Berg, p. 11.

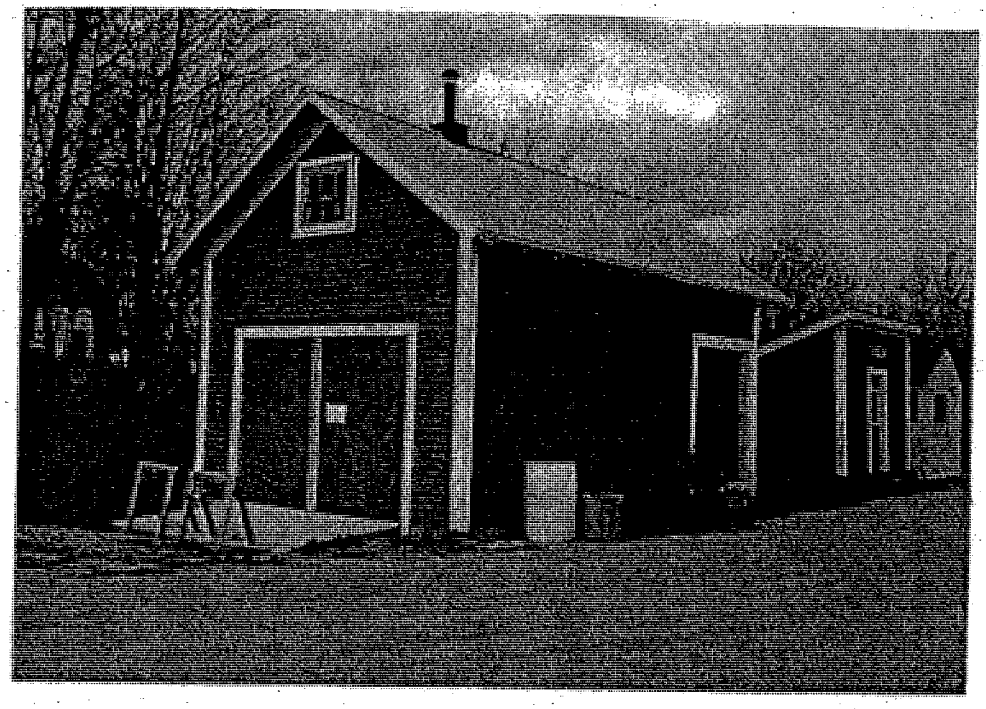


Figure 69. Raymond section house (extant)

Photograph by Lisa Mausolf, 1999

Figure 70. Westboro (Lebanon) section house

Photograph by Lisa Mausolf, 1999

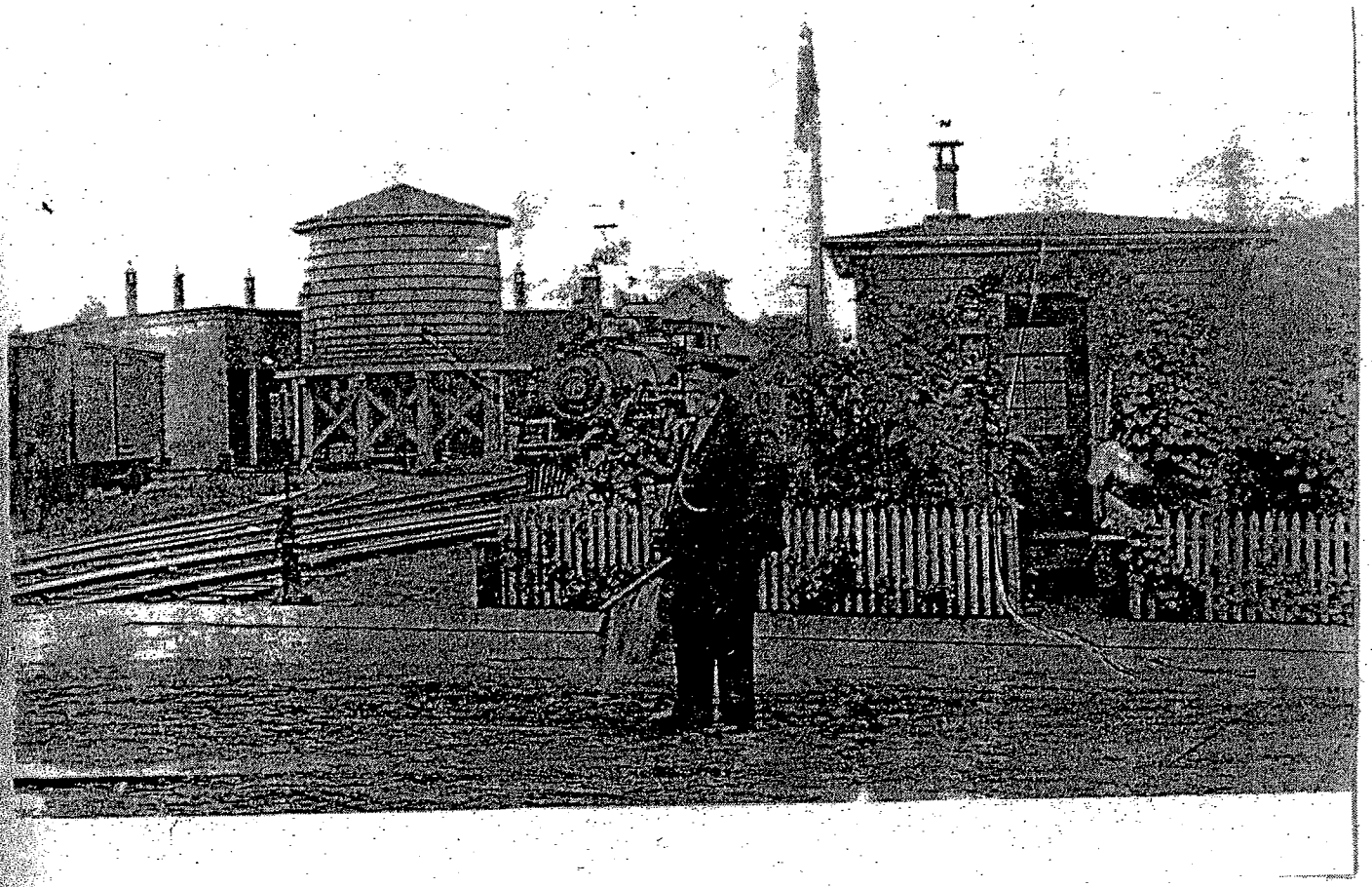


Figure 71. Sanbornville depot, c.1905 showing crossing shanty at right (no longer extant).

Source: Libby & Furnee, *Through the Woods to Winnepesaukee: Story of the Wolfeboro RR*

Figure 72. Woodsville (Haverhill) signal tower in a 1948 view (not extant)

Source: Hastings, The Boston & Maine, p. 71.

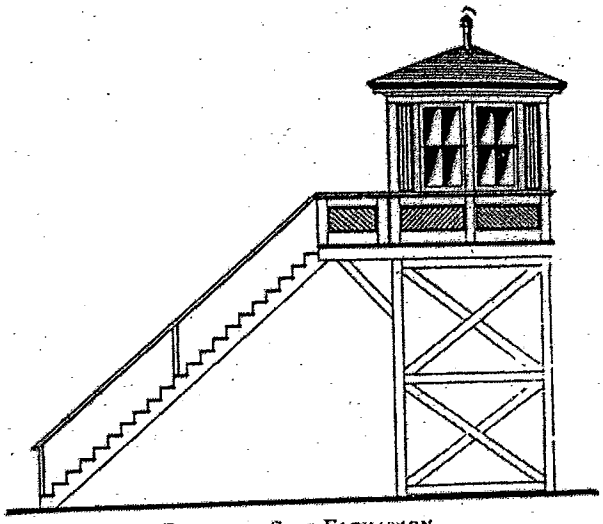


FIG. 120.—SIDE ELEVATION.

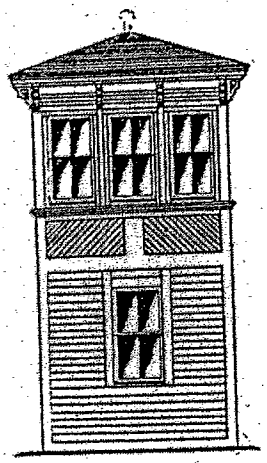


FIG. 121.—FRONT ELEVATION.

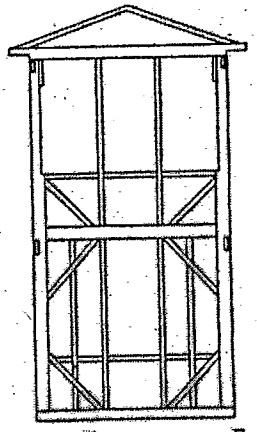


FIG. 122.—ELEVATION OF FRAME.

Figure 73. Signal tower at Hillsboro, NJ

Source: Berg, p. 43

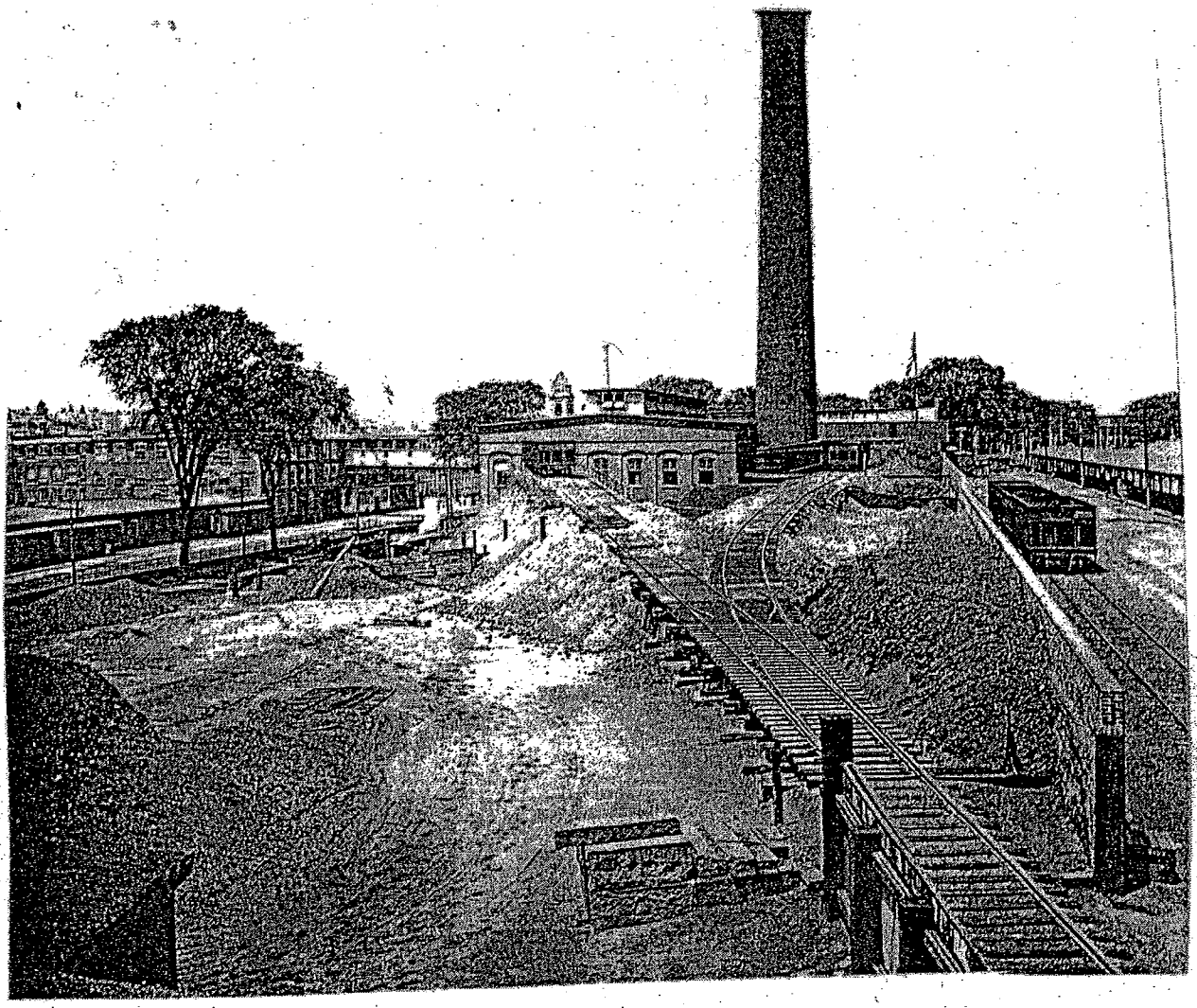


Figure 74. Coal Pocket at Amoskeag Millyard, Manchester (not extant)

Source: Manchester Historic Association

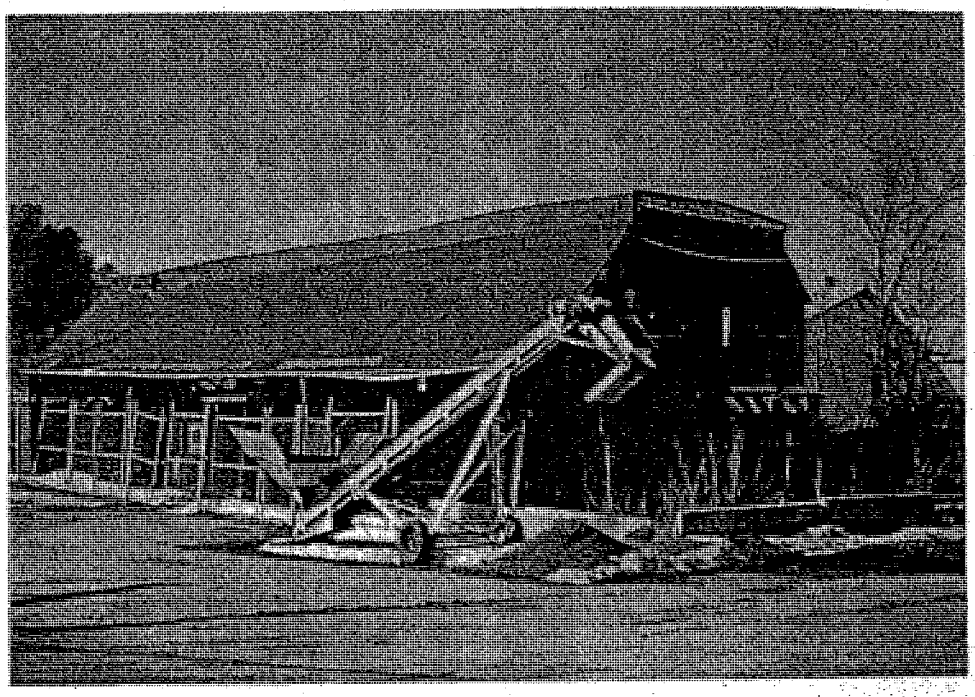


Figure 75. Coal shed with trestle, Milford (extant)

Photograph by Lisa Mausolf, 1999

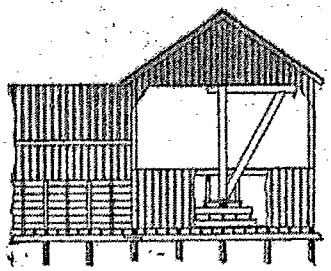


FIG. 267.—FRONT ELEVATION.

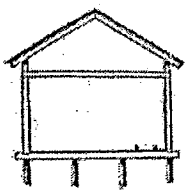


FIG. 268.—CROSS-SECTION.

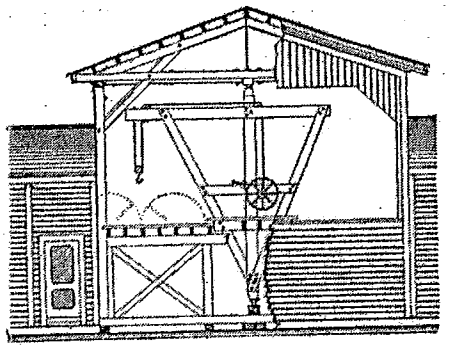


FIG. 269.—FRONT ELEVATION.

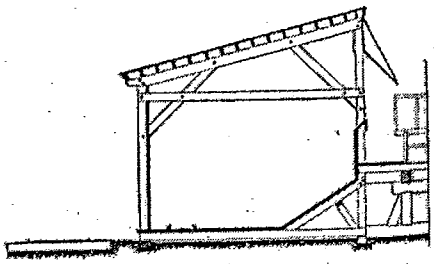


FIG. 270.—CROSS-SECTION.

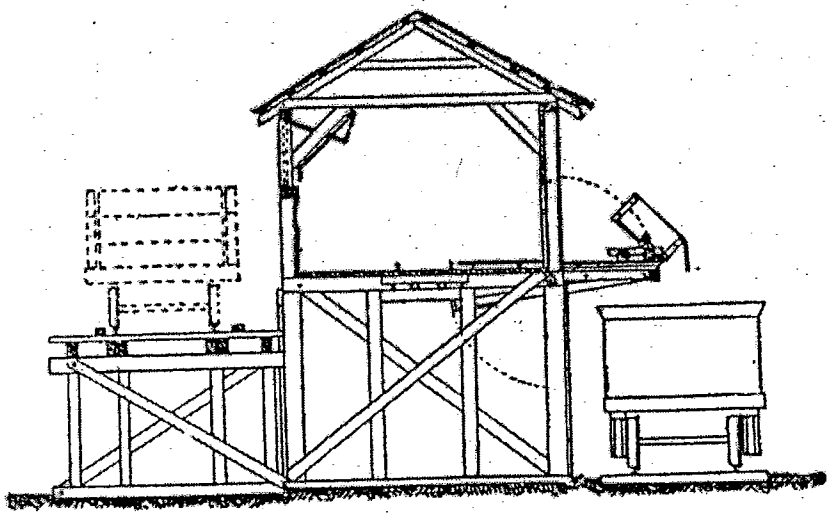


FIG. 277.—CROSS-SECTION.

Figure 76. Examples of Coal Sheds

Source: Berg, 1893.

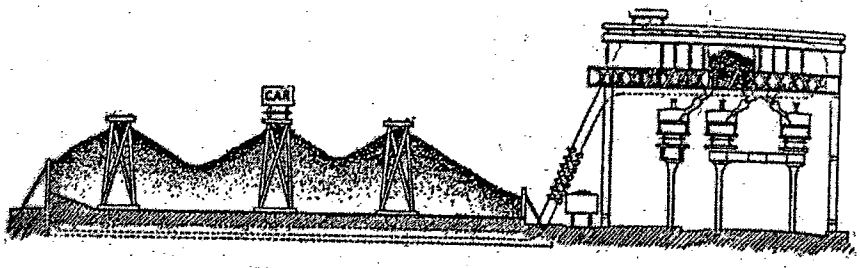


FIG. 300.—LONGITUDINAL SECTION.

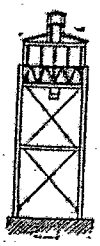


FIG. 301.—CROSS-SECTION.

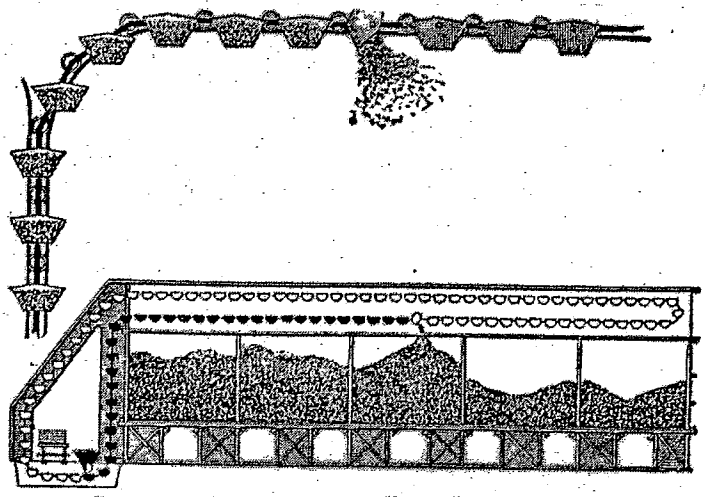


FIG. 302.—CROSS-SECTION OF HUNT CONVEYOR SYSTEM.

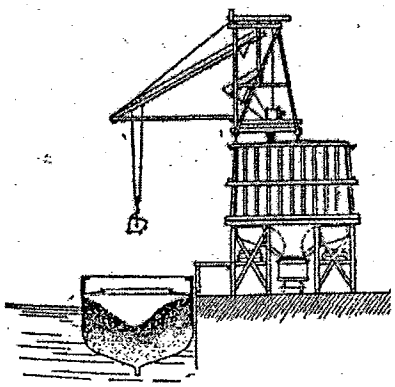


FIG. 303.—CROSS-SECTION.

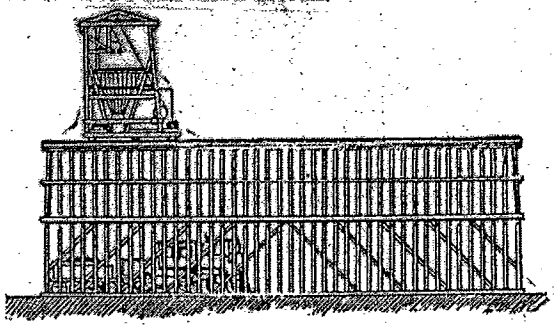


FIG. 304.—FRONT ELEVATION.

Figure 77. Examples of more elaborate coaling stations

Source: Berg, p. 164-5.

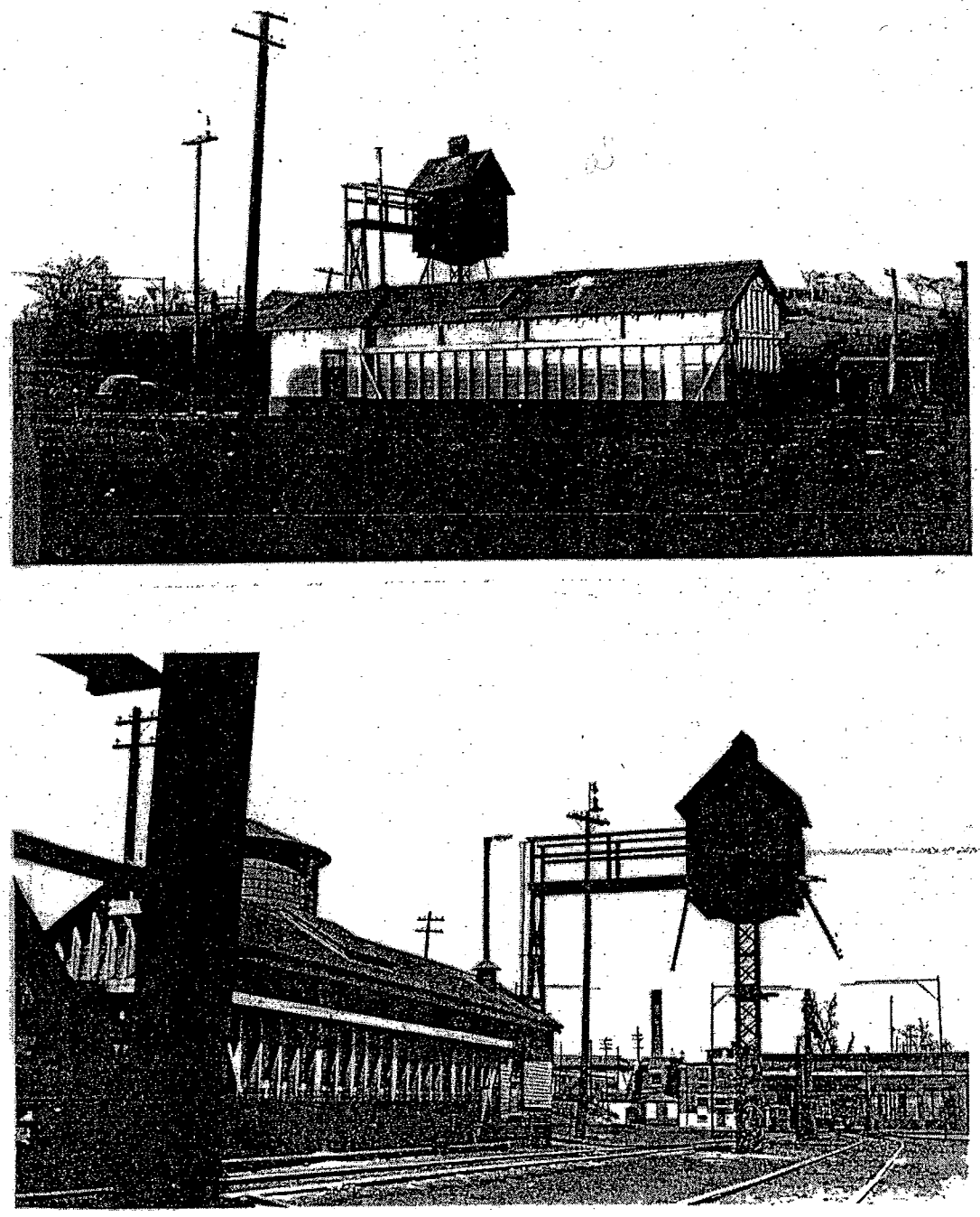


Fig. 78. Dover coaling station, undated view (not extant).

Source: B & M Historical Society archives, Lowell

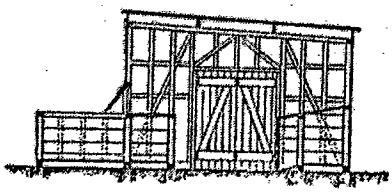


FIG. 174.—CROSS SECTION.

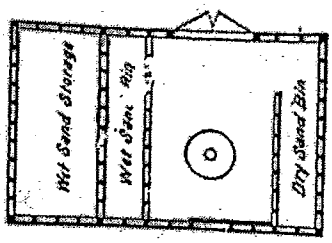


FIG. 175.—GROUND-PLAN.

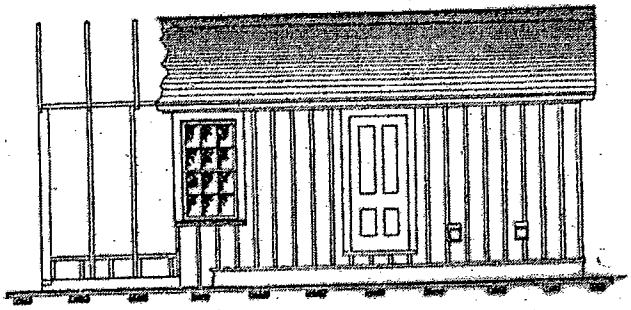


FIG. 176.—FRONT ELEVATION.

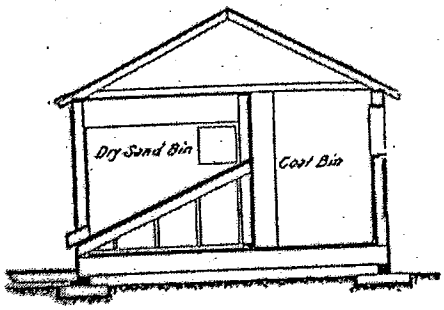


FIG. 177.—CROSS-SECTION.

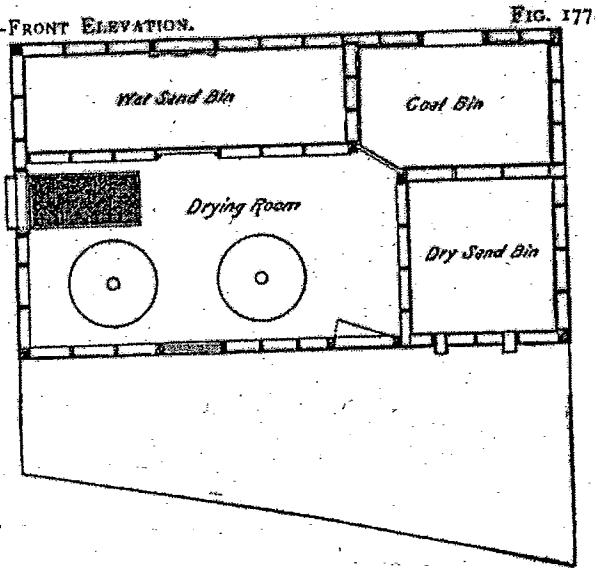


FIG. 178.—GROUND-PLAN.

Figure 79. Sandhouse on Atchinson, Topeka & Santa Fe RR

Source: Berg, p. 75

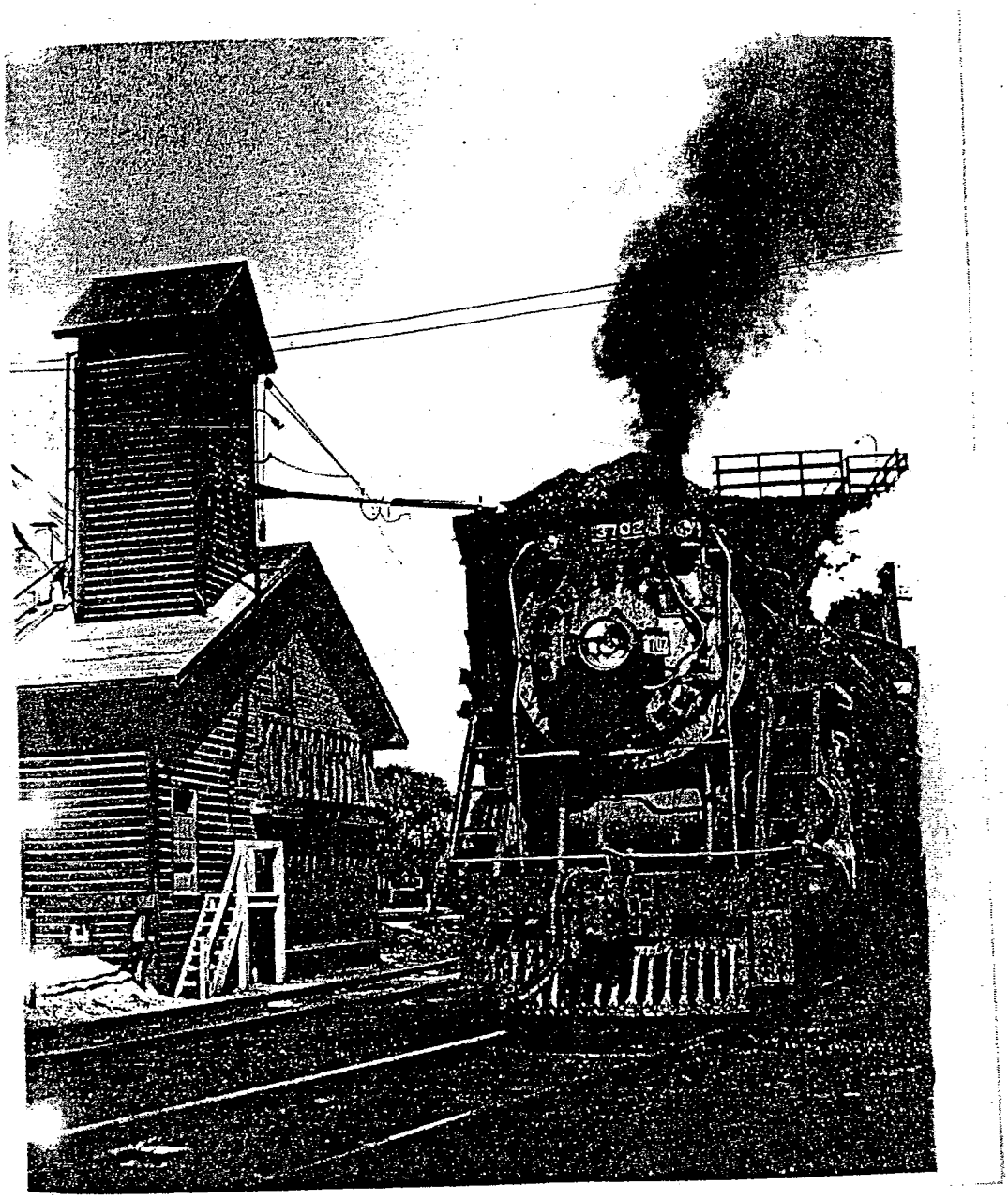


Figure 80. Sandhouse and coal dock at Westboro (Lebanon) in an undated view. (Sandhouse is extant.)

Source: Hastings, *The Boston and Maine*, p. 101.

Figure 81. Sandhouse, Westboro (Lebanon)

Photograph by Lisa Mausolf, 1999

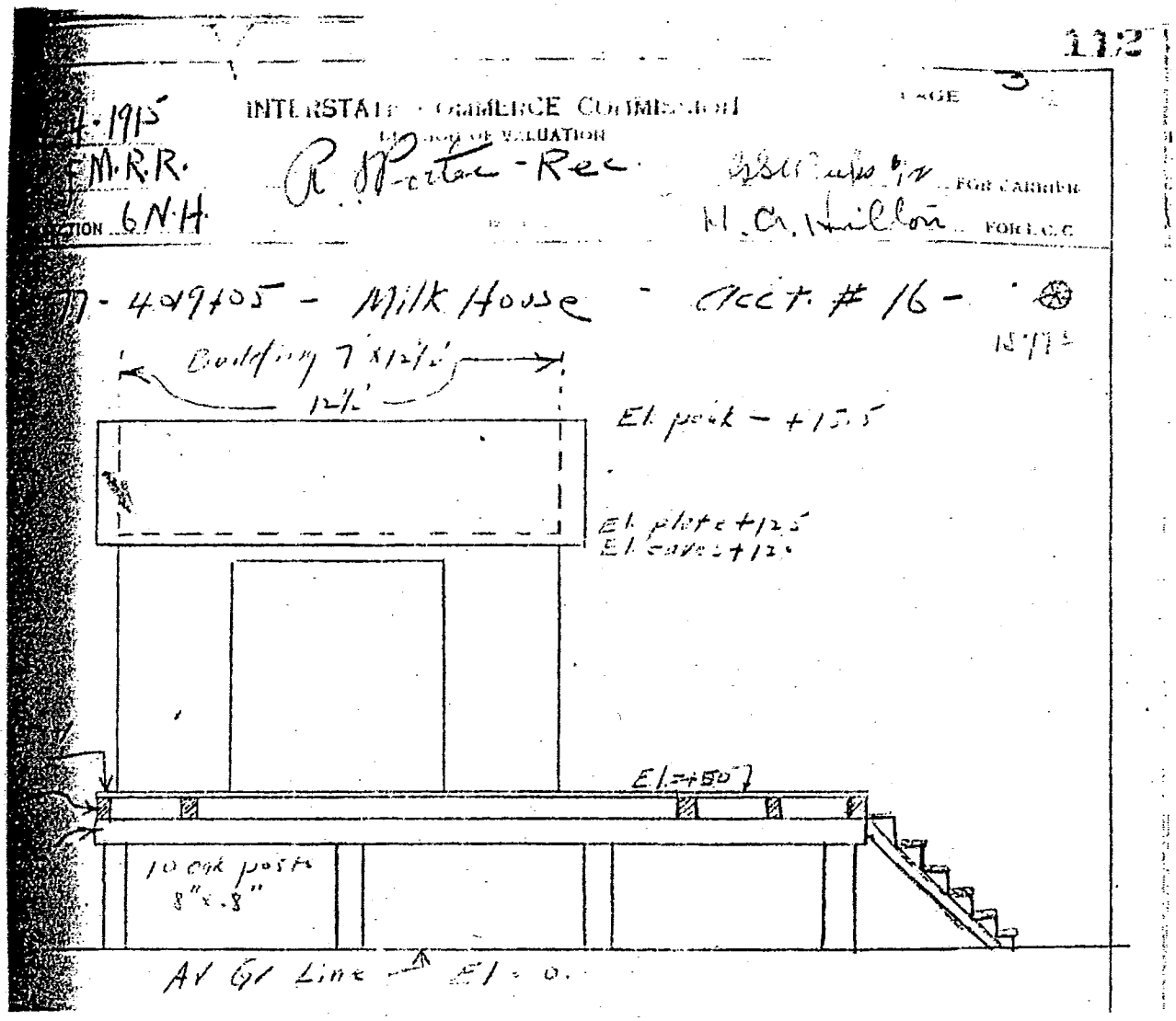


Figure 82. Sketch of milk house, Lyford's crossing (not extant?)

Source: B & M RR, Valuation records, 1915
Boston & Maine Historical Society, Lowell

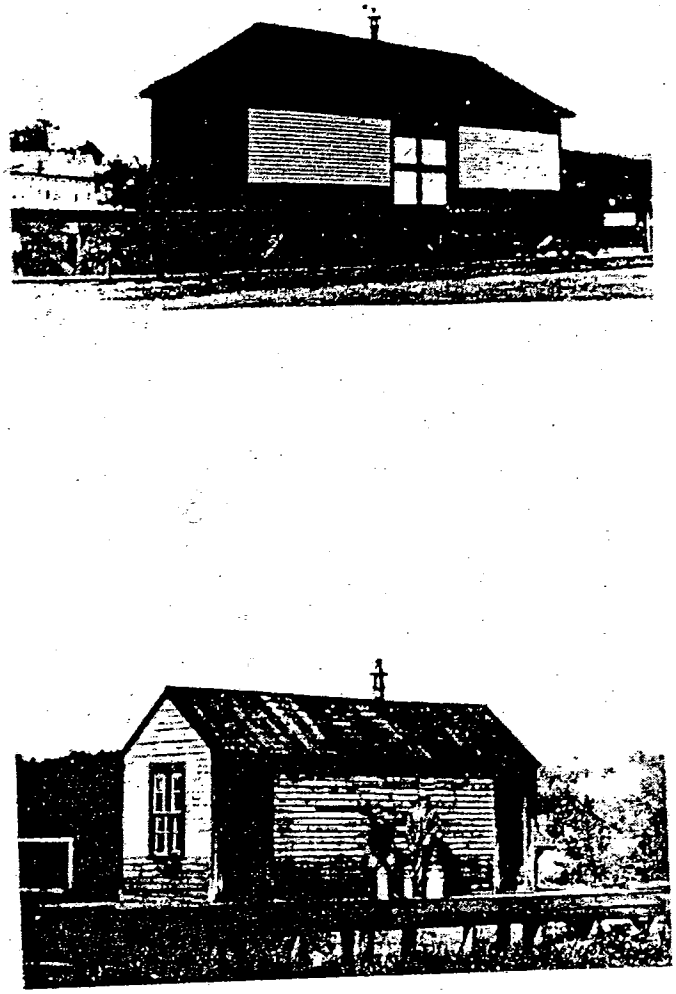


Figure 83. Milkhouses at Pittsfield (top) and Allenstown (below).

Source: Hutchins, *The Blueberry Express*, p. 95-96

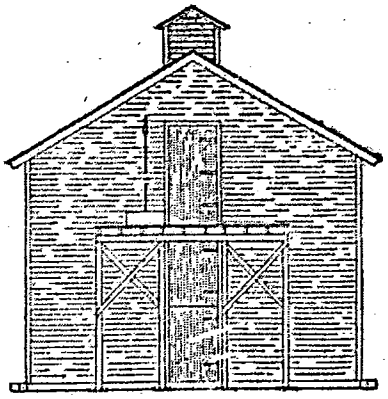


FIG. 159.—FRONT ELEVATION.

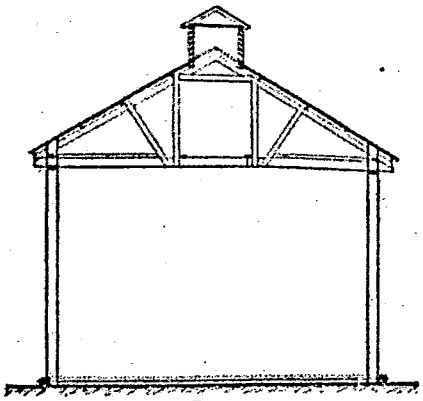


FIG. 160.—CROSS-SECTION.

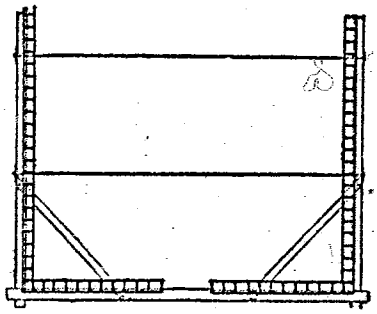


FIG. 161.—GROUND-PLAN.

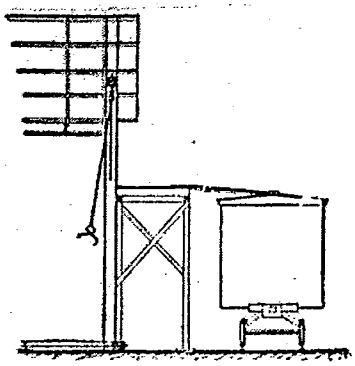


FIG. 162.—LONGITUDINAL SECTION.

Figure 84. Standard 500 ton ice house,
Chicago, St. Paul & Kansas City RR

Source: Berg, p. 65

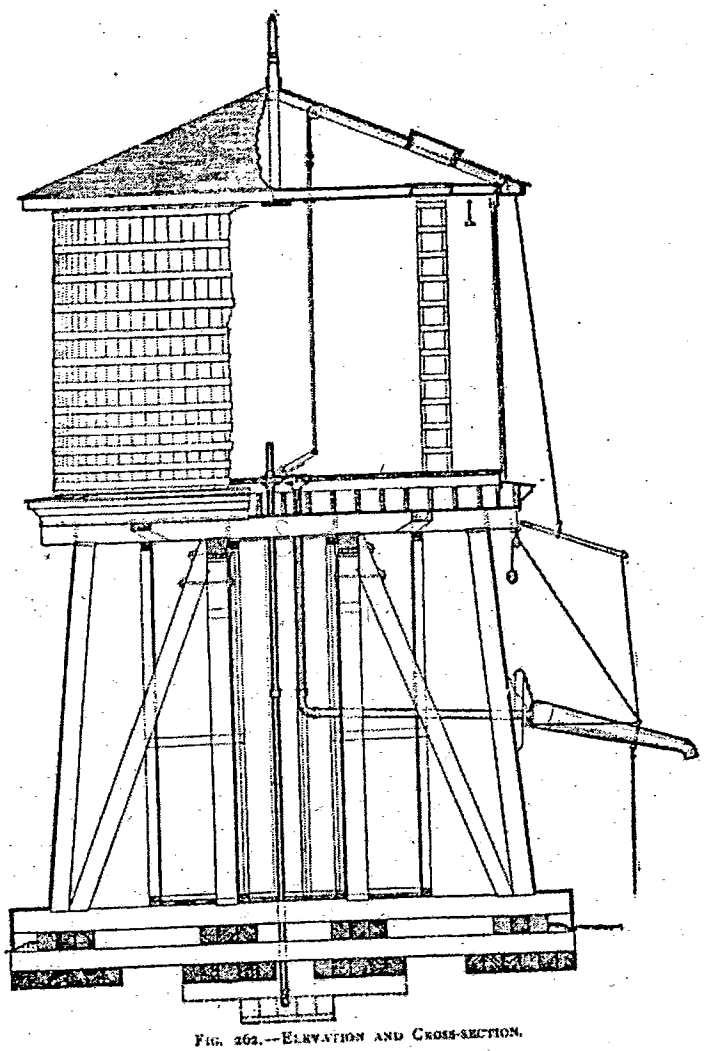
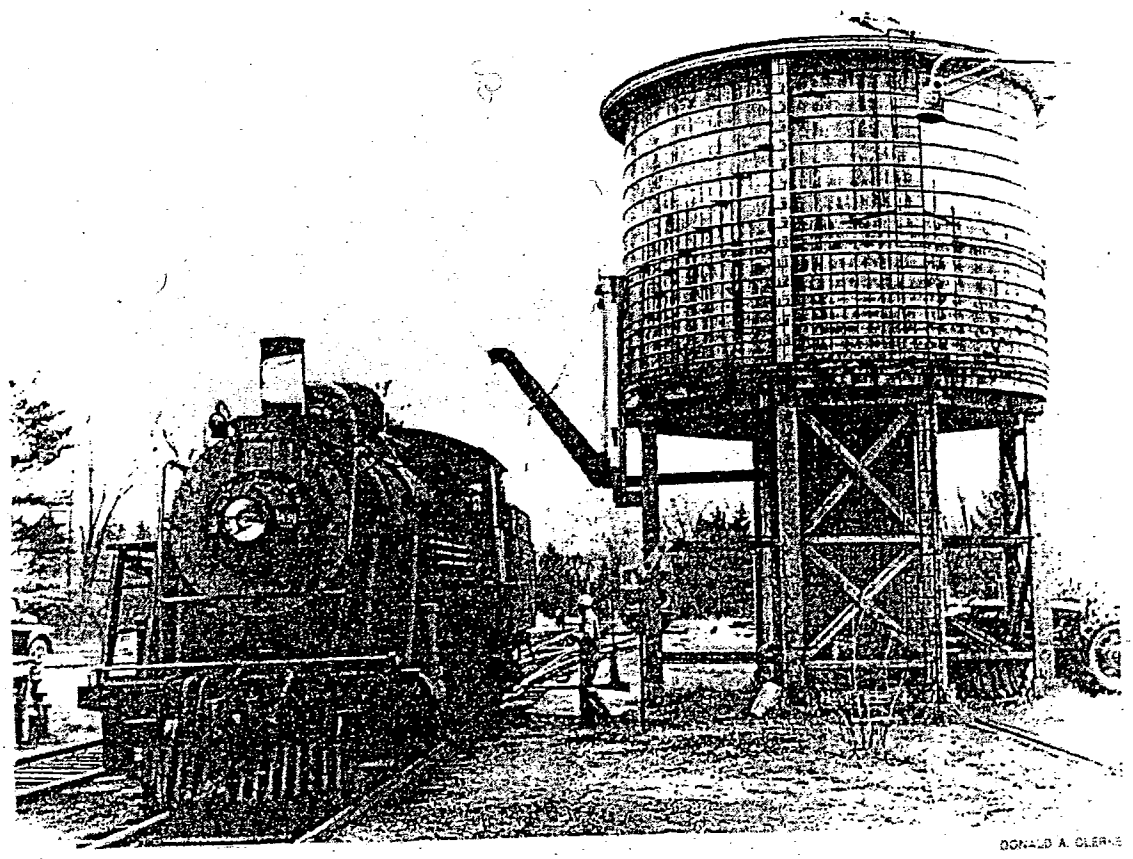


FIG. 262.—ELEVATION AND CROSS-SECTION.

Figure 85. Standard 49,000 gallon water tank.

Source: Berg, p. 125.



No. 1490 filling up at 50,000-gallon tank in Bradford, NH.

Figure 86. Water tank at Bradford (not extant)

Source: *B & M Bulletin*, Fall 1983.

Figure 87. Epson water tank and section house.

Source: Hutchins, *The Blueberry Express*, p. 95.

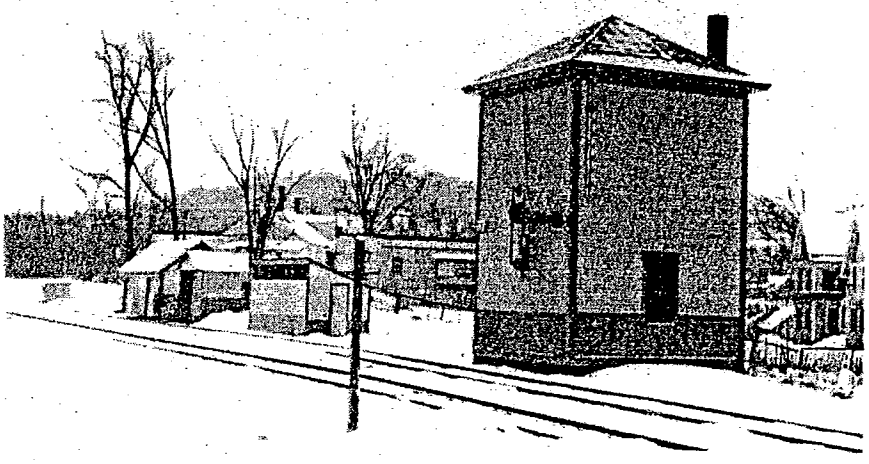
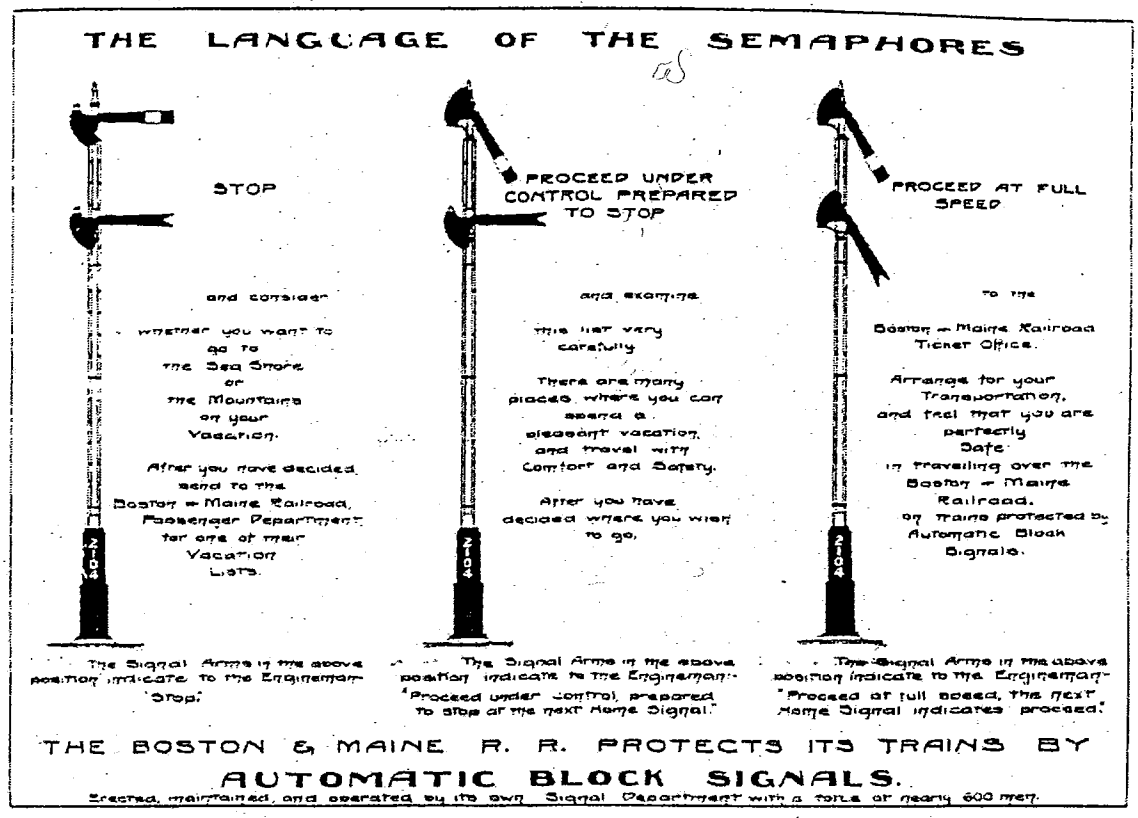


Figure 88. Enclosed water tank at Lancaster.

Source: Johnson, *Maine Central Mountain Division*, p. 297.

Figure 89. Ball signal at Whitefield in 1979 view



Boston & Maine Railroad Advertisement (from the Author's Collection)

Figure 90. Automatic Block Signals

Source: *B & M Bulletin*, v. XVIII, no. 2

Figure 91. Signal at Raymond depot

Photograph by Lisa Mausolf, 1999

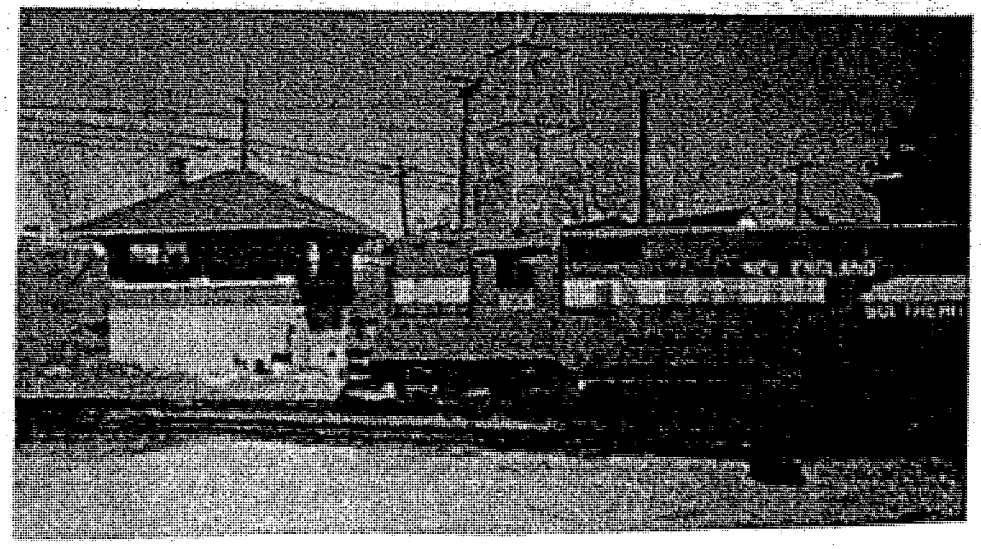


Figure 92. Signal tower at Concord in 1988

Figure 93. Berlin yard, c. 1950

Source: Hastings, *The Boston & Maine*, p. 87.

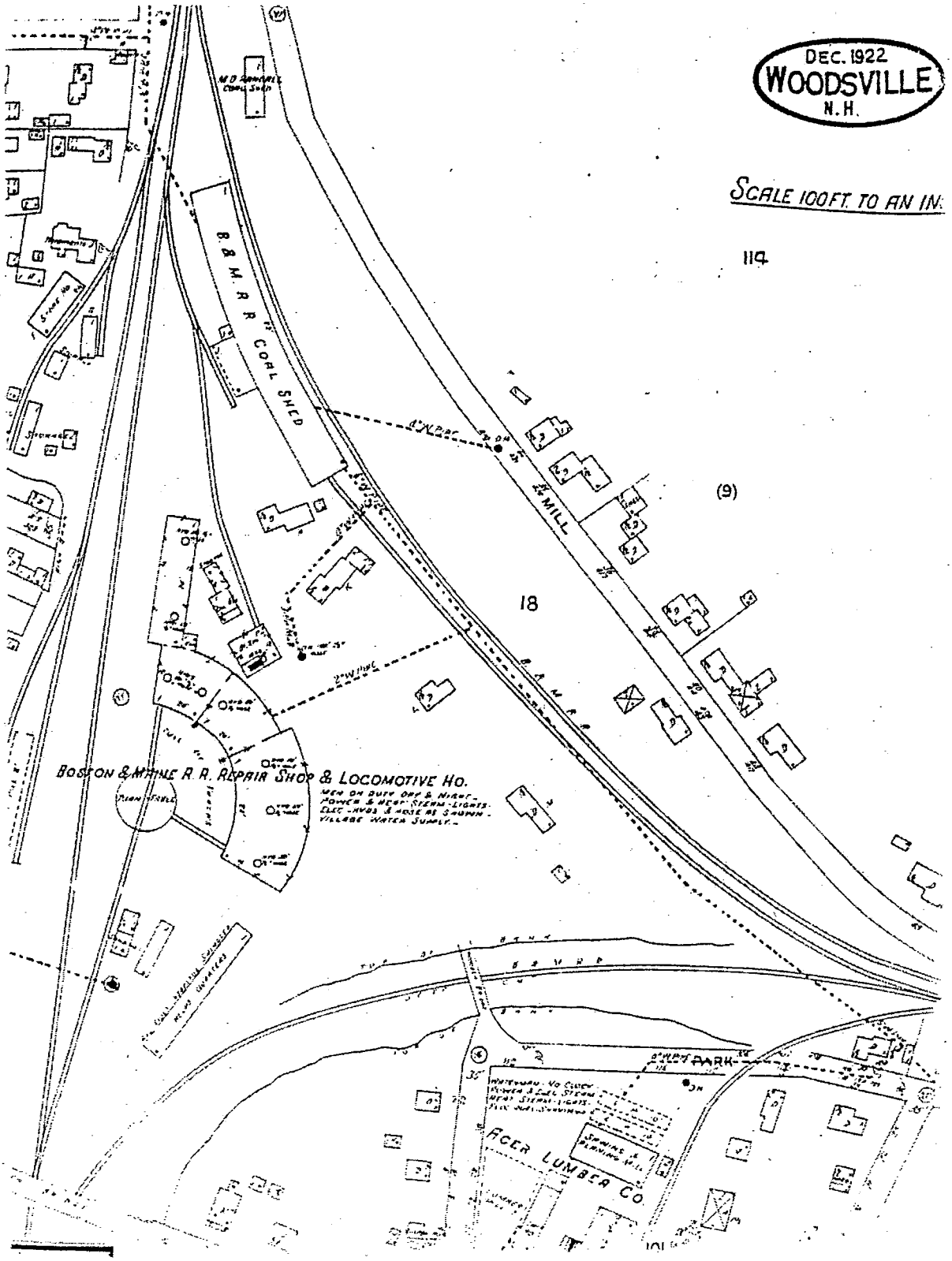


Figure 95. Woodsville Yard (Haverhill) in 1922. Not extant.

Source: Sanborn Insurance Map.

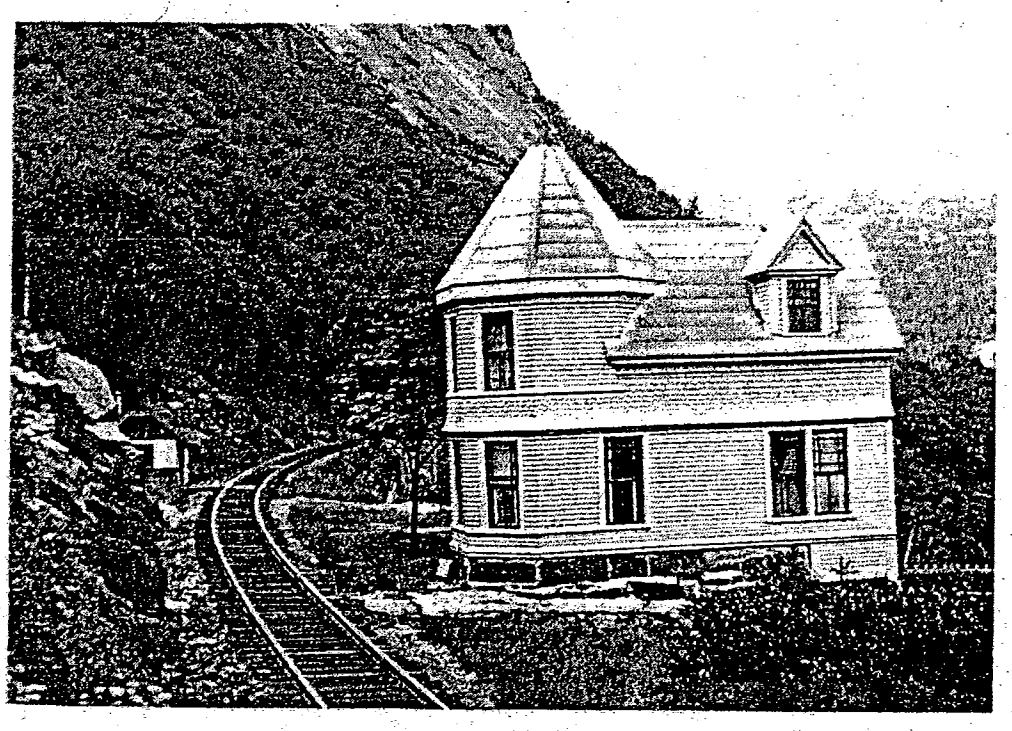


Figure 96. Mt. Willard section house dwelling in 1960 (not extant)

Source: Johnson, *Maine Central Mountain Division*, p. 284.

Figure 97. Employee bunkhouse, Westboro (Lebanon)

Photograph by Lisa Mausolf, 1999

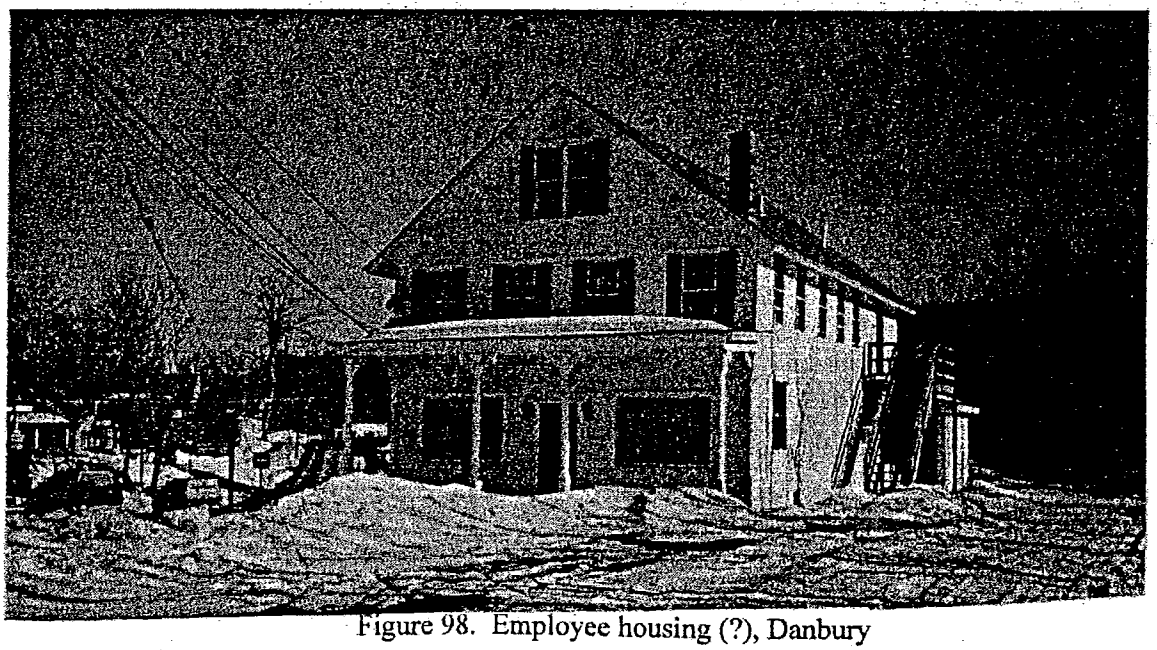
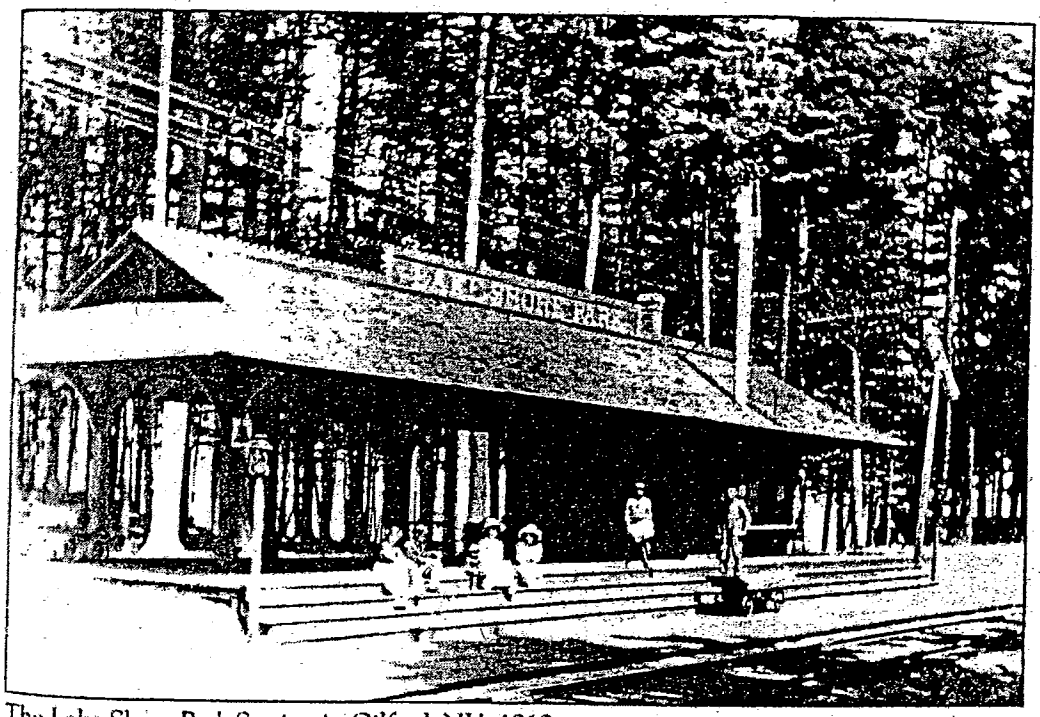


Figure 98. Employee housing (?), Danbury

Photograph by R. Stuart Wallace, 1999



The Lake Shore Park Station in Gilford, NH, 1919.

Figure 99. Lake Shore Park station, Gilford, in 1919 (extant)

Source: Heald, *The Lakes Region of NH*, vol. 2, p. 55.

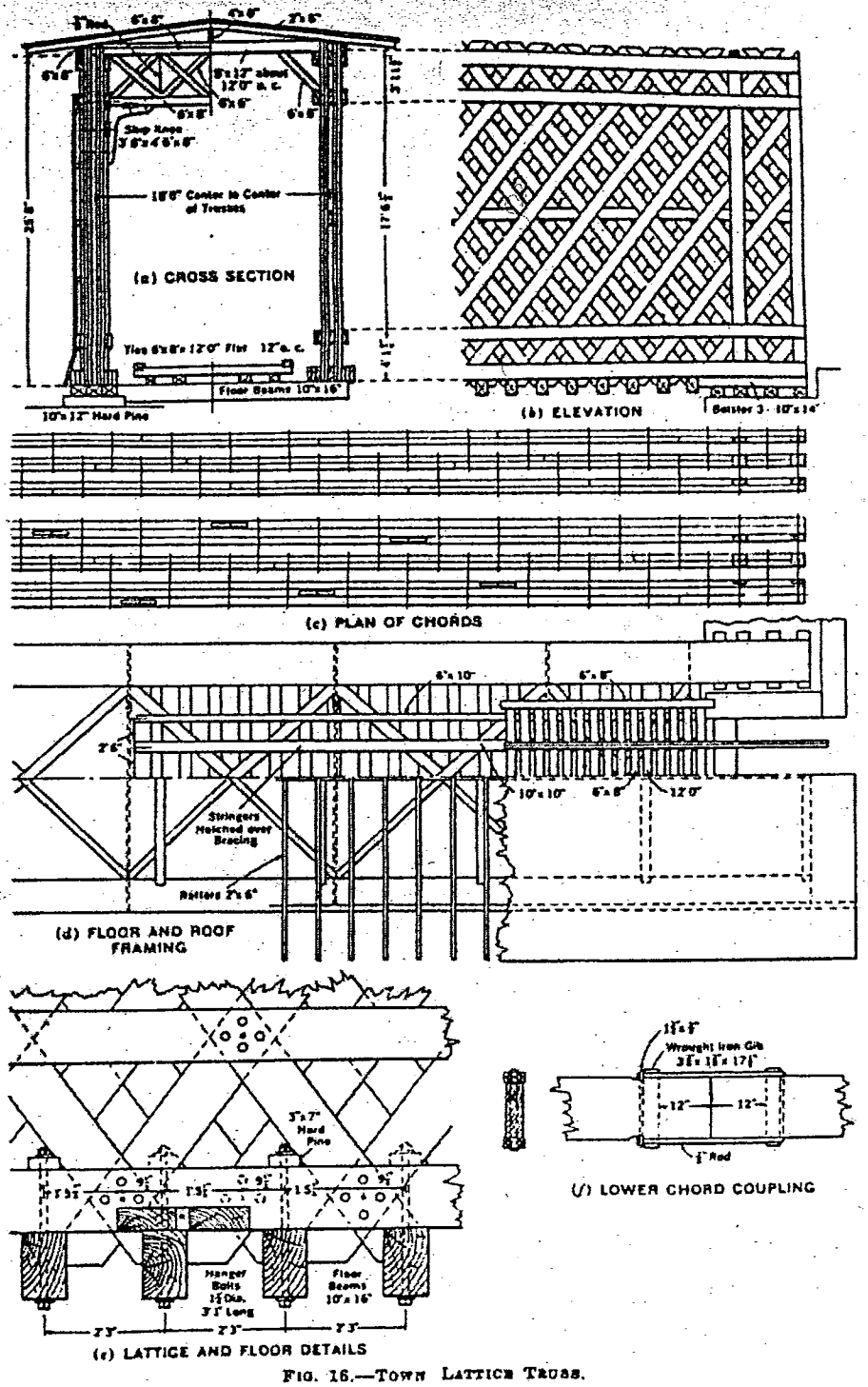


FIG. 16.—TOWN LATTICE TRUSS.

Figure 100. Town Lattice Truss.

Source: Fletcher & Snow, A History of the Development of Wooden Bridges, p. 49

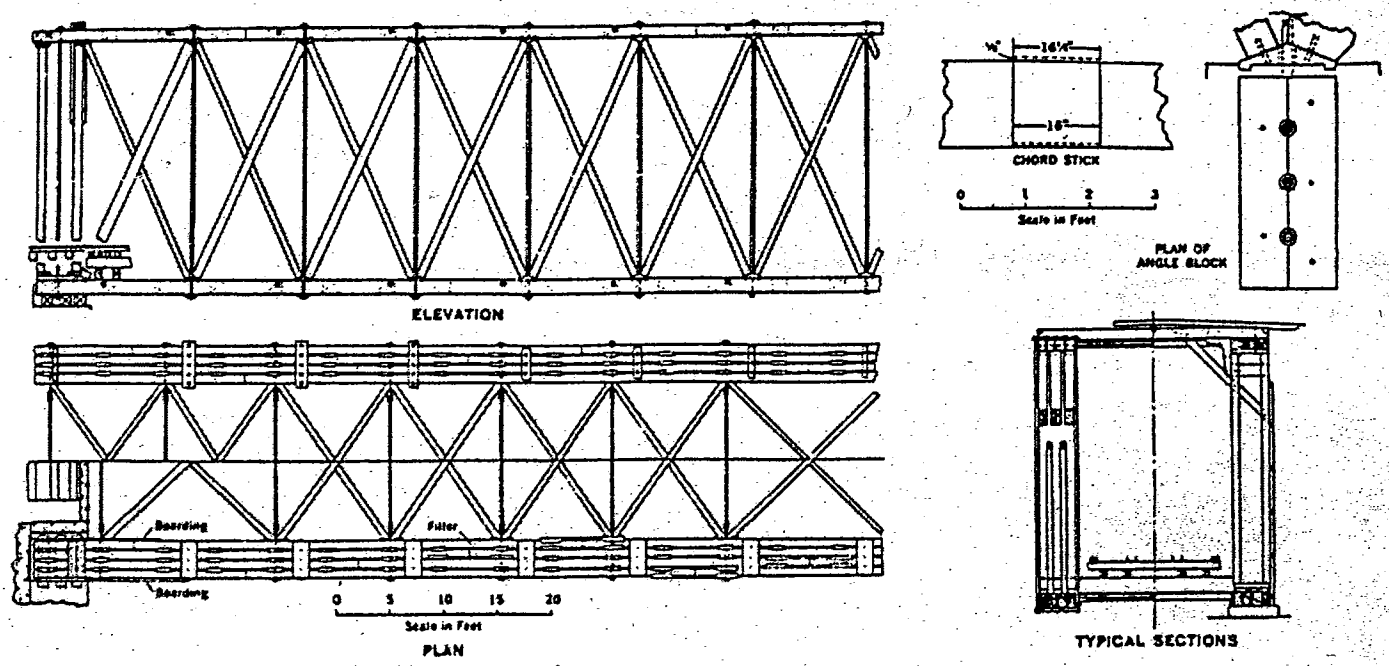


FIG. 26.—PLAN AND SECTIONS, HOWE TRUSS RAILROAD BRIDGE (1839).

Figure 101. Howe Truss

Source: Fletcher & Snow, A History of the Development of Wooden Bridges, p. 49

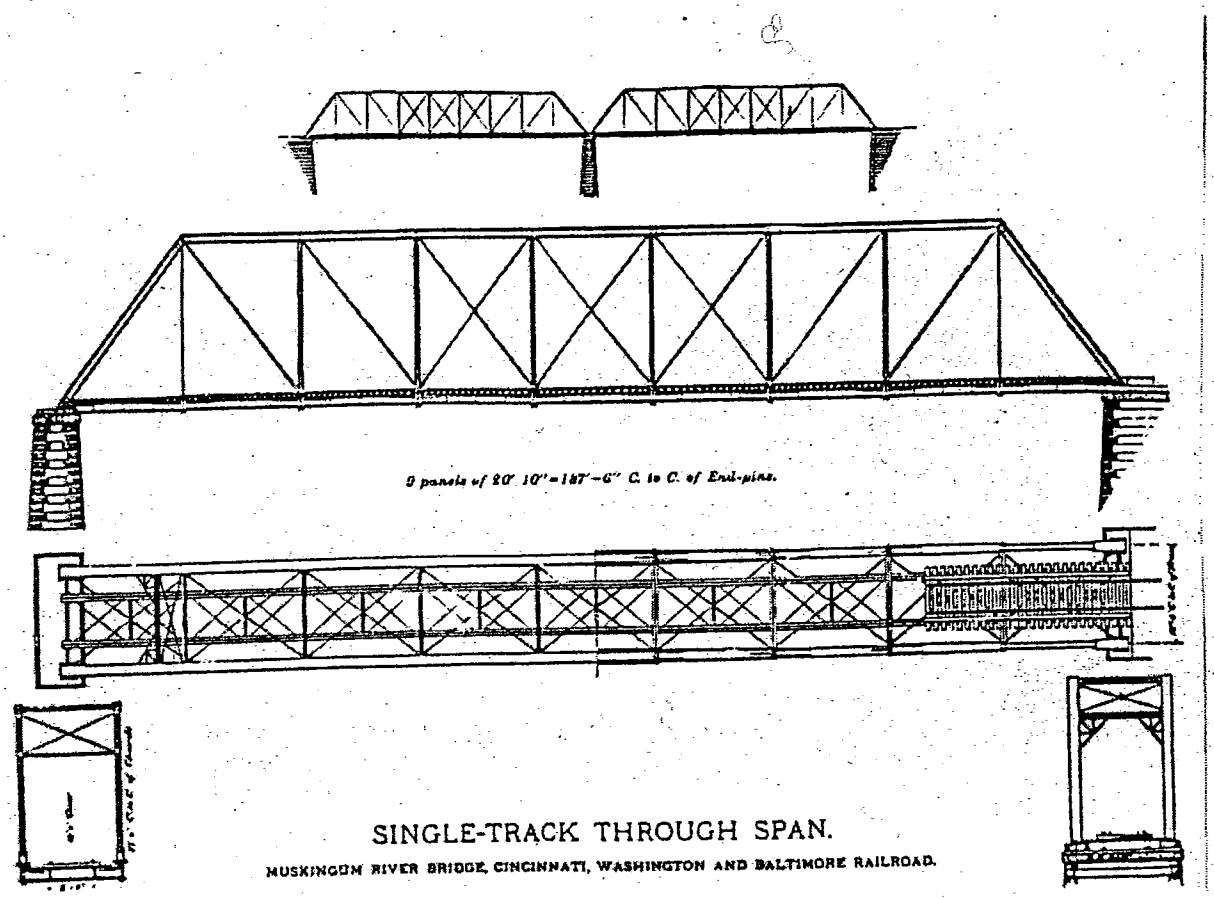


Figure 102. Pratt Truss.

Source: Weitzman, p. 110.

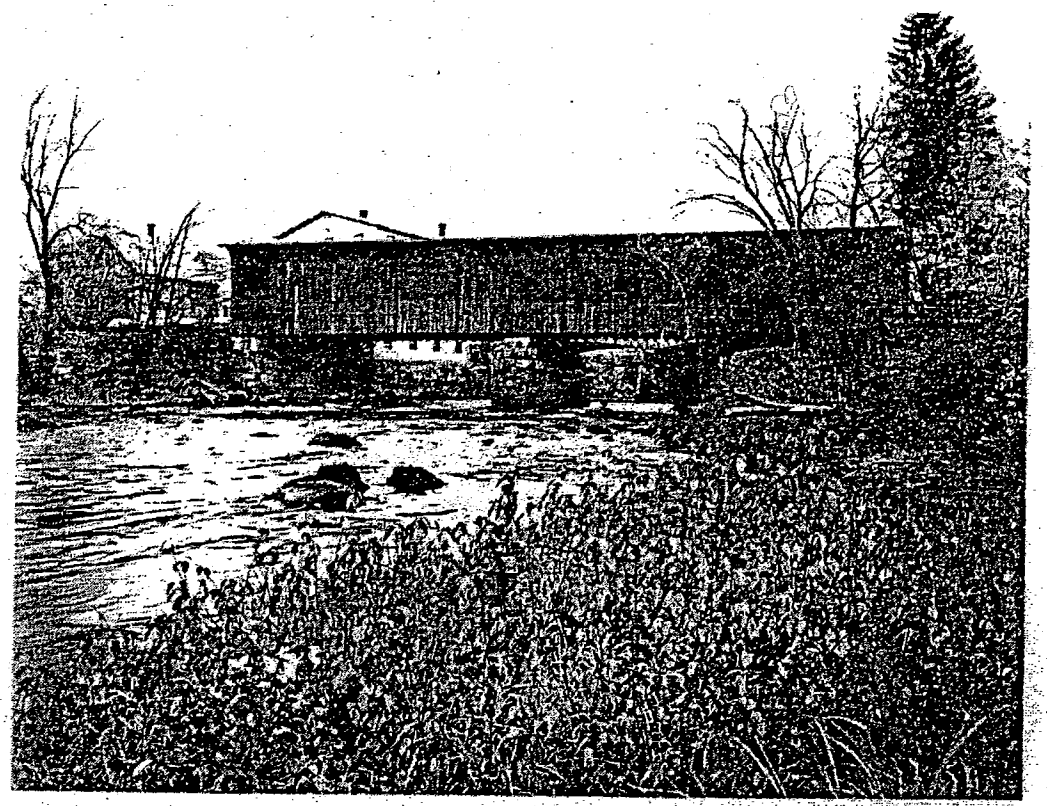


Figure 103. Railroad Bridge, Hopkinton (extant)

Source: *NH Covered Bridges*, p. 21

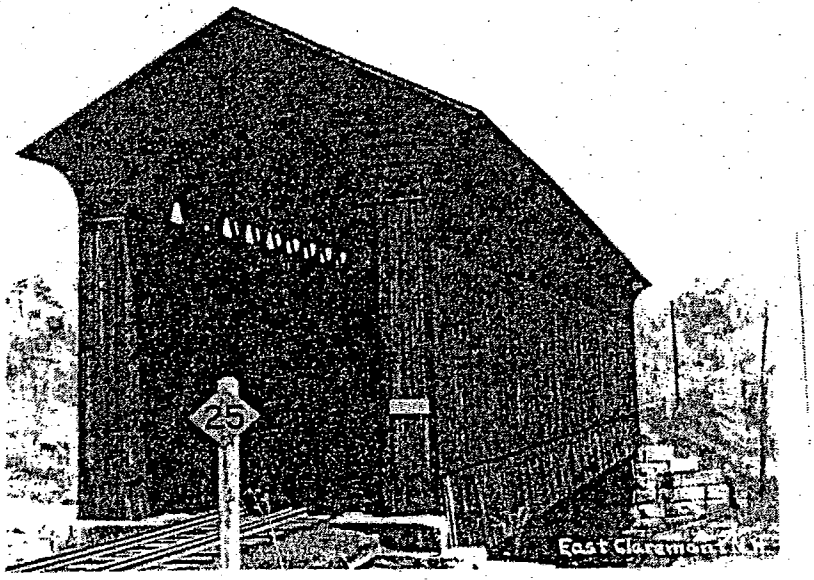


Figure 104. Wright's Bridge, Newport (extant)

Source: *NH Covered Bridges*, p. 101.

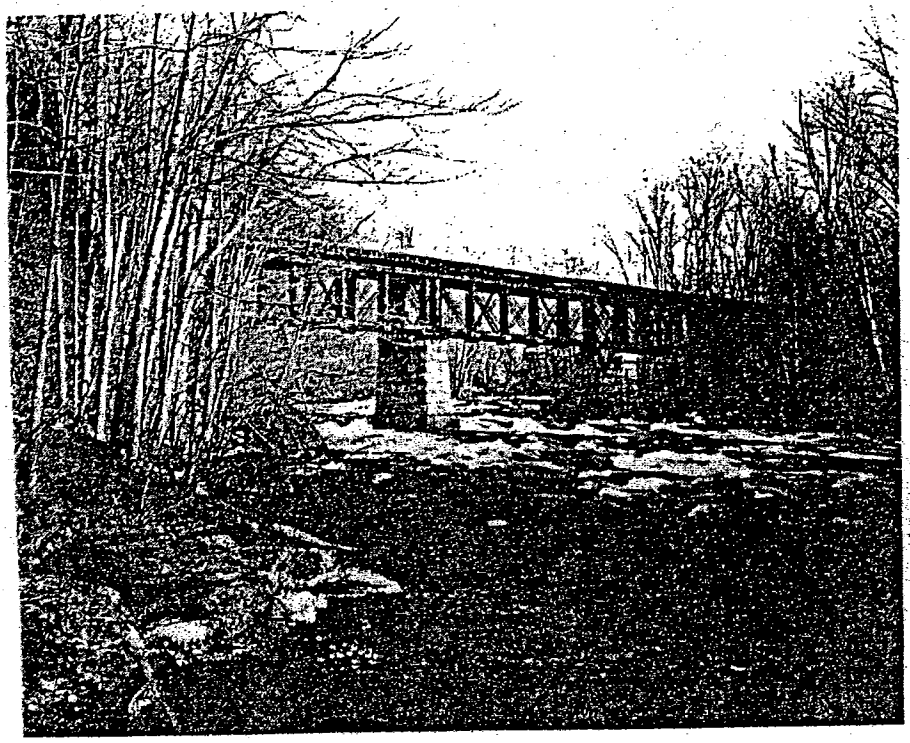


Figure 105. Sulphite Bridge, Franklin (extant)

Source: *NH Covered Bridges*, p. 103.

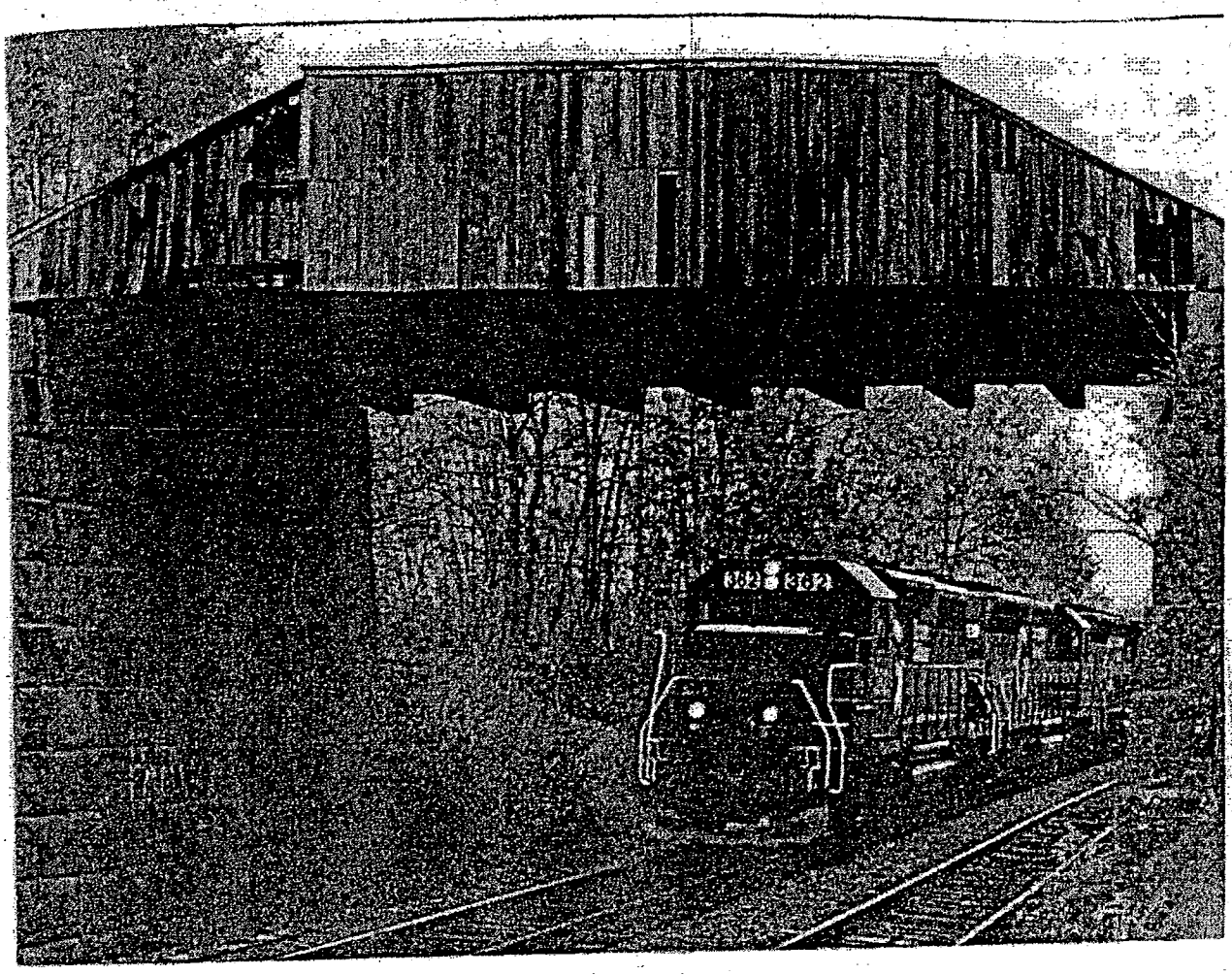


Figure 106. Rollins Farm Bridge, Rollinsford (extant)

Source: NH Division of Historical Resources

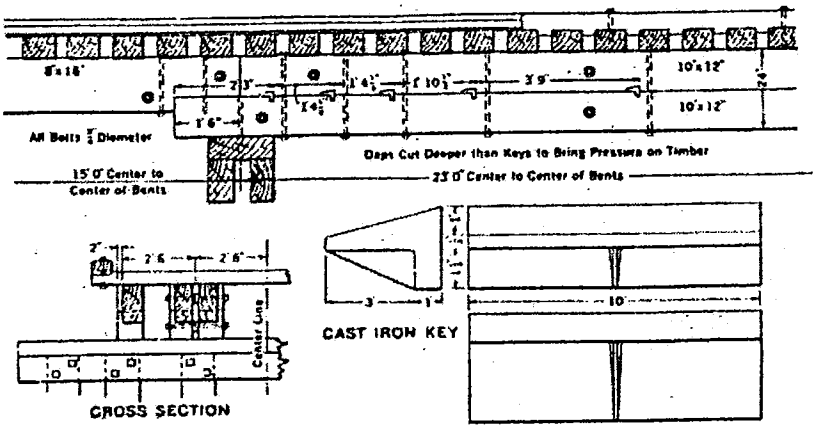


FIG. 22.—KEYED STRINGER SECTIONS.

Figure 107. Keyed Stringer Sections

Source: Fletcher & Snow, A History of the Development of Wooden Bridges, p. 55.

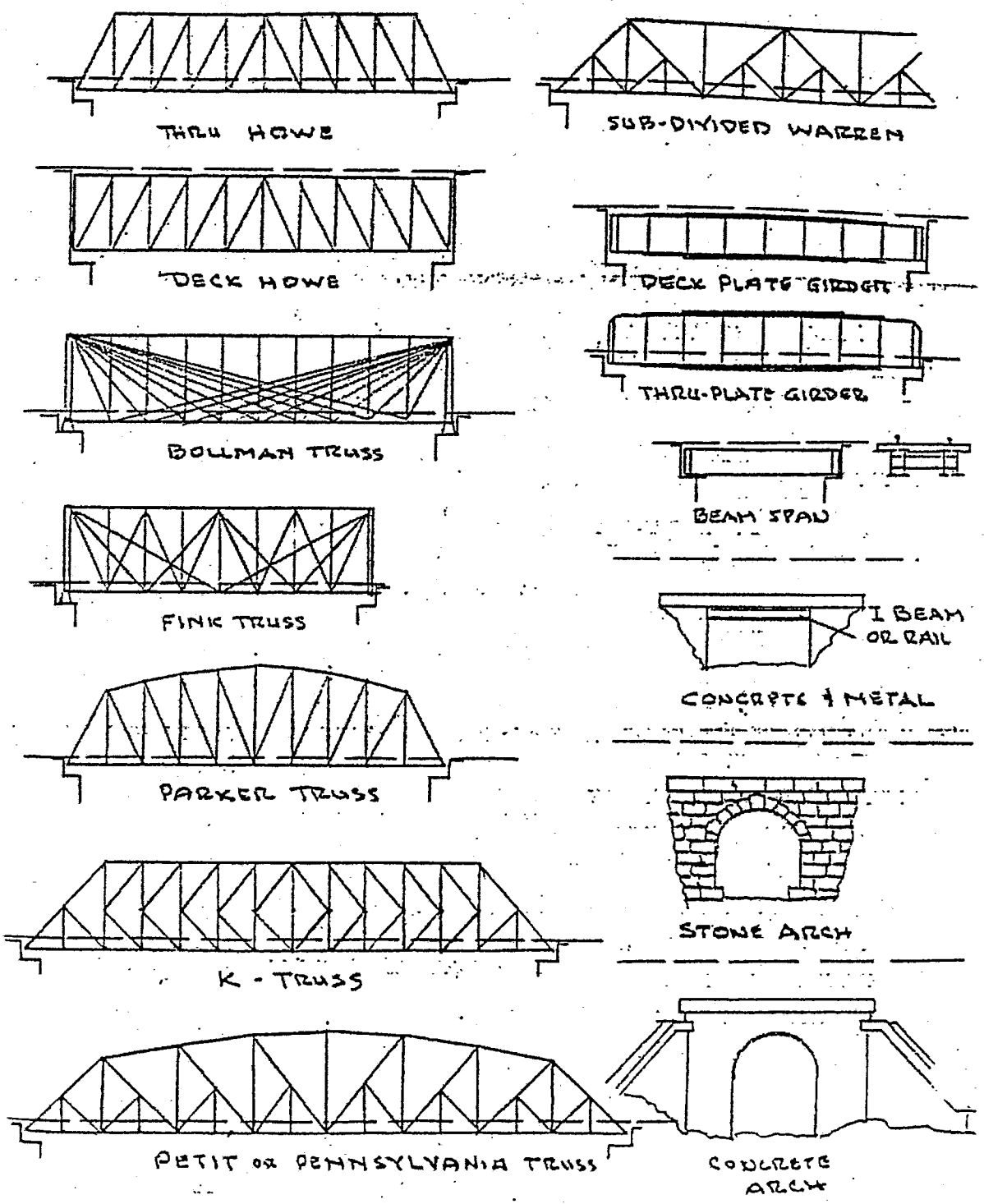


Figure 108. Truss Nomenclature

Source: USDOT Federal Railroad Admin., Principals and Practices of Railroad Bridge Construction, 1996.

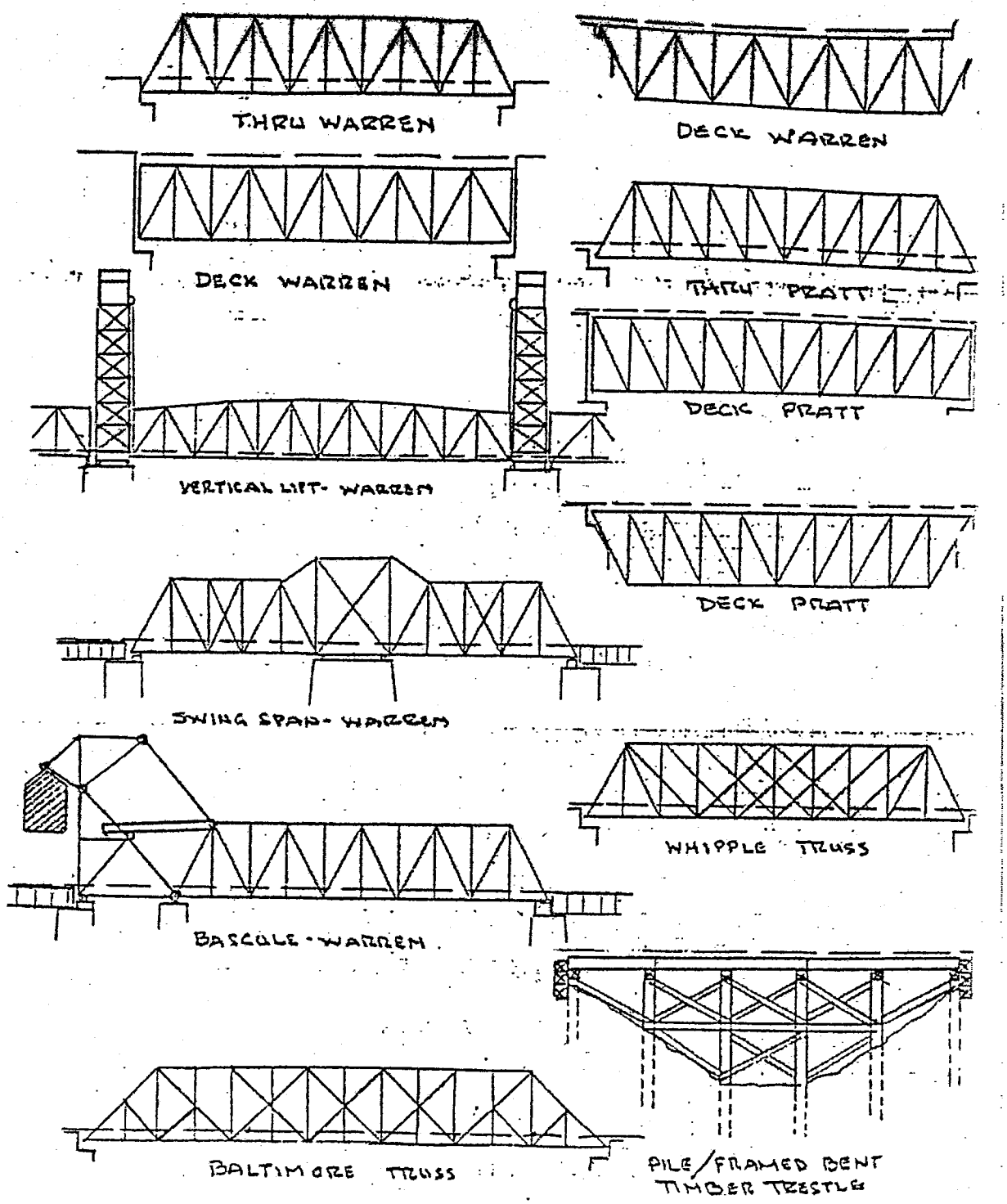


Figure 109. Truss Nomenclature

Source: USDOT Federal Railroad Admin., Principals and Practices of Railroad Bridge Construction, 1996.

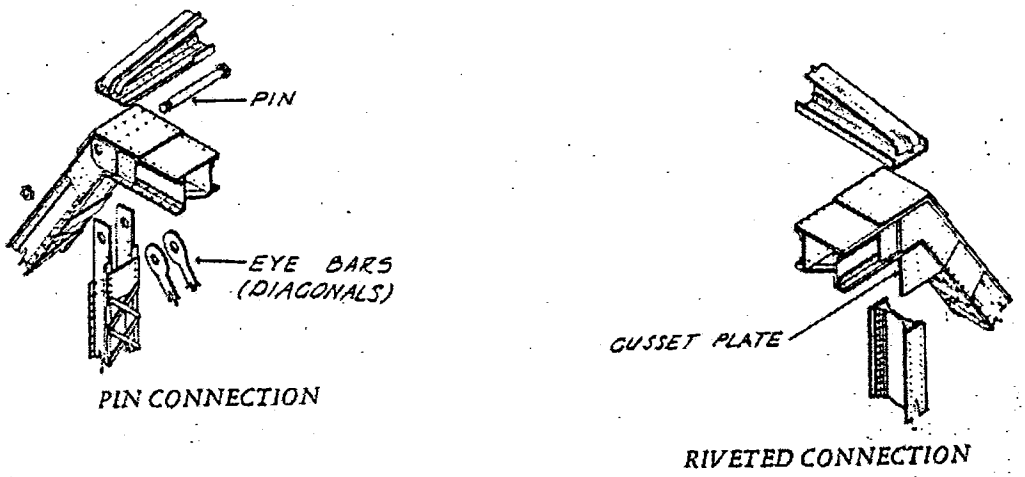


Figure 110. Pin and Riveted Connections

Source: Weitzman, Traces of the Past: *A Field Guide to Industrial Archaeology*, p. 79.

Figure 111. Woodsville (Haverhill) Pratt truss deck span

Photograph by Lisa Mausolf, 1999

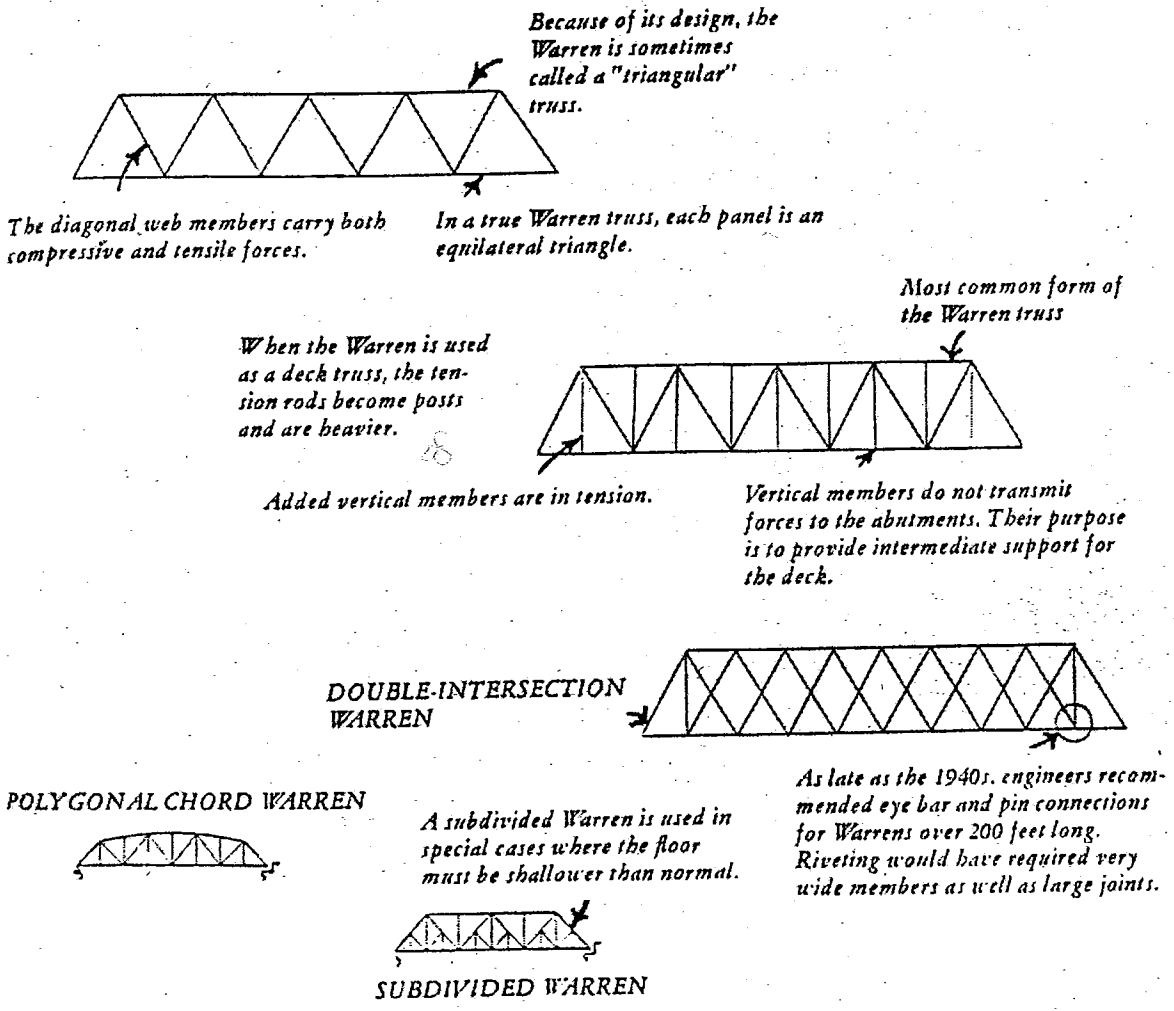
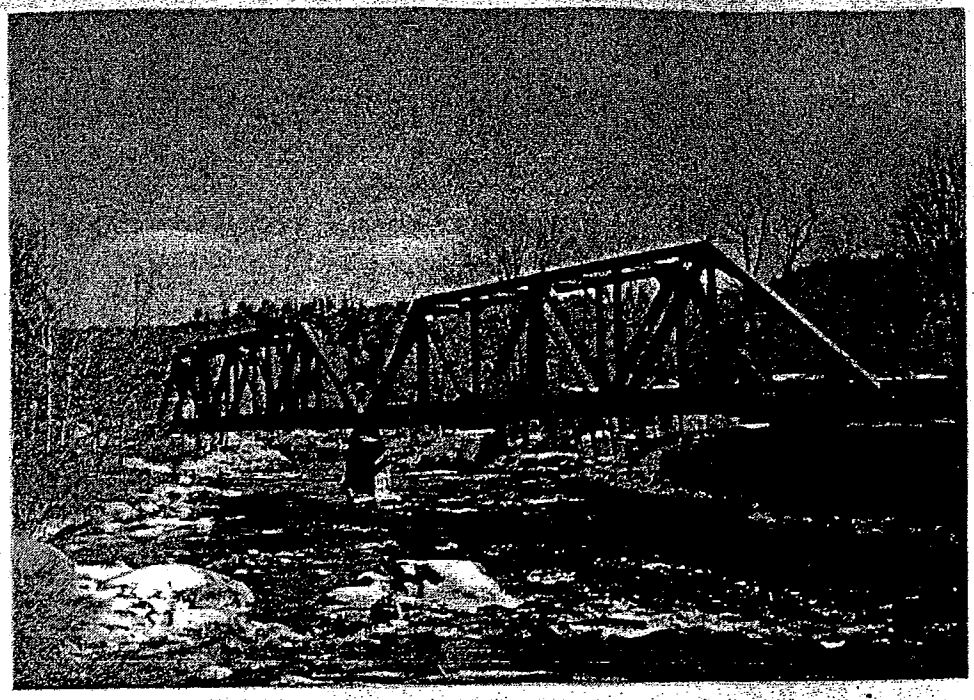


Figure 112. Warren Truss variations

Source: Weitzman, p. 111.



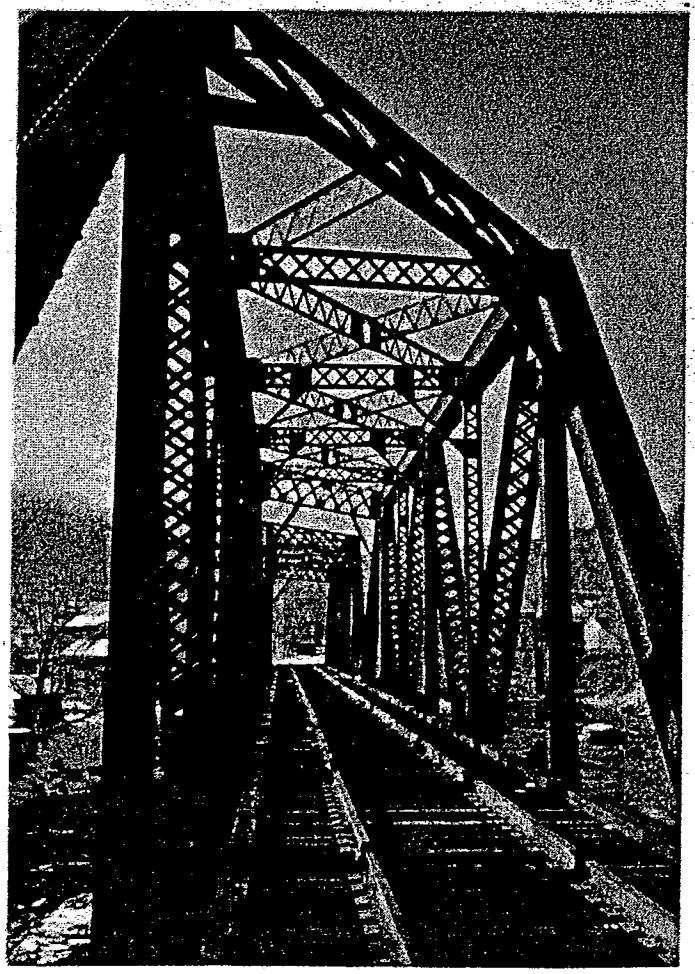


Figure 113. Double span Warren truss over Souhegan River, Wilton

Photographs by Lisa Mausolf, 1999

Figure 114. Ashland, double span Warren truss over Pemi River

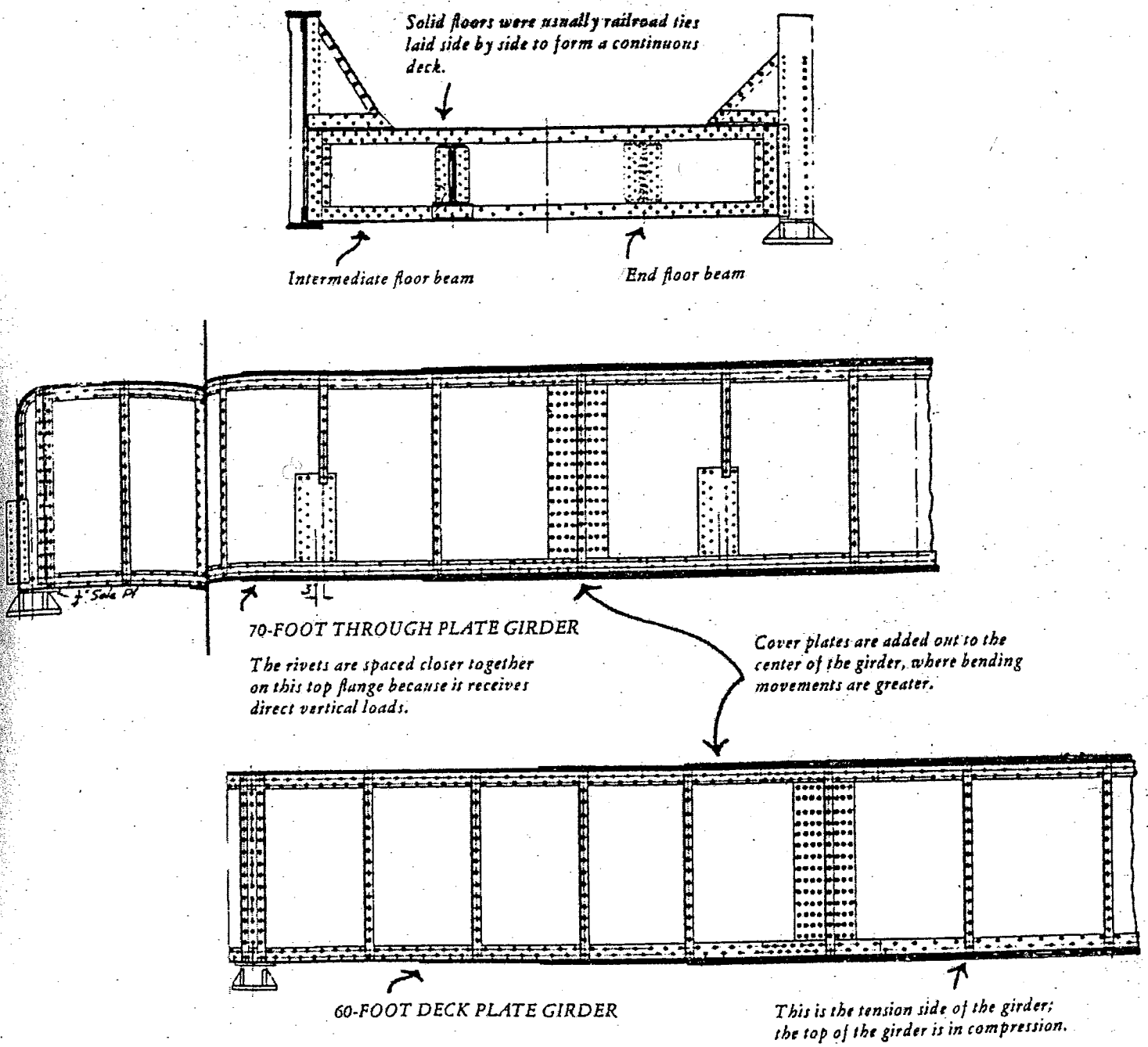


Figure 115. Plate Girder Bridge details.

Source: Weitzman, p. 114.

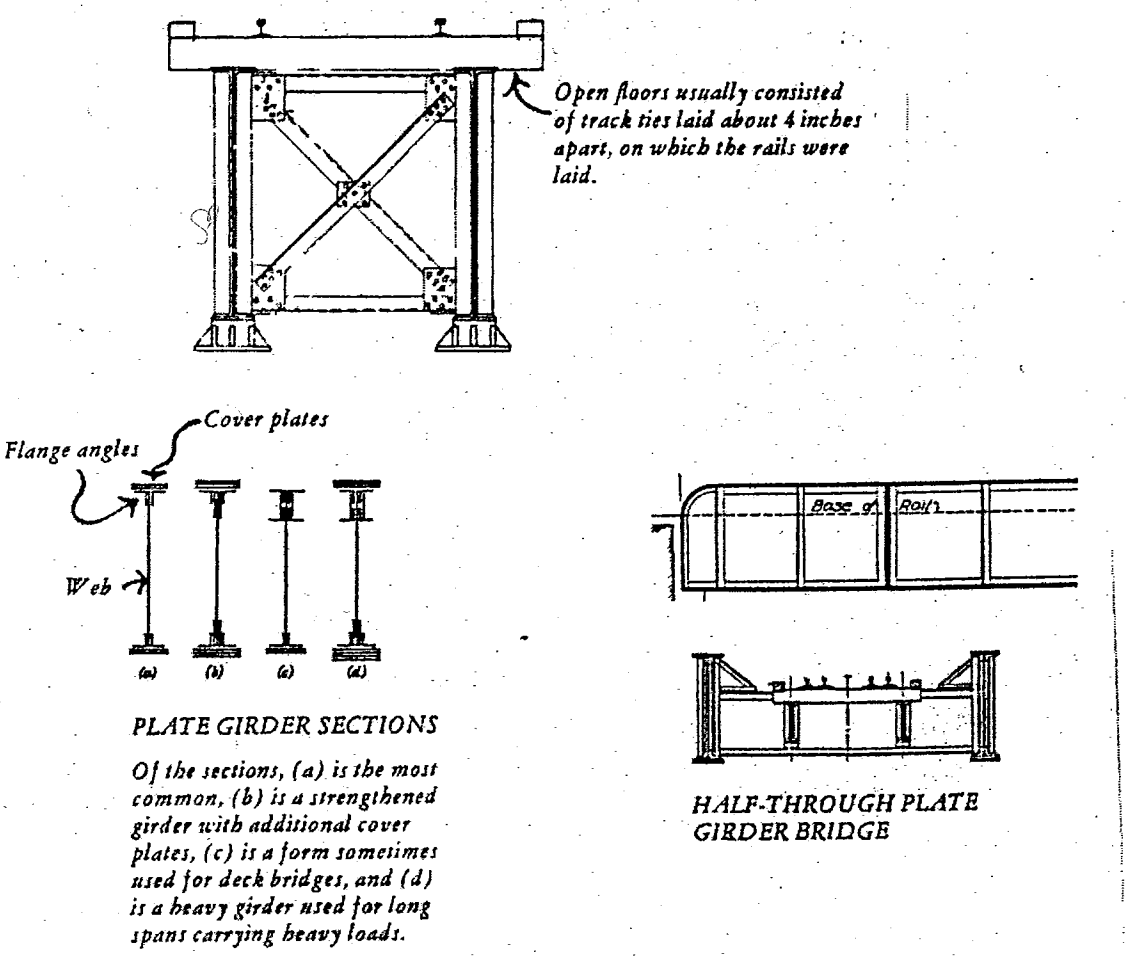
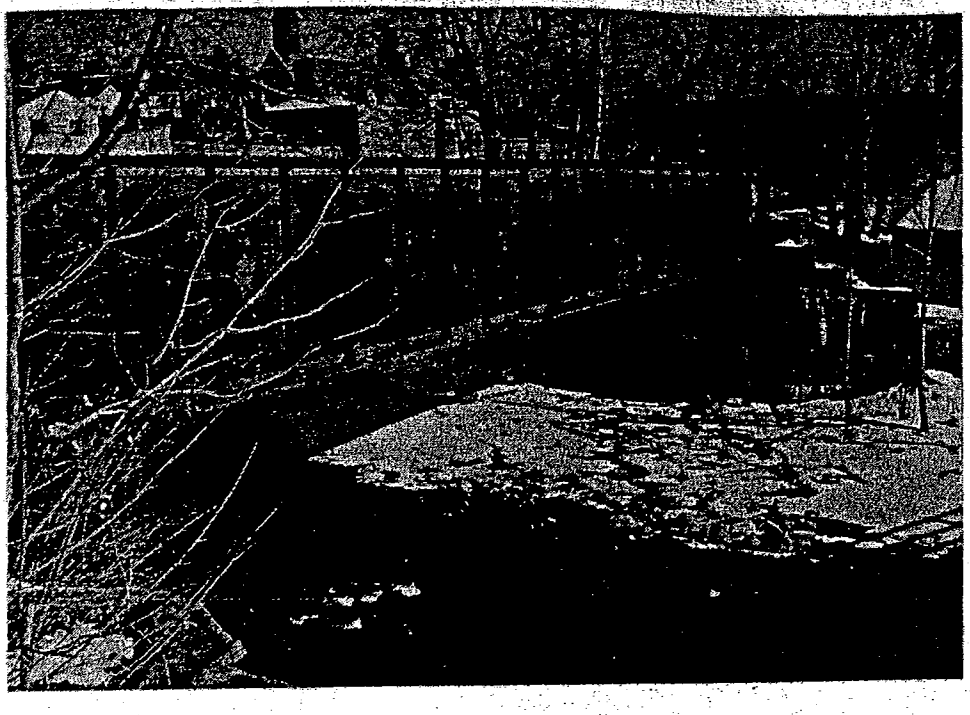


Figure 116. Plate Girder Bridge details.

Source: Weitzman, p. 113.



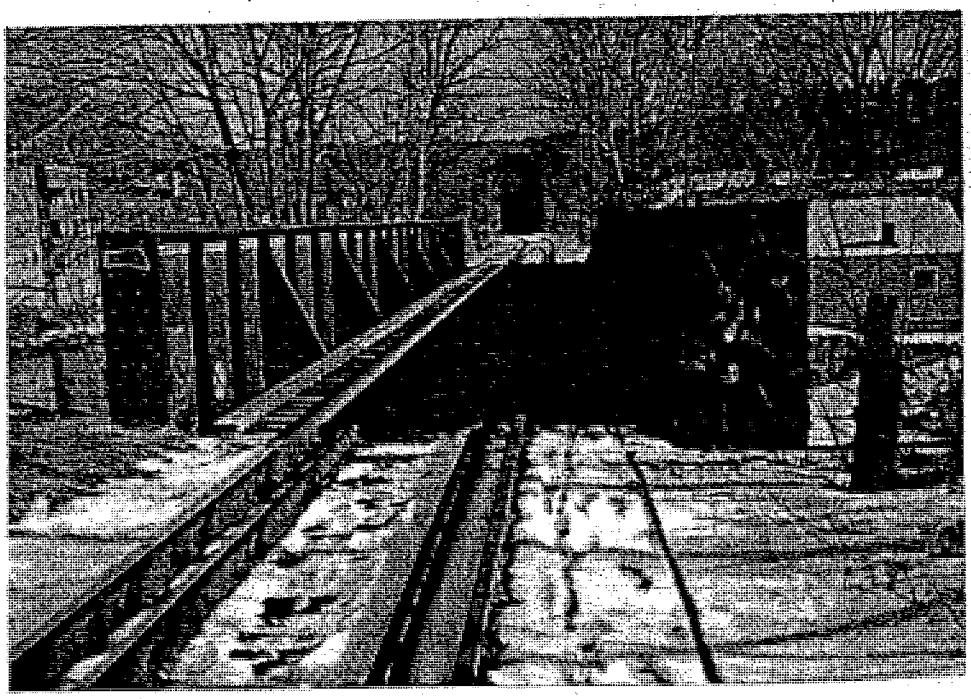


Figure 117. Wilton, Through girder bridge over Souhegan River

Photographs by Lisa Mausolf, 1999

Figure 118. Lebanon, Deck plate girder bridge

Photograph by Lisa Mausolf, 1999

Figure 119. Wilton, Deck plate girder bridge

Photograph by Lisa Mausolf, 1999

Figure 120. Stone arch at Keene

Photograph by Lisa Mausolf, 1999

Figure 121. Lebanon, Glen Road overpass

Photograph by Lisa Mausolf, 1999

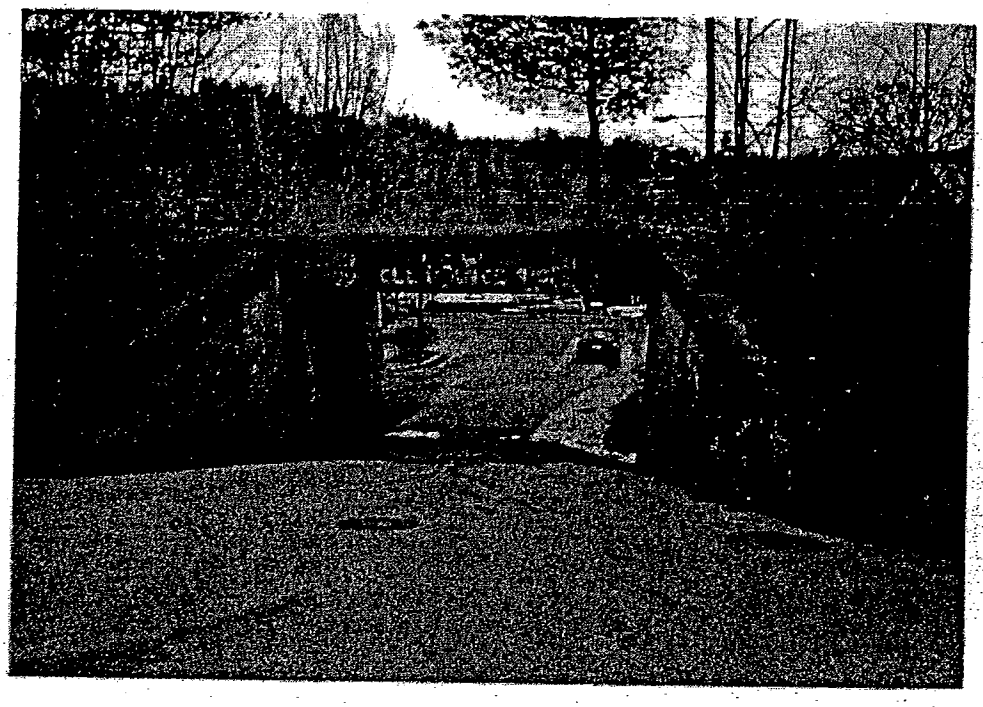


Figure 122. Lebanon, concrete slab bridge

Photograph by Lisa Mausolf, 1999

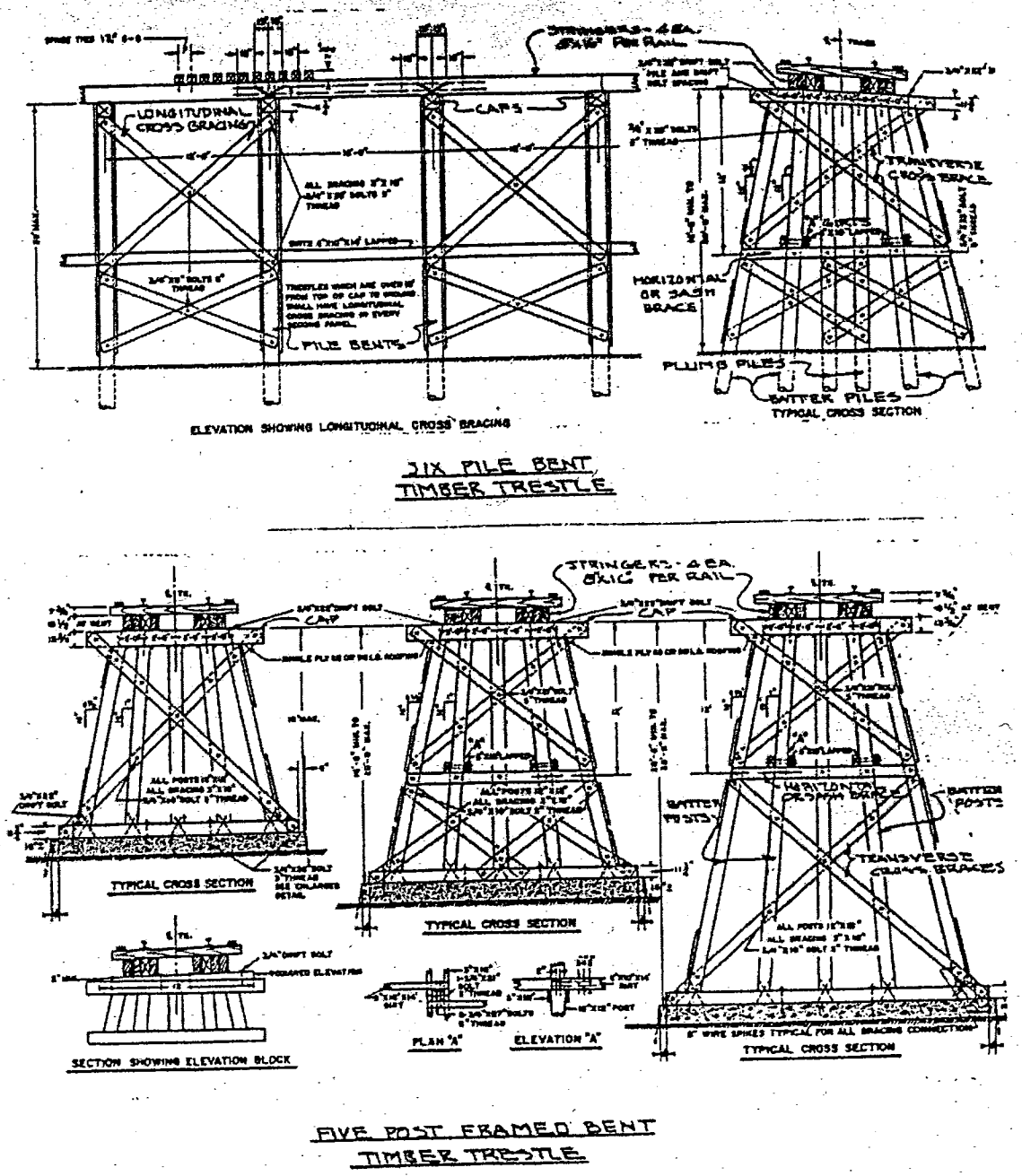


Figure 123. Timber Trestles

Source: NH DOT Federal Railroad Administration, Principals & Practices of Railroad Bridge Inspection, 1996.

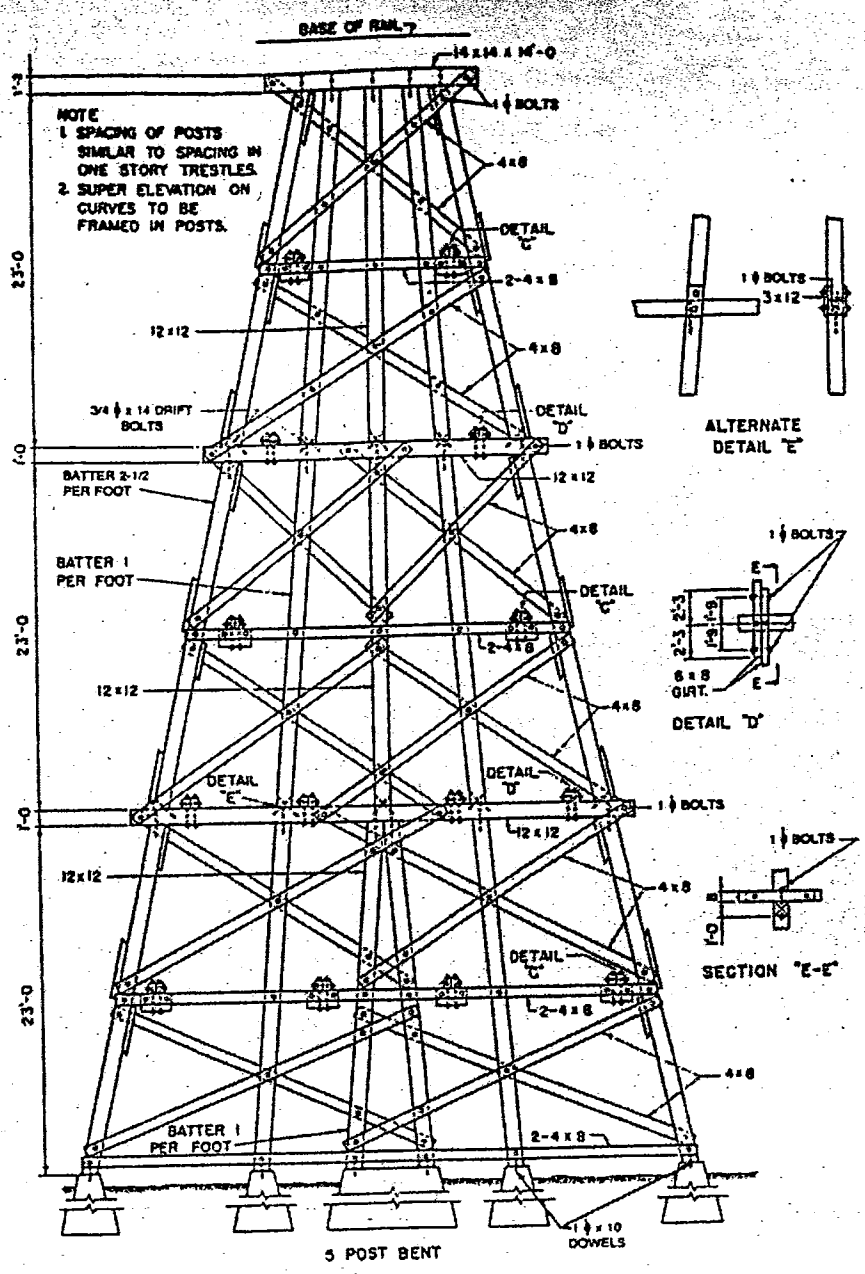


Fig. 3.4.10 Multiple-Story Trestle Bents

Figure 124. Multiple Story Trestle Bents

Source: AREA Manual for Railway Engineering

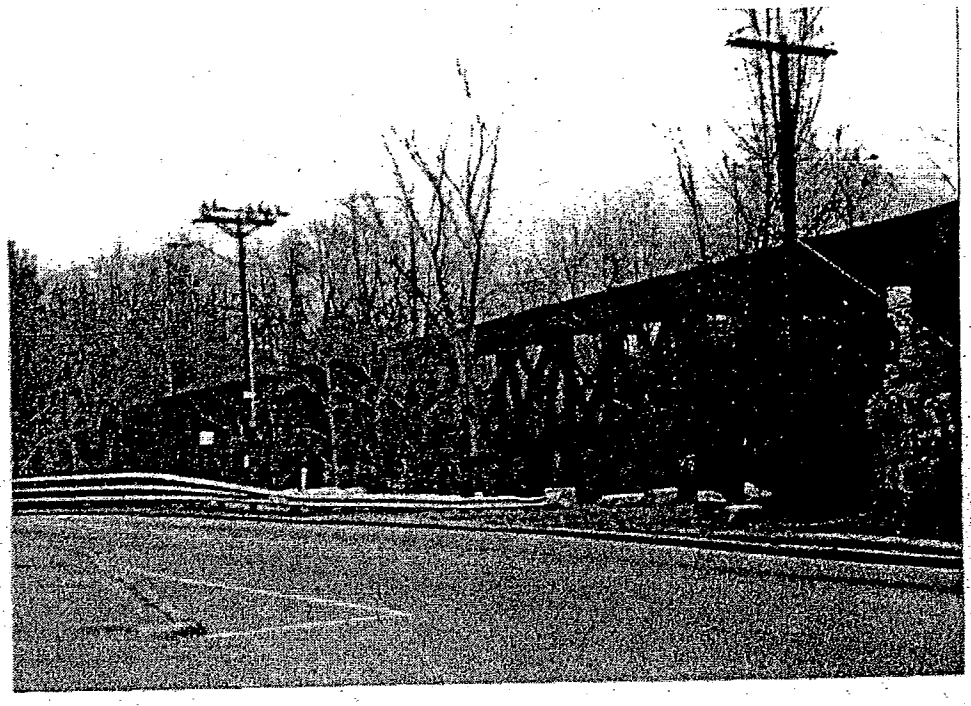


Figure 125. Franklin Trestle

Photograph by R. Stuart Wallace, 1998

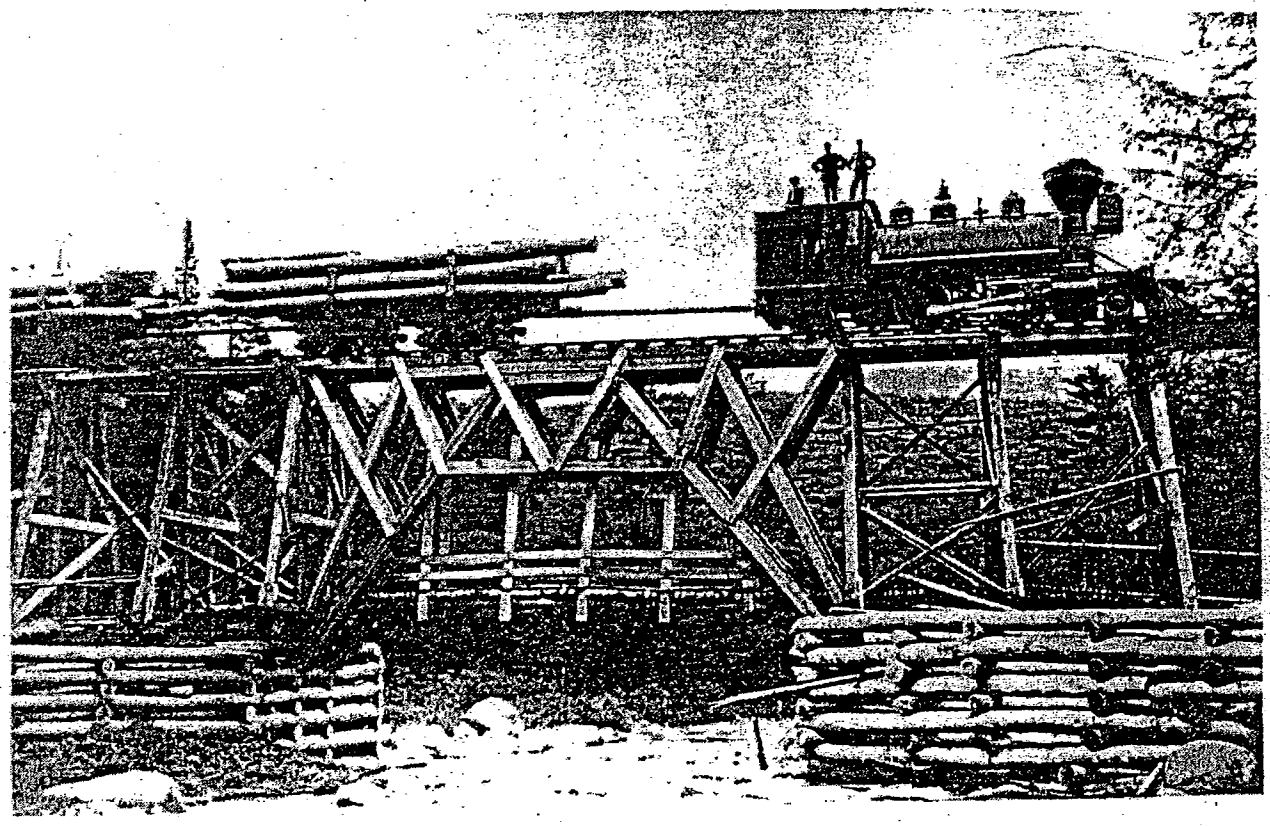
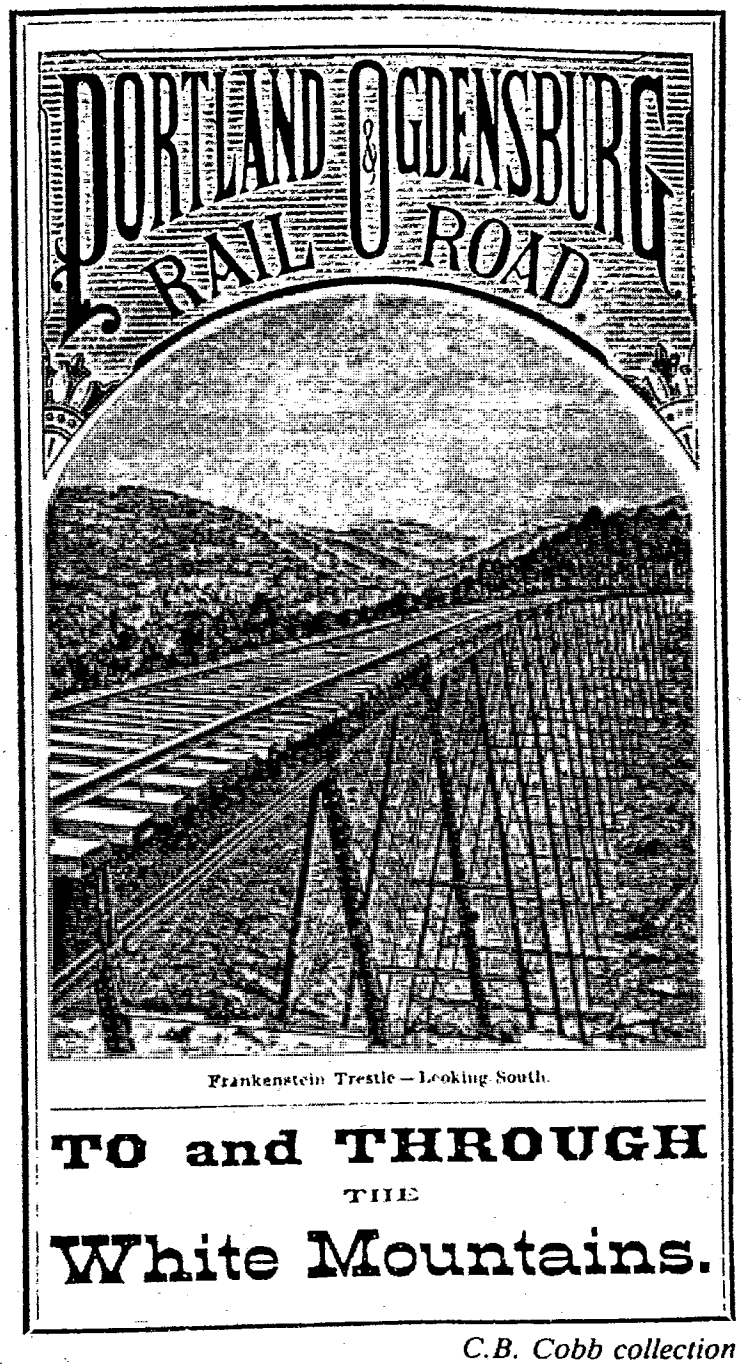


Figure 126. Franconia Brook Trestle in pre 1903 view (not extant)

Source: Taylor, Railroad in the Wilderness: The East Branch and Lincoln RR, 1892-1948, *Historical New Hampshire,* Winter 1993, p. 194.

Figure 127. Pile trestle at Concord

Photograph by Lisa Mausolf, 1999



C.B. Cobb collection

Figure 128. Frankenstein Trestle (extant)

Source: Johnson, *Maine Central Mountain Division*, p. 10.

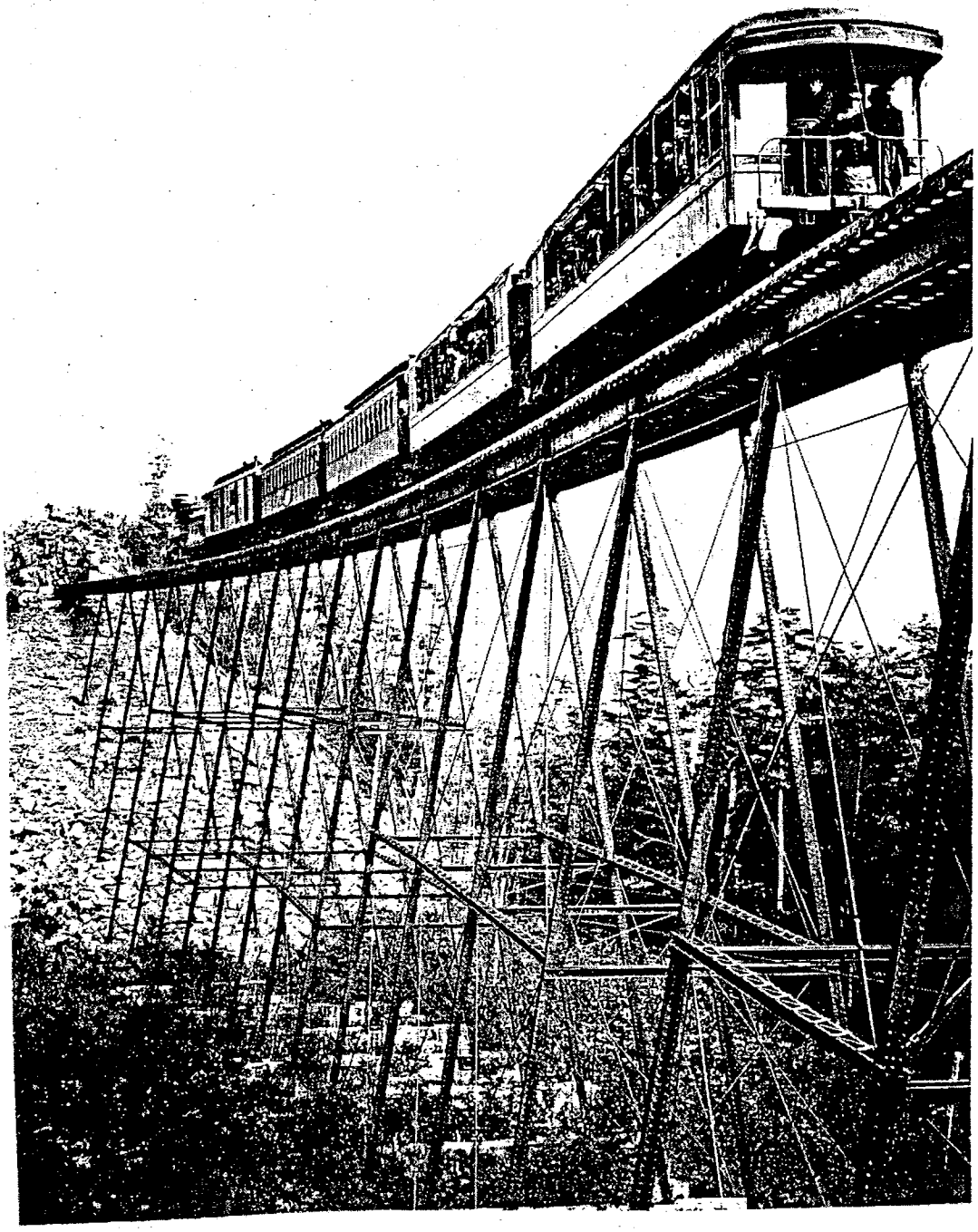


Figure 129. Frankenstein Trestle in 1870s view (extant)

Source: Johnson, *Maine Central*, p. 20.

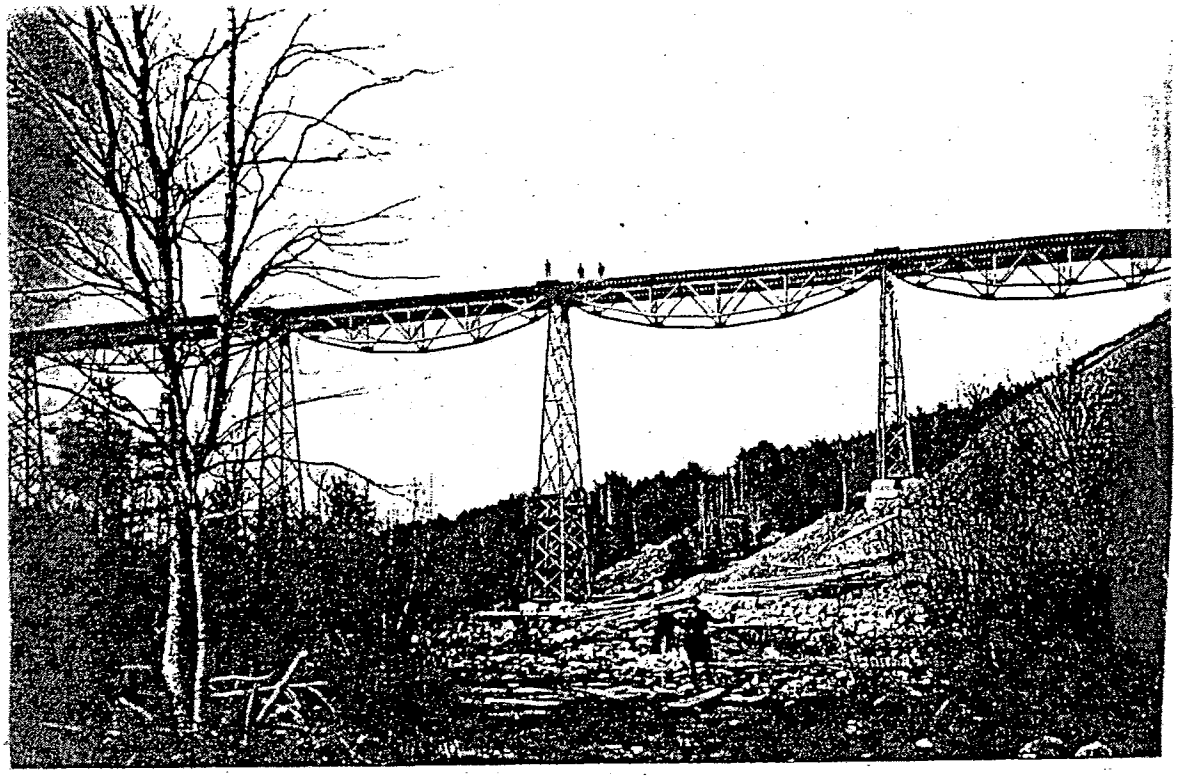


Figure 130. Trestle, Marlborough (not extant).

Source: Rumrill, *J. A. French's Cheshire County*.

IV. CONCLUSION: SIGNIFICANT FACTORS IN THE DEVELOPMENT OF NEW HAMPSHIRE RAILROADS

A. Introduction

A variety of factors combined to determine the construction, operating success or failure, and survival of New Hampshire's railroads. Individually and collectively, these factors dictated whether a railroad would prosper or flounder. They necessitated the need to change the infrastructure for any particular line over time, and they combined to give certain state railroads unique characteristics--features that gave them a particular "look" or reputation. While some of these factors no longer apply and hence are of historical interest only, others still apply to the transportation needs of New Hampshire and New England. It would be foolish, for instance, to plan for the future of rail transportation or the use of railroad rights-of-way without considering geographic factors, the nature and distribution of industrial jobs, the future of tourism, or "local" sensitivity. Finally, it is important to remember that the remaining infrastructure of New Hampshire's railroads, aside from any possible practical uses, are sources of information about the state's transportation history. As sources, they may be incomplete and suffer from loss of integrity, but they may still provide information to those asking the right questions.

B. New Hampshire Geography

1. Terrain and Weather

All of New Hampshire's railroads had to wrestle with New Hampshire's uneven topography and variable weather. Steep grades, rock outcroppings, and water served to make it difficult to build and maintain the state's railroads. With the notable exception of the Concord Railroad, New Hampshire railroads skimped on unanticipated construction costs, only to experience high annual maintenance and repair costs. Meanwhile, snow and spring flooding annually delayed service and damaged tracks and bridges, particularly in mountainous terrain. A few railroads, like the Concord and the early Boston & Maine, operated along relatively unchallenging terrain in the southern part of the state. Snow and flooding caused problems for these lines, but not to the extent of problems incurred by railroads operating in the mountains. Lines like the Boston, Concord & Montreal were at a distinct disadvantage. These "up-country" lines tended to be lightly built and generally operated at a loss. Steep grades, for instance, not only

reduced the speed and carrying capacity of trains, but required the use of extraordinary amounts of water, coal, and even sand.

2. *The Abundance of Timber*

New Hampshire geography also presented railroads with an abundance of timber resources. As a result, the presence of so much readily-available timber was an advantage to the state's early lines, as there was ample timber for ties, trestles and bridges, and for engine fuel. However, New Hampshire railroads tended to rely on timber for both construction and fuel long after railroads in many other states turned to iron and coal. The continued use of timber for trestles and bridges reduced the value of New Hampshire railroads in the late nineteenth century. Engineers inspecting lines like the Northern and the Boston, Concord & Montreal in 1884, for instance, discovered dozens of bridges in need of immediate replacement.[197]

C. Proximity to Boston and the Atlantic Ocean:

1. *Hinterlands, Urban Investment, and Agricultural Change*

New Hampshire's proximity to Boston and the Atlantic Ocean was crucial to every phase of railroad development in New Hampshire. Many of the state's railroads, and particularly its larger lines, were capitalized with substantial amounts of Boston and Portland money. The need for Boston and Portland to expand their respective hinterlands meant that several of New Hampshire's railroads would be the targets of takeovers and mergers in the nineteenth century. Proximity to ice-free ports along the Atlantic Seaboard also meant that some of New Hampshire's railroads would be important to commercial interests in Vermont, upstate New York, and the St. Lawrence Valley. Cities like Boston and Portland were not merely transport destinations, however, they were markets. Perishable commodities like dairy products, poultry, fruits, and vegetables could be taken from New Hampshire farms by rail—reaching nearby urban markets before spoiling. Hence, New Hampshire farms gave up on commodities like grains and wool, which could be brought easily from large farms in the Midwest, and concentrated on perishable items destined for nearby urban markets.

2. *Immigrants*

Proximity to port cities like Boston and Portland, along with proximity to Quebec, also meant that New Hampshire had access to immigrant labor. During the 1840s and 1850s, for instance, Irish immigrants pouring into Boston were diverted to New Hampshire, where they were put to work building railroads. The state's textile mills and pulp and paper operations also needed immigrant labor. Between the end of the Civil

[197] The engineers' reports of 1884 for the Northern and the Boston, Concord & Montreal, as well as the Franklin & Bristol and the Concord & Claremont, are located in the New Hampshire Division of Records Management and Archives.

War and the beginning of the First World War, railroads brought immigrants into New Hampshire from Boston, Portland, Ellis Island, and Canada.

D. New Hampshire's Early Urban and Industrial Growth

1. Introduction

Industry came to New Hampshire before the railroads. So too did urbanization. Whereas railroads were often built in the Midwest and West in the hope of attracting people and industry, the reverse was true in New Hampshire, where towns had developed urban centers and small mill sites by the turn of the nineteenth century. Railroads were not only seen as a necessity for manufacturing interests, but as a source of local pride by town and city "boosters."

2. Industrial Growth

By 1840, several towns in New Hampshire had become or were rapidly becoming industrial centers of importance. Textile manufacturing accounted for the growth of towns like Somersworth, Dover, Nashua, and Manchester, but dozens of other towns were turning out wood products, leather, carriages, starch, and even paper. Hence, when railroads were first chartered in New Hampshire in the 1830s, they were seen in part as a means of bringing raw materials to existing factories and taking finished goods to markets throughout New England and the nation. By mid-century, every mill owner demanded rail access, and they were willing to put pressure on state government to let them have a line, even if the financial prospects of the railroad per se were bleak. The abundance of so many factories, scattered all over the state, meant that New Hampshire required an extensive rail network. As a result, the state's rail system became overbuilt. Railroads and branches were built to service individual mills or mill centers with little prospect of making a profit. These lines were quickly absorbed by larger lines, and in some cases, they were abandoned after relatively brief service.

3. Local Pride and the Coming of the Railroad

Not only did industrial interests want railroad, but communities wanted them as well. New Hampshire has always been strongly oriented toward its local governments, and people in the state have long cherished values like "home rule" and "local control." This persistent localism is reflected in the state constitution and in the method of representation in the state House of Representatives. It has also been the basis for community civic pride and the belief that communities and even village districts within communities are each entitled to a school, a church, a post office, a community center, a store, and perhaps a library. Throughout the nineteenth century, New Hampshire's persistent localism also led towns and villages to demand their own railroad and passenger depot. Local civic leaders and politicians lobbied to have railroads run through or near their towns, and towns took particular pride when a railroad took their name--even to the point of the ridiculous, such as the time when the "Portsmouth & Concord"

Railroad was renamed the "Concord & Portsmouth" Railroad when Concord investors became the majority stockholders. Passenger depots were equally important. The simple act of having a depot was of symbolic importance, although some communities sought and argued for depots of architectural distinction. In short, New Hampshire's persistent localism helped to bring about a proliferation of passenger depots--some no larger than flagstops--as well as a number of depots of architectural merit.

4. Railroads and Community Design

The existence of town and industrial centers prior to the coming of railroads also altered the layout and orientation of some communities. New Hampshire towns were not built around railroads; railroads were built through or around existing towns. In cases where depots and yards were located in or near the traditional or the industrial center of communities, the coming of the railroad simply reinforced a developing process, albeit with some disruption. In other cases, depots and yards became the new center of commercial activity within a community, and older centers sometimes deteriorated or served residential purposes only.

E. New Hampshire's Political Environment

1. Jacksonian New Hampshire and Fear of Corporations

The development and operation of New Hampshire's railroads has always taken place within the state's unique political environment. Prior to the Civil War, New Hampshire was a bastion of "Jacksonian Democracy," and the state was dominated by the Democratic Party. The interests of the "common man" were championed over those of the "privileged few." Hence, during the first decades of railroad operation in New Hampshire, government leaders expressed a distrust of corporations bordering on paranoia. Fear of corporate privilege actually stopped railroad construction in New Hampshire during the Railroad War of 1840-1844. The railroad corporations that operated in the wake of the 1844 compromise were small and without much political influence.

2. The Rise of Railroad Influence

Until the 1880s, distrust of corporate power and potential abuses made it difficult for New Hampshire railroads to consolidate. Yet anti-railroad interests in the state were never successful in limiting obvious examples of conflict of interest, even cases where railroad executives could serve concurrently as governors and sign legislation designed to favor their railroads. For much of the century, the Concord Railroad was particularly successful in currying favor with state political leaders. By 1890, however, Boston money and influence was making inroads among political leaders and railroad customers alike. By the turn of the century, the Boston & Maine Railroad controlled both the tracks and the legislation in New Hampshire.

3. The Declining Political Influence of the Boston & Maine

With success, the Boston & Maine Railroad became a target of Progressive political leaders in the early twentieth century. Progressives re-instilled a distrust of the railroad in New Hampshire—a distrust that lasted well after the Boston & Maine had ceased to be a corrupting political force. While the federal government was far too slow to recognize the plight of New Hampshire's and the nation's railroads, New Hampshire and New England political leaders were unable to decide upon a strategy to preserve passenger and freight service in the region. Meanwhile, within New Hampshire, state and local governments encouraged the development of good roads and airports, but the state's railroads suffered heavy taxation and regulation. The result was continued deterioration of the state's railroad infrastructure in the years after the Second World War.

F. The Growth of Tourism

1. Railroad and the Growth of Tourism

Although some tourists had come to New Hampshire prior to the construction of railroads, tourism became a major factor in the state economy only after railroads made it easy to reach the lakes and mountains of northern New Hampshire. Directly and indirectly, railroads participated in the construction of large hotels in the mountains. Railroads promoted hotels and attractions located along their lines, and they made it possible for hotel managers to provide their guests with fine food and drink, brought in on a daily basis. Some railroads catered almost exclusively to the tourist trade. During the twentieth century, as "grand hotels" lost their tourism monopoly to motels, tea houses, and campgrounds, railroads continued to take tourists to parks, attractions, and ski slopes.

2. Tourism and High Costs

The tourist trade also led to problems for railroads. The tourist trade was seasonal--lasting only three months at best--yet it required year-round maintenance of tracks in mountainous terrain. In addition, passenger service was more expensive than freight service. Tourists expected to travel in expensive "palace cars," where they would be fed and waited upon by railroad service employees. The tourist trade also called for passenger depots that were a cut above the ordinary country depot. Passenger depots in small resort towns had to be large and commodious enough to meet the demands of large numbers of summer tourists. Some summer hotels even required an individual passenger depot. In short, the tourist trade led to the construction of some of New Hampshire's most scenic railroads and finest stations, but it also led to extraordinary expenses that contributed to operating losses for both the Boston & Maine and the Maine Central railroads in the twentieth century.

G. Railroad Competition

1. Competition among Railroads

The construction and operation of New Hampshire's railroads took place in a competitive environment. Some railroads were incorporated for the sole purpose of competing with another line. Other railroads were acquired and in rare cases even dismantled in an effort to eliminate competition. Competition among New Hampshire's railroads reached a peak during the merger mania that took place from roughly 1869 to 1900. During these years, competing railroads sought to undermine their rivals--usually through legal action or by purchasing rival stock--while at the same time upgrading their own infrastructure, and particularly their passenger depots.

2. Competition from Other Forms of Transportation

Railroad competition did not merely pit one railroad against another. During the 1920s and 1930s, railroads were forced to compete with cars, trucks, buses, and eventually airlines. During the Great Depression, New England's railroads attempted to develop a monopoly of regional transportation, acquiring the controlling interest in a regional airline in the process. The most ambitious competitive initiative by railroads against newer forms of transportation came with the "dieselization" of the railroads after World War II. The turn to diesel engines drastically altered New Hampshire's railroad infrastructure. Yards began to disappear, as did water tanks, coal and sand sheds, and some of the housing needed for maintenance workers. Competition in the twentieth century also forced the Boston & Maine and the Maine Central railroads to seek abandonements, leaving scores of communities with only freight service or no service at all.

H. Railroad Consolidation

Railroad consolidation was the mirror image of railroad competition. Competition frequently led to consolidation, as larger and better operated lines absorbed those less fortunate. Yet consolidation was not simply motivated by the need and desire to rid New Hampshire of unprofitable railroads. Consolidation was frequently motivated by the need to (1) develop through routes in New Hampshire and New England and (2) make larger railroad networks more competitive with rival networks. Consolidation did not always achieve the desired results. In an effort to outmaneuver the Boston & Maine Railroad, for instance, the Eastern Railroad acquired smaller railroads in a reckless manner and drove itself into bankruptcy. When the Concord Railroad consolidated with the Boston, Concord & Montreal, the latter line proved to be an economic drag on the once-profitable Concord. Yet when consolidation was done in an economically-sound manner the result could not only be a better operating railroad, but one with an improved infrastructure. Between 1895 and 1899, the Boston & Maine spent two million dollars improving the depots and yards of the recently-acquired Eastern Railroad and the Concord & Montreal Railroad. In fact, the ability to improve service and safety was an argument generally

used when railroads sought consolidation before the General Court and later the Railroad Commission. Consolidation also reduced the need for so many railroad yards in New Hampshire. Throughout most of the twentieth century, consolidation left New Hampshire with only two or three railroads. In the case of the Grand Trunk, along with the Maine Central (which operated variously as part of the Boston & Maine and independently), the mileage of track in New Hampshire was small. It was the Boston & Maine that had consolidated to the point that it ran most of the trains in the Granite State. As a result, many lines in the state began to assume a Boston & Maine look, complete with depots and some other buildings painted in Boston & Maine colors.

I. Technological Improvements

From the time a small train first steamed into Nashua in 1838, New Hampshire railroads experienced a staggering number of technological improvements. Many of the patented improvements pertained to rolling stock, and as a result, had little impact on surviving railroad properties. Yet even changes to rolling stock could affect the infrastructure needed to maintain and service trains. The most dramatic technological advance to rolling stock came with the turn to diesel locomotives after World War II, which in turn rendered many service buildings obsolete. The ability to harness electricity had an almost equal impact on railroad development. Not only did electricity bring about trolleys and interurban lines, but electricity led to mechanically operated signals and the need to build signal towers. Although the initial construction of the railroads in New Hampshire was not marked by much in the way of technological advances, clearly advances in iron and particularly steel production, along with advances in the ability to build bridges on site, resulted in most of the bridges and trestles that remain today.

J. Varieties of New Hampshire Railroads

1. Introduction

While some of the above factors affected all New Hampshire railroads equally, many did not. Individual New Hampshire railroads wrestled with differing challenges, leading to corporations and corporate infrastructures that made each railroad unique. However, it is possible to make generalizations about the varieties of railroads that operated in New Hampshire and the railroad-related resources that remain. While virtually all of New Hampshire's lines were small and operated generally as "bridge" lines, some were vital links in real or proposed "trunk" lines. Others were of statewide importance because they served to connect disparate regions of New Hampshire. Finally, some were strictly of local importance.

2. Major Through Lines

Only a very few of the state's railroads were built well initially and were continually upgraded and, in some cases, double-tracked. The Concord, the early Boston & Maine,

the Cheshire (Fitchburg), and the Eastern are the best examples here. They were built in southern and less hilly terrain where there was a need for substantial, year-round passenger and freight service. Due in part to their economic importance, as well as their political clout, they were well maintained and continually upgraded. Since many were double-tracked, they had wider and more heavily framed bridges than most other lines. Given the prominence of these lines in southern New Hampshire, and the simple fact they passed through the cities of Manchester, Nashua, Concord, Keene, Dover, and Portsmouth, it is not surprising that most of the state's large and well-designed passenger depots could be found along these lines as well. Unfortunately, prosperity and progress dictated that some of the early depots in these communities be replaced. Once passenger service was discontinued, a combination of taxes and urban renewal spelled doom for passenger depots in each of these cities. Tracks, bridges, and culverts along these lines generally remain (only the Cheshire and a portion of the Eastern have been officially abandoned), however, and these are significant under National Register A and C. Of particular note are some of the masonry bridges along the old Cheshire Railroad.

3. *Lines Linking Regions of New Hampshire*

A number of important railroads connected disparate regions and urban centers in New Hampshire and/or served as links in rail lines passing through the state. For New Hampshire, these were important railroads, although many were not very well built and maintained, and many operated at a loss. Good examples here would be the Northern; the Boston, Concord & Montreal; the Portsmouth, Great Falls & Conway; the Grand Trunk; and the Portland & Ogdensburg. The later two lines were Portland railroads, but only the Grand Trunk, which has been run as a Canadian line, succeeded as a freight railroad. The Portland & Ogdensburg was a failure as a through line for freight--a victim of geography--but had moderate success as a railroad for tourists. The Portsmouth, Great Falls & Conway was a major connector between the seacoast and the White Mountains--a fact of brief significance when skiing gained popularity in the 1930s--but it suffered in part because Portsmouth was never a major East Coast port. The Northern and the Boston, Concord & Montreal were the two vital (and competing) lines north of Concord, but only the better built and more directly-routed Northern consistently made a profit. The Boston, Concord & Montreal never really succeeded as a through "route to the lakes," and its lines to and through the White Mountains, although important for the tourist trade, were seasonal and expensive to maintain. Just as these lines had a mixed record at their peak operation, they have suffered a mixed fate in recent years. Portions of all of these lines have been abandoned, and in most cases, the track and even the bridges have been removed. Some passenger and freight depots have been removed or destroyed; many others have been converted to other uses. Facilities that exist--depots, road beds, and a few yards--are often in deteriorated state. Depots like Gerrish and yards like Westboro are in an advanced state of deterioration, while many other depots along these lines are vacant. Fortunately, restoration and/or continued use has preserved some depots of significance. Along the old Boston, Concord & Montreal, for instance, passenger depots as different as those in Laconia, Ashland, and Plymouth are in excellent condition. Along the Northern, the depot at Potter Place had been beautifully restored, as has the Grand Trunk station in Gorham, although this has been moved slightly.

Remaining steel truss bridges along these lines are also significant, in that these are more lightly-framed, single track bridges. The Boston, Concord & Montreal bridge over the Pemigewasset River in Ashland, for instance, contrasts nicely with the Concord bridge over the Merrimack at Hooksett.

4. Local Railroads

At the other extreme were a number of small railroads that either never should have been built or which served a useful purpose for only a brief period. Some of these were small, local lines like the Tilton & Belmont, the Peterborough & Shirley, the Franklin & Bristol, the Wolfeborough, the New Boston, and the Lake Shore. These lines had little chance of steady, year-round traffic. The irony is that on some of these little lines, original stations survive, and in the case of the New Boston, the Lake Shore, and the Wolfeborough, the passenger depots are impressive for the size and wealth of the railroads. A number of other lines that served a very limited purpose were less local in nature, but they never fulfilled their promise. These lines connected major urban centers, but for reasons of competition and poor management, they faded quickly. Good examples would be the Concord & Portsmouth, the Manchester & Keene, the Manchester and Milford Branch, and the Nashua and Rochester. Almost all of the mileage along these lines has been abandoned and tracks have been removed. Most passenger and freight depots along these lines are no longer extant, while a few others have been converted to other uses--Milford being a good example. The station at Raymond has been restored and is a good example of what local initiative can do with a depot long after the railroad is gone.

5. Miscellaneous Lines

A number of small New Hampshire railroads defy easy classification. The Suncook Valley Railroad, for instance, was never very profitable, but it opened up the towns of the Suncook Valley to rail service and the world beyond, and it operated as a local line well after being cut loose by the Boston & Maine. The Wilton Railroad did much the same for towns in the Souhegan River Valley, and it continues to operate on a very limited basis today. The Concord & Claremont is unique for its prolonged record in connecting the two cities it was named after, and for its unusual and convoluted corporate history. The Manchester & North Weare is equally unique for its political history--a monument to competition that was never allowed to occur. Finally, a line like the Sullivan (County) Railroad is unusual because of its role in connecting larger lines. This little railroad operated on the New Hampshire side of the Connecticut River, linking the Vermont towns of Windsor and Bellows Falls. Yet it was important to New Hampshire, not merely because it is a part of the rail system running along the river, but because it was part of the line that connected the Cheshire and Northern railroads, with the Concord & Claremont meeting the Sullivan as well at Claremont Junction. This line is currently used by Amtrak.

K. Current Infrastructure: A Summary

1. Introduction

The railroad infrastructure extant today is a fraction of what it once was. Some portions of the infrastructure are virtually gone; others are present in large numbers, but with varying degrees of integrity, if indeed they had much significance in the first place.

2. Passenger and Freight Depots

Passenger and freight depots are the most obvious features of New Hampshire's railroad infrastructure. Roughly two hundred passenger or freight depots exist in New Hampshire today. Some of these are freight depots, and most of these could only qualify for the National Register under criterion A, possessing integrity of location and materials. Passenger depots present a varied picture. Many are eligible for the National Register under Criterion A, simply because they were focal points of their communities. Some are also eligible under criterion C, particularly when a builder or architect can be identified. However, most surviving passenger depots have been converted to other uses, moved, or have failed to retain a central location of commercial or social importance. While railroad enthusiasts and local historians might value all surviving depots, a substantial number have lost their integrity of location, design, setting, and association.

3. Bridges and Trestles

The next most obvious features of existing railroad infrastructure would be bridges and trestles. The rarity of remaining wood bridges, and particularly truss bridges, would make them eligible under criterion C. The same could be said for remaining iron bridges and/or pin connected bridges. Steel truss bridges are more common, but might still be eligible under criterion C. Most of the state's bridges have maintained integrity of design, location, materials, and workmanship. Settings may have changed; tracks and ties may have been removed. Like bridges, trestles have gone through evolutionary stages, Inventories taken in 1887, for instance, show a preference for wooden pile trestles. Today, only a handful remain. Other trestles were constructed of either wood or metal, although the trestle over the Souhegan River in Greenville included massive stone piers. Most of the state's trestles could be eligible under criterion C, and most retain integrity of location, design, and workmanship. Some, however, are in rapidly deteriorating condition.

4. Miscellaneous Elements

Other elements of railroad infrastructure are far more rare. Features like water towers, sand houses, coal sheds, and flagstops, and signal towers are extremely scarce. Most semaphore and earlier signals are gone as well. Only a few car and engine houses, including roundhouses, still remain, and most of these are in bad shape. A considerable amount of "housing" for railroad employees survives, although this is hard to identify, often lacks integrity, and probably would not be eligible under criterion A or C in any

event. Some other buildings were built by railroads or associated with railroads, but again, these are hard to identify and/or of questionable eligibility. Buildings once belonging to Lake Shore Park still exist, but these structures, formerly owned by the Lake Shore Railroad, have yet to be studied and probably lack integrity. Commercial brick buildings once owned and used by the Boston & Maine Railroad in Concord may be found on Depot Street off of the old Railroad Square, but these would not be eligible for the National Register.

5. Corridors

Because the remaining railroad infrastructure is so scattered, and because communities along the same lines have treated depots and other buildings in very different manners, it is difficult to find a remaining railroad "corridor" that has much integrity. More work obviously needs to be done here. The line running from Laconia to Plymouth is an example of a corridor that contains numerous elements of railroad infrastructure, i.e., three different stations in good condition, at least two interesting bridges, a couple of freight depots, a sand house, and, if one travels to the Baker River, the best preserved semaphore signal in the state. However, even along this stretch of railroad, one would have to be reminded of the railroad shops that no longer exist at Lakeport, as well as a number of missing depots. Another possible corridor of significance would be the line from North Conway to Fabyans, which is currently being operated by the Conway Scenic Railroad. Still another possibility would be the corridor running through Wilton and Milford. Other corridors of interest may exist, but all will be compromised by either more recent development, or, in virtually all cases, the absence of buildings that once formed a part of the infrastructure of these lines.

L. Future Research

Much of New Hampshire's railroad heritage deserves future study. For instance, there is very little evidence concerning the construction of New Hampshire's railroads. Little is known of the employees; no known accounts survive of the experience. It is assumed, for instance, that Irish workers prepared the rights-or-way, yet this account is based upon tradition and the census records of one New Hampshire town. It is not known how some of the more difficult cuts were made, nor is it known who did stone work on abutments and piers, who designed trestles and early bridges, or even how certain rights-of-way were selected in the first place. Nor do we know much about the design and construction of most railroad buildings. Railroad records in the New Hampshire State Archives are of little help here; an exhaustive study of state newspapers might provide clues.

Aside from the question of infrastructure, there are other areas of future railroad research needed in New Hampshire. Much has been made about the social and economic impact of railroads on New Hampshire and its communities, but there has been little research on the subject. We have no real data on how the coming the railroad affected population growth, population diversity, commerce, manufacturing, employment, and other forms of transportation. Much more should be done on the subject of railroads and

town layout, or for that matter, regional development and planning. Railroads even affected our sense of time and scheduling, but nothing has been written about this in New Hampshire. Also, the environmental impact of railroads has been ignored, even though we can surmise that railroads affected the level of noise, the quality of the air, the level of cutting in the forests, and the drainage of wetlands. Finally, there is no comprehensive narrative of New Hampshire's twentieth century railroad story. The Boston & Maine finally went under, but why? What political decisions kept the management of the Boston & Maine and the political leaders of the New England states from making the decisions that could have averted the collapse of the region's railroads? This and more is open for further investigation. This and more is needed to better understand the full story of New Hampshire's railroads. And all of this will help us make the kinds of decisions that will allow us to retain and make wise use of the best of what survives.

V. APPENDICES

A. RAILROAD CORPORATIONS IN NEW HAMPSHIRE

B. RAILROADS: TOWNS AND DEPOTS

C. TIMELINE OF NEW HAMPSHIRE RAILROAD HISTORY

APPENDIX A

NEW HAMPSHIRE RAILROAD CORPORATIONS

The following list consists of railroads that have been chartered, operated, or at least were authorized to operate in New Hampshire since 1833. Some of the chartered railroads were never built. Others were chartered more than once as two separate corporations. A number of New Hampshire railroads changed their names, either through re-incorporation, or as a result of extension to new destinations, or through combination with other railroads. Some of the railroads listed below were chartered by other states and merely ran up to the New Hampshire border, but they were recognized in New Hampshire statutes and given the right to own land for rights of way, bridge abutments, and terminals in New Hampshire. Those in *italics* were "street railways," which in some cases developed their own rights of way. Some of these were horse railroads, others were local trolleys or interurbans. All street railways were regulated by the State Railroad Commission after 1895. Those railroads that are underlined were logging railroads operating in the White Mountains; they cut their own rights of way and operated under some sort of contractual relationship with the commercial railroads to which they were connected. In a very few cases, railroads were "hybrid," in that they served as logging railroads but served also to carry passengers, or they switched from being "electrics" to diesel. And finally, for some of the names listed below, almost nothing is known. They were a dream and name, but never a railroad.

The names and information listed below comes from many sources. Since railroads were legally incorporated, their names will almost certainly appear in published state laws, including the *Laws of New Hampshire*, which list laws passed during every session of the New Hampshire General Court. At the turn of the century, the Boston & Maine Railroad researched and republished the railroad laws pertaining to the New England states. New Hampshire laws appear in [Boston & Maine Railroad] *Boston and Maine Railroad System, Vol. 2: Statures of Maine, New Hampshire and Vermont relating to the Boston and Maine Railroad and leased lines* (Boston, 1902). This volume does not include all railroads incorporated in New Hampshire, however. The best single volume describing the railroads as corporations in New Hampshire and New England remains

George Pierce Baker, *The Formation of the New England Railroad Systems* (Cambridge, MA, 1937). More recently, the story of New England's various railroads is told briefly in L. Peter Cornwall and Carol A. Smith, *Names First--Rails Later: New England's 700-plus Railroads and What Happened to Them* (Stamford, CT, 1989). Another good source is the seven-part article done by the Boston & Maine Railroad Historical Society's historian Harry A. Frye entitled "Boston & Maine Predecessor Railroads," beginning in volume 20, no. 2, of the *B&M Bulletin.*

Alton & Gilmanton Electric Railway Company

*incorporated in 1899

Ammonoosuc Valley Railroad

*Incorporated July 14, 1855; never built

Amtrak

*Created by the National Railroad Passenger Act of 1970, Amtrak's only operation in New Hampshire has been the "Montrealer," and later the "Vermonter," along the Sullivan County Railroad tracks in Cornish, Claremont, and Charlestown.

Ashuelot Railroad

*Incorporated in NH on December 27, 1844 (also in 1846 and 1848), from Keene to South Vernon, Vt.
*Construction, 1849-51.
*1851: leased to Connecticut River RR
*1861-1877: leased to Cheshire RR
*1877-1890: leased to Conn. River RR; merged with Conn. River RR in 1889.

Atlantic Shore Line Railway

*This was a Maine railroad that ran a ferry across the Piscataqua River. The railroad was given permission to take land in New Hampshire for docking facilities in 1907.

Atlantic & St. Lawrence Railroad

*Incorporated in NH June 30, 1847, to run from Maine to Vermont.
*1853: Through service between Portland and Montreal

*1854: The line is leased to the Grand Trunk Railroad
*1874: Grand Trunk converts to Standard Gauge
*1960: Grand Trunk is purchased by the Canadian National
*Currently operating under the name of St. Lawrence & Atlantic Railroad

Bartlett & Albany Railroad

*Logging railroad operating from 1887 to 1894 in Pemigewasset Wilderness--approximate path of Bear Notch Road.

Beebe River Railroad

*Incorporated in 1917
*Logging railroad operating in Campton from 1917 to 1942.

Berlin Street Railway

*Authorized to operate by state law in 1903, but it was already in operation at the time

Berlin Mills Railway

*Operated in the Berlin Mills as a division of the Brown Paper Company. Operates today as a separate company in the millyard.

Berlin & Errol Electric Railway Company

*Incorporated in 1907. See also the Errol & Berlin Electric Railway

Berwick, Eliot, and York Street Railway

Black Mountain Railroad

*Incorporated in 1893 to run from Black Mountain granite quarries in Piermont to the west bank of the Connecticut River

Black River Railroad Company

*Originally a Vermont corporation, made a NH corporation in 1893, to run between North Charlestown and Claremont.

Black Rock & Salisbury Beach Railroad

*Incorporated in 1887

Blackwater River Railroad

*Incorporated in 1870. Was to connect the Concord & Claremont tracks in Concord to the Northern in Andover.

Blackwater Valley Railroad

*Incorporated in 1887; revived in 1893

Boston & Lowell Railroad

*Originally chartered in Massachusetts in 1830.
*Leased to the rival Boston & Maine Railroad in 1887

Boston, Lowell & Nashua Railroad

*Name used on cars when the Boston & Lowell and the Nashua & Lowell operated jointly, from 1857-1880. It was never actually the name of an incorporated railroad.

Boston, Barre & Gardner Railroad

*Operated the Monadnock Railroad under a lease arrangement through 1880

Boston & Maine Railroad

*Incorporated in New Hampshire, June 27, 1835 to run from the NH line in Haverhill to an undesignated point on the NH/Maine border.
*1840-41: Construction in NH
*1845: B&M in Maine, NH, and Mass. Combined
*1847: B&M and Eastern arrange for joint lease of Portland, Saco, & Portsmouth
*1863: Dover & Winnipiseogee taken over by B&M
*1871-72: B&M builds its own tracks to Portland
*1873: West Amesbury Branch leased by B&M
*1884: Eastern Railroad leased by B&M
*1887: Boston & Lowell leased by B&M
*1895: Concord & Montreal leased by B&M
*1900: Fitchburg leased by B&M

Boston, Concord & Montreal Railroad

*Incorporated on Dec. 27, 1844 to run from Concord to Wells River, Vt.
*1848-1853: Construction to Wells River
*1859: B,C&M leases the White Mountains Railroad
*1869: B,C&M builds beyond Littleton
*1880: B,C&M reaches Groveton

*1889: Becomes part of the Concord & Montreal Railroad

Boston & Ontario Railroad

*Incorporated in 1833, to run from Dunstable, Mass., to the NH/VT border, but never built

Boston & Portland Railroad

*Incorporated in 1833; became part of the Boston & Maine in 1841

Bristol Street Railway

*Incorporated in 1893

Brookline Railroad

*Incorporated in 1871
*Re-incorporated in 1891 to run from Brookline to Pepperell, Mass.

Brookline & Milford Railroad

*Incorporated in 1893, although it seems to have been in operation a year earlier.
*The railroad was to run from the Brookline Railroad in Brookline to Milford, where it would connect with the Wilton Railroad.
*1895: merged with the Fitchburg

Canadian National Railroad

*Organized in Canada in 1922
*1923: Began operating the Grand Trunk line to Portland
*1960: Became owner of the Grand Trunk line in New Hampshire

Centre Harbor & Conway Horse Railroad

*Incorporated in 1865

Cheshire Railroad

*Incorporated Dec. 27, 1844
*1845: Consolidation of the Cheshire Railroad and the Winchendon Railroad of Massachusetts.
*1846-1840: Construction between So. Ashburnham, MA, and Bellows Falls, VT
*1848: Railroad reaches Keene
*1880: Monadnock Railroad leased to Cheshire
*1890: Cheshire becomes part of the Fitchburg.

Chester & Derry Railroad

*Incorporated in 1891

*Interurban line running between Derry and Chester, 1896-1928

Citizens Railway Materials Company

*Gravel operation, operating on former Portsmouth Electric Co. tracks south of Portsmouth

Claremont Railroad

*Incorporated 1854; never built

Claremont Electric Railway

Claremont Railway Company

*Acquired assets of the Claremont Railway & Lighting Company in 1919

Claremont Street Railway

*Incorporated in 1899

*Becomes Claremont Railway & Lighting Company

Claremont Railway & Lighting Company

*Incorporated in 1901 when the Claremont Street Railway and the Claremont Light Company merged

Claremont & Concord Railroad

*Name given to the old Concord & Claremont when the Boston & Maine sold the line to S. M. Pinsly of Boston in 1954.

Claremont & White River Junction Railroad

*Incorporated in 1872

*Charter amended and time extended in 1891

Cocheco Railroad (aka Cochecho Railroad)

*Incorporated July 2, 1847 (formerly the Dover & Winnipiseogee Railroad)

*1848-1851: Construction from Dover to Alton

*1863: Taken over by the Boston & Maine; became Dover & Winnipiseogee again
*1892: Purchased by the B&M

Colebrook Railroad
*Incorporated 1844; never built

Concord Railroad
*Incorporated June 27, 1835 to run from the Nashua & Lowell tracks in Nashua to Concord.
*1841-42: Construction of first track
*1846-48: Construction of second (double) track
*1856: Concord takes over the Manchester & Lawrence Railroad
*1889: Concord merges with Boston, Concord & Montreal to become Concord & Montreal Railroad

Concord Horse Railroad
*Incorporated in 1878

Concord Street Railway
*Incorporated in 1891

Concord and Claremont Railroad
*Incorporated in 1848
*1848-50: Constructed from Concord to Bradford
*1853: Concord & Claremont merged with the New Hampshire Central to form the Merrimack and Connecticut Rivers Railroad Company
*1857: Reorganized as the Contoocook River Railroad and operated by the Northern Railroad
*1873: Consolidated with the Sugar River Railroad and the Merrimack & Connecticut River Railroad to become the Concord and Claremont Railroad again
*1895: Leased to the Boston & Maine

Concord, Dover & Rochester Street Railway Company
*Incorporated in 1903

Concord & Lebanon Railroad
*Incorporated in 1837 to run from Concord to White River Junction, VT. Never built.

Concord & Montreal Railroad

*Formed in 1889 with the merger of the Concord and the Boston, Concord & Montreal
*1893: Tracks extended to Berlin
*1895: Leased to the Boston & Maine
*1919: Formally merged with the Boston & Maine

Concord & Manchester Electric Branch, B&M Railroad

*Incorporated in 1903
*Re-incorporated in 1919
*Abandoned in 1933

Concord & Northern Railroad

*The name chosen in 1870 for the proposed merger between the Concord and the Northern railroads. The merger never took place.

Concord & Portsmouth Railroad

*Incorporated under this name in 1855, when Concord investors took over the Portsmouth & Concord Railroad
*1858: Leased to the Concord Railroad (later, to the Boston & Maine)
*1944: Boston & Maine formally purchases the railroad and liquidates it.

Concord & Rochester Railroad

*Incorporated in 1869 but never built

Concord Granite Railroad (aka Concord Granite & Railway Company)

*Incorporated in 1836; never built

Connecticut River Railroad Company

*Incorporated in 1848
*Leased the Ashuelot Railroad from 1849 to 1860; new lease in 1877
*Takes control of the Sullivan Railroad in 1880
*Ashuelot becomes part of Connecticut River Railroad in 1889
*Leased to the Boston & Maine in 1893

Connecticut River & Montreal Railroad

*Incorporated in 1848(?); never built

Contoocook River Railroad

*Contoocook Valley Railroad renamed Contoocook River Railroad in 1856

Contoocook Valley Railroad

*Incorporated in 1848
*Constructed to Hillsborough in 1849
*Renamed Contoocook River Railroad in 1856

Conway & Meredith Railroad

*Incorporated in 1847; never built

Conway & Montreal Railroad

*Probably never built, but there is a file for this railroad in the NH State Archives

Conway & Mount Kearsarge Railroad (aka, North Conway & Mt. Kearsarge Railroad)

*Incorporated in 1883 as a narrow gauge (two footer) to run from the Portsmouth, Great Falls & Conway tracks in Conway to the summit of Mt. Kearsarge
*As act of 1889 says it will run from the Portland & Ogdensburg tracks in Conway to the summit of Mt. Kearsarge, but reference to narrow gauge is omitted.
*Never built

Conway Scenic Railroad

Coos Railroad

*Incorporated in 1864, to run from Littleton to Groveton.

Derry and Goff's Falls Street Railway

*Name changed to Manchester & Derry Street Railway in 1907

Derry & Pelham Electric Railway

*Incorporated in 1899

Derry & Salem Street Railway Company

*Incorporated in 1903

Dover Horse Railroad
*Incorpoated in 1887

Dover & Barrington Railroad
*Incorporated in 1883

Dover and Eliot Street Railway
*Incorporated in 1878

Dover, Somersworth & Rochester Street Railway Company
*Formed in 1901 with the merger of the Rochester Street Railway and the Union Electric Railway.

Dover & Winnipiseogee Railroad
*1839: incorporated as the Dover & Winnipiseogee Railroad
*1847: reincorporated as the Cocheco Railroad
*1863: taken over by the Boston & Maine Railroad and becomes the Dover & Winnipiseogee again
*1892: purchased by the Boston & Maine Railroad

Dunbarton & Goffstown Street Railway Company
*Incorporated in 1903

East Branch & Lincoln Railroad (aka, East Branch Railroad)
*Operated out of Lincoln by the J.E. Henry & Sons Lumber Company, and later Parker-Young, from 1893 to 1948

East Wilton & Groton
*Incorporated 1846; never built

Eastern Railroad
*Incorporated in 1836 to run from the state line in Seabrook to the state line in Portsmouth
*1839-40: Construction in New Hampshire
*1839: The Eastern Railroad of NH is leased to the Eastern of MA

*1884: Leased to the Boston & Maine Railroad
*1899: Consolidated with the B&M and double tracked

Errol & Berlin Electric Railway Company
*Incorporated in 1915; became the Errol & Berlin Electric Railway & Poweer Company in 1917.

Essex Extension Railroad
*Incorporated in 1849, to run from Salem to the Massachusetts line; never built

Exeter Horse Railroad
*Incorporated in 1870

Exeter Railway (See also Exeter & Salisbury Railroad)
*Incorporated in 1868; never built
*Charter revived and extended, 1890

Exeter Street Railway Company
*Incorporated in 1889

Exeter, Hampton & Amesbury Railway
*Incorporated in 1899

Exeter & Newmarket Street Railway

Exeter & Salisbury Railroad
*An act of 1870 allows the Exeter & Salisbury to run through Epping or Raymond; never built

Farmington & Rochester Railroad
*Incorporated in 1877

Fitchburg Railroad
*Incorporated in Massachusetts in 1842
*Leased the Peterborough & Shirley in 1847
*Incorporated in NH in 1868

*Purchased the Boston, Barre & Gardner in 1885
*Consolidated with the Cheshire in 1890
*Leased to the Boston & Maine in 1900
*Purchased by the Boston & Maine in 1919

Fitchburg, Keene & Connecticut River
*Incorporated in 1844; never built

Forest Line Railroad (common name for Windsor & Forest Line)
*Incorporated in 1870 but never built

Franklin Horse Railroad
*Incorporated in 1883

Franklin & Bristol Railroad
*Incorporated in 1846
*1847-48: Construction from Franklin to Bristol
*1848: Leased to the Northern Railroad
*1849: Consolidated with the Northern Railroad

Franklin & Portland Railroad
*Incorporated in NH in 1868
*Part of a project in the 1870s to run a line between Franklin and New Durham, which would in turn be a link in a trunk line; never built

Franklin & Tilton Railroad (aka, Tilton & Franklin Railroad)
*Incorporated in 1887
*Built in 1890 by the Northern Railroad and the Concond & Montreal; operated by the Concord & Montreal
*1895: Leased by the Concord & Montreal; the lease was later assumed by the Boston & Maine

French Pond Granite Railway Company
*Incorporated in 1893 to run from Woodsville to French Pond

General Mills Park Railroad Association
*Incorporated in 1893 to run from West Peterborough to General Mills Park in Peterborough

Gilmanton & Barnstead Electric Railway Company
*Incorporated in 1899

Glen Junction Transfer Company
*Incorporated in 1897 to be a 1.5 mile railroad in Berlin used by the International Paper Company

Goff's Falls, Litchfield, and Hudson Street Railway Company
*Incorporated in 1903. In 1907 it became the Manchester & Nashua Street Railway

Goffstown & Manchester Railroad
*Incorporated in 1847, but was later built by the Merrimack & Connecticut Rivers Railroad in 1853

Goodwin Railroad Corporation
*Received a 5-year contract in 1977 to run freight between Concord and Lincoln

Gordon Pond Railroad (aka, Lost River Railroad)
*Incorporated in 1907
*Logging Railroad that ran from Lincoln to Lost River Mill from 1907 to 1916.

Grafton Railroad
*Incorporated in 1847; never built

Grand Trunk Railroad
*1854: Grand Trunk leases the Atlantic & St. Lawrence Railroad
*1923: Grand Trunk is merged with Canadian National
*1960: Grand Trunk is purchased by Canadian National
*The former Grand Trunk in New Hampshire is now operating under the name St. Lawrence & Atlantic Railroad

Granite Railway of New Hampshire
*Incorporated in 1886 to run from the Cheshire Railroad to the granite quarries in Marlboro
*Abandoned in the 1930s

Great Falls & Conway Railroad

*Incorporated in 1844
*1849-50: Construction from Great Falls to Rochester
*1866: Becomes part of Portsmouth, Great Falls & Conway Railroad

Great Falls & South Berwick (Branch) Railroad

*Incorporated 1841
*An act of 1865 allowed the Great Falls & South Berwick to be acquired by the Portsmouth, Great Falls & Conway Railroad

Groton & Nashua Railroad

*Incorporated in 1844 to run from Worcester & Nashua tracks in Massachusetts to Nashua
*1846: Merges with the Worcester & Nashua

Guilford Transportation Industries

*Acquired the Maine Central in 1981 and the Boston & Maine in 1982 in an effort to build a northeastern network to compete with Conrail. Currently headquartered in North Billerica, Massachusetts.

Hall, Whitehouse & Burns Railroad

*In the 1890s, ran a small logging railroad in North Woodstock

Hampstead & Haverhill Street Railway Company

*Incorporated in 1903

Hampton Street Railway

*Incorporated in 1891

Hampton & Amesbury Street Railway

Haverhill, Plaistow & Newton Street Railway

Hobo Railroad

*Currently run a tourist railroad between Lincoln and Meridith

Hooksett Branch Railroad

*In 1861, this small line was built by the Concord Railroad between Suncook and Manchester

Hudson, Pelham and Salem Electric Railway Company

*Incorporated in 1899

Iron Mountain Railroad

*Incorporated in 1872, to run between Bartlett and Conway.

John's River Railroad

*Logging railroad, 1870-1902, that connected Whitefield and its Brown Lumber Company mills with the Connecticut River

Kearsarge Mountain Electric Railway Company

*Incorporated in 1903 to run from Warner, through Salisbury, to the top of Mt. Kearsarge.

Keene Electric Railway Company

*Incorporated in 1893

Keene Railroad

*Incorporated in 1835; never built

Keene Street Railway Company

*Incorporated in 1887

Keene, Marlow & Newport Electric Railway Company

*Incorporated in 1901

Kilkenney Lumber Company Railroad

*Incorporated in 1887; successor to the Lancaster and Kilkenney Railroad

*1893: becomes the Upper Ammonusuc Railroad

Laconia Street Railway

Laconia & Lake Village Street Railway
*In 1893, the Horse railroad of the same name was changed to an electric

Laconia & Lake Village Horse Railroad
*Incorporated in 1881

Lake Shore Railroad
*Incorporated in 1883
*Line opened between Lakeport and Alton Bay in 1890
*Built by the Concord & Montreal and operated as part of the C&M, although the Lake Shore remained an independent company
*1895: Leased to the Boston & Maine
*1901: Line abandoned

Lancaster & Kilkenny Railroad (aka, Kilkenny Railroad)
*Incorporated in 1879
*Logging railroad operating out of Lancaster, 1887-1897

Little River Railroad
*Incorporated in 1891
*Logging railroad running along the Little River, 1893-1900. Operated by river logger George Van Dyke

Littleton Street Railway Company
*Incorporated in 1887

Littleton, Franconia & Bethlehem Electric Railway Company
*Incorporated in 1903

Littleton & Franconia Railroad
*Incorporated in 1871

Long and Otter Lakes Railroad Improvement Company (narrow gage)
*Incorporated in 1893 to operate in Greenfield, Francestown, Washington, and Stoddard.

Lowell Railroad

Lowell & Windham Railroad
*Incorporated in 1874

Maine Central Railroad
*Incorporated in Maine in 1862
*Leased the Portland & Ogdensburg in 1888
*Leased the Upper Coos in 1890

Maine, New Hampshire & Massachusetts Railroad
*Incorporated in 1841--this was the combined Boston & Maine for the three states

Manchester Horse Railroad
*Incorporated in 1864
*Company organized in 1871; first cars started rolling in 1877

Manchester Street Railway
*Incorporated in 1889

Manchester & Ashburnham Railroad
*Incorporated in 1871 to run from Manchester to the New Hampshire line near Winchendon, MA; never built

Manchester & Candia Railroad
*Incorporated in 1849 to run from either the Concord, Manchester & Lawrence, or the New Hampshire Central tracks in Manchester to the Portsmouth & Concord tracks in Candia; never built

Manchester & Claremont Railroad
*Incorporated in 1870

Manchester & Derry Street Railway Company
*In 1907, this becomes the new name of the Derry & Goff's Falls Street Railway

Manchester & Fitchburg Railroad

*Incorporated in 1877 to run from Manchester through Bedford, Merrimack, Amherst, Milford to a point on the New Hampshire state line in Brookline, Mason, New Ipswich, or Rindge; never built

Manchester & Haverhill Street Railway Company

*Incorporated in 1903

Manchester & Keene Railroad

*Incorporated in 1864 to run from Keene to the Peterboro Railroad in Greenfield
*1876-78: Construction
*1880: Goes into receivorship
*1881: The Concord and the Boston & Lowell begin operating the M&K
*1882-87: Boston & Lowell operates the Manchester & Keene; later the Boston & Maine

Manchester & Lawrence Railroad

*Incorporated in 1847 to run from the NH state line in Salem to the Concord Railroad tracks in Manchester
*1848-49: construction, Manchester to Lawrence
*1850: leased to the Concord Railroad
*1853-56: operated on its own
*1856: leased again to the Concord Railroad
*1887: leased for 50 years to the Boston & Maine Railroad
*1919: merged with the Boston & Montreal

Manchester & Milford Railroad (aka, Manchester & Milford Branch)

*An act of 1899 authorized the Concord & Montreal to build a line between Manchester (or Goffstown) to Milford, connecting the Manchester & No. Weare Railroad with the Fitchburg.
*1901: Construction
*1925: ICC approves abandonement

Manchester & Nashua Street Railway

*New name (1907) for the Goff's Falls, Litchfield, & Hudson Street Railway

Manchester & North Weare Railroad

*Incorporated in 1848 as the New Hampshire Central Railroad to run from Manchester to Claremont

*1858: The New Hampshire Central is reorganized as the Manchester & No. Weare; tracks to Henniker are torn up.
*Authorized to rebuild its line to Henniker in 1893 (Manchester & No. Weare Extension Railroad)
*1919: absorbed by the Boston & Maine Railroad

Marginal Railroad (Portsmouth Marginal Railroad)
*Incorporated in 1873 to connect the railroads of Portsmouth with wharf facilities; never built

Massachusetts Northeastern Street Railway, Salem Division

Meredith & Conway Railroad (aka, Conway & Meredith)
*Intended to be a subsidiary of the Boston, Concord & Montreal, but never built

Meredith & Ossipee Electric Railway Company
Incorporated in 1899

Meredith & Ossipee Valley Railroad
*Incorporated to frun from Meredith to Ossipee and on to the Mains state line in either Freedom or Effingham. Never built.

Merrimack & Connecticut Rivers Railroad
*Incorporated in 1852 by a combination of the Concord & Claremont and the New Hampshire Central
*Merged with the Contoocook River and the Sugar River in 1873 to become the new Concord & Claremont Railroad

Milton Mills & Union Electric Railway Company
*Incorporated in 1903

Monadnock Railroad
*Incorporated in 1848 to run from Peterborough to Winchendon, MA
*1866: Charter revived
*1869-71: Construction completed
*1874: Leased to the Boston, Barre & Gardner Railroad
*1880: Leased to the Cheshire Railroad
*1890: Consolidated, along with the Cheshire, into the Fitchburg Railroad

Mont Vernon Railroad
*Incorporated in 1868

Mont Vernon & Milford Electric Railway Company
*Incorporated in 1899

Moosilauke Railroad (aka, Mount Moosilauke Railroad)
*Incorporated in 1889
*proposed in 1892 to run from Warren to the summit of Mt. Moosilauke; never built

Mount Belknap Railroad
*Incorporated in 1891 to run from the Lake Shore Railroad to the summit of Mount Belknap.

Mount Lafayette Railroad
*Incorporated in 1881; never built

Mount Washington Railroad Company (aka, Cog Railway)
*Incorporated in 1858
*Completed to the summit of Mt. Washington in 1872

Nashua Horse Railroad
*Incorporated in 1871

Nashua Street Railway
*Incorporated in 1885

Nashua & Acton Railroad
*This was a company formed in 1907 to acquire the Concord & Montreal assets in the defunct Nashua, Acton & Boston Railroad

Nashua, Acton & Boston Railroad
*Incorporated in 1872
*1873: Conostruction completed between Nashua and Acton, MA

*1876: Leased to the Concord Railroad
*1906: Sold to the Boston & Maine

Nashua & Epping Railroad

*Incorporated in 1848 to run from Nashua through Nashvill, Hudson, Londonderry, Derry, Chester, Sandown, Raymond to a point on the Portsmouth & Concord Railroad in Epping or Raymond; never built

Nashua & Groton Railroad

*Incorporated in NH in 1848 to merge with the Worcester & Nashua, a Massachusetts corporation.

Nashua & Hollis Electric Railway Company

*Incorporated in 1903

Nashua & Lawrence Railroad

Nashua & Lowell Railroad

*Incorporated in 1835, to run 5.25 miles of track in NH
*1838: Track completed to Nashua; the Nashua & Lowell of MA and NH unite
*1846: Double track completed
*1857: Nashua & Lowell leased to Boston & Lowell (lease is intermittent)
*1887: Nashua & Lowell lease to the Boston & Lowell is assigned to the Boston & Maine Railroad
*1944: Nashua & Lowell purchased by the Boston & Maine

Nashua & Plaistow Railroad

*Incorporated in 1874

Nashua & Rochester Railroad

*Incorporated in 1845; charter revived in 1868
*1874: Construction completed
*1883: Consolidated with the Worcester & Nashua to become Worcester, Nashua & Rochester Railroad

New Boston Railroad

*Incorporated in 1891 to run from the Manchester & No. Weare at Parker's Station to New Boston

*1893: Construction completed
*1893: Leased to the Concord & Montreal Railroad
*Line abandoned in the 1930s

New Fabyan Hotel Horse Railroad
*Incorporated in 1865

New Hampshire Railroad Corporation (1)
*An act of 1889 allowed for the Concord Railroad and the Boston, Concord & Montreal to merge and become the New Hampshire Railroad Corporation. It never happened.

New Hampshire Railroad (2)
*Incorporated by state law in 1915 allowing for the merger of the Concord & Montreal and the Northern. It never happened.

New Hampshire Central Railroad (#1)
*Incorporated in 1848 to build between Manchester and Claremont
*1849-50: Construction between Manchester and Henniker
*1853: Consolidated with Concord and Claremont to become the Merrimack and Connecticut Rivers Railroad. Tracks between No. Weare and Henniker were torn up and the railroad was re-incorporated as the Manchester & No. Weare Railroad

New Hampshire Central Railroad (#2)
*The was part of a project in the 1870's to build a trunk line between Portland and Chicago; never built

New Hampshire Union Railroad
*Incorporated in 1851; never built

New Haven Railroad (see New York, New Haven & Hartford Railroad)

Newport & Sunapee Street Railway (aka, Newport & Sunapee Railway Development Company
*Incorporated in 1907

Newport & George's Mills Electric Railway Company

*Incorporated in 1901

New York, New Haven & Hartford Railroad

*Controlled the Boston & Maine Railroad and the Maine Central from 1906 to 1912

New Zealand River Railroad

*Incorporated in 1878

North Conway & Mt. Kearsarge Railroad ("two footer")

*see Conway and Mount Kearsarge Railroad

Northern Railroad

*Incorporated in 1844
*1846-48: Construction between Concord and White River Junction, VT
*1848: Leased the Franklin & Bristol Railroad
*1884-87: Leased to the Boston & Lowell Railroad
*1888 on: Operated by the Boston & Maine, sometimes through the Boston & Lowell

Northfield & Franklin Railroad

North Stratford Railroad

*Organized in 1977 to run from No. Stratford to Beecher's Falls, VT, and the Grand Trunk

Ossipee Valley Railroad

*Incorporated in 1893 to run from the Boston & Maine tracks in Ossipee through Freedom, Effingham, and to the Maine line. Never built

Pemigewasset Valley Railroad

*Incorporated in 1874 to run from Plymouth to Lincoln
*1883: Construction to No. Woodstock; leased to the Boston, Concord & Montreal Railroad
*1895: Construction completed to Lincoln
*1995: Purchased by the State of New Hampshire and leased to Goodwin Railroad Corporation.

Peterborough Railroad

*Incorporated in 1866; reincorporated in 1872 to run from Wilton to Greenfield, serving as an extension to the Wilton Railroad
*1873: Leased to the Nashua & Lowell Railroad
*1874: Construction completed
*1893: Leased to the Boston & Lowell (which in turn is leased to the Boston & Maine)
*1895: Leased to the Boston & Maine Railroad
*1944: Boston & Maine purchases line

Peterborough & Hillsborough Railroad

*Incorporated in 1869 and again in 1876.
*1878: Constructed with aid from the Northern Railroad

Peterborough & Shirley Railroad

*Incorporated in 1846 to run from the NH line in Mason to Peterborough
*Construction to Mason Village completed 1849-50
*Operated from the beginning by the Fitchburg
*Bought by the Fitchburg in 1860
*Line terminates in Greenville, never have made it to Peterborough

Piscataquog River Railroad

*Incorporated in 1849; never built

Pittsfield & Concord Railroad

*Incorporated in 1851; never built

Pontoocook Railroad

*Incorporated in 1883 to run from the tracks of the Atlantic & St. Lawrence Railroad to the Pontoocook Dam and then to Lake Umbagog

Portland & Connecticut River Railroad

*Incorporated in 1839; reincorporated in 1859; never built

Portland & Ogdensburg Railroad

*Incorporated in Maine in 1867
*Incorporated in New Hampshire in 1869

*Construction passes through Crawford Notch and reaches Fabyans in 1875
*Leased by Maine Central Railroad in 1888

Portland & Rochester Railroad
*Incorporated in New Hampshire in 1866
*The old York & Cumberland Railroad became the Portland & Rochester in 1881
*Sold to the Boston & Maine in 1900

Portland & Rutland Railroad
*See New Hampshire Central Railroad #2

Portland, Saco & Portsmouth Railroad
*Incorporated in Maine in 1837
*Incorporated in New Hampshire in 1841
*1847: Signs joint operating agreement with the Eastern and the Boston & Maine
*1870: Eastern receives sole right to use Portland, Saco & Portsmouth tracks
*1883: Boston & Maine leases both the Eastern and the Portland, Saco, and Portsmouth

Portland, White Mountain & Ogdensburg Railroad
*Incorporated in New Hampshire in 1867

Portsmouth Electric Railway
*Incorporated in 1898 to run from Portsmouth, through Rye, to North Hampton
*Abandoned in 1925

Portsmouth Horse Railroad
*Incorporated in 1887

Portsmouth Marginal Railroad (aka Marginal Railroad)
*Incorporated in 1873

Portsmouth Marine Railway
*Incorporated in 1833 to service ships

Portsmouth & Concord Railroad
*Incorporated in 1845

*1847-1852: Constructed between Portsmouth and Concord
*1855: Trustees take over the railroad and have it reincorporated as the Concord & Portsmouth Railroad

Portsmouth & Dover Railroad

*Incorporated in 1842 to run from the Boston & Maine depot in Dover to Portsmouth, including the right to build a bridge across the Piscataqua River at Fox Point
*Reincorporated in 1866
*Line is opened in 1872 and leased to the Eastern Railroad
*The Boston & Maine purchased the Portsmouth & Dover in 1900

Portsmouth, Dover & Great Falls Railroad

*Incorporated in 1853 by allowing the Portsmouth and Dover to extend its tracks to Somersworth, hence forming the Portsmouth, Dover, and Great Falls Railroad

Portsmouth & Exeter Street Railway

*Incorporated in 1901

Portsmouth & Great Falls Railroad

*An act of 1850 authorized manufacturing companies to hold the capital stock of the Portsmouth & Great Falls Railroad

Portsmouth, Great Falls & Conway Railroad

*Incorporated in 1865; the new corporation will acquire the old Great Falls & Conway Railroad and be authorized to build the line from Union Village to Conway.
*1867: Tracks are completed to North Conway
*1870: Leased to the Eastern Railroad
*1884: Leased to the Boston & Maine Railroad

Portsmouth, Kittery & York Electric Railroad

Portsmouth & Newburyport Railroad

Portsmouth, New Market & Concord Railroad

*Incorporated in 1845 to run from Portsmouth, or a point on the Boston & Maine tracks in Dover, Durham, New Market or Exeter to Concord or Manchester or a point on the Concord Railroad in between
*1845: Merged with the Portsmouth, New Market & Exeter Railroad

Portsmouth, New Market & Exeter Railroad

*Incorporated in 1845 to run from Portsmouth to the Boston & Maine in Dover, Durham, New Market, or Exeter
*1845: Merged with the Portsmouth, New Market & Concord
*1852: Line opened between Portsmouth and Concord under the name of the Portsmouth & Concord Railroad

Profile & Franconia Notch Railroad (orig. narrow gage; later standard)

*Incorporated in 1878 to run from Bethlehem Junction to the Profile House and to Bethlehem
*A 3'gauge line was completed to the Profile House in 1879 and to Bethlehem in 1882
*1892: Purchased by the Concord and Montreal Railroad
*1896: Converted to standard gauge
*1925: Line to Bethlehem abandoned

Raymond to New Market Railroad

Rochester Street Railway Company

*Incorporated in 1889
*Merged with the Union Electric Railway in 1901 to become part of the Dover, Somersworth & Rochester Railway.

Rockingham Electric

Rocky Branch Railroad

*Logging railroad operating out of Jackson, 1908-1914

Rye Beach Railroad

*Incorporated in 1872 to run from the Eastern Railroad tracks in Hampton through North Hampton, Rye to the Eastern or Concord & Portsmouth tracks in Portsmouth; never built

Rye Beach Electrical & Horse Railroad
*Incorporated in 1893

Saco Valley Railroad
*Incorporated in 1891
*Logging railroad running out of Hart's Location, 1892-1898

Salisbury & East Kingston Railroad (aka Salisbury & East Kingston Extension)
*Incorporated in 1846; reincorporated in 1849 as Salisbury and East Kingston Extension to run from the Boston & Maine tracks in East Kingston to the Portsmouth & Concord tracks in Epping or Raymond; never built.

Sanford & Eastern Railroad
*A portion of the old Portland & Rochester from Rochester to Westbrook, ME, that was purchased by Samuel M. Pinsly in 1949. The New Hampshire portion was abandoned in 1952.

Sawyer River Railroad
*Incorporated in 1875
*Logging railroad operating in Livermore, 1877-1937

Seabrook & Hampton Beach Street Railway
*Incorporated in 1901

Simms Stream Valley Railway Company
*Incorporated in 1893 to run from the Upper Coos Valley Railroad in Columbia through Odell to Irving's Location.

Souhegan Railroad
*Incorporated in 1846

South Berwick Branch Railroad
*Constructed in 1863-64, connecting the Eastern Railroad and the Great Falls & Conway Railroad
*Merged into the Portsmouth, Great Falls & Conway Railroad in 1866

Spicket River Railroad

*Incorporated in 1874 to run between the Nashua & Rochester Railroad in Derry to Hampstead

Springfield Electric Railway

*Incorporated in 1896
*Leased to the Springfield Electric Railway of Vermont in 1897
*Purchased by the Springfield Terminal Railway Company in 1949

Springfield Terminal Railway Company

*This is the company that operated the Boston & Maine and the Maine Central for Guilford Transportation Systems

Success Pond Railroad

*Logging railroad operating out of Berlin, 1894-1907

Sugar River Railroad

*Incorporated in 1855, began construction in 1870
*1872: operating between Claremont and Bradford
*1873: became part of the Concord & Claremont Railroad

Sullivan Railroad (aka, Sullivan County Railroad)

*Incorporated in Vermont in 1846 to run between Windsor, VT, and Bellows Falls, VT, with most of its track on the New Hampshire side of the Connecticut River
*Incorporated in New Hampshire in 1846
*Constructed between 1847-1849
*Goes into receivorship in 1851 and is taken over by the Northern Railroad in 1858
*1861: Taken over by the Vermont Central
*1866: Reorganized as the Sullivan County Railroad
*The line was subsequently sold to the Connecticut River Railroad and currently is operated by Amtrak

Suncook Valley Railroad

*Incorporated 1849; reincorporated 1863 to run from Suncook Village to Pittsfield
*Leased to the Concord and the Manchester & Lawrence railroads after 1870
*1929: The Boston & Maine returns control of the line to the original corporation

*1952: abandoned

Suncook Valley Extension

*Incorporated in 1849; reincorporated 1868, to run from Pittsfield to Alton Bay
*1889: Reaches Barnstead
*Later owned by the Boston & Maine Railroad, but after 1929, operated by the Suncook Valley Railroad

Swift River Railroad

*Swift River Railroad #1 was incorporated in 1874 but never built
*Swift River Railroad #2 was incorporated in 1903; a logging railroad operating out of Conway, 1906-1916

Tilton & Belmont Railroad

*Incorporated in 1883
*The line opened 1888-89. All shares of the railroad were owned by the Concord & Montreal Railroad

Tilton & Franklin Railroad

*See Franklin & Tilton Railroad

Troy Blanket Mills Railway

*Incorporated in 1917 to connect Troy Mills with the Fitchburg Railroad

Troy Granite Railway

*Incorporated in 1899
*Records for this railway for the year 1899 are located in the New Hampshire State Archives, but there is no record of the railroad having been built

Unconoonuc Incline Railway and Development Co.

*Incorporated in 1903
*Operated an electric "incline" railway up the southern peak of Unconoonuc from 1906 to 1949

Union Electric Railway (aka, Union Street Railway)

*Interurban between Somersworth and Dover
*In 1901, it merged with the Rochester Street Railway to become part of the Dover, Somersworth & Rochester Street Railway Company.

Upper Ammonoosuc Railroad

*Incorporated in 1893
*Logging railroad operating out of Milan, 1892-1903

Upper Coos Railroad

*Incorporated in 1883; part of the line linking Quebec Junction with Quebec
*Leased by Maine Central Railroad in 1890

Walpole & Alstead Street Railway

*Incorporated in 1891

West Amesbury Branch Railroad

*Incorporated in 1868 to run from the NH state line in Newton to the Haverhill/Plaistow line and to connect with the Boston & Maine there
*Construction completed 1873
*1873: Leased to the Boston & Maine Railroad

West New Hampshire Railroad (aka, Western Railroad)

*Incorporated in 1866
*A railroad planned between Brattleboro, VT, and Hinsdale, but never built

White Mountains Railroad

*Incorporated in 1848 to go from Bath Junction to Littleton
*Constructed, 1851-1853
*1859: Leased to the Boston, Concord & Montreal Railroad

White Mountains of New Hampshire Railroad

*Incorporated in 1849; never built

Whitefield & Jefferson Extension Railroad

*Incorporated in 1887

Whitefield & Jefferson Railroad

*Incorporated in 1878; completed in 1879
*Jointly owned by the Brown Lumber Company and the Boston, Concord & Montreal Railroad

*Concord & Montreal becomes sole owner of the line
*1890-1893: Line completed to Berlin
*1892: A branch is built to the Waumbek House in Jefferson

Wild River Lumber Company Railroad (aka Hastings Lumber Company Railroad)
*Logging railroad operating out of Hastings Maine, 1891-1917

Wilton Railroad Company
*Incorporated in 1844 to from Nashua to East Wilton and Marlow
*Nashua & Lowell ran the railroad from the beginning, and formally leased the line in 1854
*1880: Leased by the Boston & Lowell Railroad
*1890: Leased by the Boston & Maine

Windsor & Forest Line Railroad (aka, Forest Line)
*Incorporated in 1870, but never built.

Winnipesaukee Scenic Railroad
*Current tourist railroad, under joint ownership with the Hobo Railroad, running between Meredith and Laconia

Wolfeborough Railroad #1
*Incorporated in 1868 to run from Sanbornville to Wolfeborough
*Began operations in 1872; leased immediately to the Eastern Railroad
*1892: Consolidated with the Boston & Maine Railroad

Wolfeborough Railroad #2
*A tourist railroad operating on the old Wolfeborough tracks from 1972 to 1978

Wolfeborough & Alton Railroad
*Incorporated in 1871

Woodstock & Thornton Gore Railroad
*Logging railroad operating out of Woodstock, 1909-1914

Worcester and Nashua Railroad
*Incorporated in 1845 as the Nashua & Groton Railroad of New Hampshire

*Construction began in 1846
*1846: Nashua & Groton merged with the Worcester & Nashua
*1848: was operating between Worcester and Nashua
*1883: Merged to become part of the Worcester, Nashua & Rochester

Worcester, Nashua & Rochester Railroad

*Formed in 1883 with the consolidation of the Worcester & Nashua and the Nashua & Rochester
*1885: Leased to the Boston & Maine Railroad
*1911: Absorbed into the Boston & Maine

Zealand Valley Railroad

*Logging Railroad operating around Zealand, 1884-1897

APPENDIX B

RAILROADS: TOWNS AND DEPOTS

The following towns, cities, or unincorporated places had, at one time, a railroad located within their boundaries. In some cases, a railroad passed through only a limited portion of the municipality and no depots or other structures were located there. In some of the northern towns and unincorporated places, only a logging railroad was present, and usually for a very limited time. In other cases, towns and cities had a major railroad presence, complete with several railroads and numerous depots. Efforts have been made to include the names of the lines that went through these municipalities, although this is made difficult by the simple fact that almost all New Hampshire railroads changed their names at least once. Earlier names for railroads are generally used; by 1900, almost all of the railroads in New Hampshire were running under the name Boston & Maine with the exception of the Grand Trunk. The depots have been listed by the town, city, or unincorporated place where they were located when in operation. Some have since been moved to other towns. Some bear the name of a neighboring town. For instance, Antrim Depot was in Bennington; Whitefield Depot was just over the line in Dalton. And in some cases, the depot and/or the village where the depot was located are better known than the town name. Woodsville and Groveton are not towns, but villages in the towns of Haverhill and Northumberland respectively. To further confuse the issue, many depots changed names over time. Needless to say, this is a working document and by its very nature, incomplete. There is a great deal of interest in railroad properties today, particularly the passenger depots, many of which have been restored or are being used for non-railroad purposes. There is at least one web site devoted to New Hampshire depots, and material is being added regularly (www.lightlink.com/sglap3/).

Albany: Swift River Railroad; Bartlett and Albany RR

Rights of way for logging railroads. Swift River RR is now the eastern end of the Kancamagus Highway; Bartlett and Albany Railroad is now Bear Notch Road.

*See Belcher, *Logging Railroads.*

Allenstown: Concord & Portsmouth RR; Suncook Valley RR; Concord RR

Blodgett: Built c. 1889; converted to residence.

Allenstown Depot: Built c. 1870; converted to residence.

*Hurd's Atlas

Alton: Cocheco RR; Lake Shore RR

Spring Haven Depot: Depot, built c. 1889; converted to residence and still standing.

Smiths Point: Flagstop/shelter, built c. 1912.

West Alton Depot: Built c.1889, combination passenger station/freight house. Converted to residence; still standing.

Woodlands (shelter only), built 1910.

Mt. Major: canopy flag station, built c. 1900.

Brookhurst: Flagstop/shelter, built in 1911.

Buckley

Loon Cove Depot: Built 1891. Still standing but altered. 1914 Val. records indicate station included section house, dwelling, barn, hen house.

Keewaydin: Flagstop/shelter, built in 1911.

Alton Bay Depot: The current depot was built in 1907 by the Boston & Maine RR. It is the third on this site, the first two having burned. It was built by Lewis Killam of Haverhill, Massachusetts, along with a freight station. A new steamboat wharf was built on the site in 1916. The depot has been remodeled and serves at the town of Alton community center. Listed on National Register 9/22/83. The second depot is pictured in Heald, *Lakes Region*; current depot also pictured, with water tower. Repair shops at Alton Bay destroyed by fire in 1878 and not rebuilt.

Alton Station: Passenger and freight depots still standing but in poor shape

*See Philbrook, "Lake Shore Railroad"

Amherst: Nashua & Lowell (later the Boston & Lowell); Boston & Maine (Manchester & Milford Branch)

Amherst (Ponemah) Station: Also known as Danforth's Corner. Built c. 1900.
See *B&M Bulletin*, winter 1979, p. 25.

Baboosic Lake: Shelter opened in 1903; summer station in 1912

*Hurd's Atlas; listed as Ponemah on 1996 Railroad Map; Baboosic Lake in 1919 PSC map.

Andover: Northern RR

West Andover (Gale) Depot: No longer extant (NHDOT)

Potter Place Depot and Freight Station. The stick style passenger depot, built in 1875, is restored and on the National Register. Located on Depot & Cilleyville rds, off Rt. 11. Listed on National Register 1989. The freight depot is still standing.

Andover Depot: No longer extant (NHDOT). Built in 1910, drawings at B & M Hist. Soc., Lowell.

Alpine Depot: Appears in 1919 PSC map

East Andover (Halcyon) Station: No longer extant (NHDOT)

Note through truss bridge over the Blackwater River. Northern RR Survey, DHR

Ashland: Boston, Concord & Montreal RR

Ashland Passenger & Freight Station: Both still standing. The passenger station was probably built in 1869, replacing a 1849 station that handled both passengers and freight. The station was moved and substantially altered in 1891 by the Concord & Montreal RR; a semaphore signal was added in the early 20th century. The building was used again for freight in mid-century, but service stopped in 1960. Early 20th century photographs also show a roofed pavilion NW of the passenger depot, but this is gone (see Heald, *Lakes Region*). The passenger station is on the National Register and was restored by the Ashland Historical Society in 1998. Listed on National Register. See Plymouth *Record Enterprise*, June 3, 1998. Also, see ICC documentation of the passenger depot, 1915, in B & M Hist. Soc. Archives, Lowell. See also Hurd's Atlas.

Atkinson: Boston & Maine RR

Atkinson Depot: Passenger depot burned January 1996; freight depot still standing but vacant and in bad shape

*Hurds Atlas et al.

Auburn: Concord & Portsmouth RR

Auburn Depot
*Hurd's Atlas

Barnstead: Suncook Valley RR

Barnstead (Barnstead Parade) Depot: Combined depot built in 1889. Restored and serving as a private residence.

Barnstead Centre (Center Barnstead) Depot: Converted to residence.

Barrington: Nashua & Rochester RR(later, Worcester, Nashua & Rochester)

Barrington Depot, East Barrington: Built c. 1872. 1914 val. records list passenger station and milk platform.

*listed in 1890 *Secure a Home*, and 1915 B&M map

Bartlett: Portland & Ogdensburg Railroad (later Grand Trunk); Bartlett and Albany Railroad; Rocky Branch Railroad, East Branch Railroad

Bartlett Station: Freight House and Round House extant. Passenger Depot no longer extant (was built in 1897).

Glen Station (Center Bartlett; also called Glen-Jackson): c. 1873, still extant - converted to residence (ski lodge). Nearby is the station agent's house and a freight shed. See Lynne Monroe, Area form for Glen Village Center, Bartlett, prepared for DOT May 1991.

B& A RR, Rocky Branch, and East Branch were all logging railroads.
*Hurd's Atlas, and Belcher, *Logging Railroads.*

Bath: Boston, Concord & Montreal RR

Bath Station: No longer extant (NHDOT)
*Hurd's Atlas

Beans Grant: Boston, Concord & Montreal RR

Right of way for rail line between Fabyans and the Mt. Washington Base Station

Beans Purchase: Wild River RR

Logging railroad right of way; trestle over Moriah Brook was quite large.

Bedford: Concord RR; Boston & Maine RR(Manchester & Milford Branch)

Holwood: Flagstop with platform, built c. 1906

Bedford Depot: Built c. 1900

So. Bedford Depot: Flagstop--platform only

Moores Crossing

*all appear in the 1919 PSC map

Belmont: Tilton & Belmont RR

Gardners Grove: Flagstop/shelter, built c. 1890. Also, a number of park buildings including well, store building, observatory, toilets, cafe, as shown in Valuation Records. Shown on 1919 PSC map.

Tioga: Flagstop/shelter, built c. 1913. Shown on 1919 PSC map

Belmont Depot: See Heald, *Lakes Region*, for picture of arrival of first train, 1889. Station also included separate freight house.

Winnisquam Station: Converted to private residence and still standing

Bennington: Contoocook Valley RR

Antrim Station: no longer standing

Bennington Station: combination passenger and freight depot built 1892, heavily altered; became VFW. See *B&M Bulletin*, Summer 77, p. 34.

So. Bennington Station: Built 1897.

Benton: Boston, Concord & Montreal RR

(no depot)

Berlin: Grand Trunk Railroad, Concord & Montreal RR, Success Pond RR

Cascade

Berlin Mills

Berlin Depot: B&M station abandoned but extant

Berlin: First Grand Trunk Station at Berlin Falls, built in 1882, is pictured in Brown Company Collection, PSC. In all, four stations have been on this site. The current brick Grand Trunk Station, built in 1917, has been converted to business. See Mouneau, *Berlin*, p. 70.

Right of way for Success Pond Railroad. See Belcher, *Logging Railroads*.

Bethlehem: Boston, Concord & Montreal RR, Profile & Franconia Notch RR, Little River RR, Zealand Valley RR

Wing Road Depot: New passenger station in 1893.

Alderbury Depot (Libbeys?)

Bethlehem Depot: Converted to private residence and still standing

Bethlehem Junction (Maplewood) Depot: Built c. 1881, it is still standing but abandoned and in poor condition.

Pierce Bridge Depot

Rights of way for logging railroads, Little River and Zealand Valley. See Belcher, *Logging Railroads*.

Boscawen: Northern RR

North Boscawen (Gerrish) Depot: Depot still standing but in need of help. See Northern Railroad Survey, DHR.

Boscawen (Plain) Depot: There are currently two "Boscowen: depots still standing; both are private residences

Bow: Concord RR

Bow Junction: Two-story station with bedrooms upstairs. Built c. 1886 and moved in 1914. 1914 val. records also list section tool house on site. (This may be the building that serves as a sandwich shop on Hall St. Concord.)

Bow (Robinson Ferry) Depot

*Bow Junction in 1996 Railroad Map; Depot near Robinson Ferry in Hurd's Atlas.

Bradford: Concord & Claremont RR

Bradford Depot: Freight depot has been converted to a business; still standing

Bridgewater: Boston, Concord & Montreal RR

Bridgewater Station

Bristol: Franklin & Bristol RR

Bristol Depot: Was a 22' x 47' frame building (built c. 1854) with 26' x 71' freight depot (built c. 1864). Passenger depot no longer extant; only a concrete retaining wall remains of the freight station. There was also an engine house located 1/2 mile south of the depot, built in 1864.

Profile Falls: Flagstop. Tool house moved in 1940 to water treatment plant off 3A(maroon & cream). *B&M Bulletin*, summer 1978, p. 15.

Brookline: Brookline & Pepperell; Brookline & Milford; (both later part of Fitchburg RR)

South Brookline

Brookline Depot: built c.1892. Converted to residence, still fairly intact.

North Brookline

*Brookline in Hurd's Atlas; North Brookline in 1996 Railroad Map; all three in 1919 PSC map

Brookfield: Portsmouth, Great Falls & Conway RR

Brookfield Station: Enclosed flagstop pictured in Heald, *Lakes Region*.

Campton: Pemigewasset Valley RR, Beebe River RR

Livermore Falls (Rocky Falls) Station

Blair Station: New or improved passenger station in 1914 (B & M Annual Report).

Beebe River Station: Still standing

Campton Station

Beebe River RR was a logging RR with a right of way in Campton. See Belcher, *Logging Railroads*.

Canaan: Northern RR

West Canaan (Pattee) Station: No longer extant (NHDOT)

Canaan Depot: Freight Depot (built in 1924) standing but in need of repair in 1994. Apparently new building, or possibly greatly renovated old depot, on site of passenger depot. Northern RR Survey, DHR. Note: This may be the passenger depot, but heavily altered.

Candia: Concord & Portsmouth RR

Candia Station: Passenger depot built in 1884 is pictured in Thomas, *Rockingham County*. Station is no longer extant, but a passenger shelter and freight house were moved to Raymond and preserved.

East Candia Station: See 1890, *Secure a Home*, 1892 C&M Map, and 1915 B&M map.

Canterbury: Boston, Concord & Montreal RR

Canterbury Station: Either built or improved in 1911 according to B&M Report. Drawings at B & M Historical Society Archives, Lowell. Converted to private residence. The original is also probably also extant and is a private residence. Both have been moved from their original locations, but are still in the proximity of the original depots.

Boyce Depot

Carroll: Boston, Concord & Montreal RR, Portland & Ogdensburg RR, Zealand Valley RR

Twin Mountain Depot

Zealand Depot: Served in a logging town, which was northern junction of the Zealand Valley RR, a logging RR. See Belcher, *Logging Railroads*.

Fabyan Depot: Passenger depot now serves as a restaurant. Fabyan consisted of many railroad buildings to accommodate railroad workers and tourists. The largest was the Fabyan House built in 1874. Other buildings included two passenger depots, a roundhouse, a shop, a coal house, and several houses for workers. See Valuation Records. Location of depot changed in 1893.

Mt. Pleasant House: Covered passenger platform that was town down when the Mt. Pleasant House was torn down. See Robertson & English, *Century of Railroading* for a picture.

White Mountain House: Passenger platform only.

Quebec Junction

Crawford House Depot: Original station was built shortly after the P&O was built through Crawford Notch and heavily renovated in 1891. There was also a freight depot just south of the passenger depot. Both buildings are extant and the passenger depot has been restored as a museum. See Robertson & English, *Century of Railroading*.

Note the "cut" through the Gate of Crawford Notch, which has been documented in stereographs

Chandlers Purchase: Boston, Concord & Montreal RR

B,C&M passes through on way from Fabyans to Mr. Washington Base Station.

Charlestown: Sullivan RR

North Charlestown Depot: Built in 1855. No longer extant (*B&M Bulletin*, 1988)

Springfield Junction

Charlestown Depot: Built in 1849. Moved and converted to business in 1900. Site also included sheds and a freight house. See picture and information in Tolles, *New Hampshire Architecture*, p. 166. Freight depot is extant.

South Charlestown

Chester: Chester & Derry RR

Interurban connecting Chester and Derry. Trolley pictured in Thomas, *Rockingham County*.

Chichester: Suncook Valley RR

no depot: (Chichester Depot is in Epsom)

Claremont: Sullivan RR; Concord & Claremont RR

Claremont Junction Station: Built in 1897 ? and being used by Amtrak. There are other railroad buildings at Claremont Junction, including the engine house where the Yankee Flyer is being restored.

Claremont Station (spur to mills)

High Bridge at W. Claremont built in 1929. See *B&M Bulletin*, Vol. XV. No. 4.

Colebrook: Portland & Ogdensburg (later Maine Central) RR

Arlin's Depot

Colebrook Depot: Combined depot is currently serving as a business
*Arlins in 1919 PSC map and 1915 B&M map

Columbia: Portland & Ogdensburg (later Maine Central) RR

Columbia Valley

Columbia Bridge Depot: Passenger depot has been converted to a private residence

Cones

Columbia House (George's, Tinkerville)

Concord: Concord RR; Boston, Concord & Montreal RR; Northern RR; Concord & Claremont RR.

Mastyard Station: Depot mentioned in *West Concord.* (torn down)

Riverhill Station: Probably served mostly as a flag stop. Pictured in *West Concord.*

West Concord (Garrison, later Gardner)Depot: Depot pictured in *West Concord.* Depot was moved to Fisherville Rd. and remodeled as business. (Could not be found)

Penacook Depot: Passenger depot has been torn down. Freight station still standing, and a Warren metal truss bridge is located approx. 100 yards north of the freight station. See Northern Railroad Survey, DHR, and Hengen, *Penacook.*

East Concord (Eastside)Depot: Depot and freight depot pictured in Hengen & Sampson, *Capital Views.* Passenger depot was moved and later razed.

Sewall Depot

Concord Depot and yard, including round houses (2), car house, machine shop, paint shop, freight depot, repair shops (2)(all torn down): See photos in Hengen & Sampson, *Capital Views,* including pictures of second, third, and fourth passenger depots.

Boston & Maine Car Shops: still standing, off Langdon St. See survey, Northern Railroad, DHR. Photographs of construction of shops in B&MRRHS Archives, Lowell. Photo of shop building and employees in Hengen & Sampson, *Capital Views.*

Conway: Portland, Great Falls & Conway RR; Portland & Ogdensburg RR; Swift River RR

Intervale: Converted to private residence and still standing

North Conway Stations (2): The B&M station is owned and operated by the Conway Scenic Railroad. It was built by the P,GF& C RR in 1874, along with a 4-bay engine house and a turntable. The unusual depot was designed by Nathaniel J. Bradlee (1829-1888). The yard also includes a freight house and a section car house. Depot and yard are on the National Register.

Redstone Depot - pass sta. & freight sta. built 1889.

Conway Station: Built in c. 1870; gingerbread trim. demolished c. 1960. Freight depot still standing.

Conway Centre Station - remodeled and rebuilt 1889.

Swift River RR was a logging RR with its mill and eastern terminus in Conway.
See Belcher, *Logging Railroads.*

Cornish: Sullivan RR

Balloch flag station

Crawfords Purchase: Boston, Concord & Montreal RR

B,C&M passes through, running between Fabyans and Mt. Washington Base Station

Cutts Grant: Saco Valley RR

Logging railroad right of way runs up the Dry River. See Belcher, *Logging Railroads.*

Dalton: Portland & Ogdensburg (later Maine Central) RR; Boston, Concord & Montreal RR

Dalton Station

Scott

Whitefield Depot: Laundromat in 1977; still standing, but has been moved. See *B&M Bulletin*, Summer 1977.

Danbury: Northern RR

Danbury Depot: Passenger depot is gone, but there is a building at the site marked "Danbury Depot." This was apparently a building used to house workers.

So. Danbury (Converse) Depot: No longer extant (NHDOT)

Note Stone Arch bridge over Gungewam Brook, Northern RR Survey, DHR

Danville: Worcester, Nashua & Portland RR

No depot in Danville; tracks barely hit NW corner of town.

Deering: Peterborough & Hillsboro RR

Holton Station: Converted to residence; still standing

West Deering Station

Derry: Manchester & Lawrence RR

Derry Depot: Freight & Passenger depots converted to businesses. Original drawings of passenger depot at B & M Historical Society, Lowell.

Hubbard Station (originally East Derry)

*Hurd's Atlas lists both, as does the 1915 B&M map

Dover: Boston & Maine RR; Dover & Portsmouth RR; Dover & WinnipiseogeeRR

Dover Depot & yard (with roundhouse): Engine House blew down in hurricane of 1938. Depot and yard no longer extant - demolished in 1950s. Guilford currently operates a passenger and freight depot in Dover, and the proposed Amtrak route will result in a new passenger depot in Dover.

Folsom Street (station?)

Sawyers Mills Station: located roughly where Spaulding Turnpike now runs.

Dover Point Station

Cushings Station: passenger shed built in 1885.

*all listed in Hurd's Atlas

Dummer: Atlantic & St. Lawrence RR (later Grand Trunk)

Grand Trunk passes through SW corner of town; no depot

Durham: Boston & Maine RR

Durham Depot: The B&M tracks through Durham were moved in 1911 to get the railroad out of the middle of the UNH campus. At that time, the old B&M station was moved to a location on the south side of Main St., near the intersection of Main and Mill St., where it was converted to a store. The old freight station was moved further along, to a stretch of Dover Road known as "gasoline alley," where it was converted to a gas station. The current station was brought to Durham in 1912 from Lynn, Mass., where it had been the B&M station there. It currently serves as a dairy bar. Original drawings of 1912 station are at B & M Historical Society, Lowell.

*Hurds Atlas; see *Durham. New Hampshire: A History*, pp. 97-101

East Kingston: Boston & Maine RR

East Kingston Depot: Two story building; still standing. Also at East Kingston is Powwow River shelter moved here from Kingston.

Hurd's Atlas, et al.

Enfield: Northern RR

Enfield Freight and Passenger Depot: Built c.1912. Both converted to businesses. Northern RR Survey, DHR.

Epping: Concord & Portsmouth RR, Worcester, Nashua & Rochester RR

West Epping Depot

Epping Depot: Built where the two railroads intersected. Pictured in Thomas, *Rockingham County*. There was a 50' steel turntable near the depot (*B&M Bulletin*, Summer 1979, p. 16). Depot moved and converted to business.

East Epping (Hedding) Depot: Moved and converted to business; still standing.

*Hurds Atlas lists all, as does 1890 Secure a Home, and 1892 C&M map

Epsom: Suncook Valley RR

Short Falls: Still standing but in need of repair

Epsom (Gossville, Mardens Corner) Station: Passenger and freight depots converted to businesses; still standing

Chichester Station

Exeter: Boston & Maine RR

Exeter Passenger Depots, and round house: First passenger depot was built in 1840 and was moved to 27 Arbor St. and converted to a house in 1867. The second station was built in 1867 and destroyed by fire. The third was built in 1890-91 and was later converted to convenience store. The Freight House was destroyed by fire in 1983. Stone Freight house extant. See Aten, *Exeter* for pictures of the second and third depots, and Hurd's Atlas, which shows a roundhouse, freight station, and possible car shop.

Farmington: Cocheco RR, Dover & Winnipiseogee RR

Farmington Depot: Included a freight house and yard. The station was built c. 1854. See *B&M Bulletin*, Summer 1977. No longer extant.

Walkers Crossing (Place) - small farm house served as station shop. No longer extant (DOT).

*Hurd's Atlas lists Farmington; 1890 *Secure a Home* and 1915 B&M map list Farmington & Place.

Fitzwilliam: Cheshire RR

Rockwood Siding: name appears in 1919 PSC map; no record of structure in Fitzwilliam Survey.

Putnam Depot: name appears in 1919 PSC map; no record of structure in Fitzwilliam Survey.

Fitzwilliam Depot: Wood-frame passenger station (c. 1880) and nearby Freight House (c. 1880) are standing; see Fitzwilliam Survey, (#467 and # 466 respectively), DHR. Passenger Depot is supposedly awaiting restoration. See also Railroad Overpass west of Fitzwilliam Depot, near intersection of Rt. 119 and Royalston Rd. South and east of Depot are granite quarries relating to former railroad use.

State Line Depot: Depot no longer on site; see Fitzwilliam Survey (#559), DHR.

Franconia: Profile & Franconia Notch RR

Profile Golf Links:

Profile House Depot: The depot was torn down during the recent construction of the Franconia Notch Parkway.

*Profile House in Hurd's Atlas; Profile Golf Links in 1919 PSC map.

Franklin: Northern RR, Franklin & Bristol RR, Franklin & Tilton RR

Webster Lake Station

Franklin Depot: Built in 1898: B&M Annual Report, NH RR Commission

Webster Place Station

Franklin Junction Station: See Northern RR Survey, DHR. Building on site is probably old station.

Franklin Falls Station: Built 1891. Pictured in Heald, *Lakes Region*. Still standing

Oakdale Park: Flagstop structure, 10' x 12', built in 1911.

Fremont: Worcester, Nashua & Rochester RR

Fremont Depot: converted to private residence; also brick freight house and tool house. Illustrated in *B&M Bulletin*, Summer, 1979, p. 10, 16. Still standing

*Hurds Atlas, et al.

Picture of railroad covered bridge (1903-1934) in Thomas, *Rockingham County*.

Gilford: Lake Shore RR

Lily Pond Depot: Built c. 1890. No longer extant.

Meadowbrook: Built c. 1913. Flagstop/shelter only.

Gilford (Sanders) Station: Built c. 1890. Pictured in Philbrook, "Lake Shore RR," *B&M Bulletin*, Vol. XVI, No. 4, p. 22. Still extant.

Glendale depot: Built c. 1890. Pictured in Philbrook, "Lake Shore RR," *B&M Bulletin*, Vol XVI, No. 4, p. 22. Later moved to Lakeport, where it is on wheels, awaiting removal.

Belknap Point Station: Built c. 1890. Moved and altered, now residence. Pictured in Philbrook, "Lake Shore RR," *B&M Bulletin*, Vol XVI, No. 4, p. 25.

Greystone: Built c. 1912. Flagstop/shelter only.

Lake Shore Park Station (Carr's Point): Built c. 1891. Depot and shelter are on original location but have been greatly altered to serve as a store, dance hall, and community center for Lake Shore Park. See before and after photos in Philbrook, "Lake Shore RR.," *B&M Bulletin*, Vol. XVI, No. 4, p. 21. Park buildings included bath house, refreshment stand, pavilion/dance hall, ice house, bowling alleys, wharf, well house, windmill.

Terrace Hill: Built c. 1912. Flagstop/shelter only.

Ames: Built c. 1911. Flagstop/shelter only.

Goffstown: Manchester & North Weare RR; New Boston RR

Tirrell Hill: Built c. 1909. Flagstop/platform only

Goffstown Center (Grasmere) Junction: Renamed Grasmere in 1896. Combined passenger and freight station built c. 1900. Illustrated in *B&M Bulletin*, Winter 1979, p. 26. No longer extant.

Shirley Hill: Built 1891.

Goffstown Depot: Depot converted to business. Adjacent former freight house was original depot.

Parkers: New station built in 1899 combining passenger and freight. Dismembered in 1918. B&M Annual Report.

*Hurd's Atlas lists Goffstown Center and Goffstown; 1892 C&M map lists Goffstown Center, Shirley Hill, Goffstown Depot, and Parkers.

Gorham: Atlantic & St. Lawrence RR (later Grand Trunk); Boston, Concord & Montreal RR

Gorham Station and rail yard: Built c.1897? Passenger depot (built c. 1904) has been moved a short distance and is maintained by the Gorham Historical Society. It is a shingle style building with a stone prominent stone base. The remainder of the extensive rail yard is gone.

Mineral Springs (on electric line)

Gorham (on electric line)

*see 1919 PSC map

Grafton: Northern RR

Summit Siding: Appears in 1919 PSC map

Grafton Center (Cardigan): No longer extant (NHDOT).

Grafton Depot: Shanty standing near Grafton depot, 1994. Northern RR Survey, DHR. According to NHDOT, the passenger depot is no longer extant.

Greenfield: Nashua & Lowell RR (Wilton); Peterborough RR; Peterborough & Hillsborough

Greenfield Depot: Passenger depot is no longer extant; freight depot has been converted to a business

Russell Station

Greenland: Concord & Portsmouth RR

Bayside Depot: Combined passenger and freight depot still standing. It is a two story building that looks more like a house than a depot. See Garvin, *Historic Portsmouth*, p. 127.

Greenland Village Depot: Combined depot still standing but vacant

Greenland (Breakfast Hill) Depot
*Hurd's Atlas, et al.

Greenville: Peterborough & Shirley RR

Greenville Depot, Freight Station, Engine House. Greenville Depot has been converted to a restaurant. Freight and engine house are no longer extant.

*found in Hurd's Atlas, named in 1996 Railroad Map

Groveton: See Northumberland

Hampstead: Worcester, Nashua & Rochester RR

West Hampstead Station: Later Hampstead. New station completed November 1915.

*Hurds Atlas, et. al.

Hampton: Eastern RR

Hampton Depot: Converted to business; still standing.

*Hurd's Atlas, et al.

Hampton Falls: Eastern RR

Hampton Falls Freight & Passenger Depots: Relocated to 26 Depot St.?
*Hurd's Atlas et al

Hancock: Keene & Manchester RR

Elmwood Station: Opened as a station in 1879 under the name Hancock Jct. It once included a depot and coal sheds. Only foundations remain. See B&MRRHS *Newsletter*, Nov.-Dec. 1997. Also, *B&M Bulletin*, winter 1979, p. 24.

Hancock Station: Combined depot still standing

Cavender Depot:

Harrisville: Manchester & Keene Railroad

West Harrisville (Chesham) Depot: 1879 wood-frame depot survives and is a contributing element in the Chesham NR District; see NR nomination in Harrisville file, DHR.

Harrisville Depot: 1878, wood-frame depot is standing, its original roof altered, and is a contributing element in the Harrisville NR District; see NR nomination in Harrisville file, DHR. See also the Stationmaster's House (c.1896), located off Jaquith Road, aka Hancock Hill Road, in Harrisville Survey (site IP-5), DHR.

East Harrisville (Pottersville, Eastview) Depot: no known building known to exist.

Harts Location: Portland & Ogdensburg RR (later Maine Central RR), Sawyer River RR

Willey House

Carrigain (depot and logging town gone)

Notchland (Bemis Station)

Sawyer River (Sawyers Station): Eastern terminus for Sawyer River RR.
See Belcher, *Logging Railroads*

Haverhill: Boston, Concord & Montreal RR

Woodsville Depot and yard (roundhouse): Passenger and freight depots still standing. The first passenger depot was destroyed by fire in 1921. The present building has been renovated into a three story building. Roundhouse and both railroad yards are no longer extant. Of greatest interest here is the two-tiered bridge over the Connecticut River, replacing an earlier two-tiered bridge made of wood.

No. Haverhill Station (Blackmount): Built 1899. Converted to private residence; still standing

Haverhill Depot: Converted to private residence; still standing

Pike Depot: Combined passenger and freight depot has been converted to a business

East Haverhill (Oliverian): Passenger station built or improved in 1914 (B & M Annual Report). Moved to Pike and used as library.

Henniker: Contoocook Valley RR, later Concord & Claremont RR

Henniker Junction:

Henniker Depot: Passenger and freight depots converted to businesses; still standing

West Henniker (Emerson?) Depot: House, Post Office, and RR depot. See Ruell, NR nomination for Potter Place.

Colby Depot: Station included water tank.

*all appear in the 1919 PSC map

Hill: Franklin & Bristol RR, later Northern RR

Hill Depot: The 30' x 128' station/freight house built in 1854. See *B&M Bulletin*, summer 1978, p. 16. There was also a section house at Hill Depot; this was moved to the "new village" in 1936.

Blakes Ferry: Flagstop, 10'x 12', built in 1911. Later moved to New Hampton and used as a summer camp. *B&M Bulletin*, Summer 1978, p. 16.

Hillsborough: Contoocook Valley RR, later Concord & Claremont RR

Hillsborough Bridge Station: Passenger and freight depots are standing but vacant

Hinsdale: Ashuelot RR

Hinsdale Depot: Still standing; privately owned

Dole Junction: Passenger station built or improved in 1914. No longer extant (NHDOT).

Doolittle:

Fort Hill: No longer extant.

Adams Siding:

*all appear in 1919 PSC map

Hollis: Worcester & Nashua, later Worcester, Nashua & Rochester RR

No depot in Hollis; Hollis Depot was just across the line in Nashua.

Hooksett: Concord RR

Hooksett Depot: Station rebuilt c.1895.

Martins Ferry (Martin) Depot:

*Hurd's Atlas and the 1892 C&M map lists both

Hopkinton: Concord & Claremont RR

Contoocook Depot: Standing but abandoned.

West Hopkinton Depot:

Tyler:

Hudson: Nashua & Rochester RR, later Worcester, Nashua & Rochester RR

Hudson (Hudson Center) Depot: Moved to Benson's Wild Animal Farm.

*Hurd's Atlas

Jackson: Rocky Branch RR, East Branch RR

Logging railroads rights of way. See Belcher, *Logging Railroads.*

Jaffrey: Monadnock RR

Hadley: flag stop only.

Pierces: no building known to exist at present.

Jaffrey or E. Jaffrey Depot: wood-frame depot (c. 1870) standing and renovated for commercial uses; four wood-frame buildings across the tracks were probably railroad-related; see survey forms (nos. 373-375) in Jaffrey Survey, DHR, and reference to freight depot in Hurd's Atlas.

Jefferson: Boston, Concord & Montreal RR; Maine Central RR

Jefferson Station: Built in 1891, still extant as private residence.

Cherry Mountain (Meadows)Depot: Moved in 1954 to a site beside Rines Market.

Waumbek (Jefferson) Junction (Waumbek Golf Course): Built 1891. Converted to private residence

Riverton Depot: Est. in 1889; by 1927 a flag station; torn down.

Jefferson Highlands or Highland Station: Built c. 1890; renovated as private home in the 1970's. Still standing.

Boy Mountain Depot:

Bailey Depot: Moved 1/4 mile from original site and converted to residence.

Keene: Cheshire RR, Ashuelot RR, Manchester & Keene RR, Keene Electric Railway

Summit:

Keene Depot and yard: Keene featured a major complex of railroad shops, including a round house, along with a freight station and passenger depot. The passenger depot (demolished 1958) is pictured in part in Proper, *Central Square and Beyond*, p.107. New station was built in 1910 - drawings at B & M Historical Society, Lowell. See also a picture of the yards in the same book,

p. 114, and coal dealer, p. 42. Shops and part of roundhouse still standing. See Tolles, *NH Architecture*, pp. 144-45.

So. Keene Depot (Joslin?): No longer extant. NHDOT. See stone arch bridge, designed by Cheshire RR engineer and built in 1846.

*see 1919 PSC map

Kilkenny: Lancaster & Kilkenny RR, Upper Ammonoosuc RR

Termination of logging railroads coming out of Lancaster and West Milan.
See Belcher, *Logging Railroads.*

Kingston: Boston & Maine RR

B&M tracks pass through SE corner or town; no depots

Russ Crossing (flag stop).

Powwow River: flagstop (building moved to East Kingston depot).

Laconia: Boston, Concord & Montreal RR, Lake Shore RR

Weirs Depot: Original depot gone and rebuilt 1893, used for tourist trains and boats. Pictures of original depot are in Heald, *Lakes Region.* The next depot was burned in 1939. A newer depot is operated by a tourist railroad.

Lakeport (Lake Village) Station and yard: Depot, built in 1900, moved to Kimball's Castle. There is a freight depot still standing; converted to business. Another depot (Glendale) has been moved to Lakeport and is on wheels awaiting removal (or demolition).

Laconia Depot & spur to Laconia Car Works: Depot has been converted to business purposes. The stone depot was built by the Concord & Montreal RR in 1892 and designed by New York City architect Bradford L. Gilbert. Listed on the National Register 1982. Blueprints traced from original drawings are at B & M Historical Society, Lowell.

Lancaster: Boston, Concord & Montreal RR; Portland & Ogdensburg RR; Lancaster & Kilkenny RR

Lancaster Depot: Built 1891. No longer extant. There are two extant freight depots in Lancaster; one on Depot Street and one on Bunker Hill Street. Both have been converted to business use.

So. Lancaster Station (Mountourne, or Mount Orne)

Whipple's Mill: Whipple's Mill and Webster's are stops on the Lancaster & Kilkenny RR.

See Belcher, *Logging Railroads.*

Webster's: see above

Landaff: White Mountains RR; later Boston, Concord & Montreal RR

No depot in Landaff.

Lebanon: Northern RR

West Lebanon (Westboro)Station: Passenger Depot, built 1898-99, has been moved and converted to a floor covering store and more recently to a church. Railyard consists of ruins of machine shop, sand house, and roundhouse. There is also a heating plant, a freight depot, a section house, and a bunk house, mostly in bad shape. Northern RR Survey, DHR.

Lebanon Depot: Passenger depot no longer standing. Lebanon Freight House extant at Parkhurst St. Northern RR Survey, DHR. Check also for a small passenger depot that replaced an earlier deopt.

Mascoma (East Lebanon) Depot: No longer extant (NHDOT).

Note Stone Arch Bridge over Glen Road. Northern RR Survey, DHR, Listed on Nat. Register 1985.

Lee: Nashua & Rochester RR, later Worcester, Nashua & Rochester RR

South Lee Depot: Moved and used by the Lee Historical Society. 1914 val. records list passenger station, freight house and milk platform.

*Hurd's Atlas; Note trestle across Wheelwright Pond.

Lincoln: Pemigewasset Valley RR; East Branch & Lincoln RR; Gordon Pond RR

Lincoln Depot: Moved to School Street, North Woodstock where it serves as a restaurant. This depot is often confused with a North Woodstock depot, because it was close to the line between the two communities. The location of the depot now serves as a place to pick up a tourist railroad dining car service. The Hobo Railroad now operates a new depot nearby for their business. The water towers at Hobo and further up Rt. 3 in Lincoln at Clark's trading post are worth noting.

RR right of way went to the paper mills, and to logging village of Johnson. East Branch & Lincoln RR makes up the western half of the Kancamagus Highway along with many of the AMC hikingtrails in the region. Gordon Pond RR is west of Pemigewasset River. See Belcher, *Logging Railroads.*

Lisbon: White Mountains RR, later Boston, Concord & Montreal RR

Barrett (No. Lisbon): No longer extant (NHDOT).

Sugar Hill Station: Built in 1893; still standing.

Lisbon Station: Passenger station built or improved in 1914 (B & M Annual Report). Still standing, but altered for a business. *B&M Bulletin*, summer 1977, p. 33.

Littleton: White Mountains RR, later Boston, Concord & Montreal RR

Apthorp: New or improved passenger station in 1914 (B & M Annual Report)

Littleton Station: Original 1890 building burned and replaced in 1929. Converted to business; still standing. Freight is also standing

So. Littleton (?)

Livermore: Sawyer River RR; Woodstock & Thornton Gore RR

Logging railroad right of way, including the foundations of the old logging town of Livermore. Woodstock & Thornton Gore has a limited right of way in the western part of Livermore. See Belcher, *Logging Railroads*.

Londonderry: Manchester & Lawrence RR

North Londonderry Depot:

Wilson, or Wilson's Crossing Depot:

*Hurds Atlas lists both. Londonderry - new station in 1930 after old one destroyed by fire.

Low and Burbanks Grant:

Logging railroad right of way terminating at Israel River Ranger Station ?

Lyndeborough: Nashua & Lowell RR

So. Lyndeborough Depot:

Madbury: Boston & Maine RR

Madbury Station: First built c. 1881. B&M Annual Report. Extant in 1993.

*Hurds Atlas

Madison: Portsmouth, Great Falls & Conway RR

Madison (Silver Lake) Station: Built in 1911, drawings at B & M Historical Society, Lowell. Converted to business. Passenger and freight depots still standing. Illustrated in *B&M Bulletin*, Summer, p. 32

Manchester: Concord RR; Manchester & Lawrence RR; Manchester & No. Weare RR; Concord & Portsmouth RR

Goffs Falls Station:

Massabesic Station: No longer extant.

West Manchester Depot: No longer extant.

East Manchester (Hallsville) Station: No longer extant (NHDOT).

Manchester Depot: Third and final station, a union station, was built in 1897. No longer extant. Derelict freight depot was still standing in 1998 at Valley St. The remains of a freight depot may be found off Elm St. at Valley St.

Amoskeag (Webster Street Station): Built 1892, Bradford Lee Gilbert, Architect. Converted to residence

*Hurd's Atlas lists Goffs Falls, Massabesic, and Manchester Depots; 1892 C&M map lists Amoskeag, Manchester, Hallsville, Massabesic, and Goffs Falls.

Marlborough: Manchester & Keene RR; Cheshire RR

Marlborough Depot: Formerly Marlborough Village

Webb Station: No longer extant (NHDOT).

Mason: Peterborough & Shirley RR

Pratt Depot:

McDonald (quarry):

Mason Central Station:

*Pratt & Mason Central Station in Hurd's Atlas; Pratt & McDonald named in 1996 Railroad Map

Meredith: Boston, Concord & Montreal RR

Meredith Station & Freight depot: Passenger station built 1900. Picture of passenger station in Heald, *Lakes Region*. Passenger depot was still standing in 1974 but converted to other uses. There is a freight station still standing in railroad square that is currently used by a tourist railroad.

Merrimack: Concord RR, Manchester & Milford Branch

So. Merrimack Station: moved to Boston Post Road and remodeled for residence.

Thornton's Ferry (Thornton) Station: No longer extant.

Merrimack Station: Still extant on Railroad Ave., converted to business.

Reed's Ferry (depot?): No longer extant.

Stowell: Built c. 1900. Shelter only.

*So. Merrimack, Thornton's Ferry, Merrimack appear in Hurd's Atlas; Thorntons, Merrimack, and Reeds Ferry appear in the 1892 C&M map. Stowell in 1919 PSC map.

Milan: Grand Trunk RR; Upper Ammonoosuc RR

Copperville Station

Marston's Depot: see 1919 PSC map

West Milan Station: No longer extant.

Right of way for Upper Ammonoosuc, a logging RR. See Belcher, *Logging Railroads*.

Milford: Manchester & No. Weare RR; Brookline & Milford RR; Manchester & Milford Branch of the Boston & Maine RR; Fitchburg RR

Unidentified Depot (Pine Valley?), near Wilton line-no longer extant.

Richardson Depot:

Milford Depot (Garden Street - Wilton line): Moved from South Street to present site in 1852, and subsequently converted to business uses. Depot, freight house and coal shed still standing in 1999.

Milford Depot (South Street - Fitchburg line): Built in 1894. Converted to commercial use (auto parts store). Freight depot located nearby,

East Milford:

*Unidentified depot in Hurd's Atlas, as is Richardson Depot and Milford Depot. Richardson and East Milford are names in 1996 Railroad Map.

Milton: Portsmouth, Great Falls & Conway RR

Milton Depot: The passenger depot is located on Old Rt. 16 and is currently used as a business

Hayes Station, South Milton: Passenger depot on Old Rt. 16 and used as a private residence

*Hurd's Atlas lists Milton; Milton and Hayes are listed on the 1915 B&M map

Nashua: Nashua & Lowell RR; Worcester, Nashua & Rochester RR; Concord RR; Nashua, Acton & Boston RR

Hollis Depot: No longer extant. Included separate freight house and passenger station.

Little Station: No longer extant.

Nashua Depot: Wood freight station converted to business (Bridge Street). A brick freight depot (c. 1860) may also be found nearby.

Nashua Junction (Union Station): Built c. 1877?, no longer extant. Included coaling plant

South Nashua: Built 1902. Drawings at B & M Historical Society, Lowell.

Yard included Main Street station, coal shed, freight house, stock pens, yard office. The brick freight house is still standing.

*Hurd's Atlas lists Hollis, Little, and Nashua; 1892 C&M map lists Nashua Junction.

New Boston: New Boston RR

Lang Station(Gregg's): Stone flagstop built c. 1893; still standing

New Boston Depot: Built c. 1893 and still standing. Bradford Lee Gilbert, Architect. See Tolles, *NH Architecture*, p. 252.

*1996 Railroad Map

Newbury: Concord & Claremont RR

Mt. Sunapee (Edgemont) Station:

Lake Sunapee Station:

Newbury Station. Located at the south end of Lake Sunapee; now part of Newbury town beach and used as rest rooms.

Note the "Newbury Cut," which was made possible with the use of a steam drill and black powder.

New Durham: Cocheco RR

New Durham (Downings) Depot: A restaurant calls its self the Railroad Depot, although it does not look much like a passenger depot. Approximately 100 yards SE of the restaurant is a building that may be a small engine house or car shop.

Davis (Previously New Durham): No longer extant.

*Hurds Atlas lists New Durham (Downings Mill); 1996 Railroad Map lists Davis

Newfields: Boston & Maine RR; Concord & Portsmouth RR

Newfields (South Newfields) Depot: No longer extant.

Rockingham Junction: Passenger depot built in 1896. Passenger and freight depots are still standing but vacant.

Littlefield (flag stop).

*Hurd's Atlas and 1919 PSC map

New Hampton: Boston, Concord & Montreal RR

Summit Station: Shown on 1919 PSC map.

New Hampton (Winona) Station: Built in 1896. Station pictured in Heald, *Lakes Region.*

Newington: Portsmouth & Dover RR

Newington RR Station (still standing but abandoned).

Rollins Farm: flagstop.

Piscataqua Depot
*1919 PSC map

Picture of the railroad bridge (1873-1933) over Great Bay, from Newington to Dover, pictured in Thomas, *Rockingham County.*

Newmarket: Boston & Maine RR

Newmarket: Freight and Passenger Depots are both still extant.

*Hurd's Atlas et al.

Newport: Concord & Claremont RR

Chandler or Chandlers Mills

Kellyville

North Newport (Northville)

Newport Station: Built in 1897; still standing and converted to business.

Guild Station

Newton: Boston & Maine RR

Newton Junction Depot: Main portion of passenger depot razed in 1960s, rear wing was house in 1981. Freight depot is still standing.

Newton Village Depot: Station moved in 1937 to Whittier Road and altered for residence. Still standing. Henry Ford purchased in the 1930s for his museum in Michigan but changed his mind (see *B & M Bulletin*, Summer 1981).

*Hurds Atlas

Northfield: Boston, Concord & Montreal RR

Northfield Depot: Built in 1891. Passenger and freight house still extant.

Tilton Fairgrounds (?)

North Hampton: Eastern RR

North Hampton Depot: Built 1870. Restored for use as offices; still standing. Freight depot is still standing but vacant.

*Hurd's Atlas, et al.

Northumberland: White Mountains Railroad; Grand Trunk RR

Groveton (Union Station): Built in 1897; still standing.

Northumberland Falls:

Orange: Northern RR

(no depot)

Ossipee: Portsmouth, Great Falls & Conway RR

West Ossipee Station: Built in 1897; Passenger depot converted to business and still standing. Freight depot still standing but vacant.

Mt. Whittier Station: Still standing in 1974.

Ossipee Valley (Lakewood or Bear Camp) Station

Centerville Station (Centre Ossipee): Passenger depot converted to business; freight depot still standing

Ossipee Station: Passenger and freight depots still standing but vacant

Pembroke: Suncook Valley RR

Suncook Depot: 1914 val. records list passenger station, freight house, section tool house and octagonal water tank on site.

Peterborough: Monadnock RR; Peterborough RR; Peterborough & Hillsborough RR

Nahor

North Peterborough (North Village or Tarbell (Tarbelt?)) Station

Peterborough Depot: No longer extant (NHDOT).

Noones Station: No longer extant (NHDOT).

Drury: flag stop only.

Pittsfield: Suncook Valley RR

Webster Mills Station

Pittsfield Station: Passenger depot converted to business; still standing

Plaistow: Boston & Maine RR

Westville Depot: Flag stop depot torn down c.1970 (NHDOT). Pictured in Thomas, *Rockingham County.*

Plaistow Depot:: Combined depot converted to business; still standing.

*Hurds Atlas

Plymouth: Boston, Concord & Montreal RR; Pemigewassett Railroad

Sanborns? (Sanborn's Estate, near junction of Loon Lake Road & Fairgrounds Rd.; might have been a flagstop at one time, but nothing is there at this time)

Plymouth Depot (Pemigewasset House): Built 1910. This replaces the second Pemigewasset House. The passenger depot was built in 1910 and includes a large dining room. It has been converted to a senior center. A large B&M freight depot is still standing in Depot Square, but is in poor condition. The sand house may be still be extant, as well as various platforms. Depot drawings at B & M Historical Society, Lowell.

Portsmouth: Portsmouth & Concord RR; Eastern RR; Portsmouth Electric Railway; Portsmouth & Dover RR; Portland, Saco & Portsmouth RR

Portsmouth Passenger Depot: No longer extant. Pictured in Garvin, *Historic Portsmouth,* p. 127. There are at least two freight depots shown in Hurd's Atlas, along with a turntable and round house, a coal shed, and machine shop, and numerous tracks to wharves in Portsmouth and Noble Island. There are also numerous sidings to the Frank Jones and Eldredge breweries. See also Garvin, *Historic Portsmouth,* pp. 67; *B & M Bulletin,* Winter 1979.

Randolph: Concord & Montreal RR, "South Branch Railroad"

Bowman: Small depot built by the Boston & Maine in 1896. Demolished in 1947 (?). (Note, that seems too early, as RSW remembers seeing a depot there in 1960 when there was bud car service on the line.) See *Coos County Democrat,* May 21, 1997.

Appalachia: Open sided shelter built in 1896 and demolished in 1941. See *Coos County Democrat,* May 21, 1997.

Randolph Depot: Originally called "Glen Road," the Randolph depot was built by the Concord & Montreal (c. 1892) and renamed Randolph in 1896 when the Boston & Maine took over the line. There was a freight depot next to the passenger depot. The station was closed in 1956 and accidentally burned in the mid-70's. See *Coos County Democrat,* May 21, 1997, and 1919 PSC map.

Logging RR right of way along present Jefferson Notch Road. This was called the South Branch RR, and was originally built by the Brown Lumber Company of Whitefield in 1897, and was in

heavy use by the Boston & Maine RR in 1903-06 to haul lumber to Berlin. See Belcher, *Logging Railroads*.

Raymond: Concord & Portsmouth RR

Onaway Lake Depot: Appears in 1919 PSC map.

Raymond Depot: Built in 1893-94, the wood passenger depot is now owned by the Raymond Historical Society. Picture and brief description in Tolles, *NH Architecture*, p. 61. Also on site are a section house and tool house moved from Candia. See also Hurds Atlas, 1892 C&M map, 1890 *Secure a Home*, 1915 B&M map. Freight depot still standing, serving as a business.

Rindge: Monadnock RR

Woodmere: flagstop only. No longer extant.

W. Rindge Depot: Original station destroyed by fire in 1915; rebuilt station is still extant. See *B & M Bulletin*, Summer 1977.

Thomas (Wetmore): flagstop shelter only. No longer extant.

Murdock

Rand: flagstop shelter only. No longer extant.

*all appear in 1919 PSC map

Rochester: Dover & Winnipiseogee RR; Cocheco RR; Great Falls & Conway RR; Portland & Rochester RR; Nashua & Rochester RR

Hayes Station (also listed in Milton)

East Rochester Depot (Rindgemere)

Rochester Depot: Two railroads first reached Rochester in 1849; the Cocheco Railroad and the rival Great Falls & Conway Railroad. The occasion was marked by a riot. A brick union depot began serving Rochester's railroad square, c. 1884, at which time the old Great Falls & Conway depot (built in 1864) was purchased by the Portland & Rochester Railroad and moved to Saccaroppa (Maine). The Union Station was probably the brick depot originally built by the Cocheco Railroad in 1868, but remodeled when it began serving as a union depot in 1884. The union depot (passenger station) was town down in 1962. Only the brick freight house is still extant. Roundhouse and a rest house are also gone.

Gonic Depot: There is a vacant freight depot standing on Railroad Ave.

West Rochester (West Gonic) Depot: Built c.1870; no longer extant. 1914 val. records list passenger station and separate freight station.

Pickering Depot: Built 1849; no longer extant.

*all listed in Hurd's Atlas and 1890 *Secure a Home*.

Rollinsford: Boston & Maine RR; Eastern RR

Rollinsford Station: No longer extant (NHDOT); freight depot may be extant

Salmon Falls: two passenger depots and one freight station. B& M station burned by local fire department in 1995.

*Hurd's Atlas

Roxbury: Manchester & Keene RR

(no depot)

Rumney: Boston, Concord & Montreal RR

West Rumney (Swainboro) Depot

Rumney Depot

Quincy: new depot (building or station?) in 1893. There is no depot there today. Quincy was the home of Josiah Quincy, president of the B, C & M Railroad. It is likely that only a flagstop existed at this location.

Rye: Eastern RR; Portsmouth Electric Railway

The Eastern, or later the B&M, barely nicks the western-most portion of Rye, and there was apparently no depot built there. The Portsmouth Electric Railway had a number of stops in Rye. See Garvin, *Historic Portsmouth*, p. 126 for the stop at Lang's Corner.

Salem: Manchester & Lawrence RR

Salem Depot: Still extant, converted to offices. Freight house also survives.

Canobie, or Canobie Lake Depot:

Messers or Hampshire Road Depot: No longer extant.

*Hurd's lists Salem Depot; Canobie is listed in the 1890 *Secure a Home*, while Messers is listed in the 1915 B&M map. Hampshire Rd. is on the 1996 Railroad Map.

Also of interest is Street Railway Car Barn on Broadway.

Sandown: Worcester, Nashua & Rochester RR

Sandown Depot: Built c.1874. Owned by Sandown Historical Society and on the National Register. Depot pictured in Thomas, *Rockingham County*.

*Hurds Atlas, et al.

Sandwich: Beebe River RR

Beebe River logging railroad right of way. See Belcher, *Logging Railroads*.

Sargents Purchase: Mt. Washington RR

Cog Railway terminus on top of Mt. Washington

Seabrook: Eastern RR; Hampton & Amesbury Street Railway

Seabrook (Atlantic) Depot and Freight Station: Pictured in Thomas, *Rockingham County*. Also in Hurd's Atlas, et al.

Seabrook Junction and Bert's Lunch: Small depot for the Hampton & Amesbury Street Railway. Pictured in Thomas, *Rockingham County*.

Shelburne: Atlantic & St. Lawrence RR (later Grand Trunk)

Shelburne Station

Somersworth: Portsmouth, Great Falls & Conway RR

Somersworth Depot: The brick passenger depot has been converted to a business; the freight depot is extant.

Burgett Park (passenger stop and trolley sheds for Union Street Railway)

*Hurds Atlas lists Somersworth Depot; 1890 *Secure a Home* lists Tremont Station, Somersworth

Stark: Atlantic & St. Lawrence RR (later Grand Trunk)

Chrystal (platform)

Percy Station

Stark Station or Stark Bridge

Stewartstown: Upper Coos RR

West Stewartstown Depot

Piper Hill

Stratham: Portsmouth & Concord RR

Stratham Depot still standing; frequently confused with Bayside Depot

Stratford: Upper Coos RR

Eatons (?)

North Stratford Station: Standing and still in use

Stratford Hollow Station

Masons

Mapleton

Success: Success Pond RR

Logging railroad right of way. See Belcher, *Logging Railroads.*

Sunapee: Concord & Claremont RR

Sunapee Depot: Built c.1895; rebuilt 1910. Passenger and freight depots are still standing; converted to businesses.

Surry: Cheshire RR

(no depot)

Sutton: Concord & Claremont RR

(no depot, althouth Roby is on border with Warner)

Swanzey: Ashuelot RR

Joslin?

West Swanzey Station: No longer extant.

Westport Depot: No longer extant.

Tamworth: Portsmouth, Great Falls & Conway RR

(no depot)

Thompsons and Merserves Purchase: Mt. Washington RR

Cog Railway Base Station (Marshfield): The first two "Marshfield" stations are gone, but there are other old buildings along with the new visitors center.

Thornton: Pemigesasset Valley RR, Woodstock & Thornton Gore RR

Lyford's Siding (Thornton Flag Station)

West Thornton

Logging railroad right of way passes through Thornton Gore. See Belcher,*Logging Railroads.*

Tilton: Boston, Concord & Montreal RR, Tilton & Belmont RR

Tilton Depot: Built in 1881; designed by Edward Dow. No longer extant (or moved to Boscawen?). See picture of depot in Heald, *Lakes Region.* (Nearby freight house is in Northfield).

Belmont Junction Station

East Tilton (Lochmere): Passenger and freight station built 1900.

Troy: Cheshire RR

Troy Depot : Passenger depot converted to private residence. See *B & M Bulletin*, Summer 1977. Freight depot is also still standing

Wakefield: Portsmouth, Great Falls & Conway RR; Wolfeborough RR

North Wakefield (Matthews)Station

East Wakefield (Burleyville) Station: Built 1910; passenger and freight depots still standing. Drawings at B & M Historical Society, Lowell.

Sanbornville (Wolfeborough Junction) Station--Pioneer Depot: Only the turntable survives. RR complex began when the RR was built through Wakefield in 1871, and it eventually consisted of the RR headquarters of the Conway Division of the Eastern Railroad, a roundhouse and turntable, a large passenger depot, and small flag station, a Freight depot (?), wood and coal sheds, and a water tower. Original turntable was dug in 1872, and replaced by a later one, c. 1885. Existing wooden turntable was moved from Keene to Sanbornville in 1972. See Survey form for J. W. Garvin Building and Survey for Turntable Park, DHR. Engine House pictured in Heald, *Lakes Region.*

Union Depot: Converted to private residence; still standing in 1979.

Walpole: Cheshire RR

North Walpole (Cold River?) Depot: Rail yard still active

Walpole Depot

Warner: Concord & Claremont RR

Melvin (Melvin Mills) Depot: Combined two-story residence, train station and post office; extant

Roys Corner (Roby) Depot: No longer extant. Dismantled in 1940 and moved to Salisbury.

Waterloo: Passenger depot converted to business; still standing.

Warner Depot: Built c.1850. Passenger and freight depots have been converted to commercial uses.

Lower Warner Depot: flag station. Building moved to Tom Pond in Davisville.

Bagley Depot: flag station. Building moved in 1941 to Tom Pond in Davisville.

Dimond Depot: flag station. Building moved in 1939 and converted to summer cabin.

*all appear on the 1919 PSC map

Warren: Boston, Concord & Monteal RR

Warren Summit (Glencliff) Station: Built in 1909. Drawings of passenger depot and freight house at B & M Historical Society, Lowell.

Warren Station: Passenger and freight depots still standing

Waterville: Beebe River RR, Swift River RR

Logging railroads have limited rights of way. See Belcher, *Logging Railroads.*

Weare: Manchester & North Weare RR

North Weare Depot: No longer extant; destroyed by fire in 1971.

East Weare Depot: No longer extant. Val. records indicate that tool house was moved from East Weare in 1924.

Everett Station: No longer extant. Station included small tool house.

Sargent

Riverdale (Oil Mill): No longer extant.

*Hurd's Atlas and 1892 C&M list the first three; Sargent & Riverdale in 1919 PSC map.

Wentworth: Boston, Concord & Montreal RR

Wentworth Depot: Built 1900. The passenger depot is extant, although it has been moved from its original location and is being restored.

Westmoreland: Cheshire RR

Westmoreland Depot: No longer extant (NHDOT).

East Westmoreland (Gilboa Station): No longer extant (NHDOT).

Tenth Section

*all appear in 1919 PSC map

Whitefield: Boston, Concord & Montreal RR, Portland & Ogdensburg RR, Johns River RR.

(Whitefield Depot is actually located in Dalton)

Hazens Depot

Whitefield's early railroads, the Johns River and the Whitefield & Jefferson, which became part of the B,C&M, were logging railroads. See Belcher, *Logging Railroads*.

Wilmot: Northern RR

(no depot)

Wilton: Nashua & Lowell RR (Wilton RR); Peterborough RR

Wilton Depot (was East Wilton): present brick depot was constructed in 1892 and has been converted to offices. Adjacent is brick freight house of same period, serves as storage.

Winchester: Ashuelot RR

Winchester Depot: Extant but altered for use as residence/business

Ashuelot Depot: See a picture of the depot and freight station in Proper, *Central Square and Beyond*, p. 125. The depot is standing but abandoned.

Forest Lake

*all appear in 1919 PSC map

Windham: Worcester, Nashua & Portland; Manchester & Lawrence

Windham (Junction)Depot: The Boston & Maine depot is standing but in poor condition; used by town as public works garage. The old Manchester & Lawrence depot has been moved.

West Windham (Anderson) Depot: Converted to private residence. Destroyed intentionally by the Windham fire department in 1999.

*Hurds Atlas, et al.

Wolfeborough: Wolfeborough RR

East Wolfeborough (Cotton Valley): Standing but abandoned.

Wolfeborough Center (Fernald) Station: Flagstop; still standing but vacant

Wolfeborough Falls Depot

Wolfeborough Station & Engine House: Built in 1872; depot still standing and used as gift shop in 1979. Picture of depot in Heald, *Lakes Region*. Roundhouse shown in Hurd's Atlas. Freight depot converted to business and still standing.

Wolfeborough Dock Station: The three-story B&M building at the dock burned in 1899. Heald, *Lakes Region*.

Woodstock: Pemigewasset Valley RR; Woodstock & Thornton Gore RR; Gordon Pond RR

Woodstock Depot

Mountain Park

Fairview

North Woodstock Station:

Woodstock & Thornton Gore RR and Gordon Pond RR are logging RRs with rights of way in town. See Belcher, *Logging Railroads*.

APPENDIX C

TIMELINE OF NEW HAMPSHIRE RAILROAD HISTORY

1792: *Samuel Morey of Orford tests his steam-powered boat on the Connecticut River.

1793: *Massachusetts General Court issues charter for the Middlesex Canal

1803: *Middlesex Canal completed between Charlestown and the Merrimack River.

1807: *Robert Fulton demonstrates the steamboat "Clermont" on the Hudson River.

1812: *Oliver Evans predicts that "carriages propelled by steam" will come into use in the United States.

1815: *Colonel John Stevens of New Jersey receives the first railroad charter in the United States.

1818: *Eastern Stage Company is chartered. Initial run is from Boston to Portsmouth, but later to Dover and Lake Winnipesaukee.

1825: *Erie Canal opened

*Massachusetts General Court authorizes a study of the best canal route between Boston and the Hudson River.

1826: *(March 4) Massachusetts incorporates the Granite Railway Company, a four-mile, horse drawn railway built by Gridley Bryant to bring granite to the Bunker Hill Monument. Original rails were made of wood, spiked to granite blocks.

1827: *First Concord Coach is built

*The Baltimore & Ohio Railroad, America's first trunk-line railroad, was chartered.

1828: *Blackstone Canal completed

1829: *The Massachusetts Rail Road Association is formed

1830: *The Massachusetts General Court votes not to appropriate funds for the construction of railroads.

*(June 5) The Boston & Lowell Railroad is incorporated in Massachusetts

1831: *(June) Boston & Providence Railroad incorporated by Massachusetts

*(June) Boston & Worcester Railroad incorporated by Massachusetts

*James Hayward's *Report on the Proposed Railroad between Boston and Ogdensburg.*

*The "T" rail was designed by Robert L. Stevens, President of the Camden and Amboy Railroad. They were made of iron in Wales and laid on his railroad. The rails were originally spiked to stone sleepers, but he later changed to wood, since stone was too inflexible.

*First U. S. Mail is carried by train.

1832: *First U.S. edition of Nicholas Wood's *A Practical Treatise on Rail-Roads and Interior Communication in General*, originally published in 1825.

*First use of swivel or "bogie" wheels on the front of locomotives.

1833: *Boston & Ontario Railroad incorporated in New Hampshire to run from Dunstable, Massachusetts, to a point on the New Hampshire/Vermont border. The railroad is never built.

*The Portsmouth Marine Railroad in incorporated to service ships

1835: *(June 18) The Eastern Railroad is incorporated in New Hampshire.

*(June 23) The Nashua & Lowell Railroad is chartered in New Hampshire. Only five miles of the route between Nashua and Lowell is in New Hampshire.

*(June 27) Boston & Maine Railroad incorporated in New Hampshire.

*(June 27) The Concord Railroad is incorporated to run between the Nashua & Lowell tracks in Nashua to Concord. U.S. Senator and future Governor Isaac Hill is one of the early incorporators.

1836: *(June 18) N.H. General Court authorizes the Amoskeag Manufacturing Company of Manchester to hold stock in the Concord Railroad.

*(June 30) the Concord & Lebanon Railroad was incorporated. It was never built. The Northern Railroad later ran along the proposed route.

1837: *First American 8-wheel engine (4 drivers and 4 bogie wheels).

1838: *New Hampshire General Court fails to renew charter of the Eastern Stage Company.

*(June 26) New Hampshire General Court authorizes the Nashua & Lowell of N.H. and the Nashua & Lowell of Massachusetts to become one corporation.

*(Dec. 23) Nashua & Lowell Railroad completed to Nashua.

1840: *Railroad Law of 1840 requires new railroads to acquire rights-of-way with no help from the State, hence no eminent domain. Existing lines were exempted.

1841: *The Eastern Railroad is allowed to cross the Piscataqua River and to contract with the Portland, Saco, and Portsmouth Railroad to a route to Portland.

1842: *U.S. Government passes a $25 per ton tariff on iron rails. Up to this time, most iron rails used on early American railroads were made in England and Wales.

*(Dec. 21) The Portsmouth and Dover Railroad is incorporated to build a line between Dover and Portsmouth, to include a bridge over Great Bay at Fox Point. In subsequent legislation (Dec. 29, 1848), the Portsmouth and Dover was authorized to build a draw bridge at this point.

*First use of gravel for ballast on rail beds. Good for drainage.

1843: *N.H. act designating railroad headquarters in the state: Concord RR (Concord); Eastern RR (Portsmouth); Boston & Maine RR (Dover); Nashua & Lowell RR (Nashville).

1844: *Railroad law of 1844 ends the so-called "Railroad Wars" in New Hampshire by making railroads "public corporations" subject to regulation of a new Railroad Commission. The law outlined procedures for acquiring rights-of-way by eminent domain. (Until 1851, RR Commissioners were appointed.)

*(Dec. 27) Northern Railroad incorporated to run between Concord and Lebanon.

*Great Falls & Conway Railroad chartered.

*Cheshire Railroad is incorporated to run between Ashburnham, Massachusetts, and Bellows Falls, Vermont.

*Boston, Concord & Montreal Railroad chartered, initially to go from Concord to Wells River, Vermont.

1845: *Onslow Stearns, who had built the Nashua & Lowell Railroad, becomes the first superintendent of the Northern Railroad. He will serve as president from 1852 to 1877.

*The Boston & Maine of New Hampshire and Massachusetts are officially united into one corporation.

*(July 1) The Portsmouth, New Market and Concord Railroad is incorporated and given permission to build a bridge across the Merrimack. The Railroad is then called the Portsmouth & Concord Railroad, and in 1846, given permission to connect their line in Pembroke or Allenstown to the Concord Railroad in Hooksett. In 1848, they are given permission to extend their line directly to Manchester. See subsequent legislation: Jan. 3 1849; July 6, 1849; June 20, 1850; July 13, 1850; January 8, 1853; June 27, 1853. This line is reincorporated in 1855 as the Concord and Portsmouth Railroad.

1846: *U.S. Government passes an *ad valorem* duty of 30% on rails, with the result that New England railroads began buying more rails made in the Mid-Atlantic states.

*The Portland & Rochester Railroad is first incorporated in Maine.

1847: *The Portland, Saco, and Portsmouth Railroad reaches a contractual arrangement with the Eastern Railroad and the Boston & Maine to carry freight and passengers between New Hampshire and Portland.

*(June 30) The Manchester and Lawrence Railroad in chartered to run from the state line in Salem to a point on the Concord Railroad in Manchester.

*(Nov. 17)The Northern Railroad's first train between Concord and Lebanon arrives amidst much fanfare in Lebanon. Daniel Webster gives famous speech on the occasion.

1848: *The Cheshire Railroad reaches Keene.

*The Northern Railroad opens its branch to Bristol

*Concord and Claremont Railroad is chartered.

*Nashua and Epping Railroad is chartered.

*New Hampshire Central Railroad was incorporated to go from Manchester through Weare, Henniker, Bradford, to Claremont. Although the tracks eventually reached Henniker, Concord investment interests won the race to Claremont and forced the New Hampshire Central to destroy its tracks between No. Weare and Henniker. The New Hampshire Central was then reorganized in 1858 as the Manchester & North Weare Railroad.

1849: *The Suncook Valley Railroad is incorporated, to run up the Suncook River Valley from Allenstown or Pembroke to Pittsfield. This first attempt at building a railroad up the Suncook Valley failed. The railroad was reincorporated in 1863. A Suncook Valley Extension Railroad was incorporated in 1849 as well; it was subsequently reincorporated in 1868.

1850: *New Hampshire General Court passes a law limiting railroad operating agreements to five years, after approval by the Railroad Commission and the Governor and Council. Also requires railroads to submit Annual Reports.

*During the decade of the 1850s, high grade bituminous coal was brought to New England ports by coastal trade.

*During the decade of the 1850's, American railroads were increasingly using the "T" rail made of steel. Earlier "T" rails had been made of cast iron.

*N.H. law requires railroads to build depots.

*The Peterborough & Shirley RR reaches Greenville, and in so doing, builds the huge trestle over the Souhegan River in Greenville. The stone piers remain today.

*By 1850, New Hampshire had constructed approximately 1/2 the track that it would have by 1900.

1851: *N.H. General Court passes a law making RR Commissioners elected officials with a 3-year term. This was reversed in 1883

*(July 2) The Portsmouth and Dover Railroad is authorized to be absorbed by the Cocheco Railroad..

*First use of telegraph to dispatch trains

1852: *N.H. law gives conductors the right to collect tickets.

*Onslow Stearns becomes president of the Northern Railroad.

*Boston, Concord & Montreal purchases the lake steamer *Lady of the Lake* for service on Lake Winnipesauke.

1853: *Onslow Stearns, president of the Northern Railroad, becomes superintendent of the connecting Vermont Central.

*(January 8) The Portsmouth & Dover Railroad is authorized to extend its tracks to Somersworth, and the new railroad is to be called the Portsmouth, Dover and Great Falls Railroad.

*John Poor completes the Atlantic & St. Lawrence Railroad between Portland and Montreal, using the broad Canadian gauge of 5'6" (standard American was 4'81/2" which was appropriate for the first English engines used in America).

1854: *The firm of Bayley, Blood and Company becomes the Manchester Locomotive Works.

1858: *Railroad Commission begins publishing Annual Reports

1859: *First Pullman Car, built by George M. Pullman, put into operation.

1860: *In its Annual Report of 1860, the Cheshire Railroad reports 200' of stone bridges.

*Total railroad mileage, 661 miles.

1863: *The Suncook Valley Railroad is reincorporated. This line was badly undercapitalized, and the legislature had to grant several extensions before the line was completed to Pittsfield.

1864: *N.H. General Court passes a law authorizing towns and cities to invest in railroads.

*Manchester Locomotive Works takes over the manufacture of locomotives from Amoskeag. Between 1864 and 1901, it builds 1,793 locomotives.

*The Boston, Concord & Montreal Railroad construct the second Pemigewasset House. It serves has a hotel and restaurant for passengers going to the White Mountains. (It burned in 1909.)

1865: *(June 30) Incorporation of the Portsmouth, Great Falls and Conway Railroad. The new corporation would acquire the Great Falls & Conway Railroad, and then complete the line to Conway from Union Village, Wakefield.

*Total railroad mileage, 667 miles

1867: *New Hampshire passes "An Act to Prevent Railroad Monopolies" severely limiting railroad leases, contracts, and consolidations.

*The Portland & Ogdensburg is incorporated in Maine

1868: *N.H. law exempted taxation for ten years on the capital of railroads constructed hereafter.

*The automatic coupler is patented to Eli H. Janney.

1869: *Boston & Lowell Railroad receives a Massachusetts Charter for the Great Northern Railroad Company, to include the B&L, the Nashua & Lowell, the Concord, and the Northern. This marks the beginning of the effort to create a "system" connecting Boston with the St. Lawrence valley. The B&L fight lasts until 1887, when it leased itself to the Boston & Maine.

*Onslow Stearns, president of the Northern Railroad, becomes Governor of N.H., serving until 1871.

*Completion of the Mount Washington Railway, better known as the Cog Railway, to the summit of Mt. Washington.

*George Westinghouse applies for a patent for his air brake.

1870: *In its Annual Report for 1870, the Boston & Maine Railroad reports its first iron bridge in Exeter. The 1872 Annual Report states the Exeter Bridge is 107' in length.

*John's River Railroad built. This was a narrow gauge logging railroad, the first in New Hampshire, and in connected the Brown Lumber Company in Whitefield with the Connecticut River in Dalton.

*Total railroad mileage, 736 miles.

1872: *Summit House on Mt. Washington is constructed with Boston, Concord & Montreal Railroad money.

1873: *The Boston & Lowell Railroad amends its charter to allow it (or the Great Northern Railroad) to lease or purchase the Fitchburg, Cheshire, and the Rutland railroads.

*The Grand Trunk Railroad, following its conversion to standard gauge tracks, orders 60 locomotives from the Manchester Locomotive Works.

1874: *Grand Trunk Railroad changes over to Standard Gage.

*N.H. law gives conductors authority to put noisy passengers in the baggage car.

*N.H. General Court authorizes the Nashua & Lowell and the Boston & Lowell to become one corporation.

*(July 30) the Manchester & Lawrence is authorized to connect its tracks to the Concord & Portsmouth Railroad.

*Boston, Concord & Montreal lays tracks as far as Fabyans.

1875: *The Eastern Railroad purchases controlling interest in the Maine Central, but goes bankrupt in the process.

*Portland & Ogdensburg completes its cut through Crawford Notch and reaches Fabyans.

*Total railroad mileage, 934 miles.

1876: *The Eastern Railroad goes into receivorship.

*Fabyans and the Base Station of the Cog Railway are connected by rail.

*Westinghouse brakes used on NH rolling stock

1877: *The Portland & Rochester is absorbed by the Boston & Maine Railroad.

*The first great national railroad strike.

*The Manchester & Fitchburg Railroad is incorporated.

*The Manchester Horse Railroad, the first horse railroad in New Hampshire, begins operation. (It's original incorporation was in 1864.)

1880: *The Boston & Lowell leases the Nashua & Lowell for 99 years. The lease was challenged in the N.H. Supreme Court because the lease had not been approved in N.H.

*The Concord Horse Railroad is incorporated.

*Total railroad mileage, 1,015 miles.

1881: *The Boston & Lowell signs a 5-year agreement with the Concord Railroad.

*The Dover Horse Railroad is incorporated

1882: *Chief Justice Charles Doe of the N.H. Supreme Court rules that the lease of the Nashua & Lowell by the Boston & Lowell was illegal.

1883: *New Hampshire General Court passes the Colby Act, which opens the door for railroad consolidation in N.H.

*The Boston and Maine Railroad leases the Eastern Railroad.

*General Court passes a law making RR Commissioners appointed officials. Commissioners' salaries were paid by the railroads, and they were given the right to set maximum passenger and freight rates in N.H.

*The General Court instructs NH senators and congressmen "to oppose any farther (sic) land subsidies to railroads, except the right of way...."

*(Nov. 18) Standard railroad time goes into effect.

1884: *The Boston & Lowell acquired the Northern and the Boston, Concord & Montreal. A group of Concord Railroad stockholders then acquired controlling interest in the B, C & M, and then asked the Boston & Lowell to release the B, C&M from the lease.

1885: *Construction of the fourth and finest railroad station in Concord. Designed by Bradford L. Gilbert.

*Total railroad mileage, 1,044 miles.

1887: *In the case of *Samuel H. Dow et al v. Northern Railroad et al*, Chief Justice Charles Doe declared the lease between the Boston & Lowell and the Northern to be invalid because it did not protect dissenting stockholders. (That same year, the Supreme Court ordered the Boston & Lowell to stop managing the Boston, Concord & Montreal.)

*The Boston & Lowell leased itself to the Boston & Maine Railroad, partially on the grounds that the B&M was a New Hampshire corporation.

*(Oct. 28) The Boston & Maine Railroad, under Frank Jones, obtains a lease for the Manchester & Lawrence Railroad, in the hopes of putting pressure on the

Concord Railroad. This led to the railroad war of 1887, pitting the Concord against the Boston & Maine. The B&M sponsored the Hazen Bill, while the Concord sponsored the Atherton Bill. The Hazen Bill passed the General Court only to be vetoed by Governor Charles H. Sawyer. Both bills were for the purpose of obtaining control of the Northern and the Boston, Concord & Montreal.

*Austin Corbin begins his unsuccessful efforts to acquire the Concord Railroad.

*Airbrakes and first introduced into the nation's freight trains

*Congress creates the Interstate Commerce Commission (ICC), which has broad but poorly defined powers and little means of enforcing its powers.

1888: *The citizens of Portland voted to lease the Portland & Ogdensburg to the Maine Central Railroad.

1889: *(July 24)The N.H. General Court passed a Railroad Bill that allowed the Boston & Maine to lease the Northern Railroad, among others, and the Concord to unite with the Boston, Concord & Montreal, forming the new Concord & Montreal Railroad (New Hampshire Railroad Corporation). This is a sweeping piece of railroad legislation, authorizing a substantial number of combinations, and virtually dividing New Hampshire between the Boston & Maine and the Concord.

*The Union Street Railway Company, New Hampshire's first electric railway, is incorporated to run between Dover and Somersworth.

*The Railroad Commission is given jurisdiction over all railroad crossings of state highways and cattle passes.

*The Railroad Commission is given authority to regulate the speed of trains in the "compact part" of towns and cities.

1890: *The Boston & Maine Railroad, which had been operating the Eastern Railroad under a lease, acquires the Eastern outright. (B&M had been authorized to do so in an act of Nov. 4, 1887.)

*Total railroad mileage, 1,146 miles.

1892: *A.A. McLeod takes over the Boston & Maine; Frank Jones becomes Chairman of the Board of the B&M.

*The Boston & Maine secures a lease for the Connecticut River Railroad.

1893: *J.P. Morgan drives McLeod out of the Boston & Maine and removes Frank Jones as Chairman of the Board. Lucius Tuttle becomes the new B&M president. The Boston & Maine is largely controlled by S. C. Lawrence, American Express, and Pullman.

*J.P. Morgan attempts to split New England: Northern New England to be controlled by the Boston & Maine, Southern New England to be controlled by the New York, New Haven & Hartford.

*The dimensions of the "T" rail were standardized throughout the country. Each rail was to be 39' long.

*The Railroad Safety Appliance Act requires that all trains have automatic couplers and air brakes.

1894: *The Pullman Strike spreads to railroads across the nation.

1895: *The Concord & Montreal leased itself to the Boston & Maine.

*The old Frankenstein Trestle in Crawford Notch is replaced by the current steel trestle.

*A new state law defines street railways and gives the Railroad Commission jurisdiction over street railways.

*Total railroad mileage, 1,171 miles.

1897: *State law allows railroads and street railways to acquire land for "parks and pleasure grounds."

*Boston & Maine starts building its shops in Concord's South End; the old Northern shops near Bridge Street are demolished.

1899: *The Boston & Maine begins the practice of oiling the road bed in order to keep down dust.

1900: *Total railroad mileage, 1,193 miles.

*The Boston & Maine Railroad still has over 100 covered bridges in use throughout New England.

1901: *The American Locomotive Company absorbs the Manchester Locomotive Works.

*The Concord and Manchester Branch of the Boston and Maine Railroad is incorporated to run between Concord and Manchester. It is New Hampshire's first official "interurban."

*The NH General Court passes a law, ostensibly to improve the breeding of horses, but which calls for the construction of a racetrack in Salem, where gamblers will bet on the horses. The Boston & Maine is accused of being behind the measure. Reaction to the bill launches the Lincoln Republicans, the state's first "Progressive" organization.

1903: *An act is passed allowing the Concord & Montreal (Boston & Maine) to acquire the Concord Street Railway and unite it with the Manchester Street Railway.

1904: *Congress passes the Elkins Act, which further outlaws rebates and makes railroads and railroad officials liable to prosecution.

1905: *Current Willey Brook Bridge was built in Crawford Notch.

1906: *U.S. government passes the Hepburn Act, giving the Interstate Commerce Commission the power to set rates and inspect the books of railroad corporations. Free passes are also made illegal.

*The Uncanoonuc Incline Railway and Development Company is chartered. It will run an electric railway up Mt. Uncanoonuc until service is discontinued in 1949.

1910: *Congress passes the Mann-Elkins Act, which further expands the regulatory powers of the ICC.

1912: *Boston & Maine dividends slip to only 4% after several years of much higher dividends. This begins a downward trend in Boston & Maine fortune.

*Melville Hayes, president of the Grand Trunk, proposes to build a rail line through New Hampshire. The Southern New England Railroad in incorporated in Concord for this purpose, but the plan goes nowhere when Hayes dies aboard the *Titanic*. The Southern New England Railroad is liquidated.

1913: *U.S. government passes the Valuation Act, giving the ICC authority to assess the value of railroad property to determine "just and reasonable rates." The resulting Bureau of Valuation did most of its assessment between 1914 and 1921.

1915: *Total railroad mileage, 1,256 miles.

1916: *U.S. government passes the Adamson Act, effective January 1, 1917, which guarantees an 8-hour work day for railroad workers.

1917: *(Dec. 28) The U.S. government assumes control of the nation's railroads as a war measure.

*NH creates a Public Service Commision, later the Public Utilities Commission

1919: *NH passes a sweeping law reorganizing the Boston & Maine in New Hampshire

1920: *The process of creosoting ties became common in the United States during the 1920s.

*(March 1) The nation's railroads return to private management.

1921: *NH law allows for some discontinuance of service on some lines, subject to approval of the Public Service Commission.

1922: *There is a major Boston & Maine strike this year, coinciding with strikes at the state's major textile mills.

1924: *The Boston & Maine petitions the ICC to abandon over one-third of its trackage.

1926: *U.S. government passes the Railway Labor Act of 1926, which is designed to slow down and prevent national railway strikes. This sets up the basic negotiating structure still in place today.

1930: *The Boston & Maine introduces Centralized Traffic Control to Dover

1931: *Boston & Maine tries a partnership with Pan American Airlines for air service in northern New England

*Boston & Maine starts running its first "snow trains" to New Hampshire

1933: *The Concord and Manchester Branch of the Boston & Maine Railroad discontinues service. Buses are used instead.

*(Aug. 11) Boston-Maine Airways makes its first flight between Boston and Bangor

*Emergency Railroad Transportation Act passed by Congress to help railroads make it through the Great Depression.

1934: *Association of American Railroads formed

*First use of Diesel locomotives for passenger service.

*Boston-Maine Airways gets a contract to fly mail

1935: *The Boston & Maine begins operation of the first light streamlined diesel in the East. It is the "Flying Yankee." (Also called the Mountaineer)

1940: *Boston-Maine Airways changes its name to Northeast Airlines

1941: *First use of Diesel locomotives for freight service.

1943: *The Maine Central, which had been leasing the Portland & Ogdensburg, bought out the P&O.

1944: *The Boston & Maine and the Maine Central are forced by the Civil Aeronautics Board to sell their stock in Northeast Airlines

1948: *Tracks of the East Branch and Pemigewasset Railroad were torn up in Lincoln. This had been the largest of the logging railroads; some trestles and bridges survive.

1952: *The Suncook Valley Railroad is abandoned

1954: *The tracks running between Plymouth and Woodsville are abandoned.

*The old Concord & Claremont Railroad is sold by the Boston & Maine to S. M. Pinsly of Boston, who operates the line as the Claremont and Concord Railroad.

*There are only 6 covered railroad bridges remaining in New Hampshire

*First use of "piggyback" freight service.

1955: *Boston & Maine president Patrick McGinnis proposes a merger between the Boston & Maine and the New York, New Haven, and Hartford Railroad.

1959: *U.S. Postal Service stopped using trains for mail delivery between Boston and Portland. The B&M decides to introduce Bud Cars.

*The Maine Central decides to terminate all passenger service. Service was actually discontinued in 1960.

1964: *U.S. Supreme Court rules that most firemen can be eliminated.

1969: *Boston & Maine declares bankruptcy

1970: *Amtrak created by the National Railroad Passenger Act.

1971: *(May 1)Amtrak service begins

1980: *Staggers Rail Act reduces authority of the ICC.

1981: *Timothy Mellon purchased the Maine Central Railroad

1982: *Guilford Transportation Industries, owned by Timothy Mellon, took over the Boston & Maine Railroad.

1986: *System wide strike hits Guilford Industries.

1992: *The old Northern Railroad tracks between Boscawen and Lebanon were abandoned.

1995: *Congress eliminates the regulatory authority of the ICC. Most regulatory authority passes to the Department of Transportation. Bureau of Valuation records go to the National Archives.

VI. BIBLIOGRAPHY

Published Sources:

The books and articles listed below are not meant to be a comprehensive bibliography of all known secondary works relating to railroads in New Hampshire, and to a lesser extent New England and the nation. In many cases, items were intentionally deleted when more recent and comprehensive books are articles could be listed. Also, some topics, like the Cog Railway (Mt. Washington Railroad), have been covered so extensively, that only a few of the more comprehensive works have been listed here. Anyone wishing to find additional articles of possible interest should either consult back issues of the *B&M Bulletin*, the journal of the Boston & Maine Railroad Historical Society and the best single source of information about New Hampshire railroad history, or the bibliographies published by the Committee for a New England Bibliography, specifically volumes 3, 7, 8, and 9.

Abrams, Richard M., "Brandeis and the New Haven-Boston & Maine Merger Battle Revisited," *Business History Review* 36 (Winter 1962): 408-430

Adams, Robert B., "The North Conway & Mt. Kearsarge Railroad: New Hampshire's Forgotten Two-footer," *New England States Limited* 3 (1981): 30-31

Albert, Dave, and Melvin, George F., *New England Diesels* (Omaha, NE, 1975)

Alexander, Edwin P., *Down at the Depot: American Railroad Stations from 1831 to 1920* (New York, 1970)

Allen, C. F. H., "The Atlantic Locomotive in New England," *Railway and Locomotive Historical Society Bulletin* 116 (April 1967): 50-55

_____"A Former Rail Center in the White Mountains: North Conway, New Hampshire," *Railway and Locomotive Historical Society Bulletin* 59 (1942): 37-42

_____"The Maine Central in Northern New Hampshire," *Railway and Locomotive Historical Society Bulletin* 99 (1958): 42-54

Allen, Richard Sanders, *Covered Bridges of the Northeast* (Brattleboro, VT, 1957)

Baker, George Pierce, *The Formation of the New England Railroad Systems* (Cambridge, MA, 1937)

Bardwell, John D., *A Diary of the Portsmouth, Kittery and York Electric Railroad: A Chronology of Events Based on Newspaper Accounts, Editorials, News Notes and Letters to the Editors from January 8, 1897 to November 12, 1897* (Portsmouth, NH, 1986)

Baxter, Sylvester, "Trolley Lines in a Railroad System," *World's Work* 5 (1902-03): 3093-3099 [Boston & Maine Railroad]

Beauregard, Mark W., *R.R. Stations of New England Today, Vol 1, The Boston and Maine Railroad* (Flanders, NJ, 1979)

Belcher, C. Francis, *Logging Railroads of the White Mountains* (Boston, 1980)

_____"Trolley on the Presidentials," *Appalachia* 31 (1956-57): 320-328 [failed attempt to build a trolley up Mt. Washington in 1911-1912]

Bellush, Bernard, *He Walked Alone: A Biography of John Gilbert Winant* (The Hague and Paris, 1968)

Bellush, Jewel, "Reform in New Hampshire: Robert Bass Wins the Primary," *The New England Quarterly* 35 (December 1962): 469-488.

Berg, Walter C., C.E., *Buildings and Structures of American Railroads* (New York, 1893)

Bernard, Vincent H., "Signal Systems on the B&M," *B&M Bulletin* XV, p. 7.

Bixler, Herbert E., "The Little Railroad That Couldn't," *Appalachia* 41 (1976-77): 4-17 [Keene Branch Railroad to Elmwood Junction]

Blodgett, Geoffrey, "Winston Churchill: The Novelist as Reformer," *The New England Quarterly* 47 (December 1974): 495-517.

Boston and Maine Historical Society: Moguls, Mountains, and Memories: A Gallery of New England Railroading North and West of Boston (Boston, 1979)

[Boston & Maine Railroad], *Boston and Maine System, Vol 2: Statutes of Maine, New Hampshire and Vermont relating to the Boston and Maine Railroad and leased lines* (Boston, 1902)

Bradlee, Francis B. C., *The Boston & Lowell, the Nashua & Lowell and the Salem & Lowell Railroads* (Salem, MA, 1918)

_____*The Boston & Maine Railroad: A History of the Main Route with its Tributary Lines* (Salem, MA, 1921)

_____*The Eastern Railroad: A Historical Account of Early Railroading in Eastern New England* (Salem, MA, 1922)

Bryant, Keith L., Jr., ed., *Encyclopedia of American Business History and Biography: Railroads in the Age of Regulation, 1900-1980* (New York, 1988)

Campbell, Victor, J., "Slow Train to Keene," *Railroad Enthusiast* 3 (March-April 1966): 2-8

Cavalier, Julian, *North American Railroad Stations* (New York, 1979)

Cherington, Charles R., *The Regulation of Railroad Abandonments* (Cambridge, MA, 1948)

Chandler, Alfred D., *The Railroads: The Nation's First Big Business* (New York, 1965)

Churella, Albert, "Corporate Culture and Marketing in the Railway Locomotive Industry: American Locomotive and Electro-Motive Respond to Dieselization," *Business History Review* 69 (Summer 1995): 191-229.

Clerke, Donald and Harry Frye, "Water Tanks--Part II," *B&M Bulletin* (Fall 1983): 16-21.

Cochran, Thomas C., *Railroad Leaders, 1845-1890: The Business Mind in Action* (New York, 1965)

Cole, Donald B., *Jacksonian Democracy in New Hampshire, 1800-1851* (Cambridge, MA, 1970)

Committee on History and Heritage of American Civil Engineering, *American Wooden Bridges* (New York, 1976)

Conant, Michael, *Railroad Mergers and Abandonments* (Berkeley, CA, 1964)

Cooper, Theodore, "American Railroad Bridges," *American Society of Civil Engineers* (21 (July 1889): 1-58.

Cornwall, L. Peter and Carol A. Smith, *Names First-Rail Later: New England's 700-plus Railroads and What Happened to Them* (Stamford, CT, 1989)

Council of State Governments, *The States and Rural Rail Preservation: Alternative Strategies* (Lexington, KY, 1975)

Cowen, Rodney P. "Flag Stops," *B&M Bulletin*19

Crouch, H. Bentley, "Bituminous to Bow," *B&M Bulletin* 7 (Fall 1977): 12-21

_____"Narrow Gauge in the Notch," *B&M Bulletin* 7 (Summer 1976): 19-31 [Profile and Franconia Notch Railroad]

_____"The 'Pemi,'" *B&M Bulletin* 5 (Winter 1975-76): 20-31. [Pemigewasset Valley Railroad, from 1874 to 1975]

Crouch, H. Bentley, and Frye, Harry A., "Worcester, Nashua & Portland: Part 1, the 'Phantom' Division; Part 3, All Those Branches," *B&M Bulletin* 9 (Summer 1979): 5-14; (Winter 1979-80): 21-33

Cummings, Osmond Richard, "New Hampshire's Worst Trolley Wreck," *Yankee* 31 (September 1967): 118-120, 123

_____"Portsmouth Electric Railway," *Electric Traction Quarterly*, 5 (Fall & Winter 1966): all

_____*Trolley to Canobie Lake Park: Massachusetts Northeastern Street Railway, Salem Division* (Manchester, NH, 1967)

_____*Trolleys to the Casino: Exeter, Hampton & Amesbury Street Railway* (Manchester, NH, 1969)

_____"The Keene Electric Railway," *Transportation Bulletin* 46 (February 1958): all

_____"The Manchester Street Railway," *Electric Railway Historical Society Bulletin No. 35* (Chicago, 1960)

_____"The Dover, Somersworth & Rochester Street Railway," *Transportation Bulletin* 3 (July-December 1949): 31-40

_____"Berlin Street Railway," *Electric Traction Quarterly* 3 (Spring 1965): all

_____*A Granite State Interurban: The History of the Concord and Manchester Electric Branch of the Boston & Maine Railroad* (Chicago, 1954)

_____"Chester & Derry Railroad," *Transportation Bulletin*, 42 (August, 1957): all

_____"Exeter, Hampton & Amesbury Street Railroad," *Transportation Bulletin* 5 (1951): 1-20

Dame, Brian R., "Silent Sentinels," *B&M Bulletin 18*

Darr, Richard K., "A History of the Nashua and Lowell Railroad Corporation, 1835-1880," Ph.D. dissertation, University of Nebraska, 1956.

Douglas, George H., *All Aboard! The Railroad in American Life* (New York, 1992)

Downs, Virginia C., *Life by the Tracks: When Passenger Trains Steamed through the Notch* (Canaan, NH, 1983)

Droege, John A., *Passenger Terminals and Trains* (New York, 1916, republished, 1969)

Dunbar, Seymour, *A History of Travel in America*, 4 vols. (New York, 1915, reprinted 1971)

Edgar, Robert Milton, *North of Franconia: White Mountains Railroad, 1848-1873* (New York, 1953)

Edwards, Llewellyn Nathaniel, *A Record History and Evolution of Early American Bridges* (Orono, ME, 1959)

Fay, Nathan W., "Sullivan County's First Electric Railway," *Inter-State Journal* 7 (February 1904): [7-11] [Claremont Electric Railway]

Fisher, Charles E., "Locomotive Building at Manchester, New Hampshire," *Railway and Locomotive Historical Society Bulletin* 26(1931): 9-17

Fisher, Ralph E., *Vanishing Markers: Memories of Boston and Maine Railroading, 1946-1952* (Brattleboro, VT, 1976)

Fletcher, Robert and J.P. Snow, "A History of the Development of Wooden Bridges," *Proceedings, ASCE* 68 (November 1932): 1455-1498.

Fogel, Robert William, *Railroads and American Economic Growth: Essays in Econometric History* (Baltimore and London, 1964)

Frey, Robert L., ed., *Encyclopedia of American Business History and Biography: Railroads in the Nineteenth Century* (New York, 1988)

Frye, Harry A., "Bridges," *B&M Bulletin* 11 (Spring 1982): 7-11

_____"Covered Bridges Remembered," *B&M Bulletin* 11 (Spring 1982): 7-11

_____"The Northern Road: A Brief History of the Northern Railroad in N.H.," *New England States Limited* 4 (March 1982): 6-17

_____*Minuteman Steam: Boston & Maine Steam Locomotives, 1911-1958* (Littleton, MA, 1982)

Garvin, Donna-Belle and James L., *On the Road North of Boston: New Hampshire Taverns and Turnpikes, 1700-1900* (Concord, NH, 1988)

Gove, William, "New England's First Logging Railroad: Brown's Lumber Company, Whitefield, New Hampshire," *Northern Logger and Timber Processor* 21 (April 1973): 45, 62,63.

_____"The East Branch and Lincoln Railroad: A Logger's Railroad," *Northern Logger and Timber Processor* 16 (April 1968): 16-17, 48-54

[Grand Trunk Railway], *Location, Description and Dimensions of all Stations, Buildings, Agents' and Section Houses, Stock Pens, etc.* (1907)

Grant, H. Roger, *Living in the Depot: the Two-Story Railroad Station* (Iowa City, IO, 1993)

Grant, H. Roger and Charles W. Bohi, *The Country Railroad Station in America* (Sioux Falls, SD, 1988)

Grow, Lawrence, *Waiting for the 5:05: Terminal, Station and Depot in America* (New York, 1977)

Guyol, Philip N., *Democracy Fights: A History of New Hampshire in World War II* (Hanover, NH, 1951

Hamburger, Philip, "A Reporter at Large: Rack and Pinion," *New Yorker* 35 (September 12, 1959): 129-149 [Cog Railway]

Harlow, Alvin F., *Steelways of New England* (New York, 1946)

Hay, Warren H.. "The Cochecho Railroad," *B&M Bulletin* (Spring 1977): 6-14.

Hengen, Elizabeth Durfee and Gary Samson, *Capital Views: A Photographic History of Concord, New Hampshire, 1850-1930* (Concord, NH, 1994)

Hilton, George W., *The Northeast Railroad Problem* (Washington, DC, 1975)

Hilton, George W., and Due, John R., *The Electric Interurban Railways in America* (Stanford, CA, 1960)

Hoisington, Richard A., "This Train Does Not Stop at Nutt's Pond: A History of the B&M's Manchester & Lawrence Branch," *New England States Limited* 1 (Spring 1978): 15-33.

Holbrook, Stewart Hall, "That Was Columbia Bridge," *New Hampshire Profiles* 9 (June 1960): 22-23, 48-49 [Columbia Bridge Depot]

Holt, Jeff, *The Grand Trunk in New England* (Toronto, 1986)

Jackson, Donald C., *Great American Bridges and Dams* (Washington, DC, 1988)

Johnson, Ron, ed., *Maine Central RR Mountain Division* (So. Portland, ME, n.d.)

Karr, Ronald Dale, *Lost Railroads of New England*, 2nd edition (Pepperell, MA, 1989, 1996)

_____*The Rail Lines of Southern New England: A Handbook of Railroad History* (Pepperell, MA, 1995)

Kennedy, Charles J., "The Eastern Railroad Company, 1855-1884," *Business History Review* 31 (Summer 1957): 179-208

_____"The Eastern Rail-road Company to 1855," *Business History Review* 31 (Spring 1957): 92-123

_____"The Influence of Government Regulation on the Management Decisions of Forty-five New England Railroads, 1830-1900," *Railway and Locomotive Historical Society Bulletin* 105 (October 1961): 6-22

Kidder, Glen M., *Railway to the Moon* (Littleton, NH, 1969)

Kilbourne, Frederick W., *Chronicles of the White Mountains* (Boston and New York, 1916)

Kirkland, Edward Chase, *Men, Cities and Transportation: A Study in New England History, 1820-1900*, 2 vols. (Cambridge, MA, 1948)

Kistler, Thelma W., *The Rise of Railroads in the Connecticut River Valley* (Northampton, MA, 1938)

Kraus, John, *Trains of Northern New England* (New York, 1977)

Kruschwitz, David Martin, "Rationalization of the New England Railroad System, 1920-1977," Ph.D. dissertation, Massachusetts Institute of Technology, 1978

Lawrence, Loring M., "Manchester," *Motor Coach Age* 25 (October 1973): 4-19

Lawry, Nelson A., "Boston & Maine's boxed ponies: galloping into oblivion?", *Trains* (February 1994)

Lenk, Walter E., "The Engineers' Strike of February, 1877," *B&M Bulletin* 11 (Summer 1982): 12-16

Lewis, Edward A., *New England Country Depots* (Seekonk, MA, 1973)

Lewis, W. David and Wesley Phillips, *Delta: The History of an Airline* (Athens, GA, 1979)

Libby, R. C. and Carol M. Furnee, "Through the Woods to Winnipesaukee: A Condensed History of the Wolfeborough Railroad, 1868-1974," *B&M Bulletin* (June 1994).

Lindhal, Martin L., *The New England Railroads* (Boston, 1965)

MacAvoy, Paul W., and Snow, John W., eds., *Railroad Revitalization and Regulatory Reform* (Washington, DC, 1977)

Macey, Barry, A., "Charles Sanger Mellen: Architect of Transportation Monopoly," *Historical New Hampshire* 26 (Winter 1971): 3-29

Marble, Thomas L., "Railroad Town," *New Hampshire Profiles* 1 (March 1952): 27-30, 60-61; (April 1952): 46-51; (May 1952): 40-42, 61-64; (June 1952): 50-51; (July 1952): 48-53 [Gorham]

Marshall, Richard G., ed., *New Hampshire Covered Bridges: A Link with Our Past* (Nashua, NH, 1994)

Martin, Albro, *Enterprise Denied: Origins of the Decline of American Railroads, 1897-1917* (New York, 1971)

Masson, Robert Louis, *A Case Study of Balloting Regulations: The Boston and Maine Recapitalizes, 1948-1953* (Boston, 1956)

McKinney, Gordon B., "The Hazen Bill of 1887 and the Ascendancy of the Boston and Maine," *Historical New Hampshire* 38 (Winter 1983): 209-228

McMillen, J. Walter, "On Rockingham Electrics," *Granite Monthly* 27 (1899): 323-345

Mead, Edgar T., *The Up-Country Line: Boston, Concord & Montreal RR to the New Hampshire Lakes and White Mountains* (Brattleboro, VT, 1975)

_____*Through Covered Bridges to Concord: A Recollection of the Concord & Claremont RR (NH)* (Brattleboro, VT, 1970)

_____*The Concord & Claremont Railroad* (1998)

Miller, E. Spencer, *Maine Central Railroad, 1940-1978* (Portland, ME, 1977)

Neal, R. M., *High Green and the Bark Peelers: The Story of Henry A. Beaulieu and His Boston and Maine Railroad* (New York, 1950)

New Hampshire Railroad Commissioners' Reports, (Concord, NH, 1889-1910)

Nichols, Roy Franklin, *Franklin Pierce: Young Hickory of the Granite State*, 2nd edition (Philadelphia, 1969)

Philbrook, Dana, "Lake Shore Railroad: The First Forty Years," *B&M Bulletin* 16 (1989): 12-27

_____"The Rise and Fall of Lakeport Yard," *B&M Bulletin* 19 (1993): 18-19, 22-29

Philbrook, Dana and R. Richard Conard, "Fitchburg Railroad Passenger Station: Marlboro, Massachusetts," *B&M Bulletin* (Winter 1983-84).

Pillsbury, Hobart, *New Hampshire; Resources, Attractions, and Its People; A History* 5 vols. (New York, 1927) [Chapter 28 contains an extensive state railroad history]

Poor, Henry Varnum, *History of the Railroads and Canals of the United States of America* (New York, 1860)

Potter, Janet Greenstein, *Great American Railroad Stations* (New York 1996)

Rand, E. Roger, "Tie Treating at Nashua," *Boston and Maine Railroad Magazine* 20 (January 1952): 2-5

Richardson, Leon Burr, *William E. Chandler, Republican* (New York, 1940)

Roberts, Christopher, *The Middlesex Canal, 1793-1860* (Cambridge, MA, 1938)

Robertson, Edwin B., and English, Benjamin W., *A Century of Railroading in Crawford Notch* (Saco, ME, 1975)

Saunders, Richard, *The Railroad Mergers and the Coming of Conrail* (Westport, CT, 1978)

Sawyer, Doris E., "White Mountain Depots," *New Hampshire Profiles* 1 (February 1952): 45, 62-63

Schuster, Richard, "Railroad Collections at the New Hampshire Historical Society," *Historical New Hampshire* 45 (Fall 1990): 235-252 [Cocheco, Sullivan, Northern railroads among others]

Sewell, Richard H., *John Parker Hale and the Politics of Abolition* (Cambridge, MA, 1965)

Shaw, Donald E., *A History of the Claremont Railway, 1903-1945* (Warehouse Point, CT, 1945)

Smith, Clyde R., "Those Everlasting Buggies," *B&M Bulletin* 7 (Winter 1977-78): 27-33 [Laconia Car Company cabooses]

Smith, Dwight A., "Where did the Freight Go?", *B&M Bulletin* 15.

Smith, Norman W., "A Mature Frontier: The New Hampshire Economy, 1790-1850," *Historical New Hampshire* 24 (Fall 1969): 3-19.

Smith, Wilson, "Purity and Progress in New Hampshire: The Role of Charles B. Haddock," *The New England Quarterly* 28 (1955): 455-472 [Northern Railroad]

Snow, J. Parker, "Wooden Bridge Construction on the Boston and Maine Railroad," *Journal of the Association of Engineering Societies* 15 (1895)

Squires, J. Duane, *The Granite State of the United States*, 4 vols (New York, 1956)

_____, *Headlights and Highlights: The Northern Railroad of New Hampshire, 1844-1848* (New York, 1948)

Stearns, Merton J., "Experiences on the Berlin and Groveton Branches in the Early Forties," *B&M Bulletin* 17 (1991): 6-18

Stilgoe, John R., *Metropolitan Corridor: Railroads and the American Scene* (New Haven, CT, 1983)

Stover, John F., *American Railroads*, 2nd edition (Chicago and London, 1961, 1997)

_____*The Life and Decline of the American Railroad* (New York, 1970)

Suncook Valley Railroad Historical Society, *The Blueberry Express: A History of the Suncook Valley Railroad* (Littleton, MA, 1985)

Taylor, George R., *The Transportation Revolution, 1815-1860* (New York, 1951)

Taylor, George Rogers and Irene D. Neu, *The American Railroad Network, 1861-1890* Cambridge, MA, 1956)

Taylor, William L., "Railroad in the Wilderness: The East Branch & Lincoln Railroad, 1892-1948," *Historical New Hampshire* 48 (Winter 1993): 187-213

_____, "A Nineteenth Century Hill Town: Images and Reality," *Historical New Hampshire* 37 (Winter, 1982): 283-309

Teague, Ellen Crawford, *I Conquered My Mountain: The Autobiography of Ellen Crawford Teague* (Canaan, NH, 1982) [Cog Railway]

Toby, Ramond E., "The Portsmouth, Great Falls & Conway R.R., Part II," *B&M Bulletin* (Fall 1983)

Tolles, Bryant F., Jr., *New Hampshire Architecture: An Illustrated Guide* (Hanover, NH 1979)

Valentine, Donald B., Jr., "The Forest Line," *B&M Bulletin* 17 (1990): 6-11

Vance, James E., *The North American Railroad: Its Origin, Evolution, and Geography* (Baltimore, 1995)

Waite, Thornton H., "Recycling New Hampshire's Railroad Stations," *B&M Bulletin* (Summer 1977)

Walker, Alicia, "The Manchester & North Weare Railroad," *B&M Bulletin* 15.

Walker, Ellis E., "Boston & Maine Railroad Pits and Turntables," *B&M Bulletin* 15.

"Want to Buy a Bridge?" (Lyndeborough Trestle), *New Hampshire Historical Society Newsletter* 20 (March 1982): 1

Waterman, W. R., "Locks and Canals at the White River Falls," *Historical new Hampshire* 22 (Autumn 1967): 23-54.

Webster, Frederick E., "A History of Street Railways and Power Development in New Hampshire," *Granite Monthly* 54 (1922): 281-288

Weitzman, David, *Traces of the Past: A Field Guide to Industrial Archaeology* (New York, 1980)

Weller, John L., *The New Haven Railroad* (New York, 1969)

Whitcher, William Frederick, *Wells River Bridge, and other Haverhill Toll Bridges* (Woodsville, NH, 1904)

White, John H., Jr., *American Locomotives: An Engineering History, 1830-1880* (Baltimore, 1968)

_____*Early American Locomotives* (New York, 1972)

_____*The American Railroad Passenger Car* (Baltimore, 1978)

_____*The American Railroad Freight Car: From the Wood-Car Era to the Coming of Steel* (Baltimore, 1993)

Whitney, Scott J., "Conn. River Bridges," *B&M Bulletin* 17 (1990): 20-35

Wilbur, Clifford Charles, "The 'Rough and Ready,'" *Repertory* 1 (1924-25): 35-39 [Cheshire Railroad]

Wilder, H. Arnold, "Passengers to the White Mountains," *B&M Bulletin* 5 (Summer 1976): 5-18

Wilner, Frank N., *Railroad Mergers: History, Analysis, Insight* (Omaha, NE, 1997)

Wilson, Harold Fisher, *The Hill Country of Northern New England: Its Social and Economic History, 1790-1930* (New York, 1936)

Wilson, Raymond E., "Twenty Different Ways to Build a Covered Bridge," *Technology Review* (May 1971)

Wright, James, *The Progressive Yankees: Republican Reformers in New Hampshire, 1906-1916* (Hanover, NH, and London, 1987)

Young, Harold Herbert, *The Story of the Laconia Street Railway, Laconia, New Hampshire* (Patterson, NJ, 1954)

Unpublished Reports

Boehner, Kenneth D., "National Register Nomination for Laconia Passenger Station," 1981.

Boston and Maine Engineering Department, "State of New Hampshire Bridge List: Main Track Structures," Revised as of January 1, 1953 [on file Bureau of Railroads and Public Transportation, NHDOT, Concord, NH]

Bowers, M. H., "Area Form for Maine Central Railroad: Mountain Division," prepared for the NHDOT, May 1994.

Conard, Rebecca, Ph.D. , and Tracy Ann Cunning, "National Register of Historic Places, Multiple Property Documentation for: The Advent and Development of Railroad in Iowa, 1855-1940"

Cotton, Kenneth and W. N. Marianos, Jr., "Principals & Practices of Railroad Bridge Inspection." Presented to the U.S. Department of Transportation, Federal Railroad Administration, 1996

Hostutler, Elizabeth, "Area Form for the Ashuelot Branch, Boston & Maine Railroad," May 1995

_____"Area Form for Blackmount Railroad," August 1996-January 1997.

_____"Area Form for Boston & Maine Railroad: Gonic Branch," April 1994.

_____"Area Form for Cheshire Railroad," 1994.

_____"Area Form for Concord to Claremont Railroad," October 1994.

_____"Area Form for Dover & Winnipiseogee Railroad," November 1998.

_____"Area Form for Eastern Division," June 1998.

_____"Area Form for Goffstown Branch Railroad," September 1995.

_____"Area Form for Monadnock Railroad," August 1998.

_____"Area Form for Portsmouth Branch," June1998.

_____"Area Form for White Mountain Railroad," May 1996

_____"Area Form for Worcester & Nashua Railroad," October 1994.

Mausolf, Lisa, "National Register Nomination for Stone Arch Bridge, Lebanon," January 1985.

Monroe, Lynne Emerson, "Area Form for the Boston & Maine Railroad, Western Division," January 1993.

Ruell, David L., "National Register Nomination for Alton Bay Railroad Station," April 1983

_____"National Register Nomination for Ashland Railroad Station," July 1982.

_____"National Register Nomination for Potter Place Railroad Station," September 1988

Other

Letter, William Merrill to John Page, October 12, 1996, regarding the Randolph covered pony truss railroad bridge.

Repositories of New Hampshire Railroad History:

There is a vast amount of original research material available to tell the story of New Hampshire's railroads. This material may take the form of company records, government records, personal manuscripts, maps, blueprints and diagrams, photographs, pictorial prints, printed mater, newspaper articles and advertisements, and more. The repositories listed below are known to contain significant collections pertaining to the history of New Hampshire railroads. Needless to say, there remains a great deal of material in smaller repositories and in private hands.

1. The Archives of the Boston & Maine Railroad Historical Society: These are currently located at the Mogan Cultural Center, University of Massachusetts Center for Lowell History in Lowell. [40 French Street, Lowell, MA 01852] This is the single largest collection of Boston & Maine historical material in any repository, and it contains maps, photographs, manuscripts, printed matter, some company archival material, and much of the valuation records created in the years following World War I. There is also a good collection of published work here as well. The archives may be located at http://libvax.uml.edu/www/clh/index.Html.

2. The New Hampshire Division of Records Management and Archives: The "State Archives," located on Fruit Street, Concord, contains the reports sent to the state Railroad Commission and more. Commercial railroad, electric railroads, and even horse railroads are included. The collections also include tax-related documentation and statements of assets. There are even some very detailed inventories of corporate assets. Collections are described in the finding aid published by the State Archives (*Guide to Early Documents (c.1680-c.1900) at the New Hampshire Records Management and Archives Center*) and on the State Archives web page (http://www.state.nh.us/state/archives.htm).

3. The Tuck Library, New Hampshire Historical Society: This is the best single repository for New Hampshire history, and the library and manuscripts collections pertaining to railroads is considerable. Its library (30 Park Street, Concord, NH 03301) has well over four hundred listings for New Hampshire railroad history, and its manuscripts collection has a number of major railroad collections (see, Richard Schuster, "Railroad Collections at the New Hampshire Historical Society," *Historical New Hampshire* 45 (Fall 1990)). In addition, the Historical Society has an extensive photographic archive and a strong collection of prints and printed material relating to the state's railroads. The NHHS may be contacted at its web page (http://www.nhhistory.org/library.html).

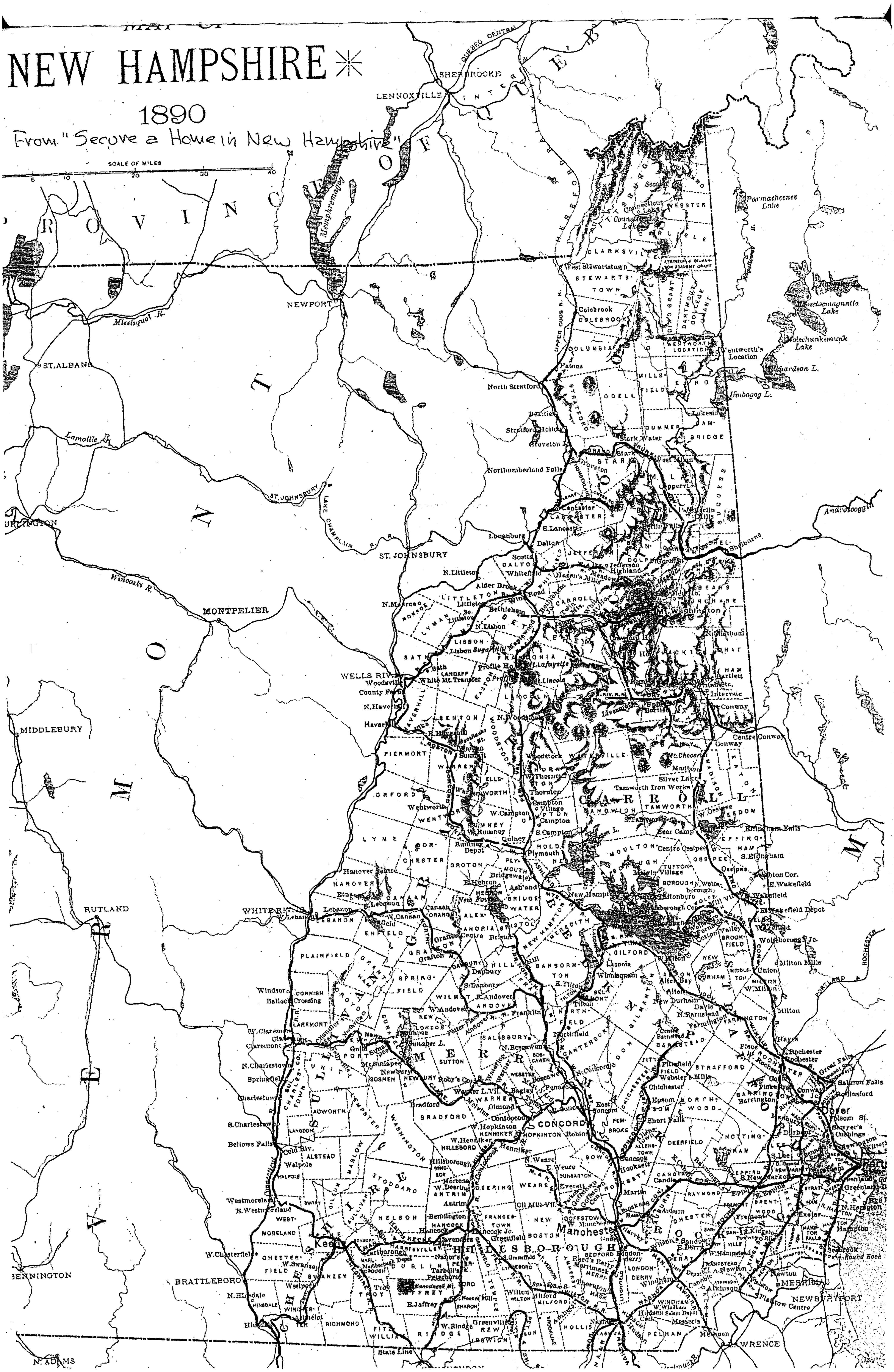
4. Walker Transportation Collection, Beverly Historical Society and Museum: This collection features a vast collection of photographs relating to transportation in general. It is open only from 7 to 10 pm on Wednesday evenings, or by special appointment. The collection is used extensively by historians engaged in railroad history. The Beverly Historical Society is located at 117 Cabot Street, Beverly, MA 01915; the collection's web site is http://tiac.net/users/fletcher/about.html.

5. Baker Library, Harvard University: This is the library for Harvard Business School, that was established for the express purpose of housing business collections from New England. Included in this collection are the records of the Manchester Locomotive Works (1873-1902), the Nashua & Lowell Railroad (1835-1916), Boston & Maine Railroad (1907-1915), and the Eastern Railroad. The web site for the Baker Library is http://www.library.hbs.edu/sfa/welcome.htm.

6. National Archives: The National Archives contains the records of most federal agencies, including the now-defunct Interstate Commerce Commission. The records of the ICC are Record Group 134 (1887-1979). Included in these records are the records of the Bureau of Valuation, from 1910-1974. The New Hampshire valuation material is on microfilm. The web site for this material is http://www.nara.gov/publications/microfilm/comprehensive/compcat.html.

7. Guilford Transportation Industries: The Boston & Maine Railroad was absorbed by Guilford in 1980. The old Boston & Maine facilities in North Billerica, Massachusetts, is the headquarters for regional railroad operations. Within these offices, the remaining archives of the Boston & Maine Railroad remain. The valuation records are here, as are the more recent maintenance records. This is an invaluable archive, although it is not generally open to the public. A web site for Guilford Industries may be found at http://members.aol.com/widecab/bmpage/bmpage.html#B&M.

8. Library of Congress online: The Library of Congress has put its collection of forty-one New Hampshire "birds eye" views online. These can be accessed and portions of them may be enlarged to show detail. (A sample is included in this report.) The bird eye views are particularly valuable when compared to the Sanborn Fire Insurance Maps, which do a better job of identifying specific buildings. The views can be found by going to the site for Library of Congress, and then to the American Memory section, looking for Maps. Look at http://loc.gov/



NEW HAMPSHIRE
1890
From "Secure a Home in New Hampshire"
SCALE OF MILES
5 10 20 30 40
PROVINCE OF QUEBEC
VERMONT
MAINE
SHERBROOKE
LENNOXVILLE
QUEBEC CENTRAL
INTERNATIONAL
HEREFORD RAILWAY
UPPER COOS R.R.
Memphremagog
NEWPORT
Missisquoi R.
ST. ALBANS
Lamoille R.
ST. JOHNSBURY & LAKE CHAMPLAIN R.R.
ST. JOHNSBURY
BURLINGTON
Winooski R.
MONTPELIER
WELLS RIVER
MIDDLEBURY
RUTLAND
WHITE RIV. JC.
BENNINGTON
BRATTLEBORO
N. ADAMS
Parmacheenee Lake
Mooselocmaguntic Lake
Molechunkemunk Lake
Richardson L.
Umbagog L.
Androscoggin
Second L.
Connecticut Lake
PITTSBURG
WEBSTER
CARLISLE
CLARKSVILLE
West Stewartstown
STEWARTSTOWN
ATKINSON & GILMANTON ACADEMY GRANT
DIX'S GRANT
DARTMOUTH COLLEGE GRANT
Colebrook
COLEBROOK
COLUMBIA
WENTWORTH'S LOCATION
Wentworth's Location
Fatons
North Stratford
STRATFORD
ODELL
MILLSFIELD
ERROL
Lakeside
CAMBRIDGE
DUMMER
Stark Water
Stratford Hollow
Groveton
Northumberland Falls
STARK
West Milan
MILAN
SUCCESS
Lancaster
LANCASTER
S. Lancaster
Berlin Falls
Lunenburg
Dalton
JEFFERSON
Shelburne
Gorham
Scotts
DALTON
Whitefield
N. Littleton
Alder Brook
Jefferson Highland
LITTLETON
Littleton
N. Monroe
MONROE
LYMAN
Bethlehem
CARROLL
Twin Mts.
Mt. Washington
BEANS PURCHASE
N. Lisbon
LISBON
Lisbon
Sugar Hill
Maplewood
FRANCONIA
Profile Ho.
Mt. Lafayette
Mt. Lincoln
BATH
Bath
LANDAFF
White Mt. Transfer
EASTON
LINCOLN
Woodsville
County Farm
N. Haverhill
HAVERHILL
Haverhill
BENTON
N. Woodstock
WOODSTOCK
Livermore
Bartlett
Intervale
N. Conway
Centre Conway
Conway
PIERMONT
WARREN
Warren
Woodstock
WATERVILLE
Mt. Chocorua
Madison
MADISON
EATON
Silver Lake
THORNTON
W. Thornton
Thornton
Tamworth Iron Works
CARROLL
TAMWORTH
SANDWICH
ORFORD
Wentworth
WENTWORTH
ELLSWORTH
Campton Village
CAMPTON
Campton
W. Campton
RUMNEY
W. Rumney
S. Tamworth
Bear Camp
W. Ossipee
FREEDOM
Effingham Falls
EFFINGHAM
S. Effingham
LYME
DORCHESTER
Rumney Depot
Quincy
S. Campton
HOLDERNESS
Plymouth
MOULTONBOROUGH
Centre Ossipee
OSSIPEE
Ossipee
GROTON
PLYMOUTH
Bridgewater
TUFTONBOROUGH
Melvin Village
E. Wakefield
Wakefield
Hanover Centre
HANOVER
Etna
CANAAN
E. Lebanon
E. Hebron
HEBRON
Ashland
ASHLAND
New Hampton
BRIDGEWATER
Wolfeborough
Wolfeborough Centre
Cotton Valley
BROOKFIELD
E. Wakefield Depot
Wolfeborough Jc.
Lebanon
LEBANON
W. Canaan
Canaan
ORANGE
ALEXANDRIA
BRISTOL
Bristol
NEW HAMPTON
MEREDITH
GILFORD
Laconia
Enfield
ENFIELD
Grafton Centre
GRAFTON
Grafton
DANBURY
Danbury
HILL
Hill
SANBORNTON
Winnisquam
ALTON
Alton Bay
Alton
NEW DURHAM
New Durham
MIDDLETON
Union
Milton Mills
MILTON
W. Milton
Milton
PLAINFIELD
GRANTHAM
SPRINGFIELD
S. Danbury
WILMOT
E. Andover
ANDOVER
W. Andover
Franklin
Tilton
TILTON
BELMONT
E. Tilton
NORTHFIELD
Northfield
GILMANTON
BARNSTEAD
N. Barnstead
Farmington
FARMINGTON
Davis
ROCHESTER
E. Rochester
Rochester
Windsor
CORNISH
Balloch Crossing
CLAREMONT
W. Claremont
Claremont
Claremont Jc.
CROYDON
NEW LONDON
SUNAPEE
Sunapee L.
Potter Place
SALISBURY
N. Boscawen
BOSCAWEN
CANTERBURY
LOUDON
Pittsfield
STRAFFORD
Webster's Mills
Great Falls
Salmon Falls
Rollinsford
N. Charlestown
Springfield
UNITY
Mt. Sunapee
Newbury
NEWBURY
GOSHEN
SUTTON
Roby's Corner
Warner L. Vil.
WARNER
WEBSTER
Boscawen
Penacook
N. Concord
CHICHESTER
Chichester
Epsom
EPSOM
NORTHWOOD
BARRINGTON
Barrington
Conway Jc.
Dover
Folsom St.
Sawyer's
Cushings
Charlestown
CHARLESTOWN
ACWORTH
LEMPSTER
WASHINGTON
BRADFORD
Bradford
Melvins
Dimond
Contoocook
W. Hopkinton
HOPKINTON
CONCORD
E. Concord
PEMBROKE
Short Falls
ALLENSTOWN
DEERFIELD
NOTTINGHAM
Durham
S. Lee
Newington
S. Charlestown
LANGDON
Bellows Falls
Cold Riv.
ALSTEAD
Walpole
WALPOLE
MARLOW
STODDARD
HILLSBOROUGH
W. Henniker
HENNIKER
Henniker
Hillsborough
WINDSOR
Hortona
W. Deering
DEERING
ANTRIM
Antrim
WEARE
N. Weare
E. Weare
DUNBARTON
Everett
Goffstown
SOW
Suncook
Hooksett
HOOKSETT
CANDIA
Candia
Raymond
RAYMOND
EPPING
Epping
S. New Market
NEWMARKET
Stratham
Portsmouth
Greenland
Rye
N. Hampton
Westmoreland
E. Westmoreland
WESTMORELAND
SURRY
GILSUM
SULLIVAN
NELSON
Bennington
HANCOCK
Hancock
FRANCESTOWN
Hancock Jc.
Greenfield
Oil Mill Vil.
GOFFSTOWN
W. Manchester
NEW BOSTON
Manchester
Martin
Massabesic
Auburn
CHESTER
Fremont
Kingston
Exeter
HAMPTON
Hampton
HAMPTON FALLS
Seabrook
Round Rock
W. Chesterfield
CHESTERFIELD
W. Swanzey
SWANZEY
Keene
KEENE
ROXBURY
HARRISVILLE
Marlborough
Marlborough Depot
Nabor's
DUBLIN
PETERBOROUGH
Tarbell's
Peterborough
HILLSBOROUGH
S. Greenfield
LYNDEBOROUGH
BEDFORD
Londonderry
Reed's Ferry
Merrimack
MERRIMACK
LONDONDERRY
DERRY
E. Derry
Sandown
W. Hampstead
HAMPSTEAD
Newton
MERRIMAC
NEWBURYPORT
Westport
TROY
Troy
Monadnock Mt.
JAFFREY
E. Jaffrey
Wilton
WILTON
Milford
MILFORD
AMHERST
Windham
WINDHAM
Canobie
Atkinson
Plaistow
Plaistow Centre
N. Hinsdale
HINSDALE
WINCHESTER
Ashuelot
Hinsdale
RICHMOND
FITZWILLIAM
RINDGE
W. Rindge
Greenville
NEW IPSWICH
State Line
HOLLIS
Nashua
Hudson
Hudson Cen.
Salem Depot
Messer's
PELHAM
Methuen
LAWRENCE

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION
BUREAU OF RAILROADS
&
PUBLIC TRANSPORTATION
1996
(REVISED 1-1-96)

RAILROAD MAP

4 0 4 8 12 MILES

N

LEGEND

- STATION BEARING TOWN NAME ■
- STATION BEARING LOCAL NAME ●
- BERLIN MILLS RAILWAY
- BOSTON & MAINE CORP.
- ST. LAWRENCE & ATLANTIC RAILROAD
- NEW ENGLAND CENTRAL RAILROAD
- CLAREMONT CONCORD RAILROAD
- CONWAY SCENIC RAILROAD
- GREEN MOUNTAIN RAILROAD
- MAINE CENTRAL RAILROAD
- MT. WASHINGTON COG RAILWAY
- N.H. & VT. RAILROAD
- N.H. NORTHCOAST CORP.
- SPRINGFIELD TERMINAL RAILWAY
- STATE OF N.H.
- STATE OF N.H. ABANDONED RAILROAD WITH DATE (IF AVAILABLE)
- ABANDONED RAILROAD WITH DATE (IF AVAILABLE)

9/22/98

- Data taken off 1914 valuation sheets and recorded in database.
- Area forms completed (or in process)

(MBTA)=OPERATING AREA