



The Farmington Canal 1822-1847: An Attempt At Internal Improvement

Curriculum Unit 81.ch.04
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The only dividend known to pay,

They mowed the towpath and sold the hay.

anonymous rhyme 1840s

Today trailer trucks, railroad cars, tankers and airplanes transport our daily needs from all corners of the earth to Connecticut. But 150 years ago, before the invention of the internal combustion engine, before steamships, and before the advent of railroads, waterways were the key to internal transportation.

A growing industrial economy where fewer and fewer farmers were self-sufficient, and more and more goods were produced outside the home, led to a need for an adequate internal transportation system. In Connecticut, as in other states, attempts were made to connect the isolated interior settlements with the

more established commercial centers. The Farmington Canal is an example of one such attempt.

In 1830, four million pounds of merchandise were shipped every month from New Haven, through Hamden, Cheshire, Southington, Bristol, Farmington, Simsbury, and Granby, bound for Northampton, Massachusetts, on the Farmington Canal. At three every afternoon, packet boats left the Elm City docks in New Haven, making the trip to Northampton in the unheard-of time of twenty-four hours. The age of canals had arrived in Connecticut.

This teaching unit uses a local historical event—the construction of the Farmington Canal—as a vehicle both to help change attitudes of students towards the study of history and provide them with an understanding of some basic economic concepts related to the United States economy.

As an effort to develop more positive attitudes towards the study of history, local history should be a part of every school's American History curriculum, because local history is more tangible and palatable than the strict textbook diet. Students can develop many of the skills of historical investigation through the use of artifacts and records that are available in their own community. No study of local history that is limited to the classroom can answer all the questions a student may have. It should *create* questions which encourage students to apply their skills in the community, so they may discover the answers to their questions on their own.

This two week unit is developed for an eighth grade American History curriculum responsible for material up to the Civil War. This allows the teacher the opportunity to spend two weeks on this content without the worry of running out of time at the end of the year. The unit is designed so that other teachers who cannot afford a full two weeks may select various topics to use in their curriculum. This material need not be specifically taught in the context of an American History course. Topics could be incorporated quite well into such curriculums as Economics, Political Science, Ecology, and any current events type course.

Sample lessons deal with the importance of transportation in linking geographic specialties, formation of corporations, and Connecticut geography.

The materials in this unit can be used to develop the following topics:

- Importance of transportation to the economic development of a nation.
- The developing relationship between government and private enterprise.
- The development of public policy in Connecticut.
- The affects of private enterprise on communities.

A Need For Internal Improvements: The National Scene 1800-1840

By 1800 most farmers were doing more than scratching out a meager existence on the land. In the east the threat of Indians had disappeared and the development of hundreds of small mills had begun to spread. Farmers no longer had to rely purely on their own resources and could start utilizing the bountiful resources that surrounded them. The small mill industries were characteristically isolated from potential markets.

England by comparison, already industrialized, was compact and had a well-developed system of transportation which tied the country into a more or less unified market. With towns no more than seventy miles from the sea and with at least 20,000 miles of turnpike-highway, England was a working economic unit. ¹ The United States, geographically huge and variegated, was fragmented by a lack of a good transportation system as well as an increasingly specialized economy based on geographic differences.

The War of 1812 further demonstrated to Americans the inadequacy of their internal transportation system. By disrupting coastal shipping, the War proved that interstate commerce and the national defense were jeopardized by inadequate internal transportation. ² Four years before the war, Albert Gallatin, Secretary of the Treasury under Jefferson, presented a grand plan for internal improvements in his "Report on Roads and Canals." Under this scheme the nation was to be tied together by a web of federally sponsored turnpikes and canals. Gallatin suggested the use of federal funds for these projects; but even if private enterprise played a part, the federal government should "take the responsibility for the selection of routes so that they would conform to the great geographic features of the country rather than to the dictates of local interests." ³ Public enterprise on the federal level did not find much support in 1815, however. Not only did the opponents of the plan question the constitutionality of using federal money for such projects, but the plan produced intense jealousies among the states, in fear that one state might get ahead of another. ⁴ Of Gallatin's entire plan, only one road was actually undertaken, the National Road from Cumberland on the north bank of the Potomac to the Ohio River at Wheeling.

Turnpikes

With the federal government unable to agree on any national unified plan for improving the country's transportation system, the job rested with private or state sponsored enterprises. Overland routes were the first improvements. By 1800 there were seventy-two profit-seeking, toll-collecting turnpike companies in the Northeast; by 1810 the number had multiplied into the thousands. ⁵ In Connecticut alone the General Assembly granted 121 franchises for turnpike improvements between 1795 and 1853. ⁶ The necessity and profitability of these roads is shown by the fact that in New England, by 1840, over \$6.5 million of private funds had been invested in turnpikes, most of this money coming from small companies with capital of less than \$100,000. ⁷

These turnpikes would be considered crude by modern standards, but compared to earlier roads they demonstrated many improvements. Most turnpikes were two-way thorough-fares, about twenty-four feet wide and relatively straight. In New England, in order to avoid muddiness and road erosion, drainage was provided by giving the road a convex surface to shed the water. Connecticut companies tended to spend less money for turnpikes than those in states such as Massachusetts, since many turnpike corporations simply improved existing public roads and therefore avoided heavy expenditures for rights of way.

State governments granted charters to private turnpike corporations giving them the right of eminent domain. ⁸ (see glossary) This right usually came under the close supervision of a special committee appointed when the charter was granted. In Connecticut these crude regulatory commissions were created as early as 1792, when tolls were established on the Mohegan Turnpike. (See Appendix A for a map of Connecticut Turnpikes). The early turnpike commissions were important to the development and implementation of the public sectors acting as a watch dog of private enterprise in Connecticut.

Travel over turnpikes was time consuming and expensive. Average costs in 1820 were about 15 cents a ton-mile for freight, more than twice as much as water transportation. ⁹ In 1822, the Post-Coach Line Dispatch advertised that the line left Hartford at eleven o'clock every Tuesday, Thursday and Saturday morning, making the trip to New Haven in six hours, arriving at five o'clock in time for the steamboat. Financially many were failures because the cost of building these turnpikes exceeded the revenues collected from tolls. By 1825 more than half of the turnpike ventures in the country had been either partially or totally abandoned. ¹⁰ A contributing factor to the failure of these internal overland routes was the emergence of the canal. Canals were to become a part of the already heavy dependence on waterways.

Water Transportation

Since the beginning of human history, people have always depended heavily on rivers and streams. People first settled in river valleys which provided the most fertile soil for farming close to transportation.

The development of the steamboat in the early 19th century allowed people to travel as easily up stream as down, with or without wind. The skeptical Connecticut public began to see the benefits of steam over sail when the first steamboat steamed from New York to New Haven in March of 1815 in eleven hours. But steamboat travel was plagued with terrible accidents before the 1840s. There are accounts of steamboat boilers blowing up while en route, killing passengers and damaging cargoes. People mistrusted steam until after 1840 when engines were radically improved and safety measures developed. Only then did steamboat travel become a popular means of transportation.

Like steamboat travel, rivers themselves had certain natural drawbacks. Rivers were not always navigable to appropriate and profitable destinations. It was for these reasons that a few visionary individuals in America, such as Albert Gallatin, speculated about the possibilities of shaping water transportation to the economic and geographic needs of the country.

Canals

American canal enthusiasts patterned their ideas on 18th-century canals they knew of in England. Canals had been created out of a need for better inland routes of commerce. DeWitt Clinton, who was largely responsible for the construction of the Erie Canal, summed up the feelings of the day in his classic 1815 "Memorial." As he saw it, canals had the effect of labor-saving machines by cheapening the costs of transportation. Canals would encourage the growth of population and the construction of new inland towns. Canals would also safeguard against local monopolies by developing new inter-regional trade. The manufacturer's of the east would have access to the agricultural wealth of the west, each would become a new market for the other. "Hence the prosperity of a country was proportional to the extent of its inland navigation." ¹¹ Many contemporaries felt as Clinton did, that canals would create such a vast system of internal trade that eventually America's dependence on foreign markets would be greatly reduced. In addition many felt that lower transportation costs would lead to an increase in consumption and thereby increase new investment in America's developing industries.

The problem with canals was their cost. Many financially unsuccessful turnpikes cost from \$5,000 to \$10,000 a mile, while canals cost \$25,000 to \$80,000 a mile, and they took not a year or two to build, but eight to ten years. ¹² Opponents pointed to the extreme expense of canal building and emphasized America's vast size and variegated topography. The United States was not England, in terrain or economy. If these engineering marvels were to be undertaken, where would the finances come from? The federal government's assistance to internal transportation was at best minimal. Private investment capital was scarce by comparison with Britain, and canal projects due to their lengthy periods of construction did not offer the speculator instant returns on investment. It seemed that many of these enterprises would be only successful with the assistance of state or local funds or by a mixture of public and private enterprise. ¹³

Predictably, state governments played a greater role in canal construction than private enterprise. The public works projects of New York, Pennsylvania and Ohio were responsible for more than half of the entire canal investment before the Civil War. ¹⁴ On Connecticut, however, builders received little or no financial support from the state, though they were granted liberal charters which did help to promote construction. Private investment amounted only to about twenty-five percent of the total canal investment before the Civil War. ¹⁵

Forty-two hundred miles of canals were built in the United States between 1815 and 1816. ¹⁶ The canal age lasted well into the 1840s and 1850s when canal transportation was gradually abandoned in the face of railroad competition. ¹⁷ Even after the age of canals had past, their impact on centers of population and industry was such that their paths many times determined the paths of the railroad networks that would replace them.

The canals of the ante-bellum period were indeed effective avenues of inland commerce. In 1852, a period of diminishing canal importance due to the increased activities of the railroads, figures show over nine million tons of freight moved over the nation's waterways. ¹⁸ The benefits of the canals seem to have exceeded the \$188 million that was invested in them. ¹⁹ Even the unsuccessful enterprises had some economic benefits. A canal which might have been an investment fiasco to the stockholder could still bring business opportunities and profits to the enterprises they served. For a time canals accomplished much that their dreamers envisioned they would. (See Activity #3 for lesson on Importance of Water Transportation in 1800)

The Farmington Canal As A Connecticut Example of Internal Improvement

The Farmington canal was a private attempt to improve internal transportation in Connecticut. Though the canal carried heavy traffic for at least a decade, it was not a successful private enterprise. The main reasons for its failure were:

1. inadequate capitalization consequent economics in engineering and construction;
2. competition with the Connecticut River Company;
3. landholder claims;
4. the railroad.

But at its inception it was viewed as a viable answer to Connecticut's internal transportation problems.

By 1822, Connecticut's improved turnpikes facilitated the exchange of goods between the interior rural towns and the established commercial centers found along the rivers and coastal areas of the state. But it was expensive to move large amounts of goods over land. Water transportation on the Connecticut, Housatonic, and the Thames offered a much easier and less expensive means of transporting goods. Steamboat travel on the Connecticut made Hartford an equally viable port with New Haven.

With the news that 260 miles of the Erie Canal had been completed in New York State, prominent men in New Haven realized they could have access to the interior by building a canal route running north, from the tidewater at New Haven to the Massachusetts border and beyond. This would increase the commerce and importance of New Haven and at the same time decrease the role of Hartford. The economic importance of Hartford rested on the fact that it was located on the Connecticut River, but New Haven businessmen were quick to point out the difficulties of traveling beyond Hartford because of the Enfield Rapids.

The first step in building the canal was to raise capital. Preliminary meetings were held in 1821 by the New Haven businessmen interested in the venture. (See Appendix B for basic chronology of events). They decided they needed the cooperation of the towns along the proposed canal route and invited representatives to a special meeting in Farmington on January 29, 1822. Seventeen towns that expected to benefit from the waterway were represented at the Farmington meeting. At this meeting a committee was formed to raise \$1,000 for a survey to determine the feasibility of the proposed project. The committee hired Benjamin Wright, who was the chief engineer of the Erie Canal, and America's leading civil engineer at the time, to conduct a preliminary survey from New Haven to Southwick, Massachusetts. In 1822 he reported his findings: "The terrain is favorably formed for a great work of this kind and a canal may be formed for considerable less expense per mile, than the cost of canals now in the making in the state of New York." ²⁰

In the original plan, the canal was to travel from the tidewater at New Haven through Farmington to the Massachusetts boarder at Southwick. (See Appendix C and D for maps). A branch or "side-cut" was also proposed which would start at Farmington, go through Unionville, and proceed through the valley of the Farmington River to Colebrook, Connecticut. The canalers envisioned the main portion of the canal would continue all the way to the St. Lawrence River along the course of the Connecticut River through Lake Memphremagog and the valley of the St. Francis River. In addition, the proposed "side-cut" would connect the Erie Canal via the proposed, but never build, Boston and Albany Canal, or the Hudson River. While charters and preparations for all these proposed undertakings were secured, they actually constructed only eighty miles from New Haven to the Connecticut River just above Northampton or the main line, and some three and a half miles of the side-cut in Unionville, which was later turned into a feeder for the main canal. ²¹

On May 30, 1822 the Farmington Canal Company was granted a charter to complete the canal in the next ten years, and given a tax exemption for twenty-one years. To protect the interests of the public, the State appointed a six member commission to regulate the activities of the Canal Company. This commission was much like the turnpike commissions that had been established over thirty years before and acted much as the present-day Public Utilities Commission.

The commissioners were specified by name in the charter and were sworn to have no financial interest in the company. Their term of service was set at ten years and payment for their services was to come from the Canal Company. With the assistance of engineers and surveyors, they were to determine the exact route of the canal and were also authorized to sell stock. They were also responsible for determining the right of way;

hearing the owners' situation and making proper judgements on the amount of payment that should be awarded for loss or damages to property caused by construction of the canal. Their other duties included the location of toll houses and private crossings; directing the location, construction and maintenance of any new bridges and highways that might be necessary; calling the first meeting of the corporation; inspecting the construction that was in progress. When the project was finished they were to turn in a detailed report to the proper state agencies on the surveys and location and full details of the cost. ²² For those services they were paid three dollars a day for every day they worked.

On July 8, 1822 the commissioners voted to make an investigation preliminary to a survey of the route, but no other steps toward actual building of the canal took place for nearly a year. The delay was caused by the fact that the Hampshire and Hampden Canal Company, the corporation which was to construct the Massachusetts extension of the canal was not granted its charter until February 4, 1823.

After the Hampshire Canal Company received its charter, work on the Farmington Canal began. The commissioners opened the subscription books for the Farmington Canal on July 15, 1823, and called the first meeting for two weeks later. A board of twenty-one directors was chosen and they in turn elected Joel Root of New Haven as President. ²³ In August the board of directors hired surveyors under the direction of Benjamin Wright's son to determine the route and cost of the canal. Wright figured that the cost of construction of the fifty-eight miles of canal line from New Haven to Southwick would be \$480,698.88. This figure did not include provision for the costs of land or the 16 1/2 mile side-cut from the main line to New Hartford. ²⁴ The Farmington Canal Company needed to raise \$480,698.88 before they could start digging, and it soon became clear that such funding would be difficult. They optimistically issued stock at one hundred dollars per share with the prospective stockholders paying only a portion of this down, the remainder to follow at intervals specified by the company.

The sale of stock was quite good at first, but soon the demand declined. With no new capital coming in, the directors were forced to ask for some assistance from the Connecticut General Assembly. Unlike New York, the state of Connecticut did not want actual financial involvement in a private endeavor. In an effort to encourage stockholders to invest in the project, the General Assembly offered to make the canal stock tax free until the Farmington Company could earn over six percent profit. ²⁵ Despite these efforts by the state government the sale of stock did not increase. (See Activity #5 for Lesson on Corporations).

Still in an effort to increase the subscription and to encourage public confidence in the canal project, the directors of the canal company organized the Mechanics Bank of New Haven with a capital of \$500,000. The bank's charter had been granted on the condition that it would subscribe to \$200,000 of the stock of the Canal company. The speed with which the Connecticut General Assembly granted the bank charter, and the fact that bank charters were not so easily attained, suggest that the state was at least minimally supportive of the canal project. By April 22, 1825 enough capital was secured for the stockholders to vote for the construction to begin. Later, due to Chronic financial difficulties of the company, the state granted charters to City Bank of New Haven in 1831, and the New Haven County Bank in 1834, again with the provision that they subscribe to stock in the canal company. ²⁶

The ground-breaking ceremonies took place in July 4, 1825 at the Massachusetts-Connecticut line. Governor Oliver Wolcott had the honor of turning the first spadeful of earth. The spade broke. In years to come when the canal company had gone bankrupt many of its stockholders would no doubt shake their heads and swear that the broken spade must have been a bad omen. At the celebrations though, this event did not receive much attention. Numerous accounts describe the day's pageantry. An account of the day from the *New Haven*

Register claims that “There were from two to three thousand people present on the occasion, and among them several gentleman of distinction from Massachusetts.” Another account from the diary of Deacon Hooker of Farmington states, “On Saturday a boat on wheels drawn by four horses arrived in town from New Haven this afternoon containing old Mr. Hillhouse, the superintendent of the canal, and eight or ten other persons On its stern was painted ‘Farmington Canal’ and on each side “For Southwick & Memphrenagog.””

In May of 1825, Chief Engineer Davis Hurd called for payment of the first two dollars installment of the Farmington Canal stock. Unexpectedly soon, in August, he called for a second installment this time of ten dollars followed by eight more in rapid succession. These installments were the capital needed to pay the workers and buy the materials. But many stockholders were not able to keep up with them. The failure to obtain these funds when they were needed led to skimping by the contractors. This helps to explain why the canal had a history of constant repair. ²⁷

The second problem with the canal was the competition with Connecticut River travel. During all this activity, the businessmen of Hartford began to worry about the competition from the canal. To keep New Haven from gaining the upper hand in commerce, the “Riverites of Hartford,” attempted to improve navigation on the Connecticut River. The river was only navigable up to Hartford by sloop. Commerce north of that point was impossible due to the Enfield Rapids and the shallow river bed. The Hartford group had already acquired a charter for the Connecticut River Company from the General Assembly in 1824 for the purpose of improving the navigation of the Connecticut River. Both the Farmington Canal and Connecticut River would serve much the same area. The Connecticut River was an established river route, with only two barriers to easy travel. The Farmington Canal on the other hand had much more to overcome. Not only did the canal basin need to be dug, but sixty locks also had to be built to raise the water level 520 feet above tide level. In 1825, Riverites petitioned the Massachusetts Legislature for the right to build locks at Enfield. This caused great concern among the supporters of the canal. Despite protests, the General Assembly approved the Connecticut River charter in May of 1825. (See Activity #6 for Riverites vs. Canalers debate).

Meantime construction had begun on both the Farmington Canal and the connecting Hampshire and Hampden Canal, the Massachusetts portion of the Farmington project. It was decided that stocks of both companies should be united to increase the amount of working capital, but no formal action was taken at that time. By 1827 capital taken in from stock subscriptions from the Farmington Canal Company was exhausted and work on the canal progressed slowly. At this rate completion would take much longer than had been estimated with a resultant increase in the overall costs.

Although 1828 saw the opening of the canal from New Haven to Farmington and the great aqueduct over the Farmington River, the Farmington Company was in desperate need of capital to complete its work. In addition to the lack of funds, a third reason for the Company’s difficulties was the complaints from angry property owners who felt cheated out of their land. Town records show that many landowners were not satisfied with the assessment of damages made by the commissioners. Controversy also developed over whose responsibility it was to construct fencing to set the canal off from adjacent lands. In some instances, according to company records, land damages were not paid. This produced bad feeling towards the Company. The canal was also plagued by freshens and mysterious accidents; the “accidents” no doubt the work of some dissatisfied landowners.

In the early part of 1829 the financial embarrassments were relieved for the most part, by the city of New Haven. Citizens authorized the mayor “to borrow the sum of \$100,000 on the credit of the city, to be appropriated for the putting of the Farmington Canal in perfect condition for the public use.” ²⁸ With this new

source of capital the Canal company was able to settle all of the outstanding claims for land damages. The company also made some necessary improvements such as building the lockhouses and repairing any breaches. With a few small exceptions the Connecticut project was complete. With the Massachusetts project having completed its work from the Connecticut state line to Westfield, there was a continuous line of navigation from New Haven to Westfield, Massachusetts. This produced a good amount of business and even helped to reduce the price of fuels such as coal and wood in the Connecticut River Valley area.

Nevertheless, financial troubles continued to plague the canal. The original estimate for the Farmington Canal was \$420,698.88, but by 1830 the price had reached \$770,000 because of the land damages and many repairs. The Hampshire and Hampden project was also over budget, although not as much as the Farmington. Again the two companies went looking for the necessary capital to complete their projects.

On February 22, 1830, James Hillhouse, the superintendent of the company, made an appeal to the federal government for a grant of \$155,000 to complete both projects. He argued that the entire country would benefit from the completion of this internal improvement. Strong opposition came from the Connecticut River Company. To counter Hillhouse's proposal, the Riverites presented an argument to the United States House of Representatives which questioned the practicality of the whole New Haven scheme. Hillhouse's bill to secure federal money for the completion of the canal, H.R. 276 of the 21st Congress, failed to pass. The "Riverites" won. All work on the Hampshire and Hampden came to a standstill because it had exhausted all capital.²⁹ For the canal in Connecticut, this meant a continued struggle to keep the canal in good repair with no ability to make the necessary large scale improvements.

Although completion of the canal to Northampton and the Connecticut River would not be accomplished until 1835, the years between 1830 and 1835 witnessed a steady stream of business on the canal with some minor interruptions because of damages or weather. The increased freight business on the canal had a positive economic affect on the communities that it served. By 1830 the Farmington was an essential factor in the business activities of the region. Businesses advertised that they had access to canal navigation. It was estimated that the same amount of business done on a railroad would have paid in freight, on an average, not less than seventy thousand dollars a year.³⁰ The canal did have some economic impact on the commerce of New Haven by diverting goods up the canal rather than the Connecticut River. Plainville built a canal basin where boats docked and many small businesses grew up around this "port." The clock makers in Bristol found canal transportation to be much safer than turnpikes for their delicate products.

But boats that used the Canal were not owned by the Canal Company. Anyone who wished to use the canal could do so by simply paying the required toll, which depended on the weight of the merchandise being carried. The amount of money taken in by tolls was only enough to cover the average operating expenses of the company, and could not handle the extraordinary expenses due to such things as floods and drought, or the draining of canal waters by desperate farmers, events that plagued the canal throughout its history.

By 1836 both the Farmington and Hampshire companies were in severe debt. People by this time were not quick to subscribe in an endeavor whose history was one of unrelieved financial disaster. Worse yet, those who had agreed to invest did not meet the installments on their subscriptions when they were due. No stockholder was ever known to receive a dividend on his investment.

Finally on June 22, 1846, the New Haven-Northampton Company was established to take the place of the two original companies. The stocks of the two older companies were relinquished. The debts were partially paid and subscribers bought stock in the amount of \$120,184.92.³¹ This capital was secured mostly from the old

stockholders of the two previous companies who evidently did not want to lose all of their initial investment. An account of this event states, "It is not a little creditable to the enterprise of the patrons of this work, that after so great losses in the former Companies, they should embark so readily in the new Company."³² For ten years, until 1848, after this financial arrangement was made, the Company met the costs of washouts of the canal banks and other troubles and carried a steady traffic.

Perhaps the most fundamental threat to the canal came in 1838 with the opening of the New Haven Railroad between New Haven and Meriden. A decade later, in one last effort to salvage their investments in the tired old canal, the stockholders petitioned the General Assembly for authority to build a railroad on their canal bed. A charter was granted, and work on the railroad commenced on January 1847.

The road opened to Plainville January 18th, 1848, to Tariffville January 19th, 1850, and to Collinsville, February 28th, 1850. The canal took five years to complete. The railroad took only a year. The canal project cost its investors \$1,089,425.10 while the railroad only cost \$186,000.³³ The canal did provide the railroad with two distinct benefits: a complete right of way, and graded banks which could be used as a railroad bed. This had the advantage of saving about a third of the ordinary construction costs. The railroad had other advantages in that it was basically a monopoly. The line owned the road, its own carriages, and it could charge what tolls it liked. Canal lines were abandoned not just here in Connecticut but in many other parts of the country as well because although train freight rates were more expensive, people wanted a faster method of transportation. Trains were the answer.

Construction and operation of the Farmington Canal had both positive and negative affects on the communities along its banks. While actual economic impact is difficult to measure, as a method for linking geographical specialties, the canal it was effective. Cargo manifests show the diversity of products that traveled on the canal. Items such as coal from the west, farm products from the interior areas of western New England, and iron and steel were transported to various markets. The canal also helped to stimulate new business ventures along its bank. In Farmington the Union Hotel, now the main building of Miss Porter's School was built for canal patrons. After the closing of the canal the stretches between locks were used as mill ponds. Mills and factories that produced small items such as buttons were established. Even during its operation there were successful attempts made at using the waters of the canal for power. For New Britain the canal created a need for improved roads to towns such as Farmington and Plainville. In Cheshire a warehouse was built on the banks of the canal which helped to foster other kinds of businesses. This area became known as Beachport and is West Cheshire today.³⁴ The canal boats offered convenient and more pleasant travel on Sundays to the Village church. The clock industry of Bristol also benefitted from the canal.³⁵ To children the canal provided unlimited enjoyment. In the winter they raced mile after mile on the canal's frozen waters. In hot weather the canal provided a safe swimming hole even for the youngest swimmers. People enjoyed taking packet boat excursions to any town along the canal bank.

The canal of course had its negative points. The most obvious problem created by the canal was the disruption caused by its construction, the commissioners and surveyors determined that. Individual land owners had no control over the course of the canal. The canal company had the right of eminent domain and little could be done if the canal had to cut through a farmer's best field. Land damages were awarded, but many individuals were not satisfied with the monetary compensation.

To many the canal meant that their farms and highways would be ruined. Farmers continually complained about hayloads being upset as they passed over the steep bridges of the canal that crossed the highways. Farmington town records are full of their negative votes on building the canal.³⁶

The most noticeable failure of this Connecticut attempt at internal improvement was the inability of all three corporations to find sources of adequate capital to sustain the functions of the company. Although the General Assembly did make some major contributions, the state still never considered supplying these private enterprises with public money. Another problem that greatly affected the ability to raise capital was that their only source of revenue was charging tolls, the amount of which was never enough to even cover the normal expenses of the corporation. If the canal company had owned the boats which used the canal or charged freight rates as the railroads did, perhaps an increased amount of revenue would have been produced. High construction costs and repairs led to financial disaster. "Canals were never able to control the lines of travel, or carry passengers to any great extent; this deprived them of great sources of revenue possessed by the railroad." ³⁷

It is interesting to speculate on the fate of the canal had the state or federal government involved themselves in the financial affairs of the company. By the modern standards of our mixed economy the justification for government's involvement is clearly evident. The canal, a large scale private enterprise, did provide an important public service, much as private utility companies do today. The benefits of the canal were evident in the amount of commercial activity that its presence generated. Laissez-faire attitudes nevertheless prevailed.

The failure of the canal must in part be attributed to the unwillingness for the public to make an effort to support this massive private enterprise. Perhaps, if this support had been provided, the canal's fate would have been quite different.

The failure of the Farmington Canal shows that such a large scale private enterprise involving so many towns and with the benefits to so many people needs to have public support. Throughout the canal's history Connecticut government refused the canal company financial assistance. Other state governments such as New York and Ohio had contributed heavily to their projects. Clearly the failure of the Farmington Canal demonstrates that large scale enterprise for the public good requires more than private capital. It is a demonstration that government must play a large role in the economic life of the nation.

Over the years since the canal the laissez-faire attitudes of leaving private enterprise to its own devices has changed drastically. Today economists use the term "mixed economy" to describe the economic system of the United States. Although government has increased its presence in every aspect of the economy, the idea of a mixed economy did not emerge without resistance. The Farmington Canal's failure is an example of that resistance in Connecticut.

ACTIVITY # 1. BRAINSTORMING ABOUT TRANSPORTATION.

OBJECTIVE:

This lesson could be used to begin the unit on the Farmington Canal. Students give very little thought to the importance of transportation today. By comparing today's methods of transportation with those of the early 1800s students can develop an appreciation and an understanding of the need for an adequate system of transportation.

1. Write the word TRANSPORTATION on the board and ask the class to define it. Decide on a class definition.
2. Next have students make two columns on a piece of paper. They should label one column *Transportation 1820* and the other column *Transportation 1981* . Have the students make a list of the kinds of transportation available during the year 1820 and today. Make a master list on the board. Then ask the students to explain the major routes of transportation used by the various methods they have listed.

SAMPLE LIST:

Your list should look something like the one below.

TRANSPORTATION 1820		TRANSPORTATION 1981	
walking		motorcycles	
stagecoaches	use roads	bikes	
wagons		walking	<i>use roads</i>
horses/mules		cars	
oxen		trucks	
		bus	
steamboats	use water		
sailing ships		trains	
rafts		subways	<i>use railways</i>
		airplanes	
		helicopters	<i>air travel</i>
		boats/ships	<i>use water</i>

note : railroads should not be included in the 1820 list because they did not become important until after the 1830s.

3. You could ask students to compare the roads of the 1820s with our roads today. See what kinds of impressions they have about early roads.
4. Using the list have students attempt to describe the difficulties of traveling in the 1800s. Ask them to describe what traveling by horse and wagon must have been like.

Types of *responses* : time consuming/slower than today difficult to move heavy materials affected by the seasons could not go great distances easily problem with night travel

5. Have students write a short essay on what their life would be like without the family car.
6. Have students discuss why transportation has an affect on the price of things that we buy.

(example: an increase in the price of gasoline affects

the price of items transported by truck.)

ACTIVITY #2. THE IMPORTANCE OF TRANSPORTATION IN DEVELOPING MARKETS .

OBJECTIVE:

Students should begin to understand that adequate transportation is essential to the development of a market economy.

1. Start by giving your students a modern situation. What would happen if all the truck drivers in America went on strike? What affect would this have on your everyday lives? In the discussion you should point out that trucks carry many of the agricultural and manufactured products that we consume everyday. Without truck transportation many of the products that we use would not be available in the stores. This would have two affects; first the price of these items would increase because of demand; secondly if the strike continued for a long time the producers of these products would lose a great deal of money because they could not get their products to the markets that needed them. This lack of transportation would have an affect on our economy.
2. Next you should present a situation from the time period being studied. You are a wheat farmer on the Ohio River and you want to sell your wheat flour to a merchant in New York, what are the ways that you can get your product to this market in 1820? During one of these situations the teacher should refer to a wall map of the United States that shows the major rivers and mountain ranges. Be sure to stress the difficulty of land travel over the mountains. The wheat farmer would probably use a more convenient market such as New Orleans at the mouth of the Mississippi River, because water transportation was less costly and time consuming than overland travel. Create other situations which show the geographic specialization and the need f or transportation during the period. Students should realize that a developed system of transportation helps to connect a large country like the United States, thereby creating new markets.

ACTIVITY #3. THE IMPORTANCE OF WATER TRANSPORTATION IN THE EARLY 1800s .

OBJECTIVE:

Students should develop an understanding that many large cities in the United States and in Connecticut

tended to develop near water first because of the convenience that water transportation provided with respect to trade and immigration. They should understand that water transportation was less costly and time consuming than overland travel during this period.

1. Using a wall map of the United States that shows the major rivers, have your students find the following list of cities.

New York	Charleston
Boston	New Orleans
Philadelphia	St. Louis
Baltimore	Pittsburgh
Richmond	Cincinnati

- What do these cities have in common with each other?
- Why might large cities develop in these locations?
- How do you think trade and immigration affected the growth of these cities?

2. Using the map of Connecticut which follows this activity, have your students locate the following cities.

Hartford	New London	(also have them
Hew Haven	Norwalk	locate their own
Middletown	Fairfield	town if not on the list)
Wethersfield		
Windsor		

- What do these cities have in common?
- How could their being located on water have helped their development?
- Besides transportation, what else was water used for in the early 1800s?
(rivers provided water power to run many of the small mills that were developing during this period)

3. If your community is not located on a navigable river or the coast, ask your students what methods of transportation were available to the area in the early 1800s.

(refer to the section on turnpikes)
(figure available in print form)

4. Why was water transportation a better method for transporting large quantities of freight than overland routes? You should explain that water transportation was the cheapest way to move large quantities of freight. Some communities did not have navigable rivers. This problem was solved by building canals. One of the best known canals during this period was the Erie Canal. By using the Erie Canal, a shipper could reduce the cost of shipping a ton of grain from Buffalo to New York City from 100 to 5 dollars. The shipping time was cut from about twenty days to six.

5. Connecticut had its own canal, The Farmington. Example of how the Farmington Canal improved transportation: In the early 1830s Samuel Collins, owner of the Collins Axe Company, experimented with anthracite coal in the heat treatment of steel in his factory at Collinsville. The

experiments were successful and soon the Collins Company was using large quantities of this coal. There were no railroads at this time. The Farmington Canal was carrying a large amount of traffic. The method used to transport this coal from where it was mined, near the banks of the Lehigh River in Pennsylvania to Collinsville, was to ship it down the Lehigh and Delaware Rivers by barge, transfer it to a coastal vessel at Philadelphia, bring it up the coast to New Haven, where it was again transferred to barges and then up the Farmington Canal to Avon from where it was hauled by ox cart to Collinsville. This coal was very expensive because of the number of times it had to be handled and because of the route it had to follow. It cost about \$15 a ton when it reached the canal dock at Avon and another \$.75 a ton to cart it over to Collinsville.

- a. Have your students trace the route of the coal on a map.
- b. What route might the coal have followed if the canal had not been built?
- c. How do you think this would have affected the price of the coal?
- d. Why was the canal a better method of transportation?
- e. How does this example demonstrate the importance of water transportation in the early 1800s?

ACTIVITY #4. MAKING A VISUAL TIME LINE .

OBJECTIVE:

The history of the Farmington Canal may be confusing to students at first. To help them understand the material a visual time line somewhere in the room can be beneficial.

1. As an outside of class activity have your students draw some pictures that would demonstrate some aspect of the canal's history. Arrange these pictures according to the canal's chronology. (see the chronology which follows this activity Appendix B.)
2. As a writing assignment that would go along with this activity you could have students pretend they are a person living near the canal and have them write a page from their diary about one of

the events on the time line.

Examples:

A farmer upset because the canal is flooding his fields.

A person traveling to the meeting house by packet boat on Sunday.

A young boy talking about what fun it is to skate on the canal in the winter.

A person who was present at the ground-breaking ceremonies.

A stockholder who is upset because the company is not making any money.

3. Have the class create a newspaper that would outline the major events of the canal's history. Be sure to include some articles by people who would not be in favor of the canal.

ACTIVITY #5. STARTING A CORPORATION .

OBJECTIVE.

To teach students the steps involved in starting a corporation and the role that government plays in its formation and operation.

1. A good way to start off this activity is with a general discussion of what a person needs to start a business.
 - a. an idea for a product or service
 - b. knowledge that there is a need for your idea
 - c. money to invest with capitalDid the Farmington Canal Company have all of these elements?
2. Ask students to give some modern day examples of some corporations. List them on the board. Why are they corporations and not a regular partnership or proprietorship?
3. Refer students to their glossary of terms for the unit. (see appendix E) Go over the terms that are relevant to this material.
4. Using the canal company as a model, ask students how one goes about starting a corporation.
 - a. What did the canal company need from the state before it could build the canal?
 - b. Why did the state appoint a commission when the company was chartered?
5. Use the chart of how a corporation works to explain the creation of the Farmington Canal Company.

6. After students have a good understanding of the canal's history have them list the ways that the state government was involved in the company's formation and operation.
7. Create a discussion on corporations using the following questions:
 - a. What is capital? Why is capital important to a private enterprise? How does a corporation raise capital?
 - b. Why would a person buy stock in a corporation?
 - c. What was wrong with the Farmington Canal Company in terms of raising capital to keep the company going?
 - d. How did the state protect the rights of the public with respect to the canal?
 - e. Discuss whether or not government has the right to involve itself in a private free enterprise venture such as the canal. How is this involvement a violation of the true definition of capitalism? (see glossary of terms appendix
8. What are some examples of government regulation or involvement in private enterprise today?
Have students research other private corporations that are regulated by the government in some way.

Some examples:

Telephone company Power companies
Railroads Oil companies / drilling on George's Bank off Cape Cod.
(figure available in print form)

ACTIVITY #6. THE CANALERS vs. THE 'RIVERITES ' A DEBATE .

OBJECTIVE:

The purpose of this exercise is to develop students skills in reading primary source documents. It also allows students to roleplay an historical situation and develop skills of argument.

DAY ONE:

1. Divide your class into the Canalers and the Riverites.
2. Assign each group the document which presents their side's argument for homework. (these documents plus a profile of the canal navigation follow this activity and should be photocopied)
April 2, 1830 Riverite's Argument. April 29, 1830 Canaller's Argument.
3. Questions follow the documents and can be given as additional homework or used for discussion.
4. Have students look at the profile of the canal and draw conclusions. (use of the map from activity # 3 could be useful)

DAY TWO:

1. Divide the class into their groups and them ten minutes to choose their leaders for the class debate and to develop their arguments.
2. They should base their arguments on the previous nights reading.
3. Allow the group leaders to conduct the debate.
4. Evaluate and discuss both sides of the argument (use of a CT. map might be useful)
5. Explain the actual event and discuss whether or not the federal government should have provided the canal with public funds. (the idea of true capitalism vs. a mixed economy)

(figure available in print form)

(figure available in print form)

(figure available in print form)

(figure available in print form)

Questions for Document dated April 2, 1830

1. What is the name of the company presenting this argument to the United States House of Representatives?
2. Why has the company not been able to complete the improvements for the navigation on the Connecticut River? (paragraph # 7)
3. How has the Farmington Canal and the Hampshire Hampden Canal affected the Connecticut River Company. (paragraph # 9)
4. What are three arguments in favor of improving the river navigation instead of finishing the canal? (paragraphs # 12 15)
5. What does Alfred Smith ask the federal government to do before it makes its decision?
6. Briefly state why river transportation is better than using the canal.

Documents are courtesy of the Connecticut Historical Society.

(The society has a very good manuscript collection of materials on the Farmington Canal and would be a good resource to use.)

Questions for document dated April 29, 1830.

1. According to Hillhouse's argument, where has the only improvement on the Connecticut River been made?
2. How successful has steamboat travel been on the Connecticut River?
3. According to the argument in paragraphs three and four, what was the reason for building the canal?
4. What are the four problems of the Connecticut River that disrupts the transportation of goods? (paragraph #6)
5. How many hours would it take to go through all sixty locks of the canal? Just the locks. (paragraph # 8)
6. Briefly state why canal transportation is better than river transportation.

Notes

1. Robert Heilbroner, *The Economic Transformation of America* (New York: Harcourt Brace Jovanovich, Inc., 1977), p. 28.
2. John M. Blum, et. al., *The National Experience* (New York: Harcourt Brace Jovanovich, Inc., 1977), p. 181.
3. Carter Goodrich, *Canals and American Economic Development* (New York: Columbia University Press, 1961), p. 5.
4. Heilbroner, p. 30.
5. *Ibid.*, p. 31.
6. Frederick James Wood, *The Turnpikes of New England* (Boston: Marshall Jones Company, 1919), p. 331.
7. Heilbroner, p. 31.
8. Edward Chase Kirkland, *Men, Cities and Transportation, A Study in New England History , 1820-1900* (Cambridge, Massachusetts: Harvard University Press, 1948) vol. I., p. 42.
9. Thomas C. Cochran and W. Miller, *Age of Enterprise* (New York: MacMillan Company, 1942), p. 7.
10. Heilbroner, p. 31.
11. Carter Goodrich, p. 54.
12. Heilbroner, p. 31.
13. Carter Goodrich, p. 6.
14. *Ibid.*
15. *Ibid.* p. 7.
16. *Ibid.* p. 169.
17. *Ibid.* p. 7.
18. *Ibid.* p. 247.
19. *Ibid.* p. 241.
20. Charles Rufus Harte, *Connecticut Canals* (New Haven: n.p., 1938), p. 10.
21. *Ibid.* p. 15.
22. *Ibid.* p. 7.
23. *Ibid.* p. 13.
24. James Mark Camposeo, "The History of the Canal System Between New Raven and Northampton, 1822-1849," *Historical Journal of Western Massachusetts* 6 (Fall, 1977)
25. Harte, p. 13.
26. *Ibid.* p. 29.
27. *Ibid.* p. 14.
28. Camposeo, p. 45.
29. *Ibid.* p. 46.
30. *Ibid.*
31. Harte, p. 34.
32. *Account of the Farmington Canal Company Hampshire and Hampden Canal Company ; and New Haven and Northampton Company* (New Haven: Thomas J. Stafford, Printer, 1850), p. 13.
33. *Ibid.* p. 20.
34. Joseph Perkins, Beach, *History of Cheshire Connecticut from 1690 to 1840* (Cheshire, Connecticut: Lady Fenwick Chapter, D.A.R., 1912), p. 264.
35. Epaphroditus Peck, *A History of Bristol Connecticut* (Hartford, Connecticut: Lewis Street Bookshop, 1932), p. 198.

36. Mabel S. Hurlbert, *Farmington Town Clerks and Their Times* (Hartford, Conn.: Finley Press, 1943), p. 130.
37. Composeo, p. 52.

A Brief Annotated Bibliography

*** Beach, Joseph, Perkins, *History of Cheshire, Conn. from 1694-1840* . Cheshire, Conn., Lady Fenwick Chapter, D.A.R., 1912. This is one example of the many local histories that make mention of the canal. A teacher considering this unit should look to see if their town histories refer to the canal in anyway. Discusses the importance of the canal in West Cheshire in promoting new business.

*** Camposeo, James, Mark, "The History of Canal System between New Haven and Northampton, 1822-1849, *Historical Journal of Western Massachusetts*. 6 (Fall, 1977.) A narrative of the history of the canal. A good reference for creating a chronology of the financial difficulties of the canal.

* ** Cheshire Lock 12 Historic Park, Main Street, Cheshire, Connecticut, Kevin Simmons (park foreman) This restoration of one of the canal locks in Cheshire was part of this towns bicentennial project. It provides an excellent opportunity for students to actually see what the canal looked like. I strongly suggest a field trip to the site.

* ** Connecticut Writer's Project, St. Board of Education Co-sponsor "Boats Across New England Hills" The Story of the Farmington Canal. 1941., with corrections by Charles Rufus Harte. This pamphlet contains interesting information and would be useful as an outside reading for your students. The corrections by Mr. Harte can teach a lesson about the problems of historical inaccuracies. A copy is available at the Connecticut State library.

*** Gay, Julius, *Farmington Papers* , "The Canal" An Historical Address Delivered at the Annual Meeting of the Village Library Company of Farmington, CT Sept. 13, 1899. The author deals with the human side of the canals history. He concentrates on the canal's affect on the town of Farmington; and gives an overview of the canal's financial history.

++ Goodrich, Carter, ed. *Canals and American Economic Development* . New York and London: Columbia University Press, 1961.

A very informative work which deals extensively with the economic impact of canals in the United States. Two essays by Harvey H. Segal provide a more in depth study of the canal age.

+ Harlow Alyin F., *Old Towpaths, The Story of the American Canal Era* . New York and Lonson: D. Appleton and Company, 1926. A good general work on canals. Makes mention of the Farmington Canal as being a New Haven scheme.

+ Harte, Charles R., *Connecticut's Canals* (New Haven, 1938) "Reprinted from the fifty-fourth Annual Report of the Connecticut Society Civil Engineers, Inc." This is the major scholarly work on the Farmington Canal. Harte, an engineer, is an expert on the history of the canal. A teacher wishing to teach this unit should read this pamphlet. A copy is available at the Connecticut State Library and may be photocopied.

*** Heinz, Bernard, "The Farmington Canal" *Connecticut Magazine*, December 1979. This article briefly reviews the history of the Farmington Canal. It would be very useful as a reading for students.

*** Hurlbert, Mabel S., *Farmington Town Clerks and Their Times*, Hartford, Connecticut: Finlay Bros. Press, 1943. There is a chapter titled 'Samuel Richards' which deals briefly with the canal. The author mentions how farmers were not happy about the building of the canal through Farmington.

* ** Jocelyn, Nathaniel, *Improved Reference Map of the Valley of Connecticut and Western section of New England*. Engraved by N. & S.S. Jocelyn New Haven, 1828. This is an excellent map of the proposed route of the canal from New Haven to the Canadian Border. A copy can be found at Sterling Library, Yale University. Photocopies can be made of this map, Which can be a valuable teaching tool.

+ Kirkland, E.C., Men, Cities and Transportation. A Study In New England History, 1820-1900. Cambridge, Massachusetts. Harvard University Press, 1948. A very good general explanation of the development of transportation during the antebellum period. Makes mention of the Farmington Canal and its competition with the Connecticut River Company.

* ** *** Plainville Historical Society, Inc., Story of the Farmington Canal in Plainville, Connecticut, 1971. This booklet was printed for the Canal Museum in Plainville, Connecticut. This fabulous restoration site and canal museum would be an excellent student field trip and one that I would strongly urge you to take if you use this unit. The Plainville Historic Center is located on Pierce Street, Plainville, Connecticut. The Canal room contains paintings, posters, model boats and other memorabilia which can spark a students interest in the canal,s history. Two slide shows are also available for use in local schools and President Ruth Hummel offers one on a commercial lecture circuit.

* ** Sloane, Eric, "The Farmington Canal." *American Heritage* , February 1958. This is a very good but brief article on the history of the canal which would be very useable in the classroom. Eric Sloanes, illustrations would be in excellent motivator of discussion about the canal American Heritage is very available in many school and town libraries.

*** Quigley, Dorothy L. "Story of the Farmington Canal Adventure of a Century Ago." *Connecticut Teacher* , February, 1964. Another general history of the canal is dealt with in this article. It also is very useable in the classroom as an extra reading.

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