



New Haven Is Not Just Another One-Horse Town: New Haven on the Move, 1800-1920

Curriculum Unit 79.03.08
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This unit will attempt to chronicle the development of various methods of transportation that were made available to the residents of New Haven from the period 1800-1920. During this period, many modes of transportation were employed—horseback, wagons, carriages, railroads, canals, horsecars, bicycles, trolleys and automobiles.

New Haven's contribution to the rise of transportation was the carriage industry. While the industry gained considerable fame and respect for producing some of the world's finest quality carriages, its contribution is generally overlooked in most studies of transportation history. As a matter of fact, it is hardly mentioned in any student textbook on the study of Connecticut history. The carriage industry, then, serves as a focal point in the study of New Haven transportation during this period.

The main objectives of the unit are to have the students become aware of New Haven's major contribution to the transportation industry and to develop a sense of pride in New Haven's achievement. The student should realize that the study of history is not merely dates, places and names; rather, it provides insight as to why certain events took place when they did. For example: Why did the development of the railroads occur during the 1830s and what was its effect on transportation and the price of goods. While this is a study of economic history, the residents' opposition to and later use of the railroads would provide a social history. With every new transportation development, there were different economic and social reasons why they succeeded or failed; these should be clarified by the student. By the end of the unit, the student should be able to compare the 1800-1920 period with the present period. For example, modes of transportation employed by New Haveners today (mopeds, 10-speed bikes, car pools, buses, taxis, and so on) can be subject to the same type of social and economic interpretation that was applied to the transportation of days gone by.

If these objectives are successfully accomplished, the student will find that the study of transportation in New Haven need not be a dull conglomeration of facts, places and names. It will be relevant, thought provoking, and informative. Most important it will make history come alive!

The carriage industry of New Haven did not exist until the early 1800s. The reasons for this late development centered around the state of transportation and trade in the 1700s. Horseback and wagon were the essential modes of transportation; since trade was primarily with Europe and the West Indies, there was no urgent need to develop inland transportation.

In 1679, the legislature established a system of through highways called the King's Highways. (The shoreline

route linking Boston, New Haven and New York was later to become the Boston Post Road when the King became an unpopular figure in colonial Connecticut.) These highways were the first major effort in the colonial period to improve roads and transportation. The first real impetus to road building in Connecticut came in 1717, when Captain John Munson of New Haven was allowed to build a wagon line from New Haven to Hartford. Within the next seventy years, there was stagecoach travel through Connecticut linking Boston, New Haven, and New York. Passengers and mail were now moving through Connecticut!

Despite these stagecoach and mail lines, most of the roads in Connecticut were in poor shape. In general, they were extensions of trails and footpaths. But as the population grew and cities became established, the need for improved roads became apparent. Roads were firstly developed to link farms with the center of town. By the end of the Revolutionary War, the increased traffic and need for better roads prompted a considerable effort in road building.

With this effort came the establishment of turnpike companies. Since trade with Europe had slackened, turnpikes were needed to bring the country trade into town. Products of this road building effort were the Hartford-New Haven Turnpike Company (1798) and the New Haven-Milford Turnpike (1802). Obviously, better roads prompted the need for better transportation; they also prompted people to use roads for leisure time activity. Thus the need existed for light pleasure vehicles, and the New Haven Carriage industry was born.

The ensuing research on the carriage industry in New Haven will be presented in three distinct periods; the rise of the industry, the industry's golden age and its decline. Throughout my description of these periods, I will attempt briefly to describe other modes of transportation developed and used by the residents of New Haven. My major source of information on the industry has been Richard Hegel's book, *Carriages from New Haven*.

The Beginnings

The first carriage maker in Connecticut was John Cook, who in the year 1794 operated his own carriage shop in New Haven. Cook's carriages were of the two-wheeled variety. It wasn't until 1812 that Maltby Fowler of Northford introduced the four-wheeled carriage. Small carriage shops sprang up in New Haven shortly after 1800, but the impetus was provided in 1807 when Jonathan Mix invented the elliptic spring. By attaching the spring to the axle tree parallel with its length, and by securing it with fastened bolts and bands in the center, the comfort of the passengers was greatly enhanced. Still, the vast percentage of the New Haven community did not use carriages, for they were much too expensive to own and the upkeep of the horses did not suit the average man's budget. Therefore, walking was the primary source of transportation around the city. The means of transporting goods was still primarily by wagon and horseback.

By 1811, there were nine carriage makers in the city and, as with most new industries, the carriage maker completed all of the work in one shop. Very little work was done outside of the shop. This meant that production was slow and the finished product was still out of reach for the average family. James Brewster's factory at the corner of Elm and High Streets was now in production and contributed greatly to the early acceptance of the carriage industry.

As is the case throughout history, there was an economic recession after the War of 1812, which prompted the use of light, one-horse carriages to replace expensive and heavy two-horse models. Brewster's production

grew rapidly as he filled the demands for buggies, phaetons and rockaways. In 1832 he built a new and larger factory on Wooster Street, and he became to the carriage industry what General Motors has become to the auto industry. Brewster then shifted his talents to manufacturing really classy carriages rivaling those made in England.

By 1832 New Haven had \$41,000 in capital invested in the carriage industry while turning out 800 carriages a year. There were 217 men working in the industry at the wage of about \$1.12 per day. Production during the ten-year period 1822-1832 was boosted by the practice of producing specialized carriage parts. No longer was the carriage built all in one shop; rather, pieces of hardware and trimming were produced elsewhere throughout the city and were then assembled. At this time, three-quarters of the coaches produced were exported out of state pointing up the fact that the carriage was still a luxury that could be only owned by the upper class.

It was at about this time in history that a new and more efficient method of transportation came over the horizon—the railroad.

Alfred Chandler in *The Railroads* noted that railroads in their initial stages effected economic growth in three ways. First, they lowered internal transport costs and widened the market; second, they were pre requisite to the development of an export sector which returns capital for internal improvements; and third, they would lead to the development of other industries such as engineering, coal mining, and iron manufacturing.

Fogel in *Railroads and American Economic Growth* takes it one step further by noting that the primary impact of the railroads was on the cost of transportation. In other words, if railroads were more expensive than alternative forms of transportation, namely carriages and wagons, they would not have been built. For the population, the derived consequences would result in a demand for manufactured goods and skilled labor (of which New Haven had an abundance).

All of this sounded too good to be true. Prominent New Haven businessmen, such as James Brewster, invested heavily in the railroads. What would seem to be a crunching blow to the blossoming carriage industry was instead a boon. With the coming of the railroad, goods could be brought overland by carriages and wagons to the railroads, insuring equalized prices in central markets for goods instead of fluctuating local prices. The family used the carriage to travel to the railroad depot in order to enjoy an excursion into the countryside.

But again, this was a luxury for the upper class. The average residents of the area opposed the railroads for a variety of reasons. They argued that the rivers of Connecticut offered adequate access to the back country and that Long Island Sound offered adequate coastal shipping. The character of the “typical Yankee,” his dread of change and the satisfaction with the way that things were, were obstacles that the railroads had to overcome. Turnpike owners argued that a railroad would produce more harm than good and would result in injury and injustice to private property. People unfortunate enough to live along the route of the railroad protested that they were peaceful and orderly and did not want their quiet disturbed by steam cars or the influx of strangers.

Nevertheless, the New Haven-Hartford Railroad was completed in 1839 and, following tradition, ran north to south, linking the back country to the seaports. In 1844, the first east-west railroad, the New Haven and New York, was completed.

Although the railroad proved a boon to the carriage industry, it mortally wounded another transportation venture heavily invested in by New Haven—the Farmington Canal. Canal fever was widespread in the 1830s,

promoting canals as a method of improving inland transportation of goods. Adams in *Public Debts* notes that business insanity had taken over and that cool judgment had taken a back seat. Men acted on impulses which they later found hard to explain. In the beginning the men involved in the canal's construction had lofty ambitions; they hoped to connect the St. Lawrence with Long Island Sound. Imagine the thoughts running through the minds of businessmen as they envisioned their goods inching their way across the U.S.! New Haven offered banking privileges and extensive financial support to the venture. First the city subscribed \$1,000,000 in stock; then loans were granted; finally, New Haven subsidized it each year. After seven years of the project—in 1830—the only beneficiaries were the communities along the route, which profited by reduced fuel costs. The problems outnumbered the benefits. Construction was difficult; locks didn't work; the canal did not always follow the streams; and adequate water became a problem. This method of transporting goods proved to be slow and inefficient because of high maintenance costs due to landslides; the canal sustained numerous losses. It was only fitting that the New Haven community, prime investors in the canal, should reap some benefits for their endeavors. Hillhouse's Mechanics Bank, which invested \$200,000, was relieved of state taxes for 99 years. The canal offered residents of New Haven water for parks, garden street cleaning and for fire fighting—notably for the fire of 1837. Canal and seawater provided water for bath houses and also were an attractive lure for industries to locate on the banks. (The forerunner of the Bigelow Co. located here because of the water supply.) Canal ice was sold to fishermen and was transported to such faraway places as the Caribbean and the East Indies. By 1847, the investors had found a cure for canal fever and heavy losses—the railroad. Canal operations ceased. The New York holders petitioned to go by the way of the railroad, and it is no wonder. The only dividend paid to the stockholders was from the sale of hay along the route.

An occasional crumbling stone arch—a stretch of overgrown ditch filled with stagnant water, how the home of muskrats and heron, is all that remains of Connecticut's answer to the Erie Canal.¹

The Golden Age

The carriage industry experienced its "Golden Age" between 1840 and 1860. It was at this time that the Southern markets opened up and stationary steam engines were able to keep production up with demand.

George Newhall was the major advocate of steam machinery and introduced it in his shop in 1855, although "his creditors became anxiously filled with the idea that he was doomed to insolvency or the retreat for the insane."

Mass production naturally followed and was introduced by G. D. Cook and Company. Cook took Newhall's method of steam engines making individual parts one step further; he developed the assembly line method of carriage making. This method increased production from one carriage a day to ten carriages a day. (One an hour!) By 1857, carriage production had reached 7,000 carriages valued at 1.1 million dollars and New Haven was established as a carriage making center.

The Civil War was fast approaching and New Haven had a vested interest in the outcome. The industry could ill afford to lose the Southern markets that had brought such wealth to the city. It is no wonder that they supported a North-South compromise. In fact, in the 1860 election, Breckenridge, the Southern Democrat, received more votes than Douglas, the Northern Democrat.

But, alas, the war did come; initially, its impact was felt by the carriage industry. Other markets had to be opened up, specifically the Caribbean, South America and the Pacific Islands. Meanwhile, back in our own country, the demand for army wagons used by the North was multiplying at a phenomenal rate. G. D. Cook

and Company was doing a better business now by producing gun carriages, knapsacks and shoes than they ever did making carriages. Some companies found that by 1863 they were making more luxury carriages than they were in 1860. The net result of all this activity was increased specialization of wagon and carriage parts. For example, the New Haven Wheel Company, the largest of its kind in the U.S., exported half of its production. The Golden Age ended with a carriage of superior workmanship being turned out by New Haven, New Haven carriages were known and envied throughout the world. The industry provided for the influx of skilled English, Scottish and German craftsmen into the New Haven community.

Now you probably have an image of New Haven streets literally jammed with horses and carriages, but that was not the case. During the war years there was little demand for carriages. Prices were still very high, other goods were more important, and people did their best to sacrifice for the war effort. Shortages of necessary items such as food and clothing put the thought of owning a carriage in the back of most people's minds.

The main vehicle for getting about in the city was the horsecar. By the beginning of the war, the Fair Haven-Westville Horsecar Railway was in use. It extended from the Grand Avenue bridge to the Parker Paper Mill in Westville. The track was composed of metal strips spiked to wooden stringers on cross ties. Raised inside ridges kept the wheels in place, while Belgian blocks were placed between the tracks so that the horses' hooves would not wear out. The cars were built at Newhall's factory, where one whole floor was devoted to keeping up with the countrywide demand. This forerunner of mass transit could accommodate 24 passengers.

Horsecar railroads most benefitted factory workers, as there was a genuine attempt to locate the tracks near major plants and factories. George Kelvey, one of the prime supporters of this type of transportation, took a page out of the railroad's manual on promotions by extending a horsecar line from New Haven to West Haven as far as Savin Rock. At the 'Rock' Kelvey constructed a bathing and amusement area. This type of promotion was used successfully by the railroads as a means of generating revenue to run the lines later in the century.

Of course the horsecar business had its problems. People living near the Grand Avenue bridge complained about the smell given off by the 450 horses stabled there. The horsecar was not swift; 6 mph was the rule and not the exception. Jokes abounded about young boys who were old men by the time the horsecar reached its destination.

If nothing else, the horsecar prompted a sort of friendliness throughout the city. As today with regular commuters playing cards on a train, or bus riders telling of the previous night's experiences, horsecar riders were an amicable group of commuters. Often passengers had to patiently wait while the horses stopped for water. One rider gave all the operators buffalo skin coats to wear while they were trying to clear the tracks of snow. The carriage floors were covered with straw in the winter to keep the feet warm, while riders passed the hat to buy a drink for the snow shoveller. The Yale football team was given free passes to the stadium on the day of the game, while winter skaters headed for Lake Whitney would fill the car to capacity. The conductors, on the other hand, would race for switches, stall the cars or swear angrily if the cars became derailed.

Such was the state of transportation during the 'Golden Age' of a city known and respected world-wide for beautiful carriages.

The Decline

If the ten years prior to the Civil War immediately signaled prosperity and growth for the carriage industry, the ten years after the war signaled the steady decline of the industry.

Historians differ over why the decline occurred when it did. Osterweiss in *Three Centuries of New Haven* suggests that carriage makers were unable to collect debts owed to them by Southern markets. Atwater in the *History of the City of New Haven* also suggests that the industry reached its zenith by establishing a Southern market, and that not only did the war wipe out this market, it also wiped out the debts which in turn wiped out the industry. Hegel attributes the decline mainly to the rise of the railroads.

It must be noted that although the industry began to decline by the 1870s, it continued to manufacture quality carriages, but at a lower volume than the pre-Civil War days. In 1876 New Haven's carriage industry prepared an exhibit for the Philadelphia Centennial. By this time, New Haven was reduced to 35 carriage shops producing more than 6,000 carriages yearly, a substantial drop of 2,590 from pre-Civil War days; yet distribution was still countrywide and our carriages were widely copied.

What about the people of New Haven? Did they receive bargains, close-out discounts, or end-of-model reductions? Unfortunately, the people as a rule could not afford the high prices asked for the carriages. But do not despair, because two new gadgets had caught the people's fancy.

During the 1870s in the city of Hartford, Albert Pope was manufacturing and marketing a two-wheeled contraption that was powered not by horsepower, but by pedal power. He called his contraption a bicycle and he manufactured it under the trade name of Columbia. Shortly thereafter, he introduced it to New Haven. The bicycle was priced from \$30 to \$150 and could be afforded by most residents. Its use pointed up the flexibility and convenience of road travel and more importantly, the bicycle could be used by both men *and* women. Its most enduring benefit was to spearhead campaigns for road development which later "paved the way" (pardon the pun) for auto travel.

Dubious about the train, canals and horsecars, many New Haveners had their doubts and suspicions about bicycle travel as well. They regarded the bikes as a menace to public safety; people were accused of "scorching" (speeding); and most important, the bicycles frightened the horses. Cyclists were harassed by unrealistic speed limits and had to get off their bikes whenever they approached a horse.

At the beginning of the 1890s, the trolley system of mass transit was now beginning to replace the horsecar as a means of getting about in the city. The common way of transmitting power to a trolley consisted of a third rail and two wires pulling a toy sized cart on the two other wires. The cart was trollied along like a child dragging a cart on a string—hence the name. The interurban linked cities and towns into a broad network and traveled between 60 and 70 mph. These trolleys were so successful in short haul operations that the railroad became alarmed and began to buy up control of the interurbans. The New York, New Haven and Hartford established the Consolidated Railway Company to buy up the Connecticut trolley lines.

Within the city, the trolley had many advantages over the horsecar. It was at least twice as fast and could carry three times as many passengers. It was cheaper to operate than the horsecar and one car could last for 30 years. Prompting further interest in suburban property; it caused the city to expand its resources. Amusement parks offering different types of leisure were a product of this age. The railroads would build amusement parks at stops along the line to encourage the use of the railroad as a leisure time activity. (After all, taking a train to nowhere could be boring.) The trolleys often followed this practice as they set up their own parks such as Lake Quassapaug in Middlebury, for both leisure and to supply or generate power to the trolleys.

By the 1890s, New Haven's carriage industry was still recognized for the quality of its workmanship. Awards at exhibits in Australia (1888), Paris (1889), and Chicago (1893) are evidence of this quality. But as the years

continued to pass and the move westward progressed, New Haven's contribution to the carriage industry was being overlooked. In 1886, the *American Carriage Directory* praised Cincinnati as the city in the U.S. most associated with carriages. In fact, it stated that Lowe Emerson of Cincinnati developed machinery for making individual, interchangeable carriage parts, although such machinery had been used in New Haven decades before.

The carriage industry moved west with the population for a variety of reasons. Land was cheaper, there was more suitable lumber and the railroads were more extensive, offering better transportation of goods.

The beginning of the 20th century saw the end of the carriage industry. The automobile had arrived on the streets of New Haven.

Whatever city in America you live in will probably claim supreme importance in the development of the automobile. New Haven is no different. With its past development of so many transportation techniques—precision tooling, elliptic springs, tube bending, machine tools, transportation hardware, trimmings, and so on it is only natural to assume that New Haven would play an important role in the industry.

Albert Pope introduced the first electric automobile in a New York show in 1900. E. P. Clapp made a trial run of his gas engine automobile in New Haven in 1896. The run consisted of stopping every few miles for water and gas. (6¢ a gallon—oil was free!) The car had no muffler and it could be heard for miles, but it did make it to the top of East Rock with very few problems. In 1898, W. F. Manross drove his car from Forestville to New Haven City Hall at a speed of 32 mph in a time of 51 minutes, without a stop for gas or water.

New Haven played an important role in the early production of the auto although it was produced elsewhere. John Petrie invented the self starter magneto, which made starting the car a much easier task. New Haven's tube bending companies built gas engine manifolds that provided a more compact engine.

The reactions of New Haveners to the auto were probably very similar to the reactions found by the Lynds in *Middletown*. By the 1920 the "horse culture" had virtually disappeared. In diaries and other accounts, the steam wagon was described as looking like an ordinary wagon, its power, they said, was supplied as a locomotive's was, and it was guided by a lever in front. The power was supplied by a small engine and the steam was produced by a small gasoline flame beneath the fuel tank. The wagon could carry any load, attain a speed of 25 mph, and pass on bad roads as well as level ones. The cost—\$1,000.

The car upset many church going and domestic habits. All day Sunday motor trips left the churches below their maximum attendance. Instead of cooling off on a hot summer evening on the front porch swing, families would be behind the wheel. The auto replaced the parlor as the meeting place and courtship arena for the unmarrieds.

For the individual, the auto became the symbol of success, although people often had to sacrifice dearly or even go broke in order to keep it. Mortgaging a home to keep a car was not uncommon. Savings plans were now scrapped in order to make payments on the cars. For those in the working class, one week's pay went towards the upkeep of their beloved autos. Often necessities had to be overlooked in order to support the auto. Clothiers experienced a drop in sales because people did not get all dressed up to go out anymore. They just hopped in their cars and went visiting. The food industry also suffered; people planned their menus with cheaper cuts of meat and less of the trimmings so that they could enjoy a family drive.

Morals were also affected by the emergence of the car. Teenagers no longer spent the evenings with Mom and

Dad; they were out motoring and socializing. The natural progression of events would indicate that with all these people out and about, the crime rate would climb. That it did. There was a marked increase of sexual crimes, burglaries and theft. Of course one mustn't forget the obvious, speeding.

Advertisers made the automobile seem like an item that no normal person could live without. They made people, who otherwise may not have cared, feel that the auto was indeed a necessity. Their advertisements offered the prospective customer the good life, freedom and expanded opportunities. One gentleman of the time felt that the man who works 6 days a week and stays home on the 7th certainly would not pick up the extra dimes on the thoroughfare of life.

For the working class, leisure time activities were special events, not regular ones. Town holidays were no longer frequent and well attended because everybody left town. The auto prompted the rise of vacations for the working class; three day weekend excursions grew into week long vacations.

Frederick Law Olmstead, noting the euphoria that had gripped New Haven with the coming of the auto, said:

The chariots shall rage in the streets; they shall jostle against one another on the highways; they shall seem like torches; they shall run like lightnings.³

The carriage industry was now officially dead. I believe the eulogy should be offered by Richard Hegel, since he has contributed so much to its acknowledgment. He feels that the carriage industry lacked the foresight to adapt to changing situations.

No New Havener of the waning 19th century had vision to discern the coming of the automobile age which sent the carriage industry into oblivion. New Haven, which had the best chance of achieving the fame which finally clowned Detroit in faraway Michigan, did not adapt itself to change and the carriage factories melted away like ice on a sultry day.⁴

Biographical Sketches

James Brewster

Born in Preston, Connecticut in 1788, Brewster learned the carriage making trade in Northampton, Massachusetts. Brewster became enamored with New Haven while stopping here during a stagecoach breakdown in 1809. While waiting for his carriage to be fitted with a new spring and axle, Brewster remarked how beautiful the New Haven Green was with its fine churches, elm trees, civic buildings and Yale University. As a matter of fact, he thought it was the most beautiful place he had ever seen. Brewster returned in 1810 to set up his own shop on Elm Street; in the next several years, his shop continually expanded.

Brewster became well known in the carriage trade for his method of dividing work into different departments. He paid his workers every Saturday night in cash, instead of following the common practice of paying them in store script. He barred all liquor from his factories, even though it was standard practice at that time to allow liquor to be brought to work by the employees. He disdained all temptations that could endanger health.

Brewster was *the* entrepreneur in a town with an abundance of them. In order to upgrade the skill of the mechanics, he founded the Young Mechanics Institute. He financed the Franklin Institute to further promote education and culture, and regularly contributed money for lecturers. When Brewster moved his factory to Wooster Street in 1832, he made improvements in the neighborhood by adding new streets and by widening the roads.

In 1833, Brewster obtained a charter for the New Haven and Hartford Railroad and was elected its first president. After a fire destroyed his factory on Wooster Street, he returned to the industry with his son in 1838.

Here is a brief list of his many achievements:

He was the first Western manufacturer to send paneled carriages to the South. (Andrew Jackson and Martin Van Buren were his customers.)

He helped found the New Haven Savings Bank.

He supported construction of a new City Hall.

He gave the Orphan Asylum Building to the city.

He instigated the purchase of the first steam fire engine for the city.

George Newhall

New Haven born in 1821, an entrepreneur like Brewster, he was concerned not only with his own profits, but also with the welfare of the community. He demonstrated this by purchasing neighborhoods and improving them for the residents.

His contribution to the carriage industry was the introduction of steam engines into his factory. These engines made it possible to speed up production and to lower the cost of the finished product. Within the next 6 years, all New Haven Carriage shops were using steam engines. He established assembly lines and incorporated the principles of mass production into the making of his carriages. Newhall, at one time, had the largest carriage factory in the world, but Southern debts after the Civil War forced Newhall to leave the business.

As Jonathan Mix was the edge that New Haven needed in the beginning to prosper as a carriage center, Newhall and his revolutionary production methods provided the impetus to achieve the final realization.

Jonathan Mix

Mix's most significant invention was the elliptic spring (steel axle tree spring), He attached his spring parallel to the axle tree and fastened it with bolts in the center. He received a patent for this in 1807, and it made the leather suspension straps and iron coil springs obsolete. It gave New Haven the edge at a time when the carriage industry was in its infancy. It made carriage travel comfortable and therefore a popular pastime. Mix Avenue in Hamden is named for Jonathan Mix, who was born in New Haven.

Presentation of Unit

It would be advisable to present this unit over a one to two month period. The unit can best be presented by dividing it into three "mini units": The Beginning, Golden Age and the Decline of the industry. Each "mini unit" should take approximately two weeks to present, and there should be an allotment of two weeks at the end of the unit to discuss exhibits, research projects and reports. Testing should be done at the end of each "mini unit" to evaluate student progress and teacher effectiveness in presentation. At the end of the unit there should be a final exam, an individual research or study project and one class project.

The following lessons are intended to be merely suggestions on how certain activities can be presented;

Lesson I

Performance Objectives: At the conclusion of this lesson the children should be able to

1. identify the various types of carriages made in New Haven.
2. identify the advantages and disadvantages of certain carriages.
3. become familiar with different carriage makers' styles.
4. gain further experience in creative writing.
5. gain further experience in oral presentations.

Procedure The students will write a commercial in an attempt to sell a particular carriage to the class. They may wish to cite the advantages and disadvantages to modern-day transportation. After the students have passed in the written commercial for a grade, the student will then attempt to present his sales pitch to the class. The students should be encouraged to use

whatever means they wish to sell the product and audio-visual aids are to be encouraged. The students may use illustrations found in this unit or they may research the industry themselves. The time limit for the commercial is one minute. Elicit class responses after each presentation.

Lesson II

Performance Objectives: At the conclusion this lesson the children should be able to

1. identify the routes of the carriage distribution throughout the U.S. and the world.
2. identify different carriage makers and the types of carriages produced.
3. explain the reasons for the rise and fall of the carriage industry.
4. construct a map.
5. describe the chronological order of events that made up the carriage industry.

Procedure: The students will construct a map of the Western Hemisphere on a piece of oak tag 24"x36". They will then trace the distribution of New Haven carriages throughout the U.S. and the atmosphere with colored yarns. There should be 10 different colors to signify the decades between 1800 and 1900. The students will attach the yarn to the map, cutting them to the specific lengths needed to match the distribution routes. The children should include a key on their maps to identify the decades. In certain instances the teacher may provide an outline map for the children to copy and precut yarn. These maps may be used as bulletin board exhibits or visual teaching aids.

Lesson III

Performance Objectives: At the conclusion of this lesson the children should be able to

1. answer questions posed to them about the carriage industry correctly.

Procedure: This lesson can be used at the end of each 'mini unit' as a means of review for a test or at the end of the entire unit with prizes as a reward for work well done.

Tell the class that they will be having a tic-tac-toe quiz. Choose one boy and one girl as team captains. They are given the responsibility of choosing their teams. To insure that it doesn't result in boys against girls, they must pick the sexes alternately. Meanwhile, the classroom chairs may be set up as a tic-tac-toe board (3x3). Before the quiz begins, select one of the chairs to be the "secret chair." Begin by asking a question from the unit studied to team A, and if the correct response is given the student may sit anywhere on the board. The objective is to have one team place 3 of their members in a row. The other team may block or try to score themselves. If a student sits in the secret chair, he is given another question; if he answers correctly, his team automatically wins that game. At the end of the entire unit, you may wish to give small prizes for correct

responses.

Notes

1. *Connecticut* (Boston: Houghton Mifflin, 1938 , p. 52.
2. Richard Hegel, *Carriages from New Haven* (Hamden: Archon, 1974), p. 18.
3. Carleton Beals, *Our Yankee Heritage* (New Haven: Bradley Scoville, 1951), p. 256.
4. Hegel, p. 71.

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Beals, Carleton. *Our Yankee Heritage* . New Haven: Bradley Scoville, 1951.

A very readable history of New Haven from its beginnings to the 1950s, told in story form through the eyes of the Parmalee family.

Hegel, Richard. *Carriages from New Haven* . Hamden: Archon Books, 1974.

A readable account of the carriage industry of New Haven. The most authoritative book on the subject—a must for reference.

Humphreyville, Frances. *This is Connecticut*. Chicago: L W. Singer Co., 1963.

A textbook approach to the history of Connecticut. This book is written on a 4th-5th grade reading level and is excellent to use with remedial readers.

Classroom Materials

The Connecticut Heritage Sound Filmstrip Series, Omega Education Corporation, 1972.

This set contains eight filmstrips, cassettes and study guides. It can be used as either a supplement to any textbook on Connecticut, or can be used in lieu of available textbooks.

Maps of Early and Present Day New Haven

These maps will serve as an excellent visual aid for finding the locations of various New Haven carriage shops. A comparison with the present map of New Haven will show the students what stands in these locations today.

U. S. and World Maps

A visual aid in depicting distribution of New Haven carriages.

Art Supplies (Crayons, paints, poster board, yarn and so on)

Using these materials, students should be encouraged make posters, murals, bulletin boards, and so on depicting the modes of transportation found in New Haven during the 1800s.

Suggested Field Trip

The Pardee-Morris House , Morris Cove

A completely restored colonial home owned by the Historical Society. Behind the house there is a barn containing an early New Haven carriage.

Steam Train and Riverboat Cruise , Essex, Conn.

An all day trip which includes a 55 minute ride and lecture on a turn-of-the-century steam train, and a 1 or 2 hour cruise down the Conn. River.

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