

Transportation in Iowa

A Historical Summary

Chapter One

Early Transportation in Iowa Before Railroads

Introduction

Iowa, formed as a state in 1846, encompassed an area of over 55,000 square miles and had a population of 100,000, concentrated in the eastern counties. Cheap land and fertile soil attracted many settlers who followed agricultural pursuits, whereas others were engaged in retailing, lumber and lead mining. Pioneers tended to settle along the rivers, which offered the best available means of transportation. Over crude roads or tracks into the interior, stagecoaches carried mail and hardy travelers. Steamboats ran the major rivers and tributaries, offering a somewhat regular service for passengers and freight, and played an important role in the development of river towns and cities. The Des Moines River Improvement Project was a serious but unsuccessful attempt to make an interior river a meaningful artery for trade and commerce.

Development, Geography, and Land

Iowa officially became the 29th state in the Union on December 26, 1846, when President Polk signed the enabling bill passed by the Congress. Previously, it had been a "District" of the Territory of Wisconsin, established on April 20, 1836. The territorial census showed 6,257 residents of "Desmoines County" and 4,273 settlers in Dubuque County. Population was concentrated in the Black Hawk Purchase within a strip of 40 to 50 miles bordering the Mississippi River. In 1838 the Territory of Iowa was created to include the District of Iowa, all of future Iowa, most of future Minnesota and parts of the Dakotas. During the next eight years, political debates settled the final boundaries between the extremes of approximately 40°, 22' to 43°, 30' North, and 90°, 08' to 96°, 90' West, encompassing an area of 55,475 square miles.

Geographically, the state was described by Wall as closely resembling the physical form of the nation. "If drawn to a scale of 1 to 10, Iowa, like the United States, is three units east-west to two units north-south and is bordered on both east and west by water. In Lee County, projecting below Missouri, Iowa even has its own shorter and more pointed Floridian peninsula."¹ The geographic location proved to be both an advantage and disadvantage in transportation economics.

The land consisted of timber and prairie grasses, slowly rising in gentle swells from the lowest elevation at Keokuk (480 feet above sea level) to the highest elevation in Osceola County (1,675 feet), except in areas where there are bluffs along the rivers. The land was first opened for settlement in 1833, and census figures from 1836 to 1846 showed an increase from 10,531 to 96,088 in population. By 1850 almost 200,000 people had settled in the state.

Many had migrated to Iowa attracted by cheap land and the rich and fertile soils, which consisted of black vegetable mould mixed with a sandy loam, clay and gravel, averaging 18 to 24 inches in depth on the uplands to 30 to 48 inches on the bottom lands. The soil was sufficiently compacted to retain water, and good water was found 20 to 30 feet below the surface. It has often been stated that 25 percent of the prime agricultural land of the nation lay in Iowa.² In addition to agricultural pursuits, settlers were engaged in lumber extraction and milling, retail businesses and employed in the lead mines in the vicinity of Dubuque.

Settlement

By 1840, the date of the first federal census, 43,000 people resided in the state. Six of the organized counties lay north of parallel 42 north latitude, and of the territorial population, 16 percent were in the north half of Dubuque County. Northern Iowa drew half of its population from the southern areas as people moved upstream, and the proportion did not change between 1840 and 1850. In 1849 the population reached 192,214, divided into roughly the same percentage north and south of the 42nd parallel in 18 of the 33 counties established by 1846. The people tended to avoid the prairies because of the absence of timber and fuel until these were brought by the railroads. During the next decade, the population of the northern section of the state increased by over 30 percent.

¹ Joseph F. Wall, *Iowa: A Bicentennial History*, New York: W. W. Norton & Co., 1978, p. 45.

² For a description of soils, geology and agricultural areas, see John B. Newhall, *A Glimpse of Iowa in 1846*, Iowa City: State Historical Society, 1957.

The tendency to settle near rivers and streams is well documented in the history of the state. In 1840 the population of the southeastern quarter was concentrated along the Des Moines River. Only a short distance away were the Skunk and Maquoketa which, although relatively small, drained fertile districts. Combined with the Iowa and Red Cedar Rivers, the land had a magnetic appeal to the pioneers. Above parallel 42 North, the streams were small and shallow, the Wapsipinicon and Turkey being two which showed settlement progress. It would be another 20 years before the fertile prairie to the west would be opened and settlement spread gradually across the state, creeping up the tributaries of the Missouri River. By 1860 counties had organized governments and started the procedures toward permanent geographic settlement—movements which have held with few exceptions to the present time.

Roads and Highways

No roads existed when Iowa County was opened for settlement in 1833. An Indian path on the banks of the Iowa River was the first “road” in the county. Where these trails could not be used, men “blazed” new roads by marking trees or plowing furrows from village to village. In 1836 the Assembly of the Territory of Wisconsin appointed six commissioners to “mark and lay out a territorial road west of the Mississippi River, commencing at Farmington on the Des Moines River, thence to Moffits Mill, thence to the nearest and best route to Burlington in Des Moines County, thence to Wapello, thence to the nearest and best route to Dubuque and thence...to the ferry opposite Prairie Du Chien.”³

When the Territorial Assembly convened in Burlington in 1838-1839, one of the first items of business was the enactment of road laws. Section 1 of the First Act directed three commissioners to locate and make a territorial road from Keokuk to Iowa City. In March 1839 Congress appropriated \$20,000 for a military road to begin at Dubuque and run “to such a point on the northern boundary of the state of Missouri as may best be suited for its future extension by that state to the cities of Jefferson and St. Louis.” The road ultimately extended beyond Iowa City and offered access to the new Capitol (Fig. 1-1).⁴

The river towns were the commercial centers of pioneer Iowa. Dubuque, Bloomington (Muscatine), Burlington, Fort Madison, and Keokuk were the towns where immigrants settled or passed through on

their journeys to the west. The demand for roads came from the scattered interior settlements and also from river towns, which needed transportation routes for their trade and commerce. The early roads connected the river cities and spread in random

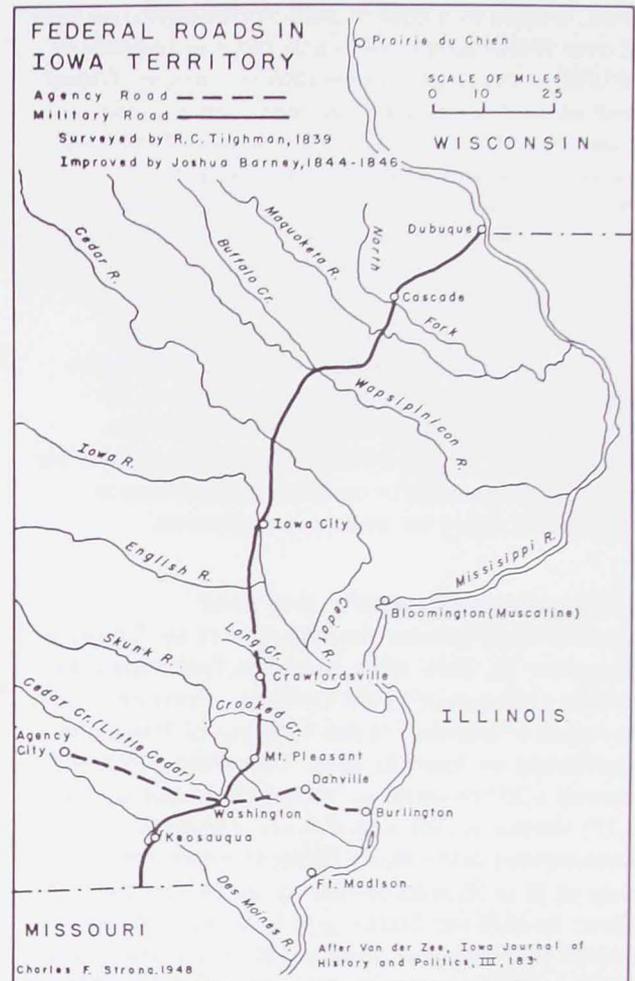


Figure 1-1
(Courtesy: State Historical Society of Iowa)

³ Jacob Vanderzee, "Roads and Highways in Territorial Iowa," *Iowa Journal of History and Politics* 3, (April 1905): pp. 175-226; P.T. Christensen, *The Hawkeye State*, Cedar Rapids, Iowa: The Laurence Press, 1956, pp. 57-59.

⁴ Stanley Ring, "History of Highways/Legislative Influences," *The Iowa State Highway Commission Annual Conference*, (January 25-26, 1973), p. 2; John C. Parish, "The Old Military Road," *Palimpsest* 51 (June 1970): pp. 249-280.

fashion into the interior. In laying out the first roads, builders chose ridges or highlands to avoid the swamps, marshes and floods which came in the spring and fall. The term "ridge roads" is an inheritance of early days, and some of the present highways follow the twisting and turning patterns of roads constructed to avoid these obstacles, especially in northeastern Iowa, where travelers get spectacular views of distant villages, farmsteads and picturesque valleys. (Fig. 1-2).

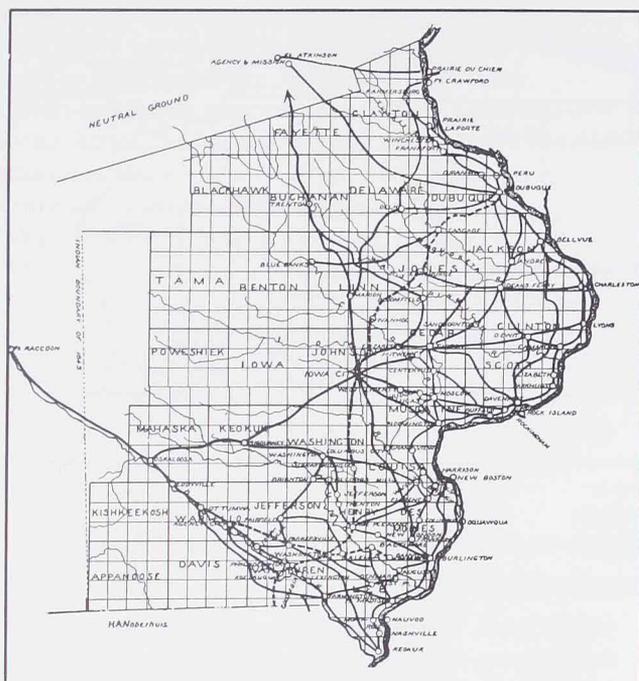


Figure 1-2

The More Important Roads of Territorial Iowa. The Broken Lines Indicate U.S. Military Roads
(Courtesy: State Historical Society of Iowa)

Until the Territory of Iowa was organized, little attention was paid to roads, except for the actions described above. Afterward, over 200 acts were passed, authorizing not only establishment of roads but also legislating the organization of townships and township roads. These defined the duties of supervisors, determined the labor that each male between the ages of 21 and 50 was to give to road work, the fines for refusal to work, and the taxes assessed for construction and maintenance. The only turnpike recorded was that of the Burlington and Iowa River Turnpike Company, chartered in 1839 to build a graded road from Burlington to a point on the

east bank of the Iowa River opposite the town of Black Hawk in Louisa County. The interest in roads continued after statehood, when 37 of the 125 Chapters of the Acts of the First Assembly and 17 of the 135 Chapters of the Second Assembly dealt with highways. By that time the settled areas were covered with a network of roads running in every direction and connecting the principal cities and towns.

Of the first historic trails, perhaps the most famous was made by the Mormon trek across the state. The exodus from the "Camp of Israel" on Sugar Creek in Lee County began in 1846 and followed the Des Moines River through Farmington, Bonaparte, and Keosauqua to the center of Davis County near Bloomington. By the time the Mormons had reached the vicinity of Centerville, they had traveled approximately 94 miles in 21 days, averaging over three miles per day. At Shoal Creek the route took a northwesterly direction, with camps established at Garden Grove, thence through Union County and along a route, currently Highway 92, between Greenfield and Council Bluffs. It had taken five months to make the 300 mile journey, and it continued through Nebraska and Wyoming until the valley of the Great Salt was reached in 1847. In 1846, 15,000 Mormons were camped or moving slowly across Iowa in caravans of 3,000 wagons, 30,000 head of cattle, horses and mules and vast numbers of sheep. These pioneer trail blazers marked the first great route between the Mississippi and Missouri Rivers (Fig. 1-3).

In 1801 U.S. Secretary of the Treasury Albert Gallatin suggested that 1/10 of the net proceeds from the sale of public lands be used for road building if agreed to by the states through which the roads might pass. The Ohio Enabling Act of 1802 incorporated the suggestion except that only five percent of the land sales was to be used for roads. This was modified by Ohio's Constitutional Convention to the effect that 3/5 of the funds were to be spent on roads within the state and under control of the legislature, and was accepted by Congress in 1803. A three percent grant was given to six states, upon their admission to statehood, for roads, canals, levees, river improvements and schools. Congress later granted an additional two percent to these states, except Indiana and Illinois which, with Ohio, had already received the equivalent in expenditures for the National Road. The additional two percent was used for railroads. The remaining 24 states admitted between 1820 and

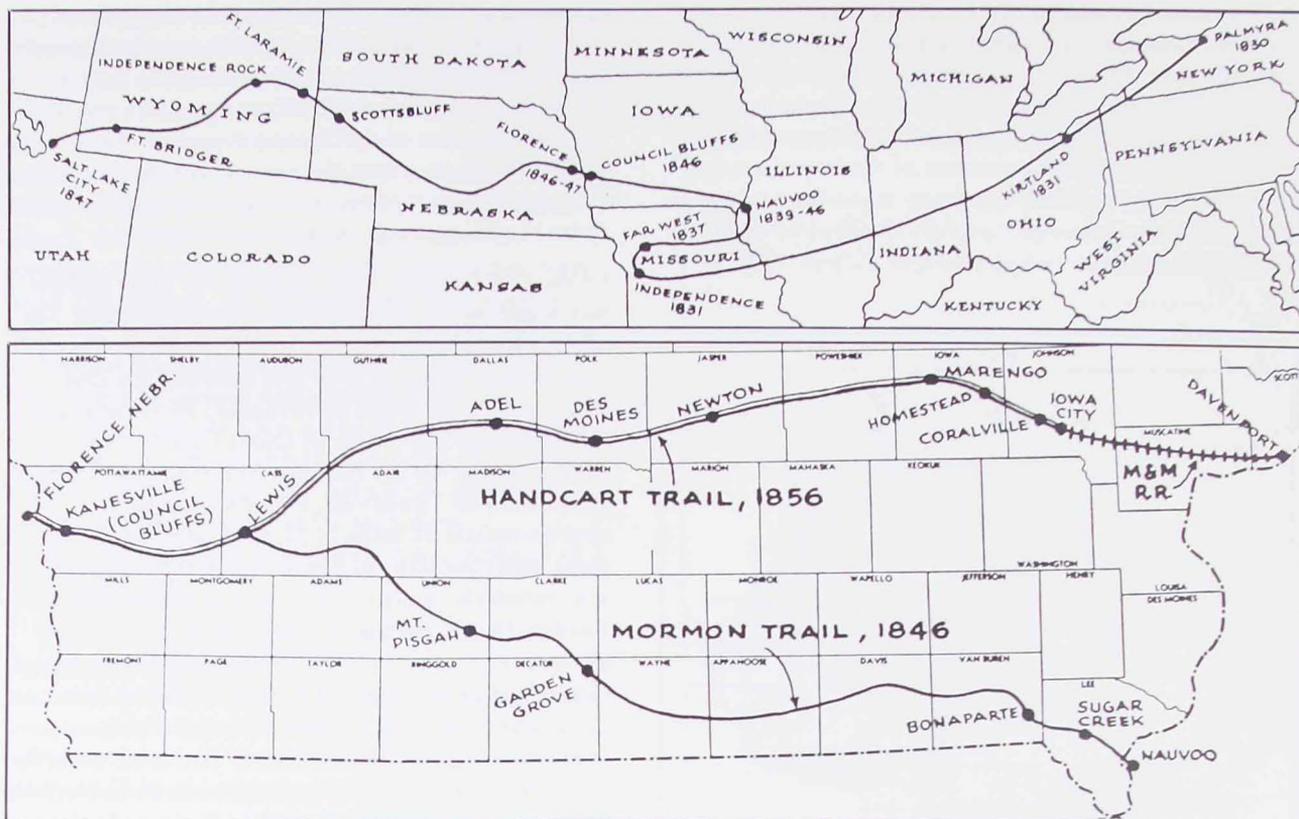


Figure 1-3
Mormon Trails
(Courtesy: State Historical Society of Iowa)

1910 received five percent grants, except for West Virginia and Texas, in which the federal government had no lands. Of the 22 states receiving grants, nine were authorized to use them for public roads, canals and internal improvements, and 13 for schools. The 1846 Iowa Constitution contained a requirement that five percent of land sales be set aside for road and canal construction. However, the citizens had another priority and had the Constitution amended to allocate the funds to educational facilities.¹⁰

The road problems were different in the “public land” states, formed out of the public domain from those previously settled in the East. These lands had been subdivided into rectangular townships and sections; the right-of-way was one chain or 66 feet wide with each property owner donating 33 feet on his side of the section line, the road to be maintained by statute labor. The tendency in the Great Plains states was to fix local roads on section lines and was strengthened by Congressional action in 1866 which granted free right-of-way access for public roads over unreserved

public lands. A number of counties took advantage by declaring all section lines to be public roads, thus reserving the right-of-way before public lands became private property.⁵

⁵ U.S. Department of Transportation (US DOT), Federal Highway Administration (FHWA), *America's Highways 1776-1976*, Washington, D.C.; 1976, pp. 36-37.

The Land Grant Act of 1785 and North West Ordinance of 1787, which divided the subject land into states, have been referred to as the last great decisions based upon the pace of human walking. Townships were made six miles square in anticipation of the location of a town in the center—thus, at three miles per hour, it would require one hour to walk to or from the edge. Counties were laid out later based upon horse walking. These decisions set the pattern of land organization for westward expansion and are the reason why Iowa is divided into one-mile squares. Iowa is approximately 300 miles east-west by 200 miles north-south, resulting in approximately 56,000 square miles. A road built around each square would total 112,000 miles. (Information furnished by G.W. Anderson, Iowa DOT.)

Generally, road administration was the responsibility of township and county government, and in Iowa the township was to become the more important unit. State roads continued to be authorized by special acts of the General Assembly, with the only new feature the granting of authority to private corporations to build graded and plank roads, charging tolls fixed by county commissioners.

The Plank Road Era

The plank road, developed in Russia and Canada, experienced only a brief life span in Iowa. The first built in the nation was between Syracuse and Oneida Lake in New York state, a distance of 14 miles. Others had been constructed in Indiana and Illinois. By an Act of the Second General Assembly in 1849, a grant was made to James Weed and Associates to construct "a graded toll road from Bloomington (Muscatine) in Muscatine County, by way of Tipton in Cedar County to the county seat of Benton County (later described as Vinton)...not less than eight feet wide. At the expiration of the grant (20 years), the road was to be deemed a public highway under control of the county commissioners."⁶ Burlington was the center of the plank road fever and enthusiasm

brought liberal amounts of capital for construction. Financial returns, however, proved to be disappointing and individuals and the city lost most of their investments.

The method of plank road construction consisted of laying stringers of black walnut six inches square on the graded road surface. These were embedded in the earth road base and across them were placed oak, pine or hemlock planks two to three inches thick and eight feet long with no uniformity in width. The lumber, cut from nearby forests, was unseasoned. Ordinarily, the planks were fastened to the stringers with iron spikes or handwrought wooden pegs. Earth was then packed around the stringers and between the planks for a firm base and to prevent deterioration. The devastating incursion on the stands of hard woods used for what proved to be temporary hard-surfaced roads was a wasteful exercise of resources, especially when considered in terms of the later scarcity and value. During the years 1847 to 1853, 14 different organizations were granted authority to build graded and planked roads, totaling almost 600 miles. Probably no more than 50 miles were built. These roads and dates of approval by the General Assembly are found in Table 1-1.

Table 1-1
Plank Road Construction Authorized in Iowa

Description	Authorized	Miles
1. Bloomington (Muscatine) to Tipton	Jan. 8, 1849	94
2. Montrose to Keokuk	Jan. 16, 1849	10
3. Burlington to Mt. Pleasant via New London	Jan. 15, 1849	28
4. Burlington to Mt. Pleasant	Dec. 18, 1850	28
5. Muscatine to Oskaloosa via Washington	Jan. 18, 1851	104
6. Burlington to Toolsborough	Jan. 21, 1851	28
7. Keokuk to Birmingham via Charleston	Feb. 4, 1851	69
8. Burlington into Louisa County	Feb. 4, 1851	25
9. Muscatine to Iowa City	Feb. 4, 1851	40
10. Mt. Pleasant to Trenton via Deedsville	Feb. 5, 1851	33
11. Fort Madison to West Point to Salem	Feb. 5, 1851	25
12. Port Louisa to Virginia Grove	Feb. 5, 1851	25
13. Ottumwa to Libertyville	Feb. 5, 1851	24
14. Mt. Pleasant to Fairfield	Feb 18, 1851	25

(Source: Remley J. Glass, "Early Transportation and the Plank Road," *Annals of Iowa* 21 (January 1939): pp. 502-534.)

⁶ *Acts of the Second General Assembly of the State of Iowa, 1849: Chapt. 33.*

The Burlington-Mt. Pleasant road was to be graded 30 feet wide with a right-of-way of 60 feet and was to follow the existing road as nearly as possible. From Burlington to Louisa County, the project was partially completed before it failed financially. The Montrose to Keokuk road paralleled the Des Moines Rapids of the Mississippi River, over which ran a high volume of traffic. In low water, boats had to be unloaded and passengers and freight transferred to land transportation. Approximately 15 miles were built, complete with toll houses and gates. It failed also and was taken over by Lee County. The grant for the Montrose-Keokuk road was the only one in which tolls were set by legislative action. All others allowed county commissioners to set the charges. Tolls to be paid for the use of all roads are listed in Table 1-2.

The graded and planked road idea mushroomed rapidly as a means of building hard-surfaced roads and died almost as fast through competition of the railroads, either planned or built. The expense of grading and planking roads with the expectation that railroads would be built paralleling them proved a serious deterrent. By 1860 the era of the plank road in Iowa had ended.

Stagecoaching

The period of stagecoaching lasted about 30 years but flourished for only 18 years between its introduction

into the territory and the beginning of the railroad movement in 1855. The most important means of transportation was the waterways, but the need for mail delivery, a function of the federal government, made land transportation necessary. Stagecoaches came to deliver mail, not necessarily to satisfy public transit, although the scattered settlements received benefits through ancillary passenger service.

Routes developed gradually because most of the habitation was on or near the Mississippi River. The pattern of mail delivery was first to designate a post road, then to dispatch by horseback, and finally by stage, with seats available for passengers as coaches became more adaptable to their demand. Mail rates were based upon a single sheet which could be folded, at the following rates: on all mail delivered within a radius of 30 miles, six cents; between 30 and 80 miles, 10 cents; between 80 and 100 miles, 12½ cents; and between 150 and 400 miles, 18½ cents. All mail sent over 400 miles was charged 25 cents. Since most of the people of Iowa had left homes in far distant places, it was only rarely that the fee was less than 25 cents. These rates held until the postal laws of 1845.

The first regular stagecoach line, the first of four granted federal mail contracts, operated in 1838. Stages ran twice weekly from Burlington through Fort Madison and Montrose to St. Francisville, Missouri, an 18 hour trip over 45 miles. During the

Table 1-2
Toll Charges for Travel on Plank Roads

Description	Toll
1. For each carriage, wagon, cart or sled drawn by two horses, oxen or mules	2½ cents per mile
2. Each additional animal	1 cent per mile
3. Vehicle drawn by one horse, ox or mule	2 cents per mile
4. Each horse and rider	1 cent per mile
5. Each head of horses, oxen, mules or cattle led or driven	1 cent per mile
6. Each sheep, goat or hog	½ cent per mile
7. Merchandise (not including furniture of immigrants)	2 cents per ton mile

same year, three additional routes were established, all originating in Burlington. One of the most popular was the Burlington-Davenport line with a schedule of 27 hours for 80 miles. Another was the route between Burlington and McComb, Illinois, for connections with other stage lines. A third was an inland route to Mt. Pleasant, covering 30 miles in 16 hours. Other principal lines developed after 1838 were between Dubuque and Cedar Falls, Dubuque and Iowa City, Clinton and Cedar Rapids and Davenport to Council Bluffs through Oskaloosa and Des Moines. Stages also ran from Cedar Falls to Cedar Rapids, Iowa City to Keokuk and Dubuque to Keokuk.

Before a system of stage lines could be established, improvements had to be made in the miserable existing roads and a satisfactory type of vehicle had to be constructed. Bad roads were not the exception in Iowa vis-a-vis other midwestern states, but they had a reputation for consistently muddy and sticky qualities. Colton quotes a traveler describing his journey in Iowa in 1857. "I had heard a great deal about Iowa mud and now saw it to my hearts content. It was as thick as dough and greasy at the same time. The horses would slip up and the wheels slide fearfully at every inclination of the road and whenever we got out to walk, it seemed as though we lifted a common size farm at every step."⁷

Vehicles ranged from farmers' wagons to the Concord Coach, the Rolls-Royce of the American horse-drawn carriage. The use of wagons, some lacking springs, inspired the *Muscatine Democratic Enquirer* to complain "that owing to the lumber wagons, mud wagons or carts plying between Muscatine and Iowa City, one passenger had all the pegs and tacks shaken out of his boots by vibration of the vehicle." Another editor wrote that "the coaches were the best medicine for indigestion...the horses had one peculiarity . . . their bodies offered no impediment to the sunshine and offer travelers a good opportunity to study the osseous structure of the animal."⁸

By 1845 the initial period of stagecoaching ended. Changes in the postal laws no longer required bidding for mail contracts nor standards set for the type of vehicle for mail transportation. More competition resulted and operators were hard pressed to maintain their routes much less consider expansion. In the mid-1850s, the legislature acted to provide state roads, and coach service spread to the central and western counties.

Among the early Iowa operators awarded mail contracts were William Wilson of Fort Madison,

A.C. Donaldson and George Kerrick of Dubuque, Richard Lund and Morton McCarver of Burlington, and Samuel Head of Lee County. In 1846 John Frink, from Illinois, and Robert Stewart, a livery stable proprietor in Burlington, started large scale operations from Burlington to Keokuk, Fairfield and Iowa City. In three years, the network spread to Des Moines and later to Council Bluffs. In 1854 the Western Stage Company purchased the Frink interests and became the largest stage line in the state. One of their original coaches is on the ground floor of the State Historical Building in Des Moines (Fig. 1-4).

Iowa's mud roads and hostile Indians, winter blizzards, prairie fires and robberies were major obstacles to stage travel. Muddy roads resulted in slow travel and long distances between stops made for passenger discomfort and hunger. Fares varied from station to station, usually five cents per mile, were higher in bad weather and varied also with the size and weight of the passenger. The fare from Des Moines to Keokuk was \$10, from Muscatine to Iowa City, three dollars, with half fare for children. Legislators traveling to or from Iowa City rode free, a practice later adopted by the railroads. Male passengers worked their way in addition to the charges. As late as 1870 on the Haskell & Company's Northwestern line, the fare was 10 cents a mile and a fence rail, the latter to assist in getting the coach out of the mud.

Stagecoach companies such as Frink and Western Stages were important to the public and economy of Iowa prior to 1870. The Western Stage Company employed 1,500 men, used over 3,000 horses and 600 coaches and invested \$1.5 million in the business. It operated in Iowa, Wisconsin, Missouri and Nebraska, as far west as Fort Kearney, some 300 miles beyond the Missouri River. But good service did not necessarily follow. In 1858 the *Council Bluffs Eagle* declared, "The Western Stage Company deserves the greatest credit for their untiring energy and

⁷ Kenneth E. Colton, "The Stagecoach Comes to Iowa," *Annals of Iowa* 35 (Winter 1960): pp. 161-186. Stagecoach routes are described in Inez E. Kirkpatrick, *Stagecoach Trails in Iowa*, Crete, Nebraska: J-B Pub. Co., 1975.

⁸ Ruth S. Beitz, "Iowa's Stagecoach Era," *Iowan* 9 (April-May 1961): pp. 22-27, 43.

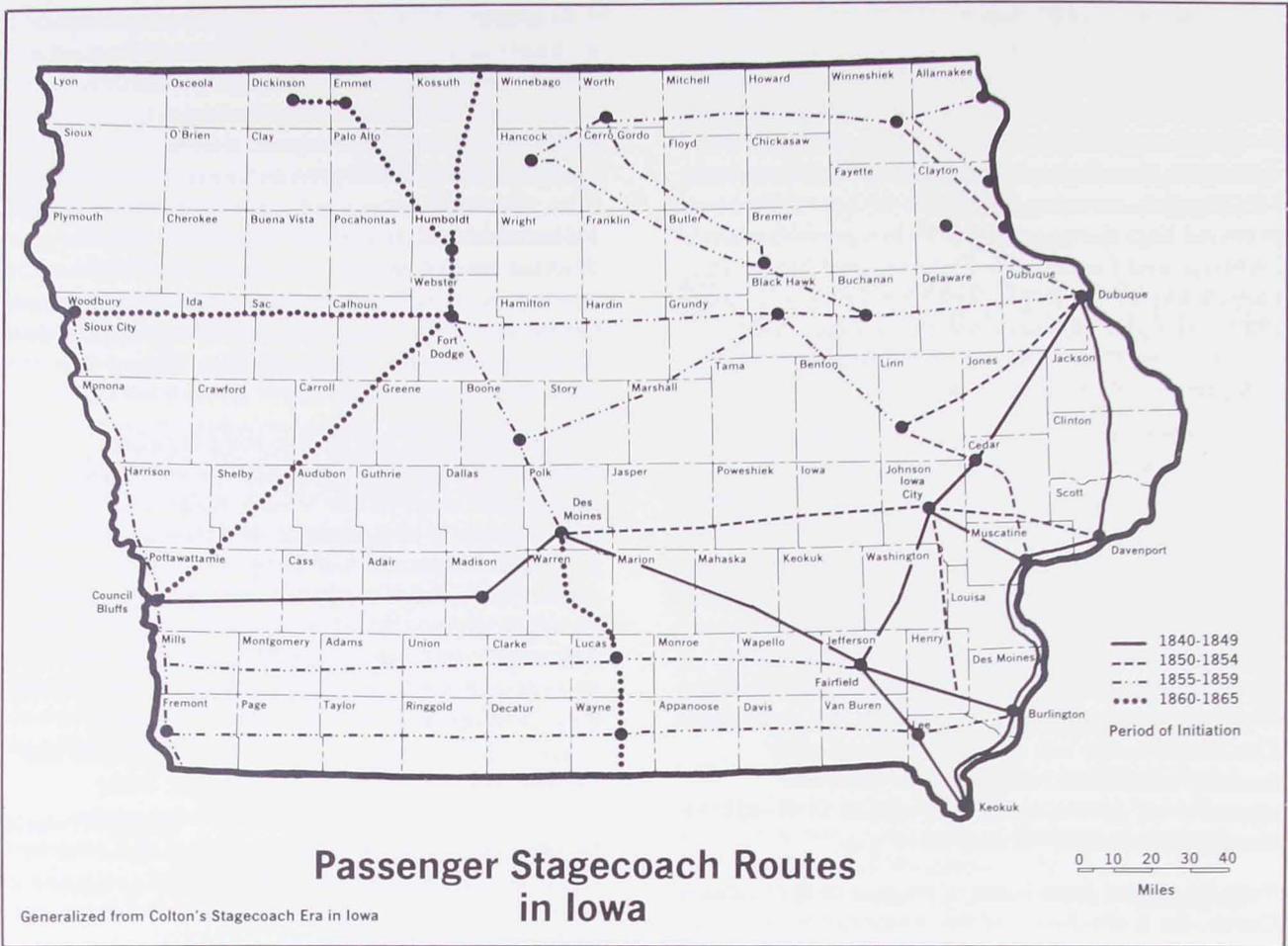


Figure 1-4

(Courtesy: Clare C. Cooper, "The Role of the Railroads in the Settlement of Iowa," M.A. thesis, University of Nebraska, Lincoln, 1958.)

perseverance in bringing mail to this city...in a wet and pulp-like state, perfectly saturated with water and wholly unreadable...We are sickened at the sight of every mail that arrives...When agents are asked why this repeated occurrence, they offer the same silly and stereotyped reply that the stage upset in the creek. The Western Stage Company have proved an intolerable nuisance...⁹

Even though the stages during the latter part of their era often connected with main line railroad stations, they ceased as a means of transportation when the railroad network spread to smaller communities. The first coach entered Des Moines on July 1, 1847, and the last left on July 1, 1870. In 1870 the Western Stage Company sold coaches which had cost \$1,000 for as low as \$10.

⁹ Compiled from the Newspaper Clipping File, State Historical Library, Des Moines, Iowa.

Steamboating on the Eastern Rivers

The Dubuque-Galena area furnished the most important commodity (lead) moved on the Mississippi before 1850. In fact, in 1847 lead traffic was worth five times the entire St. Louis fur trade.¹⁰ Surplus corn and pork went downstream and up the river came the steamboats, stopping at the river ports to discharge immigrants with their household goods, to deliver tobacco and molasses from the South, and farm implements and retail merchandise from the East.

The first steamboat to pass along the eastern border was the *Virginia*, a 109-foot stern-wheeler which reached Fort Snelling in Minnesota in 1823. The 664 mile trip from St. Louis required 20 days. The boat grounded frequently on sandbars and took five days to get over the Des Moines and Rock Island Rapids. Wood was burned for fuel, and stops had to be made while fresh supplies were cut from the forests along the shore. Approximately 30 steamboats ran the Des Moines River to Raccoon Forks prior to 1860, and one, the *Charles Craft*, reached the present site of Fort Dodge. Low water, which was common during the use of steamboats in the Civil War, and the construction of the railroads to Des Moines, Boone and Fort Dodge diverted the river traffic to land transportation.

Navigation of the Iowa and Cedar Rivers was possible only in high water. Eight different boats navigated the Iowa River, the first being the *Ripple*. The *Iowa City* was actually launched from that city in 1866. The *Black Hawk* became famous on the Cedar River, running between Cedar Rapids and Waterloo, and in 1858 made scheduled trips from Cedar Rapids to St. Louis. Attempts to navigate smaller streams proved to be impractical. Settlers on the Turkey, Maquoketa and Wapsipinicon built flatboats, keelboats and barges to float their products downstream to markets. "No better evidence of the prosperity of the territory can be given," declared the *Burlington Hawkeye* in 1840, "than is seen in the numerous covered flatboats that are going downstream, laden with all kinds of produce, animal and vegetable. Upwards of 100 boats of this description have already passed Burlington."

The length of the navigation season depended upon the weather as the winter months iced and closed the Mississippi River from St. Paul to Keokuk and occasionally to St. Louis. Between Dubuque and Keokuk the river was ice-locked for an average of 75 to 105 days, and St. Paul was locked in for almost

five months each year. The opening of the river in the spring was a celebrated event in the life of river towns, and prizes, including free wharfage during the year, were given for the first boat to deliver its cargo. These awards were sufficient encouragement for captains to fight for this distinction and the popularity which accompanied it. Another problem was related to the winter storage of the boats. It was necessary to keep them off the river when the ice broke or jammed and caused flooding, so they were usually quartered in sheltered areas, lagoons or sloughs in the small tributaries, guarded by workmen who overhauled and repaired them during the winter months.

The Missouri River Steamboat Era

Petersen observed that "steamboating on the Missouri is one of the most colorful and dynamic stories in the development of the Trans-Mississippi West. So great was the contribution of the steamboat to the Missouri Valley that it deserves equal rank with the covered wagon as a symbol of the westward movement." Four years before the *Virginia* ran the Mississippi, the *Western-Engineer* reached Omaha, the only one of five boats that attempted to navigate the Missouri in 1819. The voyage opened a period of development for Council Bluffs and Sioux City. Even before western Iowa was settled, the fur trade was responsible for river traffic, and it continued for two decades between the 1850s and 1870s. However, the tonnage was insignificant compared with the demand for transportation during the migration which started from assembly points at Missouri River towns. Both Iowa cities became busy river ports, and by 1867 at least a half dozen packets were working the Sioux City trade (Fig. 1-7).

There were 46 boats operating on the Missouri in 1857, but the Civil War virtually stopped commerce until 1866, when trade expanded on the upper Missouri. Thirty-one steamboats arrived at Fort Benton, 50 percent more than recorded in the seven previous years. Construction of the Union Pacific provided an additional boom to postwar traffic. Between 1865 and 1867, materials and men to build pontoon bridges were transported by river steamers.

¹⁰ William J. Petersen, "Steamboating on the Missouri River," *Iowa Journal* 53 (April 1955): pp. 97-120.

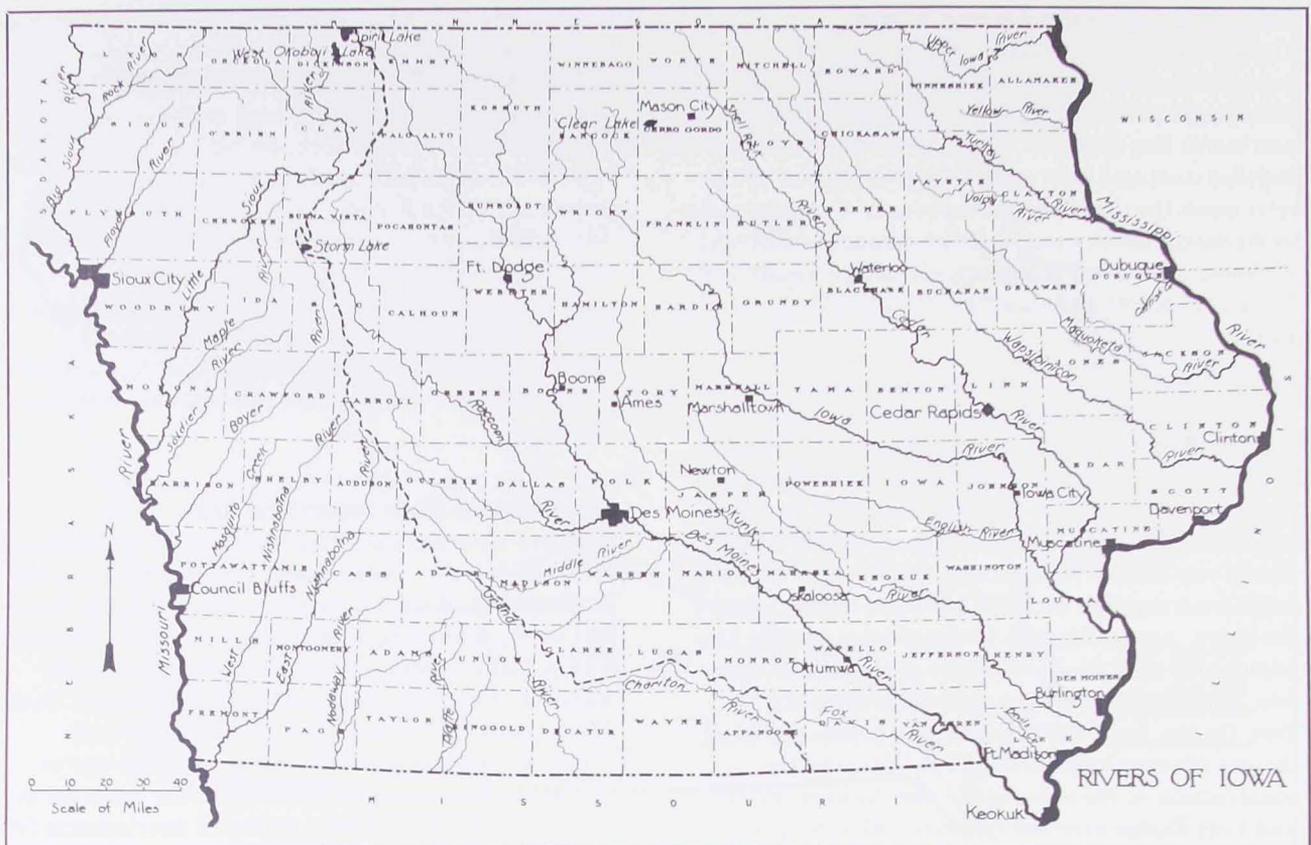


Figure 1-5

(Courtesy: State Historical Society of Iowa)

Although slowed by the arrival of the Chicago & North Western R.R. at Council Bluffs in 1867, the boats continued to carry supplies until the completion of the transcontinental railroad in 1869.

The *Omaha* and *Florence* were among the most popular steamboats on the Missouri River, both furnishing frequent passenger and freight service. Merchandise and equipment were carried upstream; potatoes and corn came downstream on the return trip. The *Florence* ran a regular military supply service to Fort Randall and Fort Stewart and broke speed records from St. Louis. The Missouri steamboat era contributed to the rapid growth of the Missouri Valley, particularly in northwest Iowa, and hastened the statehood of Nebraska. When the railroads reached the river, the early steamboat period ended; just as it had when they crossed the Mississippi, to be revived at a later date in history.

Canals

Sage discusses the potential of canals as a means of inland transportation had the railroads not been developed. These were proposed as feeders and connecting links to the river system. One was to run from New Boston, Illinois, at the mouth of the Iowa River, to Columbus Junction, thence to Cedar Rapids, Waterloo and Austin, Minnesota; another from Columbus Junction to Marshalltown; yet another from Peterson to the Missouri River; and one from Ortonville, Minnesota to Fort Dodge, Des Moines and on to the Missouri. These were ambitious projects and while noteworthy in their conception, could not have filled the requirements for future transportation facilities needed by the state.

Actually, four small canals were built. One ran seven miles through the Amana Colonies. Another served a grist mill on the Iowa River near Wapello, abandoned



Figure 1-6

(Courtesy: Clare C. Cooper, "The Role of the Railroads in the Settlement of Iowa," M.A. thesis, University of Nebraska, Lincoln, 1958.)

in 1900, and two were built around the rapids on the Mississippi River. According to Amana residents, the canal was built in 1880 and provided some of the power used by the woolen mill. Probably the most important canal was the lateral built around the Des Moines rapids, north of Keokuk, in a section of the river which dropped 27 feet in 12 miles. Boats traversed the canal through three locks which measured 350 x 75 feet. When the dam at Keokuk was built in 1913, the canal ceased to operate and all traces disappeared. A second lateral canal was in use at LeClaire and was bypassed when Lock and Dam No. 14 was built in the 1930s, although it is still used for small pleasure craft.

The Des Moines River Project

Purpose and Plan

The Des Moines River enters Iowa from Minnesota

somewhat west of the center of the boundary and flows in a southeasterly direction to its junction with the Mississippi River. Nearly half way across the state, the Des Moines is joined by the Raccoon flowing from the west, at what was known as Raccoon Forks, the site of the city of Des Moines. Since Congress had been granting lands to states for public improvements, the importance of river transportation suggested that assistance to aid navigation would accelerate agricultural and industrial trade in the areas through which the river flowed. Steamboats had run the Des Moines River since 1830, and it was believed that through a system of locks and dams an important channel of trade could be opened. Accordingly, in 1846, the state was granted alternate sections of land (640 acres) within five miles of the river which had not otherwise been appropriated or disposed of for other purposes. Although the grant was made to improve navigation,

it did not offer any guarantees of success.

The grant stated that the area to be improved was that portion of the river between its mouth and Raccoon Forks, but nothing expressly defined the northern point to which it applied. So the question immediately arose as to whether the grant was specifically for the area to be improved or extended to the entire length of the river. If it applied only as far as Raccoon Forks, 300,000 acres would be involved; if to the Minnesota border, the grant would cover over 1,000,000 acres. Iowa was admitted to the Union four months after the territorial grant, and in early 1847 it was accepted by the General Assembly under the assumption that the grant embraced the lands south of Raccoon Forks. But, in his address to the Assembly, Governor Clark pointed out that at least two-thirds of the area granted was claimed by settlers, who expected to purchase the lands for \$1.25 per acre.

To supervise the sale of land and oversee expenditures for the river improvements, a Board of Public Works was created. The plan called for construction of 28 dams, nine locks, and several canals over a distance of 240 miles from the mouth to Raccoon Forks. Seven dams and locks were built: at St. Francesville, Missouri; Cowper's Mill near Belfast; Tom's Mill near Croton; Farmington; Bonaparte; Bentonsport; and Keosauqua (Fig. 1-8).

In 1848, under pressure from the Iowa Congressional delegation, Richard D. Young, Commissioner of the General Land Office, declared that the grant applied to the entire river within the state. Yet, a few months later, portions of the lands above Raccoon Forks (25,000 acres) were sold by the Land Office to individuals, complicating the problems of land disposal by the Board and rendering uncertain the intent of the 1846 grant. More confusion occurred in 1849, when the Secretary of the Treasury affirmed the

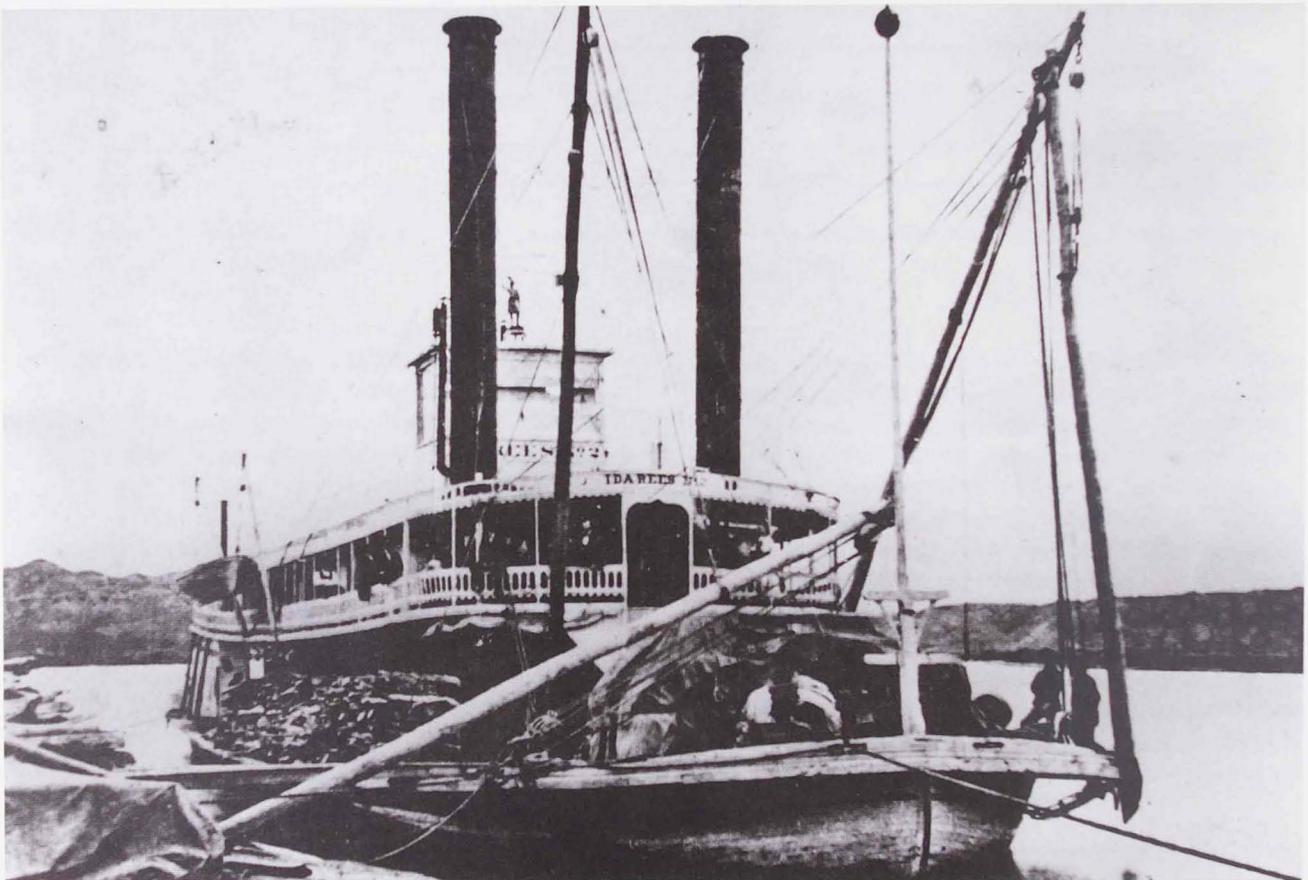


Figure 1-7

Steamboat *Ida Rees* #2 on Missouri River, 1877.

(Courtesy: U.S. Army Corps of Engineers, Omaha District)

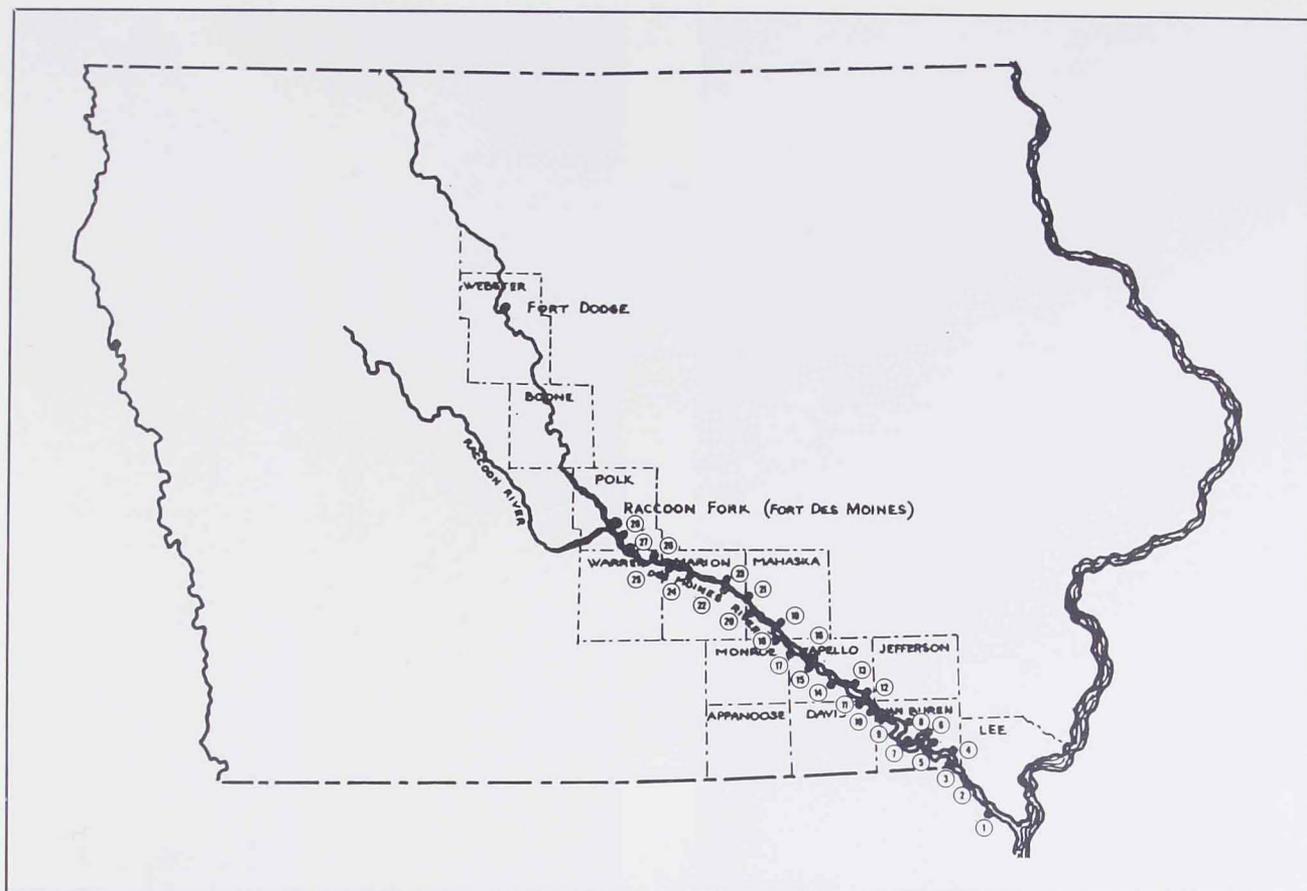


Figure 1-8

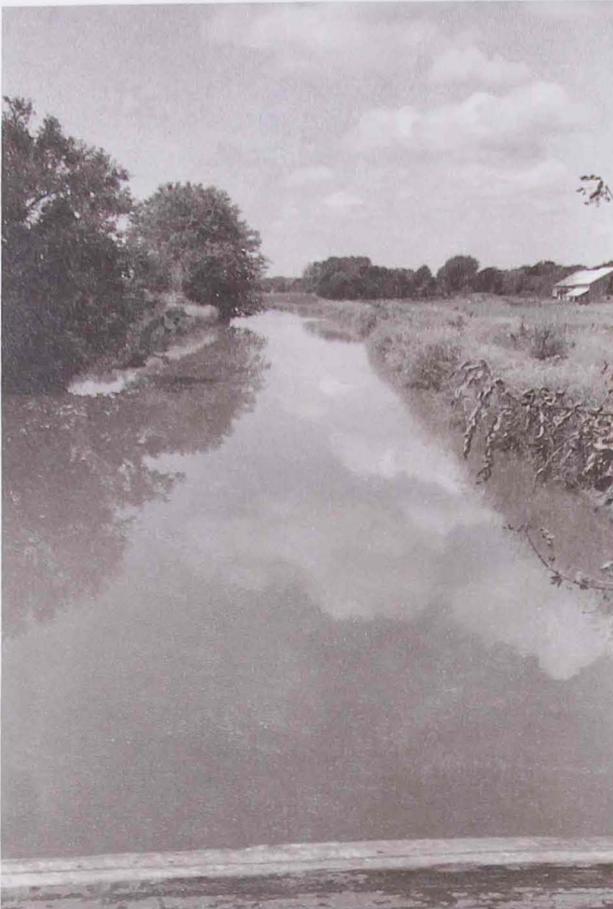
KEY TO MAP OF PROPOSED DAMS ON DES MOINES RIVER—(1) St. Francisville, Mo., (2) Cowper's Mill, near Belfast, (3) Tom's Mill, near Croton, (4) Farmington, (5) Bonaparte, (6) Bentonsport, (7) Keosauqua, (8) Phildelphis, near Kilbourn, (9) Portland, (1) Jordan, near Iowaville, (11) Kalesback, near Eldon, (12) Rowlands, near Cliffland, (13) Sugar Creek, near Agency (14) Above Ottumwa, (15) Near Chilicothe, (16) Near Chilicothe, (17) Below Eddyville, (18) Above Eddyville, (19) Rocky Ripple, near Givin, (20) Tally's Ford, (21) English Creek, (22) Amsterdam, southwest of Pella, (23) South of Whitebreast Creek, (24) Cordova, just below Red Rock, (25) Bennington, near Swan, (26) Lafayette, (27) Southwest of Adelphi, (28) Levey.

(Courtesy: State Historical Society of Iowa)

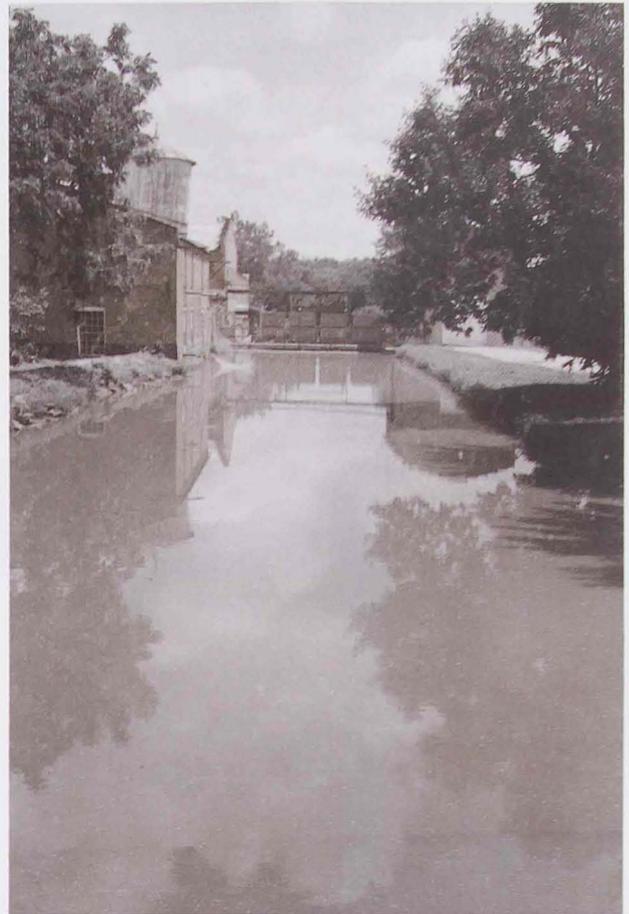
decision of the Land Commissioner. This decision was reversed by the Secretary of the Interior but again reaffirmed by the Attorney General during the same year. However, in 1856 the Secretary of the Interior refused to certify the additional lands, stating that the grant applied only to Raccoon Forks.

The sale of the lands did not bring the necessary funds, and in 1853 Henry O'Reilly, a New York contractor, organized the Des Moines Navigation and Railroad Company and agreed to complete the project within four years from July 1, 1854. He was to be compensated by funds from the unsold lands,

future tolls on the waterway, water rents and other profits over a period of 40 years. At the expiration, the improvement was to become the property of the state. After a direct expenditure of nearly \$800,000 in the four years, little progress had been made and a settlement was negotiated and reported to the General Assembly in 1860. On the same day the resolution for settlement passed, the Assembly adopted a measure which provided that the lands remaining be given to the Keokuk, Fort Des Moines, and Minnesota Railroad. By transfer, the work of improving navigation on the river ended.



Amana Canals



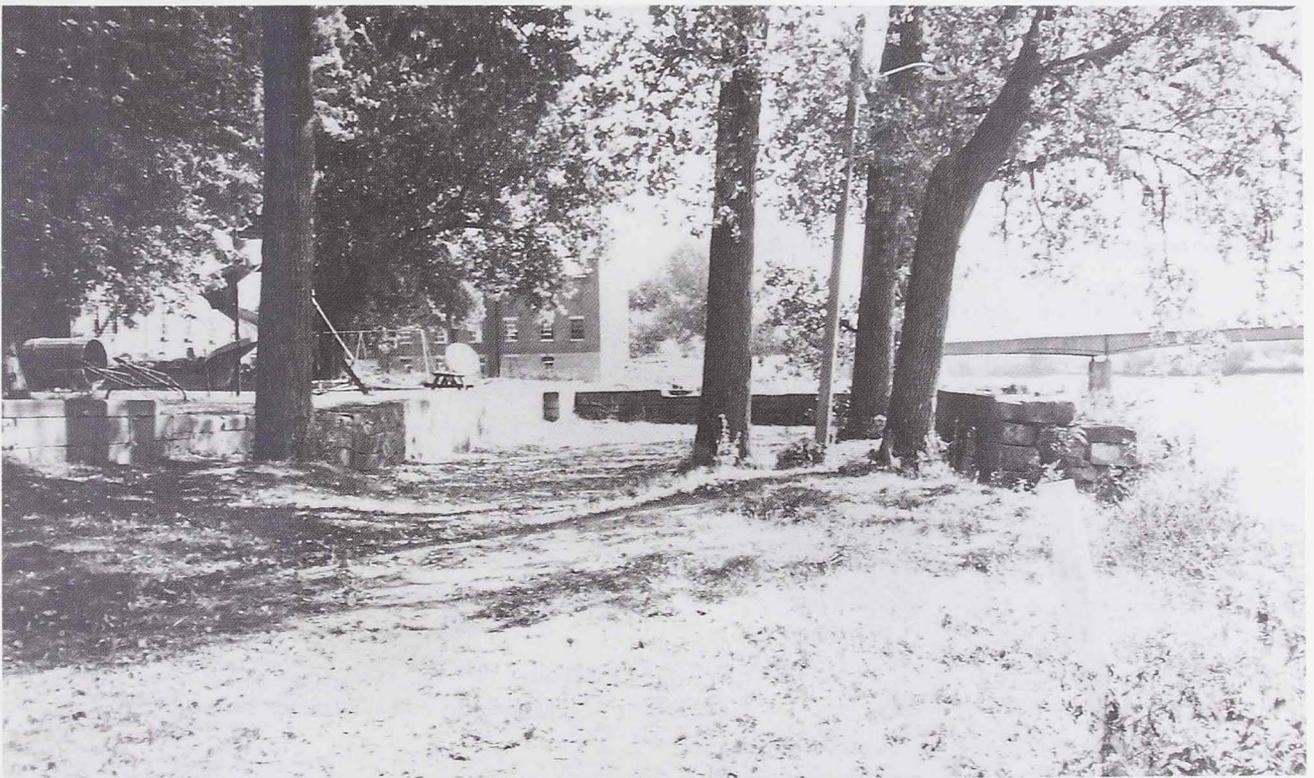
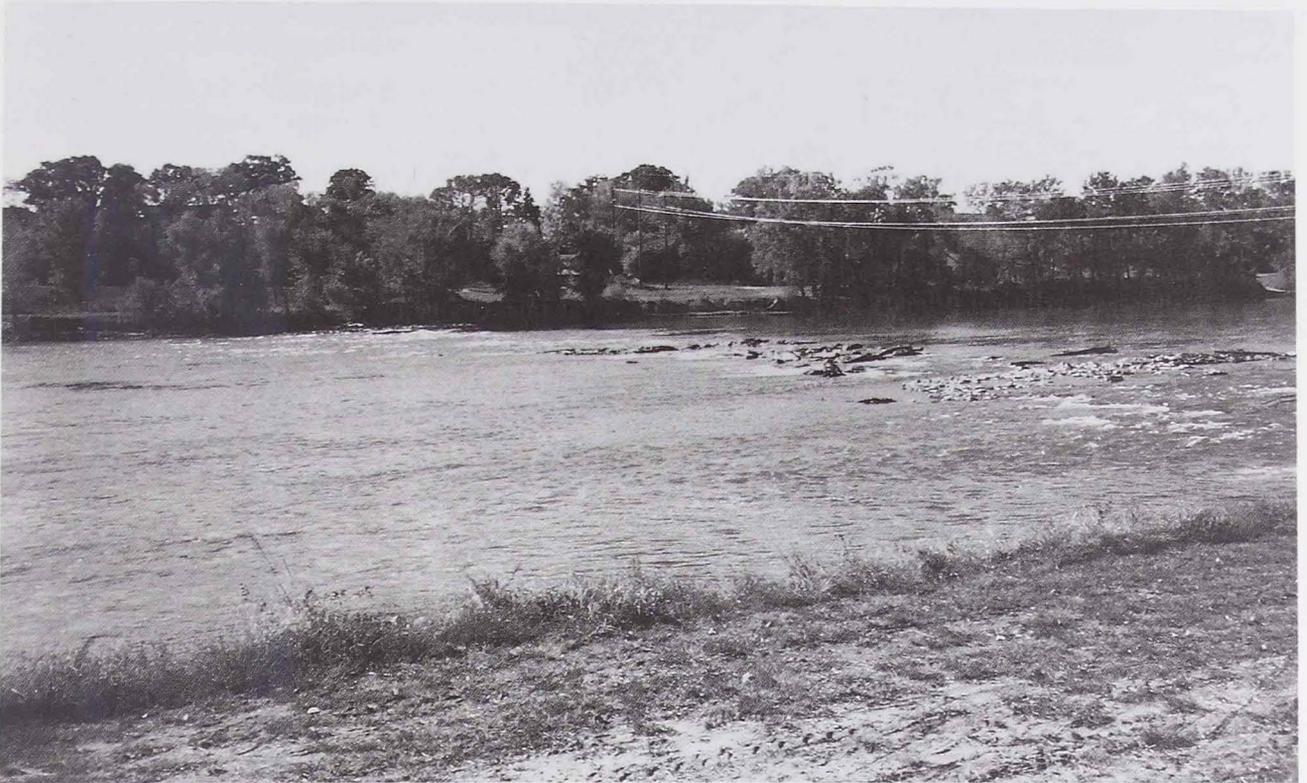
(Photos by author)

Impact of the River Project

The river improvement plan was not only of historic interest but set off legal and political controversies within the state, between it and the federal government and with settlers who claimed title to the lands. In 1856 Congress granted lands to the states consisting of alternate sections of six miles along the proposed right-of-way construction of four railroads being built east to west, but not to include any lands previously reserved for other public improvements. The grants crossed the Des Moines River grant two miles north of Racoon Forks. If the 1846 grant included the area above, as well as below, this point, the railroads could not get these lands. So, with the coming of the railroads, the attitude of the people changed. Before, they desired the river grant to be extended to the Minnesota border; afterward, citizens supported the railroad interests, who were content to have the grant stopped at Raccoon Forks. The crossing of the river grant by the railroads, the

question of where the grant applied, and the lands claimed by settlers resulted in long and extensive litigation in the courts. Land claim cases went to the U.S. Supreme Court at least eight times in 40 years before finally settled. Two comments on this project are worth noting. One, by Weaver, termed the river project as "possibly the most dramatic chapter in the history of settlement in Iowa." The other, by Cole, stated that "the state had spent 10 years and a million dollars to learn that politicians are not transformed into businessmen by being elected to offices with big names."¹¹

¹¹ James B. Weaver, "The Story of the Des Moines River Lands," *Annals of Iowa* 18 (October 1932): pp. 420-433. Cyrenus Cole, *A History of the People of Iowa*, Cedar Rapids, Iowa: The Torch Press, 1921, p. 219.



Remnants of the Dam and Lock at Bonaparte.

(Photos by author)

Summary

The stagecoach and steamboat of pioneer days could not provide the transportation necessary for rapid development of the state. The first was handicapped by natural and human obstacles which made for slow, tedious, frustrating and uncomfortable travel and had little or no capacity for handling freight. The second was limited to the north-south pattern of movement, as determined by the flow and boundaries of the rivers. Both served well their primary purpose during the period of the yearly life cycles. One disappeared in time, and the other shifted in importance as the economic and social evolution of the state and nation dictated its future. Water transportation eventually evolved into a major instrument of commerce in Iowa, but in those days the migration of people was from east to west, and the commerce and industry that followed were the result of a new form of land transportation. Railroads made Chicago a commercial challenger to St. Louis and the lower Mississippi River ports, and it was only a matter of time before their tracks would be laid to and through Iowa enroute to the West. The failure of the Des Moines river project emphasized the difficulty of making interior rivers navigable, brought with it conflicting claims over land ownership and, in the end, proved to be a boon for railroad development.

The author interviewed residents of the river towns of Bonaparte, Bentonsport and Keosauqua and photographed remnants of the locks and dams built at these sites. Little remains as evidence except at Bonaparte, where a lock and rock line across the river is clearly visible. The dams were rather crudely built and were washed away frequently by ice and floods.

Selected References

- Briggs, John Ely. *Iowa Old and New*. New York: University Publishing Co., 1939.
- Brindley, John E. *History of Road Legislation in Iowa*. Iowa City: State Historical Society, 1912.
- Brown, D. Clayton. *Western Tributaries of the Mississippi*. National Waterways Study (Navigation History NWS-83-7), Washington, D.C., 1983.
- Chittenden, Hiram M. *History of Early Steamboat Navigation on the Missouri River*. New York: Frances P. Harper, 1903.
- Colton, Kenneth E. "Bringing the Stagecoach to Iowa." *Annals of Iowa* 22 (July 1939): pp. 8-9.
- Davis, C.F. "Voyage of the First Steamboat from Keokuk to Fort Dodge." *Annals of Iowa* 7 (July 1905): pp. 140-142.
- Glass, Remley J. "Early Transportation and the Plank Road." *Annals of Iowa* 21 (January 1939): pp. 502-534.
- Grahame, Orville F. "Stagecoach Days." *Palimpsest* 5 (May 1924): p. 176.
- Grahame, Russell C. "Voyage of the Black Hawk." *Palimpsest* 9 (May 1928): pp. 157-159.
- Gue, Benjamin. *History of Iowa*. New York: Century Historical Co., 1903.
- Harlan, Edgar R. *A Narrative History of the People of Iowa*. Chicago Historical Society, Inc., 1931.
- Hoolette, William. *Iowa, the Pioneer Heritage*. Des Moines, Iowa: Wallace-Homestead Book Co., 1970.
- Hussey, Tacitus. "History of Steamboating on the Des Moines River from 1837 to 1862." *Annals of Iowa* 4 (April 1900): pp. 323-382.
- Larson, Gustav E. "Notes on the Navigation of Iowa Rivers." *Iowa Journal of History and Politics* 39 (October 1941): pp. 404-411.
- Lathrop, H. W. "Early Steamboating on the Iowa River." *Iowa Historical Record* 12, 14, 15 (January 1897): pp. 44-46.
- McCoy, Hugh. "Steamboat Era River Towns." *Iowan* 10 (Spring 1962): pp. 10-28.
- Meyer, B. H., et. al. *History of Transportation in the United States before 1860*. Washington, D.C.: Carnegie Institution, 1917.
- Parish, John C. "The Ripple." *Palimpsest* 2 (April 1921): pp. 113-122.
- Parker, George E. *Iowa Pioneer Foundation*. Iowa City: State Historical Society, 1940.
- Parker, N. H. *Iowa As It Is In 1855*. Chicago: Keen & Lee, 1855.
- Petersen, William J. "A Century of River Traffic." *Palimpsest* 27 (October 1946): pp. 289,293.
- . *The Story of Iowa*. New York: Lewis Historical Co., 1952.

- _____. "The Mormon Trail of 1846." *Palimpsest* 4 (September 1966): pp. 353-367.
- Pratt, Leroy G. "Ten Cents a Mile and a Fence Post." *Annals of Iowa* 39 (Spring 1969): pp. 597-604.
- _____. *The Counties and Court Houses of Iowa*. Mason City, Iowa: Klepte Printing Co., 1977.
- Sage, Leland L. *A History of Iowa*. Ames: Iowa State University Press, 1974.
- Swanson, Leslie L. *Canals in Mid America*. Moline, Ill.: By the author, 1984.
- Tuttle, Charles R., and Daniel S. Durrie. *Illustrated History of the State of Iowa*. Chicago: Richard S. Peale & Co., 1876.
- Vestal, Stanley. *The Missouri*. New York: Farrar & Rinehart, 1946.
- Wilson, Ben Hur. "The Genesis of Planking." "The Boom in Planking." "Planked in Places." *Palimpsest* 15 (September 1934): pp. 289-320.
- _____. "Burlington Westward." "Planked from Burlington." *Palimpsest* 16 (October 1935): pp. 360-380.
- _____. "Notes on Planked Roads in Northeastern Iowa." *Annals of Iowa* 22 (July 1939): pp. 77-81.