



FIGURE 1. Commerce and transportation on the modern Mississippi River in St. Paul.

Chapter 7

The Patterns of Agriculture, Commerce, Industry and Transportation

From canoes carrying furs to steel barges bearing the grain of multinational corporations, economic activities and transportation systems have shaped the MNRRA corridor. They have defined the pace and scope of change to the valley's landscape and ecosystems. They have defined how people see and relate to the river. They have done so, however, within the framework of ancient landforms. Geology dictated that St. Paul began as the head of navigation and that St. Anthony Falls give rise to the mills of Minneapolis. The floodplain valley from the Minnesota River's mouth to Ravenna Township, the confining gorge between the Minnesota River and St. Anthony, and the prairie river above St. Anthony encouraged or restricted business and transportation. The MNRRA corridor's history and the significance of historic sites tied to business and transportation must be understood, then, as the integration of human and nonhuman factors. (*Figure 1*)

This chapter provides an overview of the MNRRA corridor's economic and transportation history—other than navigation improvements—from the end of the fur trade to the 1950s. Roads, railroads, bridges and highways and the corridor's economic development are inseparably tied. Transportation systems have often determined the relationship of communities to the river. As canoes and steamboats drew people to the river, roads and railroads pulled them away. This chapter illustrates processes critical to the birth and growth of the corridor's communities.

Business Development

Sites representing commerce and industry in the MNRRA corridor are of at least three distinct types: those directly tied to the Mississippi River, those related to businesses with direct ties, and those unrelated to the river. Sites in the first two categories characterized the river during the nineteenth and early twentieth centuries. During the late nineteenth century and especially during the early twentieth century, sites located along the river had less and less direct or indirect relation to it.

Economic development sometimes linked the MNRRA corridor's cities and at other times separated them. For example, fur trading gave cities from Hastings to Dayton a common river heritage. As cities relied less on the river, however, their economic histories diverged. Changes in the transportation systems were in part responsible, for transportation often determined the nature of commercial development and the relation of that development to the river. Railroads used the river valley's flat grade at St. Paul and below for their tracks and in doing so enticed businesses to the valley. Those businesses, however, focused on railroads, not the river. The river did retain one important economic function. It offered a way to dispose of wastes quickly and cheaply, which drew some industries to its banks.

Timber • Lumber milling replaced the fur trade as a key economic core around which many communities developed. Like the fur trade, timber milling created a shared historical context for cities in the MNRRA corridor. Most settlements had at least one lumber mill. The story of these mills and their role in building the river's communities is often overshadowed by milling at St. Anthony Falls.¹

Lumber millers depended on the river and its tributaries to deliver logs and to power their mills. Some located facilities near the mouth of small tributaries, where they built dams to capture the hydropower. The Rum River at Anoka, Rice Creek in Fridley, Elm Creek in Champlin, Shingle Creek in Minneapolis, and the Vermillion River in Hastings all had mills. Most acquired their first mills during the 1850s and 1860s. Dayton (1856), Anoka (1854), Champlin (1867), Brooklyn (1859-60), St. Paul (1845, 1850), Nininger (1854, 1856 and 1857) and Hastings (1855) all boasted sawmills during their early years. While most of these mills succumbed to fire, they were so important that they were quickly rebuilt.²

Timber milling was vital to most communities emerging along the river during the mid to late nineteenth century. The mills employed hundreds of people in gathering, sorting, sawing and finishing logs into boards, shingles, and other products. "Logging and river driving gave employment to the male population of Anoka and Ramsey for many years," writes Jean James in her booklet, *The history of Ramsey*.³ In 1872, W. D. Washburn & Co. built a large steam sawmill in Anoka that employed 125 men. In addition to their own milling operations, communities throughout the corridor witnessed the annual herding of logs down the Mississippi and its tributaries.⁴ (Figure 2)

The lumber cut at these mills spurred other businesses and construction booms in many of the corridor's communities. Lumber had immediate and demanding local markets. In 1854 in Anoka, says Albert Goodrich, "Nobody waited for lumber to dry, and the man who could get green boards or slabs enough to build a shanty before cold weather set in counted himself lucky."⁵



By the late 1800s, many small lumber mills had closed and north Minneapolis was growing into the nation's leading lumber producer. The Mississippi River Commission (MRC) maps, the most detailed maps made of the river in the nineteenth century, illustrate the importance of timber from St. Anthony Falls to north Minneapolis. Beginning at river mile 866, or immediately below where the Coon Rapids Dam is now, an 1898 MRC map shows a lumber boom projecting upstream from an island (Island 215 on the map). Not quite two river miles downstream, another boom points upstream from Little Casey Island (now part of Banfill Island). By river mile 864, just above the head of Durnham Island in Brooklyn Center, the number of booms and cribs used to direct and sort timber becomes continuous down to St. Anthony Falls. Just above Minneapolis, multiple crib and boom systems line the river, four or five next to each other at times.⁶



FIGURE 2. The lumber industry in Minneapolis. Mississippi River Commission Map, 1895. Note lumber yards and log booms above St. Anthony Falls. St. Paul District, Corps of Engineers.

Lumber mills and yards dominate the Mississippi’s east and, especially, west banks from St. Anthony Falls north to near the Minneapolis city limits. The MRC maps clearly show the extent to which lumber had become king in north Minneapolis by the mid-1890s.⁷ (Figure 3)

Cities below Minneapolis also supported sawmills. William Dugas built the first sawmill in St. Paul in 1844, although it did not begin operating until 1845, three years ahead of Franklin Steele’s mill at St. Anthony Falls. Dugas, for some reason, could not find enough customers and had a

FIGURE 3. Log drivers sort out a log jam above St. Anthony Falls, 1881. Photo by Michael Nowack. Minnesota Historical Society.

difficult time getting logs. For these reasons his mill failed within the year. On November 14, 1850, the state’s first steam sawmill began operating at St. Paul’s lower landing. And when John S. Prince came to St. Paul in 1854 to manage the properties of Pierre Chouteau, Jr. & Co. fur trading company, the holdings included the Rotary Mill. Prince ran the mill until it burned on May 22, 1868. St. Paul’s mills generally served the local market and were gone by the turn of the century.⁸

Further downriver, Nininger and Hastings drew on the pineries of northern Minnesota and the maple-basswood forest known as the Big Woods. Hastings also had the Vermillion River, which provided hydropower for milling. The first lumber mill at Hastings was built in 1855. Like the mills at the northern end, the mills at Hastings produced or supplied other companies with the lumber to make shingles, sashes, doors, blinds, furniture, wagons and carriages. By providing the lumber for construction and other industries, Hastings’ sawmills, like those in St. Paul, Minneapolis and above, established an important economic base for the city.⁹

Quarries, Bricks and Lime Kilns • Lumber was not the only building material supported or supplied by the Mississippi. The valley’s limestone bluffs, gravel beds, and clay deposits attracted millers, construction companies and the Corps of Engineers. Early millers at St. Anthony quarried limestone from Spirit Island and other islands at the falls to build their mills. They also mined it from the bluffs around the



falls. The Corps quarried the bluffs for rock to build wing dams and to armor the river's banks. Corps draftsman and photographer Henry Bosse photographed one such quarry near Cherokee Heights, across from downtown St. Paul (Figure 4), and another at Riverside Park in Minneapolis. The 1895 MRC chart for Minneapolis shows at least 13 quarries between St. Anthony Falls and the Lake Street Bridge. Construction companies mined the bluffs, islands and floodplain from above St. Anthony to Hastings for rock and gravel. Although the quarried bluffs may appear natural today, they represent an important way in which humans have sculpted the landscape of the Mississippi River valley through the Twin Cities.¹⁰

Throughout the river valley, clay deposits presented the opportunity for brick making. Fires, which nearly all the MNRRA corridor's communities experienced during the late nineteenth century, spurred the creation of brick companies. When a fire destroyed a large part of Anoka in 1884, brick, as a fireproof material, became popular. Just downstream, Coon Rapids became a busy brick-making

ing town. Several brick companies had opened around Coon Rapids before the fire, and at least three brickyards eventually located on Coon Creek in Coon Rapids. All three lay just outside the corridor, but as with many brickyards, they influenced construction within the corridor. Many buildings in the northern corridor are or were undoubtedly made of bricks produced at these yards. One brick plant, the Minnesota Clay Company, had 72 acres of clay deposits and a pit more than 130 feet deep. "This brick plant," claims local historian Leslie Gillund, "was one of the most modern and well-equipped in the country, . . ." ¹¹ (Figure 5)

Other cities in the corridor had brickyards as well. Edward Neill, in his history of Hennepin County, noted that "brick clay" lay along the river in north Minneapolis. In 1876 Morrison's brickyard began using this clay,

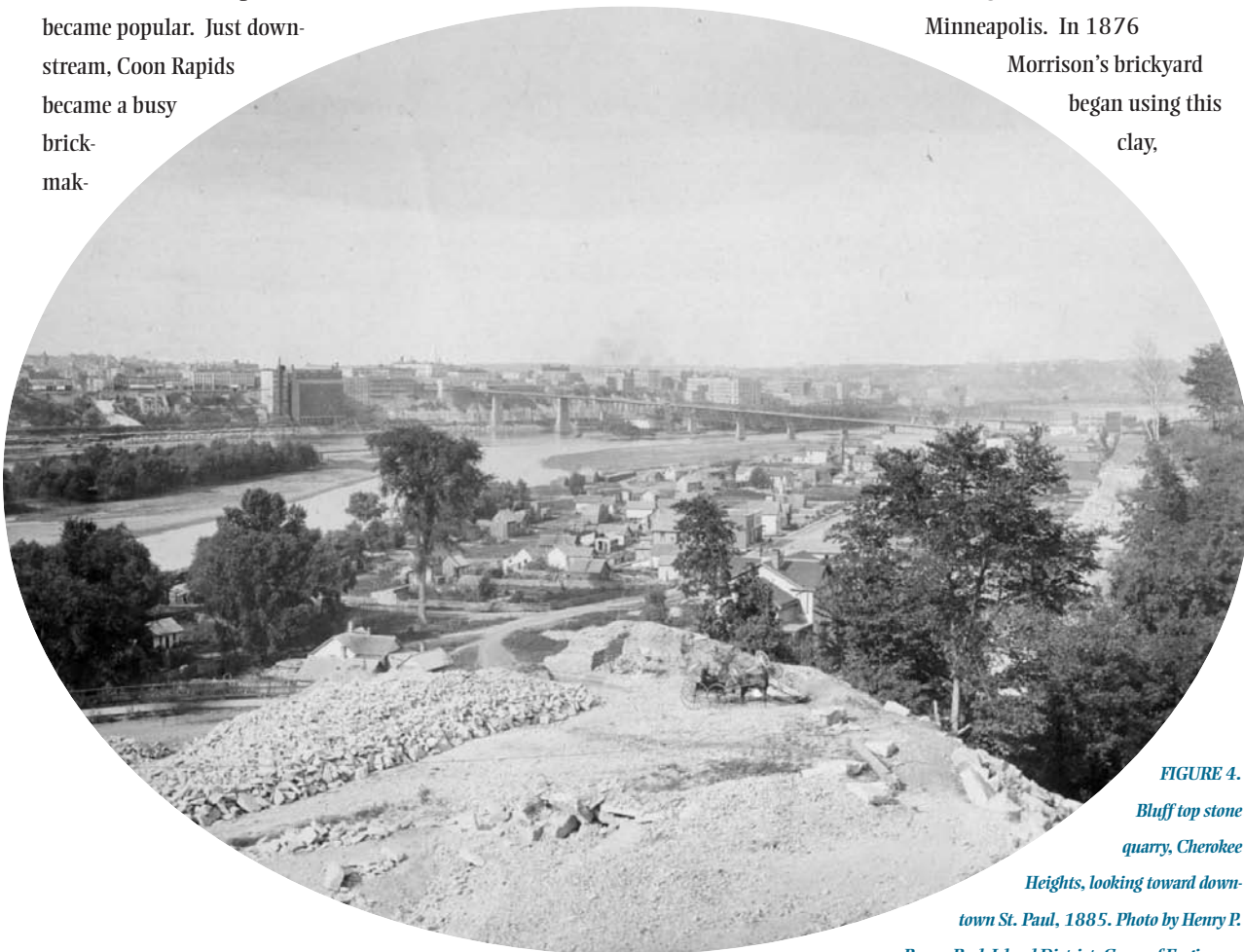


FIGURE 4.
Bluff top stone quarry, Cherokee Heights, looking toward downtown St. Paul, 1885. Photo by Henry P. Bosse. Rock Island District, Corps of Engineers.

FIGURE 5. *Baking bricks. Frank A. Johnson brickyard, Fiftieth and Lyndale, Minneapolis, near the Mississippi River, 1904. Minnesota Historical Society.*



employing about 20 men and four mills to grind it. The company produced 1.8 million bricks in 1880, most of which went to Minneapolis. Another brickyard, run by Johnson and Berg, also employed about 20 men and had four mills for grinding the clay. This yard and the others made a light-colored brick which, Neill reports, was typical of the area. Weithoff's brickyard, the third in north Minneapolis, had only two machines and eight men and turned out about 600,000 bricks annually. In St. Paul, the Twin City Brick company used clay from Pickerel Lake, in the Mississippi River's floodplain, during the first half of the 20th century. Hastings also possessed clay deposits and brickyards. You can still see evidence of these operations in the old brick homes and businesses in the corridor's communities.¹²

The Grey Cloud Lime Kiln represents a rare type of industrial site associated with building materials and agri-

culture. Located on the Grey Cloud Channel, in a Mississippi backwater, this National Register site is, according to Cottage Grove historian Robert Vogel, "a kind of industrial fossil that provides us with important clues as to early settlement and development in the Grey Cloud area, where limestone quarrying has played a small but important part in the local economy since the middle of the 19th century."¹³ Used from about 1873 to 1902, the kiln burned limestone to yield quicklime, which builders used as mortar and farmers used for fertilizer. Vogel believes that most of the kiln's output went for fertilizer. Measuring some 20 feet square at its base, the kiln stood

about 35 feet high and had walls four feet thick. Wood for the kiln's furnace came from the surrounding river bottoms and uplands. The bluffs supplied the limestone. Vogel thinks that the reservoir created by Lock and Dam No. 2 has flooded some of the old quarries, but others could lie near the kiln. More limestone kilns probably existed in the MNRRA corridor, but we know almost nothing about them. As the Grey Cloud Lime Kiln shows, such kilns contributed to changes in the Mississippi's landscape, by quarrying the bluffs and taking trees from the bottomlands and bluffs. Demand for fertilizer from the kiln tells us something about early agricultural methods.¹⁴

Agriculture • Agriculture and related activities quickly joined lumber milling as the foundation of economic growth in the MNRRA corridor. The Minnesota Historical Society divides its context statement for agriculture into two periods. (The Historical Society's context statements serve as a basis for evaluating the National Register significance of potentially historic sites.) The first period, called "Early Agriculture and River Settlement," lasted from 1840 to 1870. The Treaties of 1837, 1851 and 1855 with the Dakota and Ojibwa officially opened Minnesota to settlement and agriculture. The creation of the Minnesota Territory in 1849, statehood in 1858, and the Homestead Act of 1862 spurred both. The Historical Society context statement says that agriculture during this period was primarily for subsistence, although wheat was becoming a cash crop. Most communities at this time lay along rivers. "Many of the towns became centers for agricultural product processing facilities, such as flour and sorghum mills and breweries, typically small operations that catered to a local market."¹⁵ The Historical Society's context statement is generally true for the MNRRA corridor, but in many ways, communities in the corridor were ahead of the rest of the state.

The Minnesota Historical Society defines the second period of agriculture as "Railroads and Agricultural Development (1870 - 1940)." The production, transportation, and processing of agricultural products characterized

this period. Family farms were the typical unit of production. Towns that lay along railroads became shipping points and supply and service centers for surrounding agricultural communities. Grain elevators, processing facilities, warehouses, the grain exchange, flour milling, and brewing grew from the focus on agriculture. Flour milling and brewing fostered many small companies, some of which blossomed into national giants. All the corridor's early communities supported businesses dependent upon agriculture. Some were part of industries that occurred throughout the corridor and others were unique to one or two communities.¹⁶

Although the Historical Society's context statement suggests that pioneer farmers in Minnesota focused on subsistence farming from 1840 to 1870, this was not always so in the MNRRA corridor, where many farmers moved quickly from subsistence farming to producing for local, regional and national markets. As they did, they experimented with a variety of crops, livestock production and dairy farming.

Jean Baptiste Fairbault, a trader who had located above St. Paul by 1805, became the first to grow wheat in Minnesota, when he planted it on an island at the confluence of the Minnesota and Mississippi Rivers. Not until the late 1850s, however, would wheat take off. Despite the Economic Panic of 1857 and the Civil War, the wheat harvest in Minnesota climbed from about 1,400 bushels in 1850 to 2.2 million bushels in 1860 and jumped to 18.9 million by 1870. Between 1870 and 1880, Minnesota's wheat crop nearly doubled, from 18.9 million bushels to 34.6 million. A drop in wheat prices after 1877, however, led farmers to diversify. They tried new crops, livestock production and dairy farming. The new crops and other agricultural activities spurred more new businesses.¹⁷

Early farmers experimented with a variety of crops and livestock. In 1847, William Noot, one of the first pioneers in Anoka County, settled just below Kings Island, about a mile above the Rum River's mouth. Shortly after, he planted corn and beans on the island. About the same time, a Captain Folsom bought the Rum River fur trade post and

grew the first potato crop. Showing that a farmer could reap a great profit on the frontier, Folsom cut enough hay in 1848 to make about \$6,000. He sold it to the owners of horse or oxcart teams that brought supplies to the Winnebago, whom the U.S. government had relocated to Long Prairie. In about 1854, another early settler, James C. Frost, milked the first cow in Anoka. Since milk was such a rarity, he shared it with his neighbors.

Wheat became the dominant crop in Anoka County before the Economic Panic of 1857, after which wheat prices plummeted, forcing farmers to raise other crops and livestock. In 1859 potatoes and corn became most important, and, according to Albert Goodrich, in his history of Anoka County, the high prices for wool convinced many farmers to raise sheep the next year. Wool production and potato harvests in Anoka County grew between 1860 and 1870. When potatoes suffered from the Colorado beetle or potato bug in 1866 and for the next couple of years, the potato crop declined. In response, farmers began what was probably the first use of pesticides in the county. They applied a substance called “Paris Green.” While it worked, many feared it poisoned the potatoes. By 1879, despite the beetles and the pesticide, the county’s potato harvest had grown to 68,000 bushels. While high, this was well behind the 121,000 bushels of corn and 94,000 bushels of wheat harvested in the county. As the depression that had begun in 1877 receded, farmers returned to wheat.¹⁸

Potato production received a boost in the mid-1880s when Reuel L. Hall opened a potato starch factory on the Rum River in Anoka. In 1886, after failing to get eastern starch makers interested in his venture, Hall joined with a “monied friend,” C. E. Leland, to build the largest potato starch factory in the United States and the first west of the Mississippi River. Despite the county’s large potato crop, it was nowhere near enough for the huge factory, which remained largely unused for two years. After the third year, however, potato output increased, and the plant went into full production. The potato harvest in Anoka County leaped from the 68,000 bushels in 1879 to 421,000 in 1889

and 717,000 in 1899. Hall went on to build plants in Monticello, North Branch and Harris, Minnesota. His success, Goodrich contends, led to the building of some 20 potato starch plants west of the Mississippi by the early twentieth century. One of these factories, the Diamond Starch Company, opened in Hastings in a former warehouse near the waterfront and produced starch from 1889 to 1898. Goodrich notes that Anoka County potatoes became known for their eating quality and were shipped to every state in the union.¹⁹

Cottage Grove and Hastings prospered from their agricultural activities also. As early as 1855, Cottage Grove had some 20 to 30 farms. The primary crop, as in Anoka County and wherever settlers had begun tilling the land, became wheat. From the 1840s to the 1870s, wheat dominated. When wheat prices fell after 1877, farmers around Cottage Grove turned to corn, soybeans, raising cattle and horses, and dairy farming.²⁰

Cottage Grove historian Robert Vogel makes an important point about dairy farming. It grew after 1880, he observes, because farmers in Cottage Grove were near the Twin Cities, the largest market for dairy products in the region. So, as the nonagricultural population grew, the demand for farm products, especially products that could spoil quickly, increased dramatically in the immediate area, allowing farmers near and within Minneapolis and St. Paul to specialize.²¹

Farming also began around Hastings in the early 1850s. Wheat and other grains became important to Hastings’ economy for at least two reasons: flour milling and shipping. The storage, handling, and processing of grain has been “a constant activity along Hastings’ river frontage since the 1850s,” says Carole Zellie, in her study of historic contexts for Hastings.²² The post built by Alexis and Henry Bailly in 1853 began this history, as it became a warehouse to store goods, including sacked grain, for shipping on steamboats. During the next decade, entrepreneurs in Hastings built many more warehouses to accommodate the region’s booming grain production. By 1859 Hastings

ranked second only to Winona in wheat shipping. In 1863 warehouses in Hastings stored some 500,000 bushels of wheat. Hastings drew on a hinterland that extended 60 miles to the west, and early farmers in this region brought their grain by oxcart to the river town for distribution to local, regional and national markets. When railroads entered Hastings in 1868, they built grain elevators to capture the shipping of agricultural products.²³

Farmers around Hastings, as in other communities, had to diversify due to cyclical economic depressions. By the 1870s and 1880s cattle raising and dairy farming had become important. Local entrepreneurs soon built creameries, like the Golden Star Creamery near Hastings' levee, to make butter, cheese and ice cream.

St. Paul and Minneapolis, of course, also became important grain processing and handling centers. The stories of these businesses in the two cities are discussed extensively in Chapters 4 and 5 on navigation, in Chapter 6 on flour milling at St. Anthony Falls, and in the account of railroad expansion later in this chapter.

The 1895 and 1898 Mississippi River Commission (MRC) maps for the corridor provide a snapshot of farming in the corridor at the end of the nineteenth century. Although no one has found the key to the MRC maps, hatch marks indicate where agricultural fields lay. Farmers planted up to the river from Dayton down to the northern limits of Minneapolis. From the north Minneapolis lumberyards to the Lake Street Bridge, urban development had taken over. Land below the Lake Street Bridge down to Lilydale (the upriver edge of St. Paul's urban growth) was more rural, and farms tended to be farther back from the bluff edge. Pike Island and some of the floodplain lands in this reach had small farms. Below St. Paul, where the floodplain widened, farms again approached the bluff edge in places and farmers tilled patches of the floodplain itself, including the larger islands, like Grey Cloud. We do not know exactly what farmers grew on their lands in the MNRRA corridor, but the context provided above offers some clues.²⁴

Flour Milling • St. Anthony Falls dominated flour milling in the MNRRA corridor, but, like timber milling, flour milling was important to communities above and below the falls as well. Flour mills were among the earliest businesses in many MNRRA communities. When owners of a mill in Anoka completed it on February 1, 1855, local pioneers had not yet grown enough wheat to supply it. So the owners imported 6,000 bushels from Iowa and Wisconsin. Although fire soon destroyed the mill, the owners quickly rebuilt it.²⁵

Flour milling grew rapidly in communities above and below St. Anthony Falls and became important to their economic development. Hastings acquired flour mills in the 1850s and Samuel S. Eaton completed a flour mill in Nininger in 1858. Eaton began constructing the mill in 1857 by cutting away 50 feet of a bluff to make room for his machinery. Crystal Lake (northwestern Minneapolis) had a flour mill by 1859 on Shingle Creek. In 1860 Frank Weitzel built a flour mill in Dayton and fourteen years later erected a new mill. A later owner put on a 20- by 50-foot addition, and, by 1905, it had become "a first-class Merchant and Custom mill, with a reputation second to none."²⁶ Twenty-six men worked at the mill. A flour mill opened in Champlin by 1867. And John Banfil, a native of Vermont, first came to St. Paul and in 1849 moved to Rice Creek in Fridley (Manomin), where he built a hotel and mill. By 1881 St. Paul had seven flour mills, including at least one in Phalen Creek and another near the Wabasha Street Bridge (*Figure 6*).²⁷

The millers at St. Anthony Falls recognized the value of mill sites upriver. In 1880 the Washburn Mill Company built the Lincoln Flouring Mill on the Rum River in Anoka, with a capacity of 600 barrels per day. Although it burned in a great conflagration on August 16, 1884, the company immediately rebuilt it. By the turn of the century, its output had grown to 1,600 barrels per day.²⁸

The history of flour milling in the MNRRA corridor is essential to understanding how its communities developed. Along with the fur trade and lumber milling, flour milling

FIGURE 6. St. Paul Roller Mill Company near Wabasha Street Bridge, 1881. Minnesota Historical Society.



underlay the economic growth of most of the corridor's towns and cities. These businesses provided the first employment and first capital that allowed other businesses to grow. While many of the early mills are gone, the sites and their history can be interpreted.

Grain Marketing • As Minnesota's grain production increased, as its flour milling grew, and as railroads established the means to market huge quantities of grain nationally and internationally, entrepreneurs saw the opportunity to control grain buying, selling and shipping. Two men dominated the industry by the start of the twentieth century: William Wallace Cargill and Frank Hutchinson Peavey. They both located in Minneapolis in 1884 and "ensured that it would become the world's leading grain exchange center."²⁹ Cargill established a warehouse and offices in Minneapolis, and Peavey moved his headquarters to Minneapolis after the Minneapolis Millers Association became his largest buyer. Both became members of the Minneapolis Chamber of Commerce. Joined by the flour millers and other grain merchants, Peavey and Cargill helped the Minneapolis Chamber control grain trading in the Midwest. By 1890 Cargill owned 71 grain elevators, and by the beginning of the twentieth century, Peavey owned 18 terminal facilities with 26 million bushels of storage capacity in Minneapolis. "Peavey," says historian Jerome Tewton, "revolutionized the role of the grain middleman."³⁰

As grain merchants in Minneapolis strengthened their grip on the marketing of the region's grain, farmers began to protest. The Equity Cooperative Exchange became one of several farm organizations created during the early years of the twentieth century to challenge the grain traders. Started in Minneapolis in 1908 and incorporated under the laws of North Dakota in 1911, the Equity first directed its attention to the marketing of spring wheat, and challenged the Minneapolis Chamber of Commerce. The Equity and other critics accused the Chamber of monopolistic practices, including the rigging of prices and commissions against

farmers. The Federal Trade Commission estimated that 70 percent of the grain grown in the region between 1912 and 1917 funneled through the city. The Equity believed it needed to organize an alternative terminal marketing firm and possibly build a terminal elevator to guarantee fair prices. As the Equity gained strength, the Chamber fought back. In October 1912, the Chamber refused to allow its members to trade with groups or individuals it believed unfairly criticized the organization.

In 1914 the Equity moved its offices from Minneapolis to St. Paul, where the city had promised free land along the upper levee for building a terminal grain elevator, and established its own grain exchange. The Equity quickly began building its new elevator on the upper levee, between Chestnut and Sherman Streets. The location provided access to rail lines and to the river. The Equity broke ground in 1915 and completed the new building in 1917. At the dedication ceremony, Equity's President, J. M. Anderson, baptized the building with river water, hoping that the river would again become a factor in grain shipping.

The Chamber rejected the idea that St. Paul could estab-



lish a grain exchange and terminal facilities. In 1917 the Chamber asserted that it was “utterly ridiculous” that “this milling industry, linseed oil industry and terminal elevator industry, can be transported to St. Paul by the establishment of a small pretended grain exchange or selling agency. . . .”³¹ To farmers, however, their own elevator in St. Paul represented independence.

As the navigation history told in Chapter 5 shows, commerce did not come back to the river, and navigation boosters began the movement that led to the 9-foot channel project. In 1927, as part of its effort to encourage the return of river traffic, St. Paul approved an expansion of the old Equity elevator. The new addition included a 22,000-bushel, concrete elevator, a sack house and a loading dock (Figure 7). Today, these buildings are the only remains of the original Equity complex, but they are rare and valuable assets for telling the history of grain trading, farm protest

FIGURE 7. *Farmers’ Union Grain Terminal Association complex, 1955. The St. Paul Municipal Grain Elevator and Sack House lie in the forefront of the complex at the right. Minnesota Historical Society.*



and river shipping in the MNRRRA corridor, in Minnesota and in the nation.³²

In 1938, 121 cooperatives from Minnesota, the Dakotas, and Montana, including the Farmers’ Union, formed the Grain Terminal Association (GTA), allowing the Farmers’ Union to expand its market. The Federal government’s completion of the 9-foot channel in the Mississippi in 1940 aided this expansion. By the end of the 1940s, roadway movement of grain was increasing as well, prompting terminal elevators to upgrade their truck-handling facilities. As one historian noted, “This meant huge expenditures by the GTA for improving their facility at St. Paul on the river.”³³

Many improvements occurred at the St. Paul elevator complex during the 1950s. In 1951, the Farmers’ Union Grain Terminal Association added a truck scale and dump, and in 1955 they expanded the truck dump and added a car dump, a headhouse on top of the original bins, and an office building.³⁴

By the 1950s, farm cooperatives were common. “The radicalism of 1916,” said historian Robert Morlan, “is in large measure the accepted practice of today.”³⁶ Although it could not replace Minneapolis as a grain trading center, it did become the first cooperatively-owned terminal elevator in the country. St. Paul’s 1931 addition to the elevator, the Municipal Grain Terminal, fulfilled two historically significant roles. First, it was part of the regional campaign, supported by businessmen, politicians, and farmers, to improve facilities on the Upper Mississippi as an impetus to barge traffic. Second, it represented St. Paul’s determination to compete with Minneapolis as a regional grain terminal center.

Stockyards • Just as some entrepreneurs saw an opportunity to consolidate the marketing of grain in the Twin Cities, others thought the same could be done for livestock. A. B. Stickney, President of the Minnesota and Northwestern Railroad (later the Chicago-Great Western), recognized the potential for stockyards in the Twin Cities area. Minnesota

had the pasturage and grain to feed cattle. Proponents of stockyards estimated that railroads carried some 75,000 western cattle through St. Paul to Chicago each fall, and Twin Cities residents ate the beef from about this many cattle each year. The Twin Cities had several small stockyards, but these mostly fed cattle on their way to Chicago. Rather than watch western cattle go to Chicago, Stickney wanted to establish a large stockyard and slaughterhouse in St. Paul.³⁷

In April 1886 Stickney acted quickly to realize his vision. He engaged a number of potential investors, including James J. Hill. Needing cattle, he went to a cattlemen's convention in Montana to sell his idea. He argued that it would be 400 miles shorter to St. Paul than to Chicago. The shorter trip would cost less and reduce injuries to and "shrinkage" of the livestock. Stickney believed that the Twin Cities and the region to the west and north could consume much of Montana's cattle. On May 3, 1886, Stickney hosted a meeting of business interests in St. Paul and invited a representative from the western cattle ranchers. Hill then invited the investors and a representative of the western cattle ranchers to his farm in North Oaks. Now committed to the enterprise, Stickney acquired options on land in South St. Paul. He chose the site for its location near his railroad and because of its proximity to the Mississippi, which could take the stockyards' waste downriver, away from St. Paul. Convinced he had secured what he needed, Stickney began marketing cattle by the end of the year.³⁸

The stockyards drew meat-packing plants and related industries to South St. Paul. According to Jerome Tewton, in his article "The Business of Agriculture," "The stockyard company provided the facilities and services (food, water, pens, veterinarians, animal managers) for selling and buying livestock. Commission merchants handled sales for a set fee; their task was to strike the best possible price for the producer."³⁹ The stockyards received 5,831 rail cars of livestock the first year, and in January 1888 the first packing plant opened. For their first ten years the yards struggled. By 1900, however, meat-packing ranked as Minnesota's fourth leading industry by value of product.⁴⁰

The stockyards and the Twin Cities railroad network that centered on it helped South St. Paul become a regional livestock center. Swift, Armour, Cudahy, and Wilson, four of the nation's five leading meat packers, established plants in South St. Paul. "Meat-packing," according to historian Kirk Jeffrey, "enjoyed more rapid growth than did any other major Minnesota industry in the first two decades of the century."⁴¹ Swift and Company started in 1897. Armour & Company opened a \$14 million plant in South St. Paul in 1919, creating thousands of jobs. Both companies may have chosen the Mississippi site due to the availability of cheap, clean ice. Cudahy, a major Chicago meat packer, came in 1925 and remained a large employer until its plant closed in 1952. Thirty-six firms worked at the stockyards during its heyday following World War II. By the 1960s, the stockyards and associated operations began declining, as the business decentralized. By the 1980s only seven commission firms remained.⁴² (*Figure 8*)

Brewing • Brewing is another river industry in the MNRRA corridor that can be traced to Minnesota's territorial days. It is also an industry that gave rise to nationally recognized products. Unlike the other industries, breweries employed the river valley's geology in a unique way. To make beer, brewers needed knowledge of the process, good water, barley, malt and hops, and they needed a place to store their product. Minnesota's lands could produce the barley, malt and hops, and fresh water was abundant. From St. Anthony Falls downstream, the Mississippi River valley's geology provided for storage. The soft St. Peter Sandstone bluffs along this reach allowed brewers to excavate tunnels deep under the bluffs to cool and age their beer. Minnesota and the Twin Cities also provided a heavy concentration of German immigrants who enjoyed beer and who had the know-how needed for brewing. In 1887 Minnesota had 112 breweries and ranked fifth nationally in beer production but only twentieth in population. A dozen breweries were in St. Paul, "the number one brewing center in the state," but Minneapolis and Hastings also had breweries.⁴³

Nationally, Americans had been making beer since the colonial era, but production took off in the mid-1800s, and the number of breweries increased around the country. After pasteurization was perfected in 1875, bottled beer became popular and beer bottling a common industry. By 1900 refrigerated railcars allowed brewers to distribute their beer widely.⁴⁴

In Minnesota, brewing began in St. Paul, and St. Paul would dominate the state's beer production. Most St. Paul brewers were German immigrants who started their businesses soon after arriving. One of these immigrants, Anthony Yoerg, opened the first brewery in St. Paul in 1848 (a year before Minnesota became a territory). Although he initially located on the east side of downtown, in 1871, Yoerg moved his brewery to the west side bluffs at Ohio Street, two blocks south of what is Water Street today. Here he built a large stone brewery and excavated nearly a mile of caves for cooling his beer.

Determined to become a major brewer, he designed a



FIGURE 8. Cattle pen, South St. Paul Stockyards, 1930. Photo by Peter Schawang. Minnesota Historical Society. By this time, four of the nation's five leading meat-packing companies had located at the stockyards.

steam-powered plant capable of producing 50 barrels per day. He was selling 20,000 barrels per year by 1881 and 35,000 by 1891, making him one of the state's largest brewers. Using the label "Yoerg's Cave Aged Beer," Yoerg's successors kept the business going through all the depressions and through Prohibition (1919 to 1933). Not until 1952 did the brewery close. The only remains as of 1981 were the brewery's cave and foundation at the bottom of Ohio Street.⁴⁵

In 1853 Martin Bruggemann established what was probably the second brewery in St. Paul, in a house near the intersection of Smith and Kellogg Boulevard. After the brewery burned, he moved to Sixth and Pleasant, where he built a stone building. Then, in 1872, he moved to the west side bluffs near Wabasha Street, just 150 yards from Yoerg. For more than 25 years he made beer at this site and stored it in caves excavated into the bluff. In 1900 he sold the brewery, and in 1905 it closed. As with Yoerg's brewery, the principal remnants of Bruggemann's plant are the caves.⁴⁶

Another brewery, called the North Mississippi Company, opened in 1853. Built on top of the bluffs near present-day Shepard Road and Drake Street in the West Seventh Street neighborhood, it was destroyed by fire. Frederick and William Banholzer reconstructed it, and made it into one of the more successful breweries in St. Paul by the 1880s. The Banholzers dug caves that extended a half-mile deep and had many chambers. But within a year after William died, in 1897, the business closed.⁴⁷

Three more breweries opened in St. Paul in 1855, two of which would give birth to the state's largest breweries and to nationally recognized beers. Until purchased by Frederick Emmert in 1866, the City Brewery, near Eagle and Exchange Streets in Uppertown, remained a small operation. By the 1880s, however, Emmert built it into a well-known brewery capable of producing 6,000 barrels per year. He used a nearby sandstone hill for storage. Emmert died in 1889 and left the business to his sons. They had different interests, however, and sold the brewery to Theodore Hamm in 1901. Happy to be rid of a competitor, Hamm used the old brewery for storage.⁴⁸

Hamm began his career at Phalen Creek. The creek, with its sandstone cliffs and once fresh water, became home to at least four breweries. One of the four, the Pittsburgh Brewery, started in 1860 by Andrew T. Keller, was on the east bank, at the intersection of Greenbrier and Minnehaha. Four years later Keller sold it to Hamm, who would make it into the largest brewery west of Chicago. By 1878 Hamm had boosted production from 500 barrels per year to 5,000. By 1882 the plant's output had jumped to 26,000 barrels. In 1903, after his father's death, William Hamm ran the brewery until his own death in 1931. Under William Hamm, the brewery became a national leader.⁴⁹

Christopher Stahlman, who opened his Cave Brewery on July 5, 1855, excavated one of the most elaborate storage systems on the river. Locating his brewery on Fort Road, at the far west end of the city at that time, he excavated three levels of caves a mile deep into the sandstone bluffs. Having come to St. Paul with only a few dollars, he created what would become, from at least 1876 to 1879, the largest brewery in the state. By the mid-1880s he was producing 40,000 barrels per year but had fallen behind Hamm and others. Stahlman died of tuberculosis in 1883, and by 1894 all three sons, who had taken over the business, succumbed to it as well. As a result, the brewery went bankrupt in 1897. Another firm owned it for three years, and then the Jacob Schmidt Company—formerly the North Star Brewery—bought it in 1900.⁵⁰

Schmidt did not found the North Star Brewery but would make it into a nationally recognized company. The North Star Brewery was the third company to begin in 1855. Two men, named Drewery and Scotten, opened it in two small buildings and used a cave at Daytons Bluff. In 1879 Reinhold Koch took control and built the company into the second largest brewery west of Chicago by the 1880s, but in 1884 Schmidt bought out Koch. Fifteen years later Schmidt changed the name to the Jacob Schmidt Brewing Company. When the plant burned in 1900, Schmidt moved to the Stahlman facility, which he completely renovated and expanded. The new brewery could produce

200,000 barrels per year. Jacob Schmidt died in 1911 and left the business to his daughter, Maria, and his son-in-law, Adolph Bremer. Bremer's brother, Otto, an executive with the National German American Bank of St. Paul, joined the company shortly after. When Adolf died in 1939, Otto ran the company until 1951 and then sold it to the Pfeiffer Brewing Company. Other breweries existed in St. Paul at various times, but those discussed above were among the most important.⁵¹

Minneapolis had a dozen breweries near the riverfront by the late nineteenth century. Built in 1850, John Orth's brewery was the first and was located where the old Grain Belt Brewery now stands. By 1880 Minneapolis counted four breweries. Two operated on the west side river flats, or Bohemian Flats, near the University of Minnesota's West Bank. "These two breweries," says archaeologist Scott Anfinson, "dominated the landscape of the river flats into the early twentieth century." Both employed people living in Bohemian Flats. Orth's Brewery and the Germania

Brewery were the other two breweries in Minneapolis. In 1891 the four companies merged to form the Minneapolis Brewing and Malting Company, which the next year built the Grain Belt Brewery.⁵² (Figure 9)

Prohibition and consolidation led to a dramatic decline in the number of breweries in Minnesota. In 1900 the state had 50 fewer breweries than it did 20 years earlier, and by the start of Prohibition in 1919, only 51 breweries remained (down from the 112 in 1887). The Steffan-Kuenzel Brewery in Hastings became a casualty of Prohibition. Founded in 1885 on Ramsey Street on the levee, it operated up to 1919. The brewers who survived Prohibition did so by bottling pop and other drinks.⁵³

Brewing sites are important for the local and national stories they represent. The history of brewing involves the stories of early immigrants, particularly Germans, and how their ethnic origins influenced the development of beer making. This history leads into the political and social aspects of Prohibition nationally and locally. Many German immigrants chose the Democratic Party for its stance against Prohibition. Caves that once stored beer became hideouts for illicit clubs, defying Prohibition.

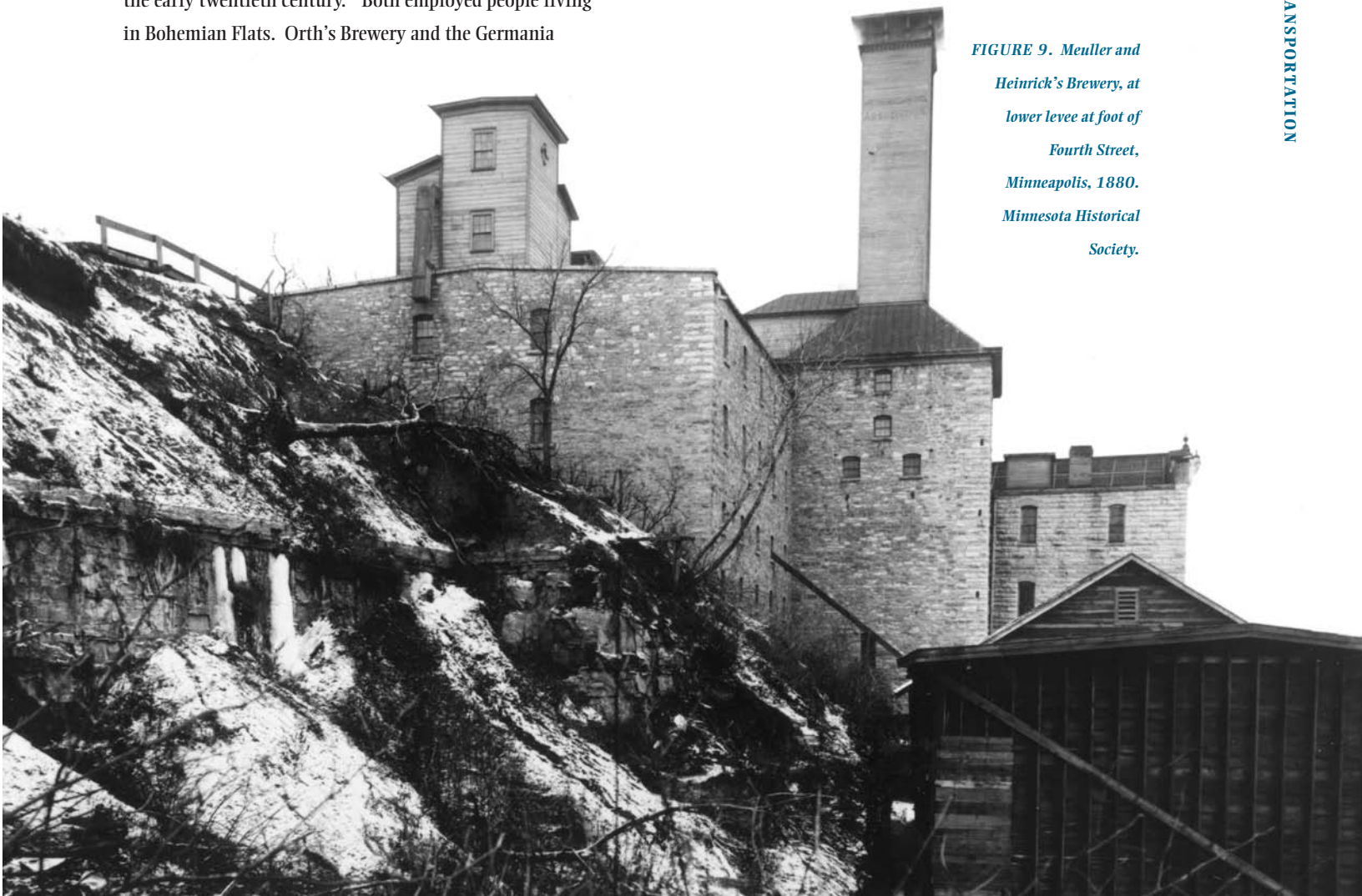


FIGURE 9. Meuller and Heinrich's Brewery, at lower levee at foot of Fourth Street, Minneapolis, 1880. Minnesota Historical Society.

Although little has been written about it, natural and human-made caves also have been used to store cheese and grow mushrooms. The cool, dark cave climate was ideal for both of these products, as well as beer.⁵⁴

Transportation and Economic Development

Transportation modes often determined the nature and extent of business development in the MNRRA corridor and the relationship of the river's communities to the Mississippi River. Fur traders used canoes, piroques and keelboats and depended upon the Mississippi and its tributaries to receive their trade goods and take furs out. The craft traveled almost as easily above the St. Anthony Falls as below it. Fur traders located their posts near the river, to limit how far they had to carry their goods and furs. As cities in the area grew and as the area's transportation system evolved, new transportation systems replaced the river and fewer and fewer people considered the Mississippi central to their lives.

Steamboats maintained the corridor's tie to the river. Although few in number, steamboats plied the river above the falls. By the summer of 1849, an American Fur Company steamboat worked above falls. It made several trips delivering flour to the company's post upriver but also carried passengers and supplies. In May of 1850, another steamboat, the *Governor Ramsey*, completed a voyage to Sauk Rapids. Possibly on this voyage, the steamer carried settlers to Itasca Village (later Ramsey), which would establish a steamboat landing. In 1855 low water stranded the steamboat *H. M. Rice* at Anoka, and the town temporarily used it for church services.⁵⁵

Railroads replaced steamboats more quickly above the falls than below. By 1881 steamboat navigation above the falls had become irregular, at best. This was undoubtedly because the river above the falls was often shallow and received little navigation improvement work. And other than Minneapolis, steamers operating above the falls did not have access to large ports from which to acquire and deliver



passengers and freight, which were essential if steamboats hoped to compete with railroads. While some steamboats may have paddled on the river above St. Anthony after 1881, not many did so and they did not last long.⁵⁶

Ferries • Even after railroads expanded through the MNRRA corridor, ferries provided the primary way across the Mississippi River until bridges were built. Entrepreneurs began operating ferries at the earliest settlements. Lt. E. K. Smith's map of the Ft. Snelling area in 1837 and 1838 shows Brown's Ferry running from Camp Coldwater to Brown's grog shop across the river. In the fall of 1848 or spring of 1849, Antoine Robert, who owned the fur trade post at the mouth of the Rum River, established a rowboat ferry at Anoka. Antoine's brother, Louis Robert, later acquired the Rum River post and began running a swing



FIGURE 10. Point Douglas Ferry, about four miles south of Hastings, 1902. Minnesota Historical Society. This was one of the earliest and longest running ferries in the MNRRA corridor.

ferry big enough to carry a team of horses or oxen across the Rum. One of his largest customers was Borup & Oakes, who sent their Red River Oxcart supply trains across the river. On September 11, 1855, the Elm Creek and Anoka Ferry Company made its first trip.

Several well-known Minnesota pioneers received grants to run ferries in St. Paul in 1850. James M. and Isaac N. Goodhue acquired charters to run a ferry at the lower landing, and John R. Irvine won a charter to operate one from the upper landing. Daniel F. Brawley also received a charter to operate a ferry from the upper levee to West St. Paul in 1852. The ferries plied the river until 1859, when the

Wabasha Street Bridge opened. John Goodspeed started a ferry at Fridley by 1854, and the Truax and Anderson ferry ran from 1883 to 1887 at St. Paul Park. In the latter year, the Rock Island Railway Company built a combined railroad and pedestrian bridge over the Mississippi at St. Paul Park, ending the ferry's service.⁵⁷

Ferries at both ends of the MNRRA corridor lasted up to the end of nineteenth century. One of the earliest and longest lasting ferries operated at Hastings. Started in 1854 by William Felton, it brought Wisconsin farmers and their produce to the growing storage and shipping facilities at Hastings. The ferry remained active until the Spiral Bridge was built in 1895. One of the last ferries in the MNRRA corridor may have been at Dayton. It is the only ferry indicated on the Mississippi River Commission map that includes Dayton, which dates to 1898. Ferries helped prolong direct contact with the river, but the increasing number of roads and railroads would begin drawing people away.⁵⁸ (Figure 10)

Roads • The U.S. government built the first wagon road through the MNRRA corridor, after Congress approved \$40,000 for military roads in the Minnesota Territory in about 1850. One road, which ran from Point Douglas, at the St. Croix River's mouth, along the east bank to Fort Ripley, received \$10,000. The road traveled the entire length of the MNRRA corridor. James Simpson conducted the survey for The Military Road, as most people called it, in 1851, and the federal government started construction the next year. In 1852 the builders pushed the road to Itasca Village (Ramsey). The Red River Oxcarts quickly employed it in their journey between the Twin Cities and the Red River Valley. In 1855 some 300 oxcarts passed over the road on their way to St. Paul. Other military roads constructed in the 1850s included the Mendota–Wabasha Road (St. Paul to La Crosse Road) and the Ellis and Hastings Road.⁵⁹

The Topographical Engineers, a branch that temporarily split from the Corps of Engineers in 1831, surveyed and built the military roads. To cross streams and rivers, they

erected some of the first bridges in the MNRRA corridor. In 1852 they built bridges over Coon and Rice Creeks and one over the Rum River at the current location of the Main Street Bridge in Anoka. As soon as the government made the crossing site known, plans for the town began.⁶⁰ At Cottage Grove, the military road also influenced the development of the town. "Old Cottage Grove Village," states Vogel, "grew up where the Military Road crossed the trail leading from Grey Cloud Island to Stillwater."⁶¹ The government erected the first bridge across the Vermillion River, a covered bridge, in 1856. The bridge remained in use until 1888 and was replaced in 1898.⁶²

Roads and bridges began the process of taking people away from the Mississippi River. While the early roads paralleled the river, they were often far enough back that the sights and sounds of the river faded. Hotels and stores began locating along the roads, not the river. Bridges carried people over the river; no longer did they have to get down by it so they could touch and smell it.

Railroads • Railroads transformed the MNRRA corridor and its inhabitants' relationship to the Mississippi most dramatically. Railroad development in Minnesota provides a good example of the speed and coverage with which railroads expanded in the Midwest. On June 28, 1862, crowded with local dignitaries, Minnesota's first train steamed along the first railroad from St. Paul to St. Anthony. Only a year and one-half later, on December 6, the St. Paul and Pacific reached Fridley and six days later Anoka. By the end of the Civil War, railroads had laid tracks from Minneapolis 50 miles southward toward Fairbault. By the beginning of the next decade, lines extended outward from Minneapolis some 65 miles northwest to St. Cloud and more than 125 miles to west Benson. A line begun in 1868 and completed in 1870 connected the Twin Cities and Duluth, providing another outlet to the Atlantic Ocean. Railroads made two important connections with Chicago. In 1868 the Milwaukee and St. Paul completed a line from Chicago through Prairie du Chien and southern Minnesota to the

Twin Cities, and in 1870 the Minnesota Central Railway Company opened a line also running through southern Minnesota connecting the Twin Cities with Chicago via a line through Iowa.⁶³

By 1900 railroads linked the Twin Cities to much of Minnesota and most of the nation. Two transcontinental lines crossed Minnesota before 1900. On September 8, 1888, the Northern Pacific finished the first transcontinental railroad, running through Minnesota from Moorhead to the Twin Cities. In June 1893 the St. Paul, Minneapolis and Manitoba opened the second transcontinental railroad. The new railroad connected Minneapolis and St. Paul to Seattle, Great Falls, Grand Forks, and other cities.⁶⁴

The 1895 and 1898 Mississippi River Commission maps clearly reveal the extent to which railroads had taken over lands near the river in St. Paul and Minneapolis. From Minneapolis north to Ramsey, the Northern Pacific and the Great Northern Railroads ran parallel to each other along the east side. The railroad tracks lay, for the most part, outside the MNRRA corridor. On the west side, from the mouth of Shingle Creek in north Minneapolis up to Dayton, no railroads ran near the river. Beginning in north Minneapolis, however, railroads began to converge on the milling district. They included the St. Paul and Duluth; Minneapolis, St. Paul and Sault Ste. Marie; Great Northern; Northern Pacific; and Chicago, Milwaukee, and St. Paul (short line). Large railroad yards lay on the west side just above Nicollet Island and across from the Lower Lock and Dam. The railroad lines dispersed below St. Anthony but converged again in St. Paul. The railroads crowding into St. Paul included the Chicago, Burlington & Northern; Chicago, Milwaukee & St. Paul; Chicago Great Western; and Chicago, St. Paul, Minneapolis & Omaha. Near the mouth of Phalen Creek, a huge railroad yard occupied the creek's former valley.

Downriver from St. Paul, the railroads fanned out. The Chicago Great Western Railroad crossed under the Robert Street Bridge, over the Mississippi and ran below the west side bluffs past South St. Paul, until coursing away from the river to the west above Pine Bend. The Chicago, Milwaukee,

and St. Paul and the Chicago, Burlington & Northern railroads left the railyard in downtown St. Paul, side by side, until diverging at Newport. The Chicago, Burlington & Northern continued along the east side bluff. The two railroads converged again several miles above Hastings. But opposite Hastings, the Chicago, Milwaukee, and St. Paul crossed into the city and headed downriver on the west side. The Chicago, Burlington & Northern continued down the west as well. From the Minnesota River into St. Paul and then downriver to Hastings, railroads that ran in the floodplain and near the bluffs were in what is now the MNRRA corridor. Overall, railroads altered the corridor's physical character little outside the milling district and downtown St. Paul.⁶⁵

Railroads quickly undermined the river's importance for transportation. Towns began growing up around their rail connections rather than their tie to the river. Symbolic of this change, Fridley is named Fridley Park Station on the 1898 Mississippi River Commission map and was immediately adjacent to the Great Northern and Northern Pacific Railroad.⁶⁶

Paul Hesterman, in "The Mississippi and St. Paul," provides the most comprehensive description of railroad expansion and its impact on the economy of a city in the MNRRA corridor. He also examines the effect of railroads on the city's landscape and its relationship to the river. Overall, Hesterman offers a model that could be used for other cities in the corridor.⁶⁷

St. Paul, like most cities, encouraged and promoted railroad development, which hastened the river's demise as a central element in the city's success and identity. St. Paul sold bonds to subsidize early rail development. As railroads filled in the floodplain and located their tracks and stations there, warehouse and transfer businesses quickly followed. Facilities built by James J. Hill and steamboat magnate Commodore William Davidson relied on steamboat traffic, but as railroads captured the passengers and commodities once carried on steamboats, the warehouses, transfer buildings and other businesses located along the railroads had little to do with the river.

Between 1875 and 1920, St. Paul became a "Rail City." Railroads and the facilities and businesses built to accommodate them dominated riverfront development. "Rails," Hesterman asserts, "dictated industrial location, and industrial development within the river valley often had more to do with the railroads than the river."⁶⁸ The same held for commercial development. "By 1920," Hesterman concludes, "the river probably was less important to St. Paul than at any time before or since. . . . the riverfront that once had been the vibrant heart of the city had become the back alley of rail depots and rail-oriented industries, crowded by trackage, inaccessible and undesirable. Pollution made the river itself offensive to the eye and nose."⁶⁹ To varying degrees, the same can be said for many towns in the corridor.

Railroads took over the floodplain in St. Paul, because of the floodplain's low, even grade. Railroads began building into the wetland created by the mouths of Phalen Creek and Trout Brook as early as the 1860s, where nearly 200 years earlier the Dakota had landed with Hennepin and his French companions. Railroads steadily filled in the wetland and pushed the Mississippi riverbank outward. They cut back Daytons Bluff to make more room for tracks, destroying much of Carver's Cave. The lower landing became a railroad terminal, and the Union Depot was built and rebuilt in 1880, 1884 and 1915. The Minnesota Valley Railroad laid tracks in the floodplain at the upper landing and businesses began building around it. Between the upper and lower landing, the bluff bulged out toward the river, separating the two. So the railroads cut the bluff back and filled in toward the river. Other railroads built up and down the valley, filling more of the floodplain and further shaving back the bluffs.⁷⁰ (*Figure 11*)

Overall, some of the most dramatic landscape changes in the MNRRA corridor have occurred at St. Paul. By the early 1900s, railroads had already altered the old riverbed, the bluffs, and the original streams that flowed into the Mississippi. During the 1920s and 1930s, the city began developing Holman Field on Lamprey Lake, which had been

one of the river's largest backwaters in the metropolitan area. Although the field still floods during high water, the ecosystem qualities have largely disappeared. A high levee system has barred the river from the rest of its floodplain across from downtown St. Paul. The city built Shepard and Warner Roads out into the riverbed, continuing the process begun by early railroads and settlers. And St. Paul constantly supported business development in the floodplain. Public subsidies, as much as economic demand, Hesterman asserts, are responsible for the development of the St. Paul riverfront. Economic interests, he stresses, had used the city government as a tool to transform the riverfront since the city's beginnings, and not just downtown. The city, for

example, persuaded the Ford Motor Company to locate above Lock and Dam No. 1 by yielding its claim to hydroelectric power to the company.⁷¹

The completion of Lock and Dam No. 2 at Hastings, followed by the opening of the entire nine-foot channel below St. Paul in 1940, also transformed the city's landscape. While railroads had kicked river-related activities out of the St. Paul riverfront, the 9-foot channel brought



FIGURE 11. Railroads and low water undermined the Mississippi River as a commercial navigation route before locks and dams. Taken in 1931, this photograph captures the river immediately prior to the flooding of Pool 2. Photo by St. Paul Daily News. Minnesota Historical Society.

them back. Large terminals, like Terminal No. 1, Red Rock and Southport, have restored St. Paul's navigation heritage. Barge fleeting and repair operations along the downtown riverbanks clearly characterize St. Paul as a river town in ways that harken back to the steamboat days.⁷²

Streetcars to Cars and Trucks • Commuter trains, streetcars and trolleys began running through the MNRRA corridor in the early twentieth century, redefining the spatial relationship between work and home and between people and the river. They promoted urban and suburban expansion away from central cities and away from the river. Businesses and neighborhoods began locating along the lines.

By the early 1900s, the Twin Cities possessed "One of the nations' model streetcar systems . . ." ⁷³ The Lower Hydro Station below St. Anthony Falls, completed in 1897, helped this happen, by providing electricity to the streetcars of the Twin City Rapid Transit Company. In 1913 a streetcar company completed tracks up to the Coon Rapids Dam, supplying workers and materials for the dam's construction. Although the cars initially ran on gas engines, by 1914 the company converted to electricity and pushed the line to Anoka. The streetcars ran regularly until about 1939. Also in 1914, the St. Paul Southern Electric Railway completed tracks to Hastings. The train ran from Hastings, through Pine Bend and Inver Grove, to St. Paul in about an hour. By the 1920s, however, cars and trucks began replacing streetcars, horses, buggies, and wagons. As World War II started, only the Twin Cities still operated their streetcars.⁷⁴

Cars and trucks accelerated urban and suburban expansion away from the river. The Great Depression delayed the impact of automobiles, but when a new economic boom began in 1946, most households acquired cars. Automobile registrations grew from some 2,500 in 1905 to about 747,000 in 1940 and 2.4 million in 1983. After 1950 the suburbs and businesses outside the city center began to mature. Between 1920 and 1970 the urban population grew from about 840,000 to nearly two million. By 1980 an 800-square-mile outer city surrounded the pre-1920

metropolis, which had covered about 50 square miles. The metropolitan area's growing population and surging reliance on cars and trucks meant the road system had to expand dramatically. Freeway construction began in the 1950s. Once the focus of the area's residents, the river had become lost in a landscape it gave birth to. As the metropolitan population grew, houses, businesses and roads crept into more and more of the land within the MNRRA corridor. Less and less land remained or appeared natural.⁷⁵

Bridges • As communities in the MNRRA corridor expanded on the early military roads and as railroads pushed lines through the valley, a growing number of bridges spanned the Mississippi River. Bridges changed the flow of traffic and commerce for the communities they connected and influenced the transportation patterns, demography and economy of the area.

The Mississippi River Commission maps show the nature and extent of bridges across the Mississippi by the end of the nineteenth century. Bridges followed the settlement pattern. From the Minneapolis city limits down to St. Paul, 20 bridges stitched the riverbanks together, equally divided between railroad and wagon bridges. From north to south, the wagon bridges included those at Twentieth, Plymouth, Hennepin, Tenth, Washington, Franklin, Lake, Smith (High), Wabasha and Robert. The railroad bridges served a number of different lines.

Only three bridges crossed the Mississippi below the Robert Street Bridge down to Hastings. An 1887 railroad swing bridge crossed from near Inver Grove Heights to just below Newport. This bridge also served pedestrians. The remaining two bridges jumped the river at Hastings. One was a railroad bridge and the other the famous spiral bridge.⁷⁶

No bridges spanned the Mississippi River between the Twentieth Avenue Bridge in Minneapolis and the Ferry Street Bridge in Anoka (*Figure 12*). As the Ferry Street Bridge is at about river mile 871.5 and the Twentieth Avenue Bridge is near river mile 855.5, no bridge was available for a distance of some 16 miles. Above Anoka, only

the ferry at Ramsey provided a way across the Mississippi.⁷⁷ People in Minneapolis and St. Paul did not have to travel far to cross the river, although going on foot, by horse or in a wagon was not so quick as today. Above or below the Twin Cities, they had a long journey, unless they lived near one of the few bridges in these reaches.

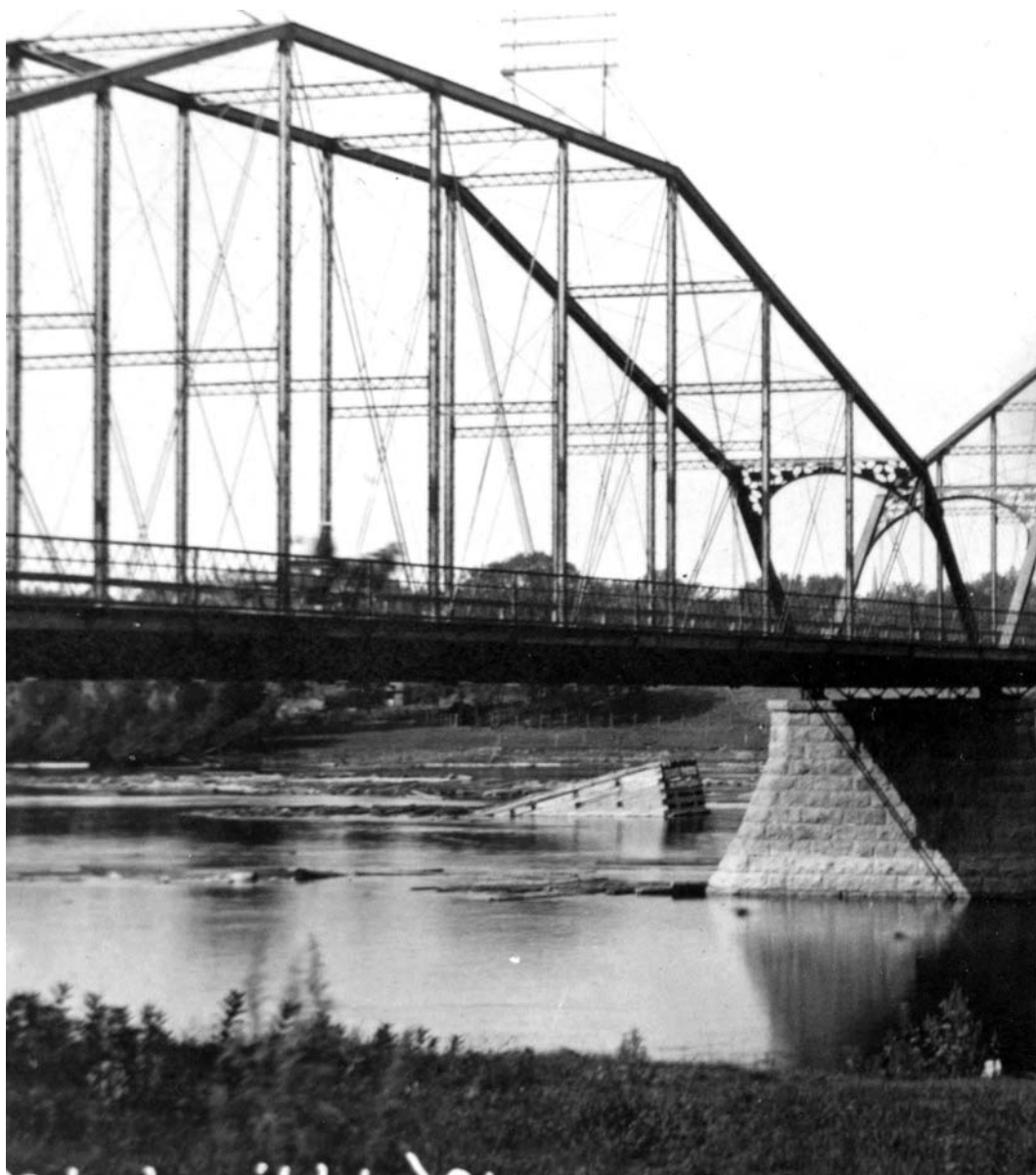
Residents of Nininger devised one of the most creative bridges. According to the *Emigrant Aid Journal* of February 10, 1858, men from the town cut out a slab of ice nearly one-half acre in size and floated it down to their crossing site, where they lodged it against opposing banks. The bridge allowed loggers to cut wood on an island near Nininger and stack it along the bank to sell to steamboats the next spring.⁷⁸

Many bridges merit individual discussion and are National Register listed or eligible. Many are gone, like the Hastings Spiral Bridge, the original High Bridge and the first bridge over the Mississippi River, the suspension bridge erected by Minneapolis and St. Anthony in 1854. The High Bridge opened in 1888 and was replaced in 1987. The Carnegie Keystone Bridge Company delivered the original High Bridge in one million pieces, with a 388-page manual. In 1859 the Wabasha Bridge became the first to cross the Mississippi from St. Paul to Dakota County. Fortunately, not all the historic bridges are gone. The original Robert Street Bridge was completed in

1885 and replaced in 1926 by the now historic, arched, Robert Street Bridge. That same year another concrete arch bridge—the Mendota Bridge—opened. It was, at 4,119 feet, the longest concrete arch bridge in the world.⁷⁹

Summary

One goal of this chapter was to provide the context in which businesses developed in the MNRRA corridor, rather



than to produce a list of all the different businesses. Another goal was to show how transportation affected the relationship of businesses and the area's residents to the river. Each new transportation method redefined that relationship. Navigation interests, railroads and road builders all transformed the river or its valley to accommodate their ends. Urban population growth, tied to these evolving transportation systems, meant that a smaller and smaller

percentage of the metropolitan area's inhabitants thought about the river during their daily activities. Today, however, more and more people recognize the many amenities the Mississippi offers and are coming back to the river. They are interested in the river's history, its role in the development of the metropolitan area, and the businesses and transportation systems that underlay the area's evolution. They are looking for transportation routes that take them to the river, rather than away from it.

FIGURE 12. Mississippi River Bridge at Anoka, Minnesota, 1905. Minnesota Historical Society. Ferries remained important longer at the MNRRA corridor's southern and northern ends, where few bridges existed.

