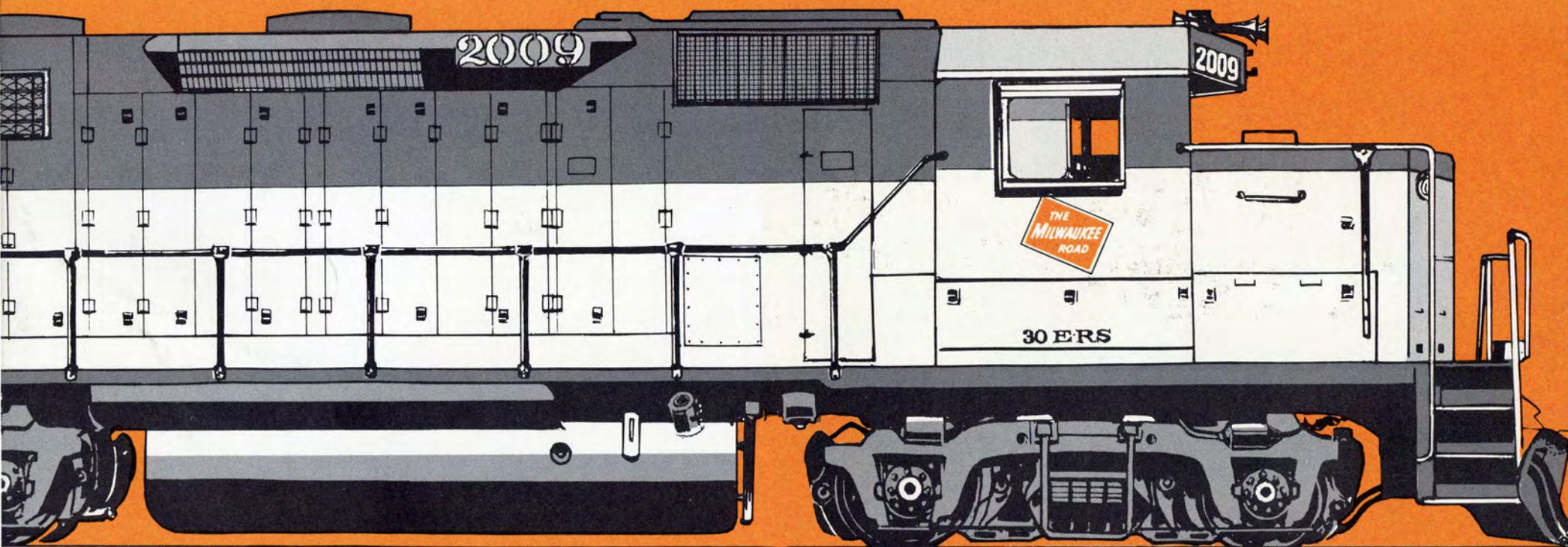
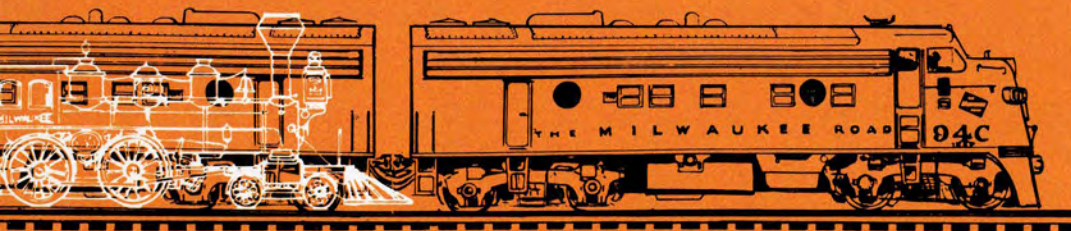


a brief history . . .

THE MILWAUKEE ROAD



We learn from the past as we look to the future...



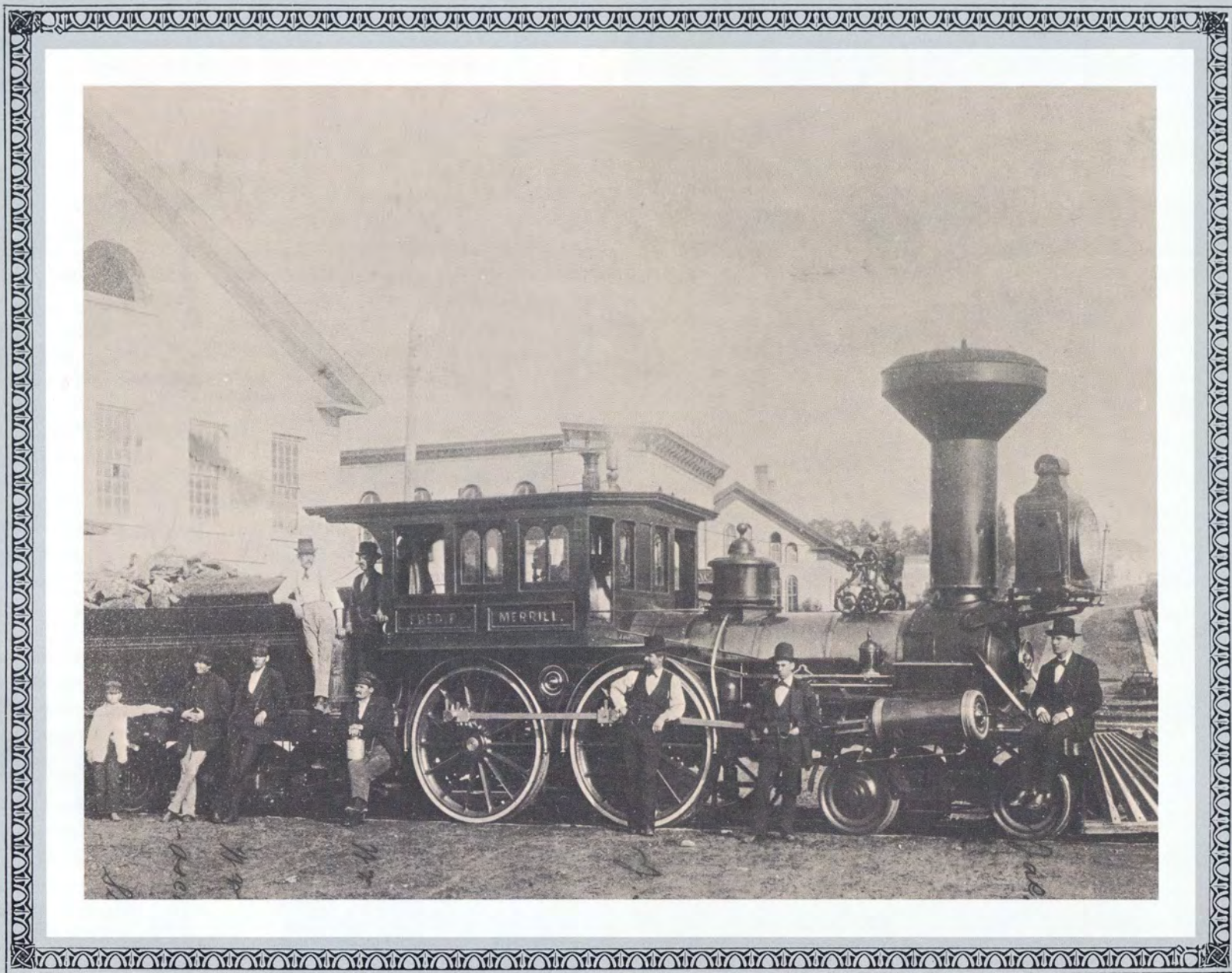
THIS BRIEF HISTORY of the Milwaukee Road was prepared to meet the frequent requests sent to us by students, hobbyists and others who, for one reason or another, want information about the history and growth of our railroad. It is not intended to be complete, but rather to present only the more meaningful developments of a period that now extends well over a century.

As we were preparing this history, it occurred to us that there are interesting parallels between the early days of railroad-ing and things which are happening today.

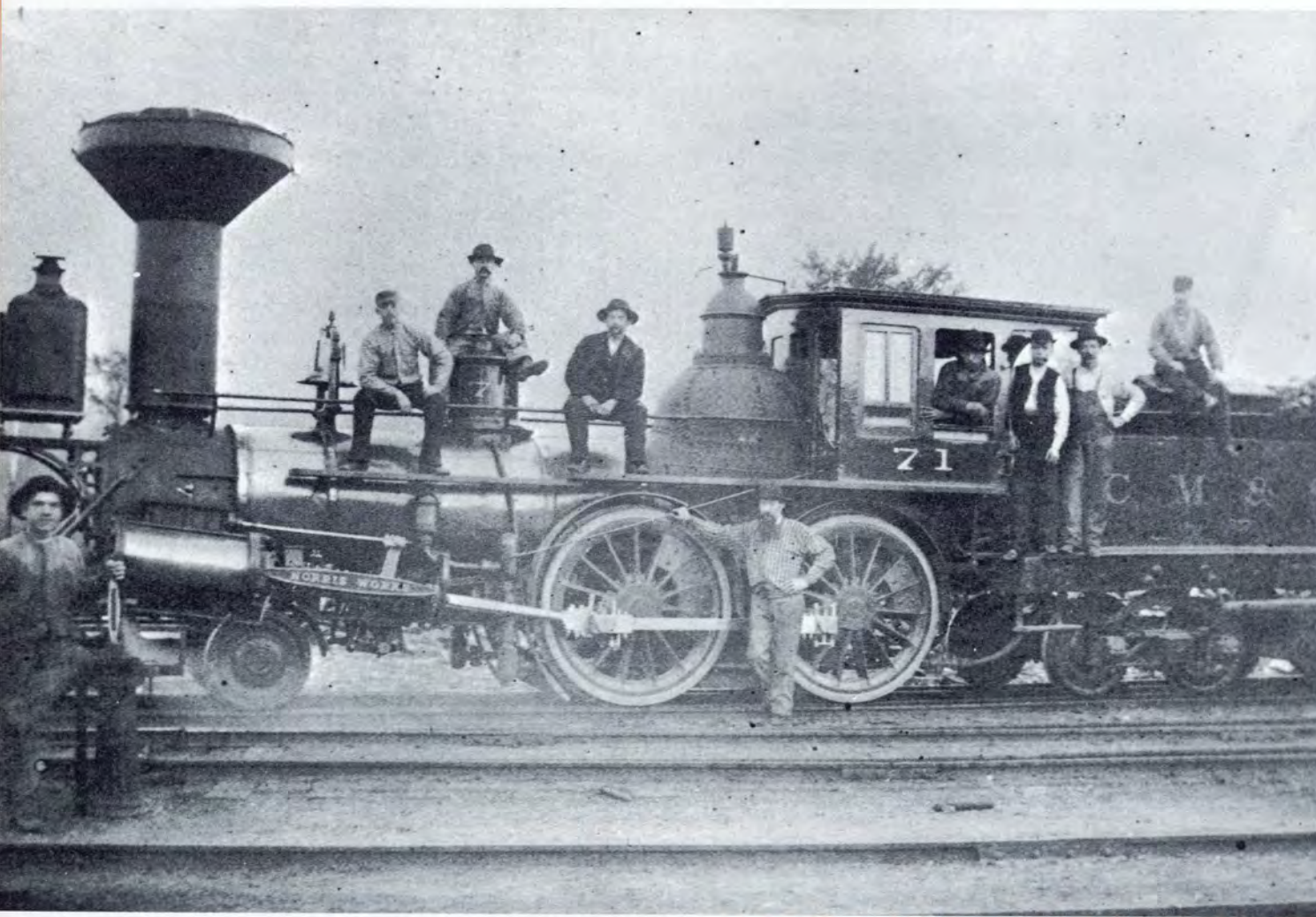
The 1860's and 1870's were a period when small railroads were being consolidated into larger, more efficient systems—when new ideas and new methods were coming at a rapid pace—when railroads were in an extended period of growth, change and improvement. Many of these same things are happening in the 1960's, and will be happening in the 1970's and other years ahead. The Milwaukee Road is a leader in these developments, whether in the past, present or coming years.

We hope that this history will be both interesting and useful to you.

Laurie E. Gissen
PRESIDENT



THE LOOK OF THE EARLY DAYS *on the Milwaukee, and the pride of the train crews,*
are captured in this photo taken at Waukesha, Wis., sometime between 1863-1874.



THE FIRST LOCOMOTIVE to run in Wisconsin is shown as it looked sometime after 1874, when it was No. 71. Built in 1848, scrapped in 1883, it was a 4-4-0 with 60" drivers.

A new wood-burning locomotive, hurtling down five miles of newly-built track at 25 mph, pulling two open freight cars loaded with dignitaries and railroad officials, all holding their hats and hanging on for dear life—this marked the beginning of railroading in Wisconsin.

This same test run also marked the beginning of what was to become the Chicago, Milwaukee, St. Paul and Pacific Railroad, known more informally as the Milwaukee Road. Today, this is one of our major railroads, stretching more than 10,000 miles as it reaches from Chicago and Indiana on the east to Omaha and Kansas City on the western end and to Seattle and Tacoma in the northwest.

Today, the money represented in just one double-deck commuter coach (or two or three of the large new specialized freight cars) would equal the total capital involved in the original founding company when it built those first few miles of track.

In reporting the history of this railroad, let's begin by sketching in the background so you can see why it came to be at the time it did, and why it was so important in the de-

THE ARRIVAL OF A TRAIN was a major event, as when this wood-burning 4-4-0 was at Kilbourn, Wis., in 1875. Kilbourn now is known as the Wisconsin Dells. The MILWAUKEE STATION, (CENTER) huge, ornate, with stately tower is shown as it looked in 1887, the year after it was opened. It was remodeled in 1943 and in 1953 before being torn down in 1966, after the opening of a new station in 1965.

THE RAW, EMPTY LOOK OF THE PRAIRIES comes through in this view of New England, N. D., as it looked less than two years after the railroad reached there in 1910. Even so, about 1½-million bushels of grain moved from there in the 1912 season.

velopment of Wisconsin and much of the midwest.

In the early 1800's, fur trading was about the only business done in the region that now is Wisconsin, until lead mining began to grow in the southwestern part of the area, not far from Galena, Ill. This culminated in a lead "rush" beginning in 1825, which in turn brought in a number of settlers.

Before 1800, there were probably only about 200 non-Indian residents of the Wisconsin region, but lead mining was to bring population growth to some 3,200 in 1830 and then 11,000 by 1836. It was in 1836 that the "Territory of Wisconsin" was organized, including what now is Wisconsin, Iowa, Minnesota and part of the Dakotas.

Population continued to grow, jumping to nearly 31,000 in 1840, to 44,000 in 1842, to more than 155,000 in 1846, and then it more than doubled in the decade of the 1850's.

During this growth, lead mining reached its peak in about 1847 and then began to decline. As lead declined, agriculture took its place, particularly wheat farming.

In that era, Wisconsin's wheat

crop came to be the second largest in the nation, rising from a total of four million bushels in 1849 to multiply in volume seven times over the next seven years, then remaining fairly constant at 28 million bushels annually through 1860.

Lumbering also began to become a significant industry, starting up in the 1830's along the Chippewa, Black and St. Croix rivers.

But despite booming population, rapidly growing volume of crops, huge amounts of lead mined and increasing size of cities, territorial transportation was almost literally still in the Dark Ages. Shipping or traveling was by lake or river routes, over mud roads not much better than forest trails, on a few plank roads or military roads—and all of these were generally unusable during parts of the year.

The moving of freight was slow, irregular, very expensive and sometimes hazardous under these conditions. Existing transportation frequently couldn't handle the volume of shipping.

During this time, the cities were beginning their growth, and beginning to compete to see which would have the largest share of industry, commerce, shipping and trade. It





was already clear that the city with the best transportation would grow fastest. The two earliest cities were Prairie du Chien and Green Bay. Then Milwaukee began to boom, its population starting to grow from 1835 onward, reaching about 10,000 people in 1845, and then almost unbelievably jumping from 21,000 to 46,000 from 1850 to 1851.

People had begun to think in terms of railroads even by the early 1830's, despite the prominence of canal-building in that era, and even though the country's first locomotive had run a few years before, in 1825.

By 1830, the United States had

only 23 miles of railroad track; it was to have 2,800 miles by 1840 and about 9,000 miles of track by 1850.

One man aware of the interest in railroads was Byron Kilbourn, who was one of the three men who virtually owned Milwaukee in the mid-1830's. Kilbourn had settled there in 1835 after having worked the preceding year in surveying the territory. Earlier he had been an engineer on some canal building projects. Kilbourn, an important and well-educated man for that time, was the son of an Ohio congressman and the son-in-law of John Fitch, an early inventor of the steamboat.

As Kilbourn and his associates looked over the need for better transportation to serve a rapidly developing region, they first thought in terms of building a canal between Milwaukee and the Rock River. Some surveying was done and about two miles of canal were dug before the whole idea was abandoned.

The earliest proposals to build railroads in the territory came in 1836, the year the territory was organized. In its 12 years of existence, the territorial government chartered several railroads, only one of which was ever built. A committee of Milwaukee citizens, including Kilbourn and some others

who also were involved in the canal proposal, had been formed in 1836 to propose a railroad, this being the one that eventually was built.

Kilbourn and his associates, after dropping the idea of the canal, then obtained a charter in 1847 that granted them rights to build a railroad over the 20 miles between Milwaukee and Waukesha. Later the charter was amended so that the railroad could be extended to the Mississippi River. On May 19, 1849, Kilbourn was elected president of the railroad company, which had authorized capital of \$100,000. It first was named the Milwaukee & Waukesha Railroad Company,



"The Olympian" arriving at Deer Lodge
On Initial Trip

Gray 84.A

MAY 30-1911

THE OMAHA FREIGHT AND TICKET OFFICE (FAR LEFT) *in an uncertain year—probably in the 1890's.*

THE MINNEAPOLIS TICKET OFFICE (CENTER) *gleams with varnished woodwork in an unknown, bygone year.*

A NEW TRAIN IN TOWN *drew crowds. (AT LEFT) Here the OLYMPIAN is shown on its first trip, in Deer Lodge, Mont., on May 30, 1911, a time soon after the Milwaukee's lines were extended to the Pacific Northwest region.*

then in 1850 the name was changed to the Milwaukee & Mississippi Railroad Company.

One of the first problems was how to raise money in a region that Indians had given up title to only about 10 years before. The directors took in whatever they could for stock, and only sometimes was this in money. Much of the stock was sold by bartering it for something that could be used to build the line. For example, stock might be given in exchange for food, for some grading work, for putting up buildings, for harness or a wagon, and so on.

Construction was held up for

a while when cash—not something to trade—was needed for getting iron rails. This problem seemed solved when the mayor of Milton stood up at a meeting, offered to mortgage his farm to help raise cash, and then reportedly asked "are there not one hundred men between Milwaukee and Rock River that can do the same? If so, here is your money."

There were a hundred men, and more, but the problem wasn't solved. Eastern money centers weren't much interested in loan security that was in the form of mortgages on farms in a nearly undeveloped region. Eventually the

city of Milwaukee had to issue bonds that were used in helping finance the railroad's cash needs.

About ten years later, the mortgage idea was to kick back on the M&M and other railroads, because when the roads failed and mortgages on farms were foreclosed a great anti-railroad bitterness developed that was to last for decades, and that led to formation of farm organizations such as the Grange.

Once the M&M had money in hand, construction went ahead and the first rails were laid on September 12, 1850. By November of that year, enough of the road was finished so that railroad officials and

guests could take a trial ride over five miles of track reaching out from Milwaukee.

Pulling the two open freight cars was a locomotive that had been shipped in by lake boat. Built in 1848 by the Norris Locomotive Works in Philadelphia, the first engine was known successively as Number One, Bob Ellis, Iowa and by the number 71 in the years before it was finally scrapped.

The railroad's line to Waukesha was completed early in 1851, and on February 25 came the first formal trip between Milwaukee and Waukesha.

Of course, there was a great

amount of civic fuss and hoopla when that first train ran, and when other first trains came to other cities. Standard procedure was to have parades, civic banquets, speeches by politicians, strongly favorable stories and editorials in the local paper, cannon shooting, dog barking and other such things. After all, it was a time when many people saw a train for the first time in their lives.

Many of these things happened on that 20-mile inaugural trip of the Milwaukee & Mississippi. People lined the tracks along the entire route.

Things went so well that by April 14 of 1851 the M&M had begun operating two daily trains between Milwaukee and Waukesha. This was quite a thing, in a time when a 20-mile trip was a hard day's journey by horse and wagon.

Later in 1851, Kilbourn, who could be a controversial, obstinate and arrogant person, found himself in trouble with the company's board and was removed from the presidency, being replaced by John Catlin.

During the remaining part of 1851, the main line was extended to Eagle and then in the fall of 1852 to Milton, where it forked. From there, a subsidiary company built a line from Milton to Janesville, completing this in January, 1853.

Also during 1853, the main line was extended to Stoughton and, early in 1854, to Madison. In 1857,

the line was completed through to Prairie du Chien on the Mississippi River, the railroad's original destination. The first train entered that city on April 15, 1857.

Even as the Milwaukee & Mississippi was growing, other things were happening, some not so favorable.

For one thing, a number of other budding railroads were being built in that part of Wisconsin. One of these was the La Crosse & Milwaukee Railroad Company, chartered by the state legislature in 1852 (Wisconsin became a state in 1848) and authorized to build between the two cities named.

Byron Kilbourn, let go by the M&M directors, was president of the La Crosse & Milwaukee, which was consolidated in 1854 with the Milwaukee, Fond du Lac & Green Bay Railroad Company, chartered in 1853. The combined company built a line to Horicon, 50 miles from Milwaukee, completing this in December of 1855, and the next year extending it to Portage, about 95 miles from Milwaukee.

Then came the financial panic of 1857, a time of trouble for individual people, for many businesses and for railroads. A number of railroads were unable to survive, among them the Milwaukee & Mississippi and the La Crosse & Milwaukee.

This was true even though the M&M, by 1858, was rather a substantial operation for the era, with more than 260 miles of track, 43 locomotives, 46 units of passenger

equipment (including baggage and express cars) and more than 550 freight cars. Even so, it was weak financially, going bankrupt in 1860.

The La Crosse & Milwaukee defaulted on its obligations in 1858 and 1859, also going bankrupt.

On January 18, 1861, the Milwaukee & Mississippi was offered for sale, with debt of close to \$6 million, in addition to which capital stock amounted to about \$3.5 million. Three days later the company was acquired for \$7.5 million and reorganized as the Milwaukee & Prairie du Chien Railway Company.

The La Crosse & Milwaukee, which had been going through complicated legal maneuvers and problems, lost Byron Kilbourn through resignation in late 1857. After some litigation that lasted for several years, the La Crosse was sold on May 5, 1863, to the newly formed Milwaukee & St. Paul Railway Company.

Three men come into more prominent view at this time. One is Russell Sage, a New York financier who was to have many fingers in many things during these years, including fingers in many railroads.

Associated with him were Alexander Mitchell, president of the St. Paul, and Sherburn S. Merrill, who, for years, was to be the general manager in charge of operating the Milwaukee & St. Paul.

Mitchell, a Scottish immigrant, had come to the U.S. as a young man, arriving in America in 1838

and in Milwaukee in 1839. He went to Wisconsin as the representative of a Chicago banker, but soon took over the whole business, becoming Milwaukee's leading banker.

Mitchell was a part of virtually every early day railroad formed in Wisconsin, whether acting openly as a director or banker, or as an informal advisor. He was on the Milwaukee & Mississippi board from 1849 to 1855 and again in 1858, had been a commissioner of the Milwaukee & Watertown, a director of the La Crosse & Milwaukee and trustee of the small Milwaukee & Western railroad.

Mitchell and his associates saw the chance to build a large, unified system from the small railroads that had been broken by the panic, and they moved to gather up a number of these lines.

Eventually there would be more than 200 corporate entities going to make up the corporation that now is the Milwaukee Road. In those early days, many were railroad companies that had systems of no more than 30, 40 or 50 miles of track. Some were shorter; the Ripon and Wolf River Railroad Co., had 9.56 miles, the Pine River Valley & Stevens Point Rail Road Co. had 16.22 miles between Lone Rock and Richland Center, the Stillwater & Hastings Railway had 2.00 miles—in other words, some had corporate names nearly as long as their trackage.

Mitchell's basic structure came from the La Crosse & Milwaukee,

From that, he moved to arrange a working agreement with the Milwaukee & Prairie du Chien (the former Milwaukee & Mississippi) in 1865. Then in 1866 Mitchell became a director of the Prairie du Chien and the next year was elected its president, merging it with the La Crosse.

This also brought the McGregor Western under control of Mitchell and Sage, because this line had been leased in 1865 by the Prairie du Chien.

The McGregor Western was an important addition. It had one end in McGregor, Ia., just across the Mississippi River from Prairie du Chien, where the old M&M ended. The other end of the McGregor reached nearly to Minneapolis-St. Paul, this line being finished under Milwaukee & St. Paul management in 1867. The line from Milwaukee to the Twin Cities went by way of Cresco, Ia., and Owa-

tonna, Minn., crossing the river, of course, at Prairie du Chien.

By 1868, the Milwaukee & St. Paul was a railroad with 825 miles of track, 135 locomotives, more than 130 units of passenger equipment and more than 2,400 freight cars. It was a big railroad for the era, but Mitchell and his associates were just beginning.*

*(As a note of historical interest and curiosity, but not much significance, it was at this time, in 1869, that Mitchell served for a short while as president of both the Milwaukee & St. Paul and of the Chicago & North Western, a railroad growing as fast in Illinois and southern Wisconsin as the M&StP was elsewhere in the Wisconsin area.)

In the 1870's the St. Paul built rapidly, once again with some help from a financial panic, the one that came in 1873.

By 1872, the second line was opened to the Twin Cities. This

one, which followed the Mississippi River from St. Paul to La Crosse, came with the acquisition of the St. Paul & Chicago Railway. Also in 1872, the M&StP completed and opened a line between Milwaukee and Chicago.

By that time, Chicago clearly was becoming a major city and, to reflect this, the Milwaukee & St. Paul Railway in 1874 changed its name to the Chicago, Milwaukee & St. Paul Railway Company.

The railroad grew rapidly, either by construction of lines or acquisition, as the 1870's passed.

In 1879, the company formally acquired the Western Union railroad, which had been under Mitchell's control since 1869. The Western Union gave access to the Mississippi River by a route that went from Racine through Beloit to Savanna, Ill. The company then reached Savanna from a different direction in 1880, when the Chicago

& Pacific was acquired, a line that ran straight west from Chicago to Savanna.

By the end of 1880, the Milwaukee had 3,775 miles of completed road (compared to only 1,412 three years earlier) and had 425 locomotives, 319 pieces of passenger equipment and more than 13,000 freight cars. As nearly as we can confirm, it was in 1880 that the company first adopted the familiar tilted rectangle trademark that is still used in a form similar to the original.

The Milwaukee's goals in the early 1880's were Kansas City, Fargo, and Omaha, destinations it reached within a few years. Once these points were reached, the railroad began to extend branch lines from the main lines, a process that was to be repeated again and again over the years.

As the line spread through the midwest, the company began to be

TEN-WHEELERS like this were commonly used for fast freight service in the years near the turn-of-the-century. This G6-as was built in our shops in 1905.



known for its introduction of important railroad innovations. It also started scheduling trains that, 10 or 20 years later, would become famous "name" trains.

In 1887, the Milwaukee was the first railroad to equip all of its passenger cars for steam heating. The next year, it was the first railroad to operate electrically lighted trains west of Chicago, the first of these operating between Chicago and the Twin Cities on September 10, 1888. The first electrically lighted train to Omaha went over company tracks in 1889.

During these years, the Milwaukee was a highly respected, progressive, rapidly growing and soundly financed company, but changes again were ahead. Some came with Russell Sage's departure from the company in 1879 (he actually had ceased holding a title before this, but retained a large share of ownership) and then with the death of Alexander Mitchell in 1887. General Manager Merrill had died in 1884.

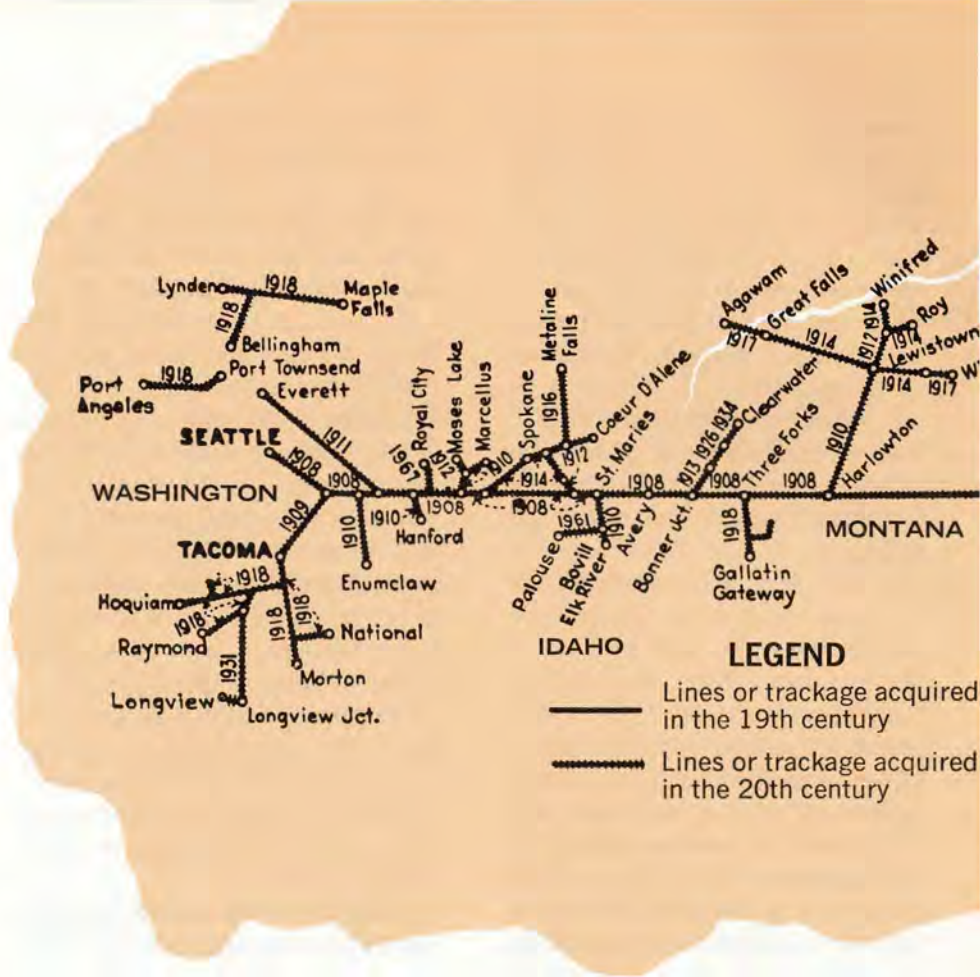
With the departures of Sage, Merrill and Mitchell, control of the company began to pass to a new group, headed by the Rockefeller-Standard Oil interests. In 1881, William Rockefeller joined the board of directors, with some associates. In the mid-1880's, the Armour meat packing interests began to be represented on the board by Philip Armour. The Rockefeller and Armour interests were to be dominant until into the 20th Century.

Even with this ownership, the Milwaukee managed to keep to itself and to keep growing during the era when huge corporations were being formed and consolidated, and when great western railway systems were being built.

However, it couldn't keep to itself through the whole period. In the late 1890's, a fight developed. On one side were J. P. Morgan, the famous financier, and his ally, James Hill, who built the Great Northern and later also controlled the Northern Pacific. On the other side were E. H. Harriman, who controlled the Union Pacific, and his allies from the Rockefeller—Standard Oil interests. The Milwaukee was in the middle for a time, since the fight was by the Harriman group to keep Morgan/Hill out of Chicago—in fact, at one point Morgan offered to buy the Milwaukee. The battle ended when Morgan/Hill got control of the Burlington, and thereby entered Chicago.

One thing this in-fighting showed the Milwaukee's management was that its railroad needed to do some more growing, if it were to stay competitive with railroads that reached the Pacific Coast, either in California or Washington and Oregon. The Milwaukee couldn't prosper by turning over the more profitable long-haul business to other lines.

More and more, it seemed that the Milwaukee should be extended to the Pacific, although the company was divided for a time on whether



it should go straight west or northwest.

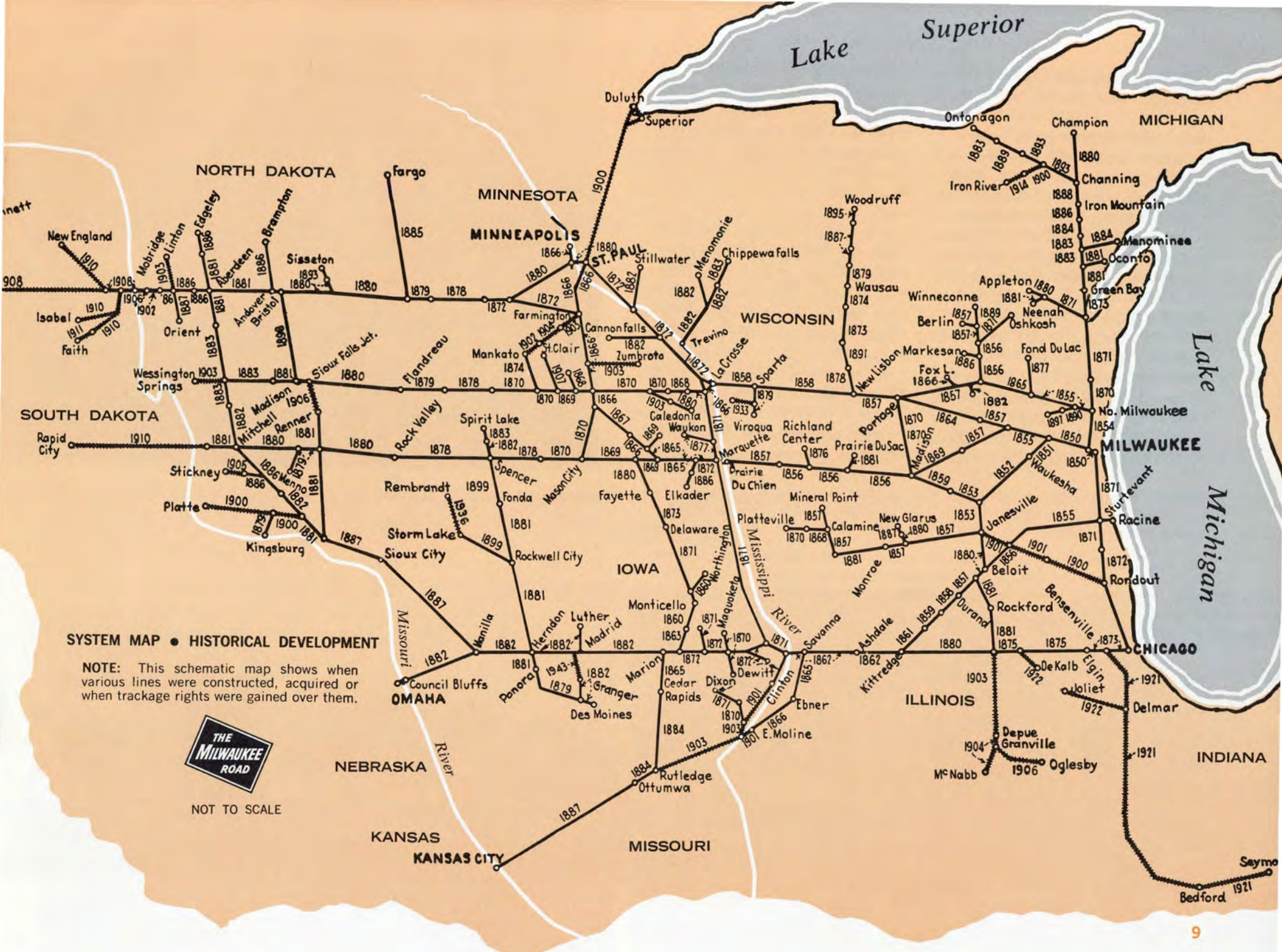
Director William Rockefeller, as late as 1905, still thought the line should be built to California. For a while he was seriously thinking that it should be built in cooperation with the North Western, which—like the Milwaukee—ended in Omaha.

One thing that did seem clear was that the company had ample resources for extending itself, since it was soundly financed and highly

respected by financial men, who considered it one of the best-run railroads in the country.

By 1901, the Milwaukee had 6,596 miles of track, its farthest northwest point being Evarts, N. D., on the Missouri River.

In that year, A. J. Earling, the Milwaukee's president, sent an engineer to estimate how much it would cost to duplicate the Northern Pacific's line to the Pacific Northwest. The engineer thought \$45 million would do it.



NOT TO SCALE

SYSTEM MAP • HISTORICAL DEVELOPMENT

NOTE: This schematic map shows when various lines were constructed, acquired or when trackage rights were gained over them.

After much deliberation, the company's decision was made: go northwest. On November 28, 1905, the board of directors voted to build the line to Seattle and Tacoma.

Construction began less than a year later, jumping off from both ends and some in-between points in April, 1906. The route chosen, then estimated to cost \$60 million, was to be 150 miles shorter than the combined NP/Burlington route and 80 miles shorter than the GN/Burlington route. The Milwaukee's route also was chosen so as to have better grades than the competitive routes. However, it also was an expensive route since the Milwaukee—given no land grants—had to purchase land or buy smaller rail-

roads to make the extension.

In a remarkable engineering feat, about 2,300 miles of railroad—built on a path going through five major mountain ranges, the Saddles, Belts, Rockies, Cascades and Bitter Roots—was built in only three years.

After construction started in 1906, the line was open for westward traffic to Harlowton, Mont., by April of 1908, and then was open for full passenger service over the entire route to Seattle by August, 1909.

On May 28, 1911, the Milwaukee began operating its Columbian and Olympian passenger trains between Chicago and the Northwest.



PRESIDENT WARREN G. HARDING and his wife paused at the Continental Divide on Jul. 2, 1923, while on the trip through the U.S. and to Alaska which ended with his death a month after this picture. An electric passenger locomotive pulled his train through this electrified operation area. Electrified operation is used on 656 miles of track, the largest such operation in the U.S. today. Electric freight locomotives of this general type are still in use.

No. 941, (LEFT) a *Prairie-type K1-as*, built in 1908 at our shops, was especially used between Minneapolis and the Rockies. It had 63" driving wheels, 21x28" cylinders, was nearly 69' long. At times, it carried the numbers 2093 and 5593.

No. 474, (RIGHT) an *L2b Mikado* built by Baldwin in 1923, was primarily a freight engine; some were equipped for passenger use. It had 26x30" cylinders, 63" drive wheels, 80' overall length, was fitted with superheaters. Originally No. 8374.



During the four years from 1906 through 1910, the Milwaukee Road grew from 7,000 to nearly 10,000 route miles, because of the extension and because of the branch feeder lines that either were built or acquired.

It wasn't long before the railroad found that steam operation in the mountains was difficult for several reasons, one being temperatures that could go as low as 40 degrees below zero.

Keeping in mind that water-power for generating electricity was abundant in the Northwest, and that large supplies of copper for electric wire were available at Anaconda, Mont., the Milwaukee's board first studied, then approved, plans to

construct an electrified operation in the Northwest.

Contracts were made for electric power in 1912, and in 1914 work was begun on 440 miles of electrification between Harlowton, Mont., and Avery, Ida. On November 30, 1915, the road's first electrically hauled train ran from Three Forks to Deer Lodge in Montana, over 112 miles of track.

The early stages of electrified operation proved so successful that in 1917 it was decided to go ahead with electrification between Othello and Tacoma in Washington. The first test run on that track was on November 11, 1919, and formal operation began in March, 1920. Considerably later, a 10-mile elec-

trified section between Seattle and Black River was constructed and went into operation on July 5, 1927.

One interesting aspect of this operation is that electric locomotives are equipped with regenerative braking. This means that when the electric motors are reversed for braking, they become generators of electricity, so that about 12 per cent of the power used by the trains is recovered during braking. Some of these first locomotives are still in use today, proving their durability and efficiency. The Milwaukee's 656 miles of electrified operation is the largest such operation in the U. S.

However, not for the first or last time while the company was making

progress in its operations, some dark financial clouds were beginning to appear.

One reason was the westward extension and the following electrification. Instead of meeting original estimates of either \$45 million or \$60 million, the extension—including the \$22 million electrification cost—actually totaled about \$257 million, at least four times the original estimate.

As a result, the company's debt and annual interest had soared.

The company's funded debt had actually been decreasing in the years up to and through construction of the expansion. Debt of \$127 million in 1899 had shrunk to only \$115 million in 1909, the year con-

THE FAMOUS PIONEER LIMITED as it looked in 1927, when it was given completely new, rollerbearing steel cars that included Pullmans, a diner club car and observation-lounge car. The outside color scheme was orange and maroon, including the paint on the locomotive.



THE "NEW" PIONEER LIMITED club car is set for tea time in 1927. The other new cars were equally plush in design. Many ideas in design and styling were tried out on this extensively reequipped train.



struction was finished.

But then it began to shoot upward. Debt was \$115 million in 1909, \$147 million in 1910, \$192 million in 1911, \$227 million in 1912, \$299 million in 1913 and \$331 million in 1914.

By 1920, debt was more than \$400 million, or nearly four times what it had been in 1910. Annual interest payments had risen proportionally, with these amounting to nearly \$20 million a year by 1920, in a time when the company's income and revenues were somewhat uneven.

Another problem of the time was the return of the company from Federal control. The government had taken over the Milwaukee and other railroads during World War I and operated them at capacity, with maintenance deferred, so that the property was somewhat depleted when company management again was in control. This Federal control lasted slightly more than two years, from December of 1917 through March, 1920.

Other factors contributed to the financial weakening. One was that two weak, deficit-ridden railroads were acquired, the Chicago, Terre Haute & Southeastern being taken over in May, 1921, and the Chicago, Milwaukee & Gary Railway in January, 1922. The Terre Haute was a 360-mile road with good connections with eastern railroads and with access to Indiana coal fields; the Gary basically was a 95-mile road bypassing Chicago.

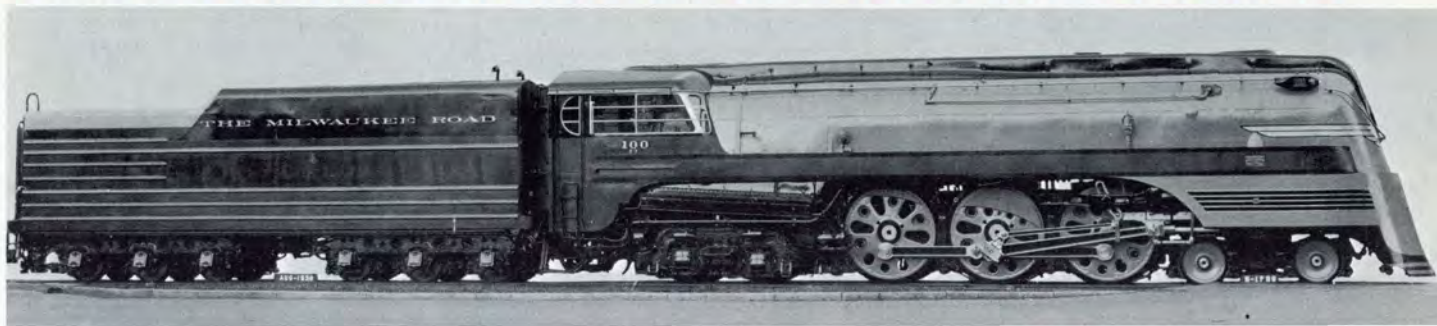


▲ No. 6124 and other F3 "Pacific locomotives were real workhorses over the years, combining speed with hauling power.

▼ No. 6402, an F6 "Baltic," set a world's speed record in 1934 pulling a five-car train between Chicago-Milwaukee. Built in 1930 by Baldwin, it had 79" drivers, 26x28" cylinders, was 94' long. Top speed on the run was 103 mph; average speed setting record over 61-mile distance was 92.62 mph; and for the full 85-mile trip, the average speed was 76.07 mph.



▼ No. 100 was an F7, 4-6-4 built in 1938 for a Hiawatha introduced that year, with newly designed passenger cars.



With this trackage also came nearly \$20 million in debt in the case of the Terre Haute, and the Milwaukee had to take over interest and principal on debt of the Gary, this being about \$3 million. In hindsight, it is clear that the Milwaukee hardly needed more debt at that time.

Still other things played a part. The automobile and truck began to make inroads on the railroad's passenger and freight volumes as early as the 1920's. For example, the Milwaukee's total of passengers carried annually dropped from 16 million in 1920 to only 6.7 million passengers in 1930. This industry-wide decline has continued until today, of course, leading to the disappearance of many passenger trains, including some very famous ones.

Still another thing was the opening of the Panama Canal in 1914, which diverted long-haul traffic the Milwaukee had hoped to attract to its lines.

The Milwaukee began to encounter annual deficits beginning in 1921 (from that year through 1940, the railroad was to have only three years of deficit-free operation, annual deficits in those years reaching as high as \$20 million). In 1924, some sizeable debt came due and, with the weak state of the railroad's finances, this could neither be paid nor financed. Only one answer was possible: bankruptcy. It came, by vote of the board of directors, on March 17, 1925.

On March 31, 1927, the Chicago, Milwaukee, St. Paul and Pacific Railroad Company was organized to acquire the property of the previous company, which it bought that November in an auction held in Butte, Mont.

After Interstate Commerce Commission approval of the corporate transfer, the reorganized company took possession of the former's property at midnight, January 13, 1928. Elected president was Henry A. Scandrett, a former Union Pacific vice president.

The company hoped that reorganization would leave it financially strong enough to survive. However, the Depression of the 30's followed on the heels of reorganization.

In the darkest days of the Depression, the Milwaukee made one of its best-known steps—introduction of the famous 100-mile-an-hour Hiawatha trains.

The company had been experimenting with high speed passenger trains for some time. One important speed test was on July 20, 1934, involving a five-car steel train with roller bearing cars. Pulling it was locomotive 6402, a four-year old engine regularly used on the Chicago-Milwaukee run.

On that day, the special train left Chicago's Union Station, gathered speed, was hitting 87 miles an hour by Morton Grove, reached up to 90 and then 92 at Northbrook, then 97 and 100 mph. A little later, the train was clocked at 103 mph



No. 1, the original 1935 Hiawatha, was the first newly-built streamliner. Class "A" 4-4-4 "Atlantic" burned oil, had top speed of 120, had 84" drivers and 88' overall length.

THE OLYMPIAN HIAWATHA moves through 16-Mile Canyon in Montana's Belt Mountains in 1950, powered by Fairbanks-Morse locomotives.



No. 1602 was one of the early diesels that the Milwaukee began acquiring before World War II: shown here in June, 1941.

ELECTRO-MOTIVE DIESEL was one of the first streamline diesels acquired for passenger use; delivered in Sept., 1941.





"LITTLE JOE" ELECTRICS pull freight through Eagle Nest tunnel in the Belt range. Units originally built for Russia instead were acquired by the Milwaukee in 1950.

at Oakwood, Wis. This run established a new world's sustained speed record for passenger train travel, averaging 92.62 miles an hour for a distance of 61.4 miles between Edgebrook, Ill., and Oakwood, Wis. Average speed for the full 85.7-mile Chicago-Milwaukee trip was 76.07 mph.

As this test was underway, the Milwaukee was planning and then building the completely new cars, with the company's own design ideas, that were to be used in the Hiawathas. In September of that year, the Milwaukee placed orders with the American Locomotive Company (Alco) for locomotives to be built at that company's Schenectady shops.

Following trial runs and tests, Hiawatha service began on May 29, 1935, on a regular 6½ hour schedule covering 410 miles, Chicago-St. Paul. The Hiawatha routinely made the 85-mile Chicago-Milwaukee run in 75 minutes, attaining the permitted 100 mph speeds at points en route.

Looking back, it may be hard for younger people to realize how much attention these new streamlined trains received both nationally and internationally. In an age of supersonic jets and of rockets, 100 mph may not seem like much. But in the 30's, when propeller-driven planes were still being developed and when 60-miles-an-hour seemed pretty fast speed in autos of that

time, a 100-mile-an-hour train was really something. The Hiawathas were talked about all over the country and the world. Long after their introduction, the Hiawathas had daily audiences of people who lined the tracks to watch the orange, maroon and silver streamliners flash past.

Other Hiawathas were to come. The first Hiawathas were so successful that service was expanded in January, 1939 into a Morning Hiawatha and an Afternoon Hiawatha. The Midwest Hiawatha was put in operation on December 11, 1940, operating between Chicago and Omaha, Sioux City and Sioux Falls. In 1947 came the Olympian Hiawathas, the Chicago-Seattle service.

To give you an idea of the success of the first Hiawathas, on August 31, 1935, a Hiawatha train carried 1,632 revenue passengers on one trip. In that month, 25,000 people rode the Hiawathas.

Despite this patronage and other favorable developments on the operating side of the railroad, financial troubles continued to pile up. In June of 1935, the Milwaukee again filed a bankruptcy petition and then was operated under a trusteeship, not coming out of bankruptcy through reorganization until December 1, 1945.

During the early 40's, the Milwaukee Road—and other railroads—did an awesome job of moving

troops, materials and supplies for World War II. After the war came the relative prosperity of a postwar period.

In 1950, the Milwaukee celebrated its centennial, dating its history to that first train that ran in Wisconsin in 1850.

Not long afterward, the company embarked on a program of rebuilding freight yards into new, completely modern gravity-type freight classification yards, where most switching is done by a combination of hump and retarders. The Airline Yard in Milwaukee was opened in 1952, the huge Bensenville yard west of Chicago was rebuilt in 1953 and the St. Paul yard opened in 1956.

In 1955, the Milwaukee began operating the famous "Cities" trains over Milwaukee trackage between Chicago and Omaha, in an operation reminiscent of such famous—but by then vanished trains—as the Pacific Limited and others. The "Cities" are the City of Los Angeles, City of San Francisco, City of Denver, City of Portland and the coach train, the Challenger.

It also was in 1955 that the Milwaukee ran its last regularly scheduled steam locomotive, although the final steam run wasn't to be made until March 16, 1957, since a few steam locomotives were kept for standby service after 1955.

Again, the Milwaukee was to find that property improvements and progress came side-by-side with financial problems—although the

50's brought not disaster, but a decline. This was true in general of the entire railroad industry, not just the Milwaukee.

Several related reasons were behind the decline. One was that railroads, completely regulated and completely unsubsidized, were competing with modes of transportation that were mostly unregulated and that received direct or indirect subsidies from government funds. This competition grew in almost direct ratio to the rising level of Federal spending on airways, waterways and highways. For example, in a period when Federal waterway spending increased by four times, the ton-mile volume of barge lines also quadrupled.

It should be recognized, too, that the railroad industry had some other built-in problems that had largely been ignored during the postwar prosperity. This was shown in the railroad industry's share of total intercity freight traffic, which fell from nearly 70% in 1944 to only 41% in 1962.

The passenger traffic decline continued in the 40's and 50's, primarily because of the inroads of automobile travel, partly because of the airplane. The family car's share of intercity passenger travel rose from a wartime low of 58% in 1944 to about 90% in 1962.

From the late 50's to 1961, railroad industry employment was cut by one-third, industry net income fell by 58% and the industry's freight revenues dropped signifi-

cantly, even though these were years when the nation's overall freight traffic volume was growing strongly. Then the Milwaukee—and other railroads—began to fight back.

New ideas in service, equipment innovations, fleets of new freight cars and locomotives, and other new things were brought to the Milwaukee.

Here are some of the more notable developments, given on a year-to-year basis:

In 1958—the Milwaukee began its piggyback operations.

In 1959—it installed the Carscope car tracing system, designed to supply up-to-the-minute information on freight car movements.

In 1960—work began on installation of a computer facility at the Fullerton Avenue accounting

offices in Chicago; a \$1 million "one spot" car repair facility was opened at the Bensenville freight yard; transport of motor vehicles on multi-level rack cars began to be important new traffic; and talks got underway with the Chicago and North Western about a proposed consolidation.

In 1961—the Milwaukee's suburban operations in Chicago were largely modernized with double-deck, air conditioned commuter coaches; more tri-level freight cars went into service for carrying motor vehicles; and data processing operations began at Fullerton Avenue.

In 1962—the railroad expanded use of VHF radio for communications between dispatchers, station agents and train personnel; expanded its automatic dialing system for the

THE 3,600 H.P. SD-45, made by EMD is typical of the huge, versatile, powerful new locomotives acquired in recent years. Specially designed for high speed over long hauls, they are used primarily between Chicago-Pacific Northwest.





An aerial view of the modern retarder yard at St. Paul, Minn.

company's own phone lines; and installed the first hot box detectors, used to detect overheated freight car journals and protect against derailments or other problems.

In 1963—the Milwaukee inaugurated the XL Special and Thunderhawk freights, the fastest between Chicago and the Pacific Northwest, running on schedules that cut a full day off previous schedules; began its first unit train operation carrying coal from mines to an Indiana power generating plant; installed the first link of a microwave relay communications system; began a major freight car rebuilding program; ordered 22 more commuter cars to complete modernization of the suburban fleet; and stepped up acquisition of new, larger and sometimes specialized freight cars, adding also to the locomotive fleet.

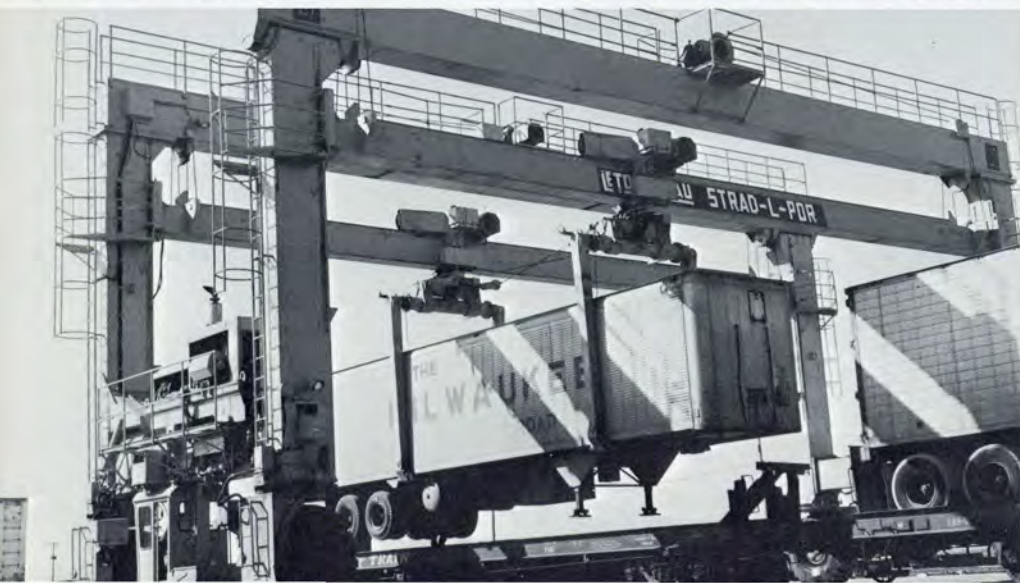
In 1964—came initial agreement with the North Western on consolidation terms; the first grain unit trains were operated, moving between the Twin Cities and Duluth-Superior in the Upper Midwest to Buffalo, N. Y.; a gantry crane was installed at the again-expanded Piggyback Park facility in Bensenville.

used to lift the trailers on or off flatcars; and the Milwaukee became the first railroad to have complete hot box detector protection on Chicago-Omaha and Chicago-Twin Cities routes.

In 1965—A new, contemporary-design passenger station was opened in Milwaukee, Wis.; stockholders voted approval of the consolidation plan.

In 1966—the Milwaukee inaugurated the first all-piggyback train to operate between Chicago and the Twin Cities; on June 6, filed an application for consolidation with the North Western.

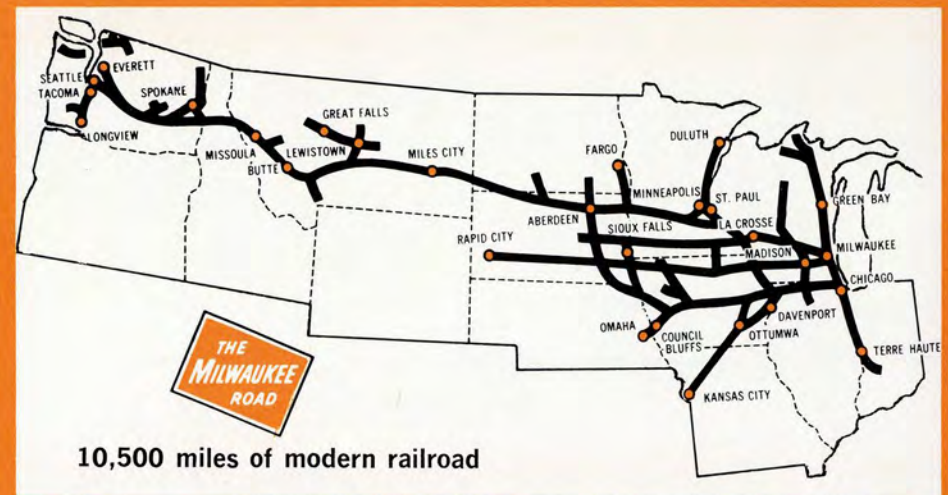
In 1967—a 360 computer system was installed at Carscope, giving virtually instantaneous access to information on freight car location, later the 360 was equipped with the first video display units to be used by a midwest railroad; a second, larger gantry crane was put into use at Piggyback Park; a Piggy Packer, a four-wheel drive vehicle with two lifting arms for handling trailers, was also installed at Piggyback Park, being the first such handling unit to be used by a midwestern-based railroad. . . .



GANTRY CRANES take 90 seconds or less to lift trailers on or off flatcars at the huge Piggyback Park at Bensenville, Ill., just west of Chicago. Two cranes are in use there. Piggy Packers also handle trailers there and at St. Paul.



AMONG OTHER RECENT ADVANCES in Milwaukee Road operations are the use of computers (above), special 100-ton covered hopper cars especially suited for grain carrying, and a suburban commuter fleet that has been completely modernized.



And so, as this is being written, the work goes on, as the Milwaukee Road develops the ideas and acquires the tools needed to continue building a new and better railroad system.

