



We cross the prairie as of old
 The pilgrims crossed the sea,
 To make the West, as they the East,
 The homestead of the free!

THE FIRST NINETY YEARS

AN HISTORICAL SKETCH OF THE

Burlington Railroad

1850---1940

Before the Railroad



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Burlington Railroad

1850-1940

R. C. OVERTON

COMPLIMENTS OF
CHICAGO BOARD OF TRADE BUILDING
OBSERVATORY

Chicago, Illinois

1940

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I. Forging the Burlington System

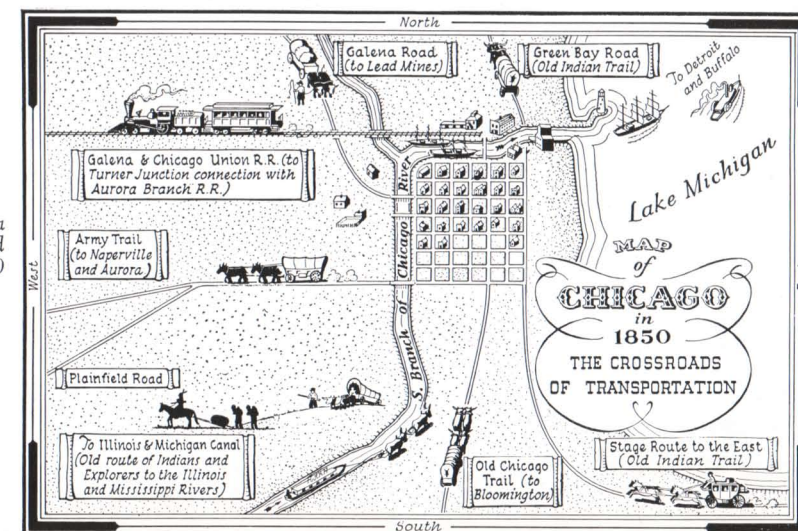
Forerunner: The Aurora Branch—The Burlington system began to operate in 1850 because the citizens of Aurora would wait no longer for a rail connection with Chicago. Their determination was based on the fact that Chicago was located at a natural and long-established crossroads of trade and transportation.

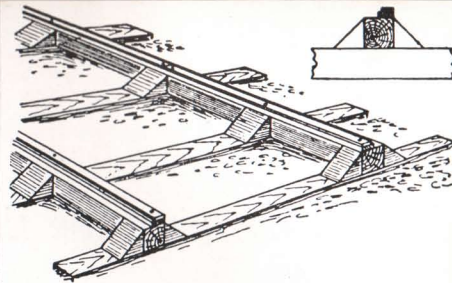
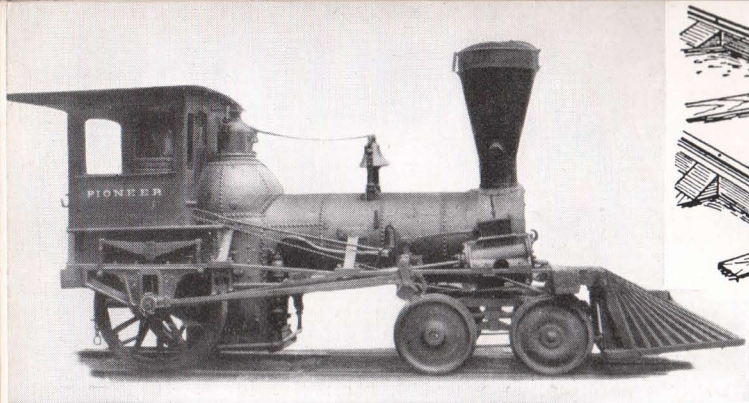
Even before the coming of explorers, the Indians discovered that the easiest way from the mighty Mississippi to the Great Lakes lay up the Illinois River, across the brief portage at Mud Lake, and on down the Chicago River to Lake Michigan. The Indians of upper Wisconsin also passed through the site of the present metropolis as they rounded the lake on their way eastward.

When the white man came, he followed the routes already established. Joliet, Pere Marquette, and La Salle all used the "Portage Path" that led from the Mississippi, and the strategic site at the mouth of the Chicago River figured as a prize in Anglo-American relations for a generation after the Revolutionary War. The erection of Fort Dearborn in 1803 was to protect this crossroads, where Chicago was founded as a town 30 years later.

Despite the earlier settlement of the southern portion of Illinois, the new village on the lake had become one of the state's most important towns by 1837. Paradoxically enough, however, the Illinois Internal Improvement Bill of that year, which projected 1,341 miles of railroad for the state (only 57 were built by 1850!), left Chicago 83 miles from the nearest line. This was because the Illinois-Michigan Canal, then under construction, was planned to provide an answer for the city's transportation requirements. Before it was completed, however, its inadequacy was apparent. Neither canal nor stage coach could handle the traffic which inevitably passed by way of Chicago. Meanwhile, the

Chicago when the Aurora Branch first reached it on September 2, 1850



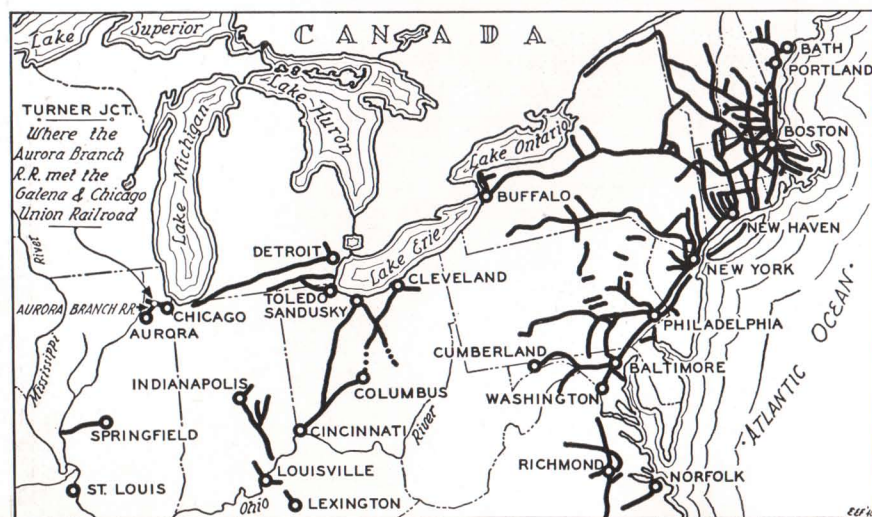


First locomotive used by the Aurora Branch and strap rails on which it ran, September, 1850 (Courtesy C. & N. W. Railway)

success of the iron horse in America was established and, by the late 'forties, two eastern lines were already reaching out towards the city. Action could be delayed no longer. Men like Stephen A. Douglas, Sidney Breese and William Ogden of Chicago, together with leading citizens in Galena, Galesburg, Peoria, Rock Island and other towns took definite steps to build a network of Illinois railroads that would provide adequate transportation facilities for the largest city of the state.

Their efforts were rewarded when, on October 10, 1848, Chicago's first locomotive, the ten-ton, second-hand "Pioneer" arrived to run over the Galena & Chicago Union Railroad (now part of the Chicago and North Western system). At this time, the tracks extended only a few miles west of the city, but each month thereafter saw them move westward towards the Mississippi. A new era was opening for northern Illinois in which many an ambitious community was hoping to play a part.

One such town to translate its ambition into action was Aurora, whose citizens, on February 12, 1849, obtained a charter to build 12 miles of railroad directly north from their town to a junction with the Galena line. Appropriately naming their venture the Aurora Branch, they ordered a survey to be undertaken immediately, and on December 20, 1849, let the first contracts for grading and masonry work. By April 15, they authorized the survey of an extension to the Illinois River to be built as soon as they could complete their



Railroads in northeastern United States, December, 1850

original undertaking; already they were dreaming of expansion. On August 27, 1850, six miles of wooden rails, covered with narrow iron strips, were ready for use between Turner Junction, on the Galena Road, and Batavia. Thereupon a tiny squib in Chicago's newspapers announced that service on this second line to enter the city would commence six days later. As yet, the young railroad had no rolling stock of its own, so it was necessary to hire the little "Pioneer" and a single coach for the occasion.

This was the train that puffed out of Batavia at six-thirty o'clock on the morning of September 2, 1850, to make the inaugural run of the Aurora Branch to Chicago. Thus modestly began the operation of the Burlington system.

Progress now was rapid. By October 4, the new company completed its line to Aurora, and on October 21, 1850, regular service began from that city according to the following schedule:

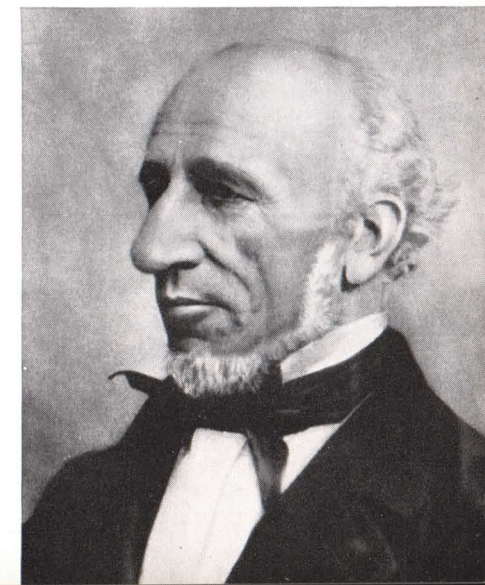
Leave Aurora	7 am and 3 pm	Leave Chicago	8 am and 3 pm
Arrive Chicago	11 am and 6 pm	Arrive Aurora	10 am and 6 pm

About this time, the Aurora Branch acquired two locomotives of its own: the "Whittlesey", a 12-ton engine with four drivers, purchased from the Buffalo and Niagara Falls Railway, and the 14-ton "Pigeon" that had been built by Baldwin in 1837 for use on the original Michigan Central Railroad.

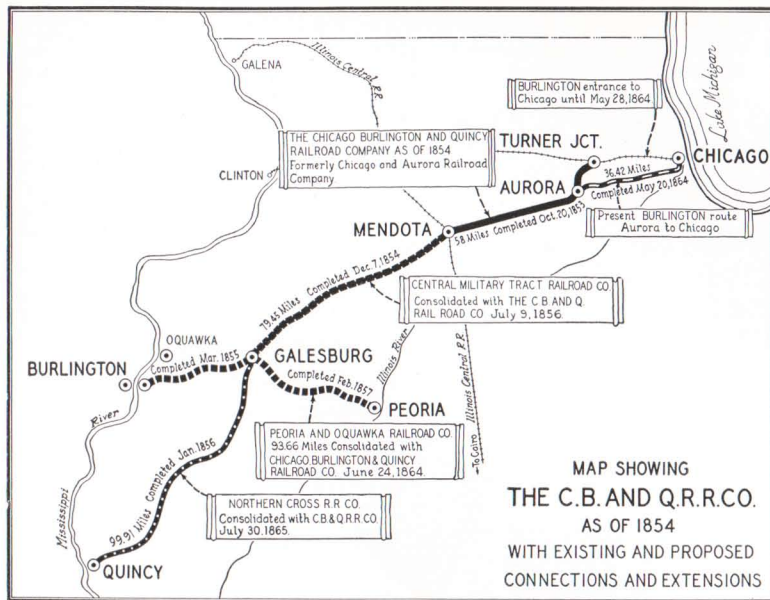
By the end of 1850, the new line was well-established. The date was significant; in that year Chicago boasted a population of 28,620, and Congress set a new precedent when it granted over two and one-half million acres of public land to aid in the construction of the Illinois Central Railroad. The railway age had come for Chicago, for Illinois, and for the Middle West!

Eastern Dollars and Western Optimism: The C. B. & Q. in Illinois—

It would be interesting to speculate upon the fate of the Aurora Branch had that little railroad been forced to depend only on its own resources, but such was not to be the case. In 1846, James F. Joy, an alert young Detroit lawyer, and a youthful engineer, John W. Brooks, had persuaded the Boston capitalist, John Murray Forbes, to invest his money in the dilapidated state-built Michigan Central Railroad. At the time, its shaky tracks extended only to Kalamazoo, but with eastern capital and western pluck, it was rebuilt and extended on to Lake Michigan and finally to Chicago on May 21, 1852, where it triumphantly opened through service one day ahead of its arch-competitor, the Michigan Southern. The entry of these roads



John Murray Forbes, Burlington financier, 1852-1898; director 1857-1898; president, 1878-1881



into the hustling metropolis, however, was merely an incident in their rivalry. Already the men behind the Michigan Southern had control of the Chicago and Rock Island, and since October, 1851, had been pushing that line from Chicago on towards Joliet. Unless Forbes, Joy and Brooks could find a western outlet, their Michigan Central could hardly expect to share in the tremendous potential trade west of the lake.

Fortunately for them, Illinois was a fertile field for railroad promotion in the spring of 1852. Almost every little town was hoping to gain connections with the outside world. Some places, like Aurora, had realized their ambitions, but many others had nothing more than "paper railroads", still-born for lack of funds. In such a predicament was Galesburg, whose Central Military Tract Railroad, projected northward to a connection with the future Rock Island, had not yet attracted enough stock subscriptions to warrant construction. Further south, Peoria and Oquawka were linked by a "proposed" railroad named after the two towns, but not a foot of rail had been laid. It was at this point that fate took a hand. . . .

At the old American House, in Boston, early in the spring of 1852, Chauncey Colton, of the Central Military Tract, happened to meet Elisha Wadsworth, a director of the Aurora Branch, and James W. Grimes, then director of the Peoria and Oquawka, and later governor of Iowa. These three men put their heads together. They knew that the Michigan Central people were seeking a western connection. Therefore, why not plan to consolidate their three lines into a single through route between Chicago and the Mississippi, and apply to Forbes for financial backing? The plan was no sooner hatched than it went into effect—but not without the usual difficulties involved in a new venture. Forbes in the East and Colton in the West were hard put to find enough funds to pay for construction. In less than three years, however, their project was completed, and, on March 17, 1855, a through line was

opened from Chicago through Aurora, Mendota, and Galesburg to East Burlington, which had replaced Oquawka as the western terminus. To celebrate this auspicious event, a special ten-car train ran westward from Chicago, and a mammoth reception was held in Burlington, Iowa, on May 30, 1855. Stephen A. Douglas, Lewis Cass, Mayor Boone of Chicago, and Governor Grimes of Iowa were present; contemporary accounts describe the affair as lasting far into the night. A few months before this jubilee, on February 14, 1855, the companies forming the through line had joined together under the name of Chicago, Burlington and Quincy Railroad; when their branch from Galesburg to Quincy was completed on January 31, 1856, the new title exactly described the location of their property.

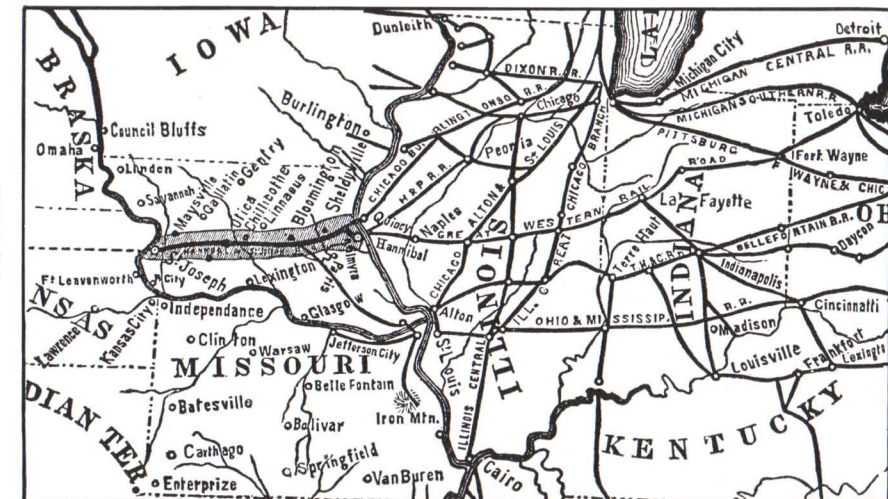
At this time, Burlington trains from Aurora entered Chicago over the former Aurora Branch tracks via Turner Junction and the Galena & Chicago Union. In 1858, however, the people of Naperville, Downers Grove, Brush Hill and Lyons pledged the right of way for a short-cut to Chicago through Du Page County. By 1862, the volume of traffic was expanding so rapidly that the directors accepted this offer and authorized their only expansion during the Civil War—the building of an independent line, 38 miles long, directly from Aurora to Chicago. This cut-off was opened for service in 1864.

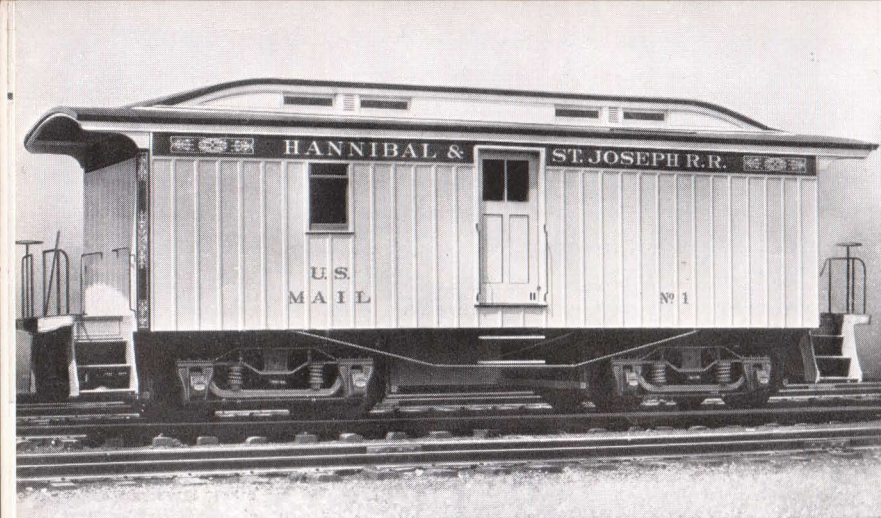
Meanwhile, plans were laid by an independent company to build a railroad from Rock Island southward to the Burlington's main line at Monmouth and thence to East St. Louis. After years of delay, this project was completed, and in February, 1877, the road came under the control of the C. B. & Q., thus providing the system with an entrance into the St. Louis district.

First Rails to the Missouri River: The Hannibal and St. Joseph Railroad—

Even before the Aurora Branch Railroad was formed in Illinois, a most important link in the future Burlington system was being forged in Missouri. Sometime during the year 1846, a group of forward-looking citizens at Hannibal met in the office of John M. Clemens (the father of Mark Twain) to lay plans for a railroad across the state. Their enthusiasm was fully

The H. & St. Jo
with its land
grant in 1859
(from a wood cut
of the period)





U. S. mail was first sorted in transit on this car in 1862

reciprocated by the people of St. Joseph where the projected line was to end, and, on February 16, 1847, the Missouri Legislature granted a charter for a 206-mile railroad between the two towns. Construction, however, did not begin until 1852 when Congress offered the company the inducement of a substantial land grant in return for a permanent reduction on the transportation of government troops, property and mail. (See p. 17.) Encouraged by this fact, John Murray Forbes and his colleagues supplied the capital that enabled construction to begin. Thereafter, the railroad progressed steadily for those days of hand labor, and the two gangs that had begun work at each end met between Chillicothe and Cream Ridge on February 13, 1859. The very next day a train made the through run from Hannibal to St. Joseph, thus inaugurating rail service between the Mississippi and Missouri Rivers. On April 1, 1860, the opening of the line between Palmyra and West Quincy provided a connection, by ferry, with the Chicago, Burlington and Quincy.

Almost immediately, a dramatic episode demonstrated the importance of the Hannibal and St. Joseph. Prior to the building of this railroad, transcontinental mail had proceeded westward by steamer and stage. On April 3, 1860, however, a special train, hauled by a wood-burning locomotive, carried the mail from Hannibal to St. Joseph in slightly over four hours. Upon arrival, the letters were handed over to the rider scheduled to make the first relay on the inaugural westbound run of the famous Pony Express. Two years later another epoch-making improvement was introduced when, on July 28, 1862, the first railroad car equipped for sorting the United States mail in transit ran westward from Quincy to the Missouri River.

The War years raised havoc with the Hannibal and St. Joseph Railroad. Bridges were burned, property destroyed and the rails torn up by raiding armies. Thus, not only were operations hazardous, but it was next to impossible to sell the lands granted by the United States. The company had counted on these sales as an important source of revenue. "Eastern people," wrote the Land Commissioner in April, 1861, "have begun to arrive here, but when they see the secession flags flying in our streets, they are afraid to buy, and several have taken the next boat home without going out on the road at all." Eventu-

ally Federal troops built a string of blockhouses along the route, and safeguarded the operations of the railroad until the end of the War.

No sooner was the War over, however, than the Hannibal and St. Joseph began to improve its connections and reach into new territory. On November 9, 1868, the road obtained a direct physical link with the Chicago, Burlington & Quincy when, under the leadership of James F. Joy, a bridge was completed over the Mississippi River at Quincy. Meanwhile, work had begun on a branch southward from Cameron Junction, Missouri, and on July 4, 1869, the company opened the first bridge to span the Missouri River and thus established through service into Kansas City.

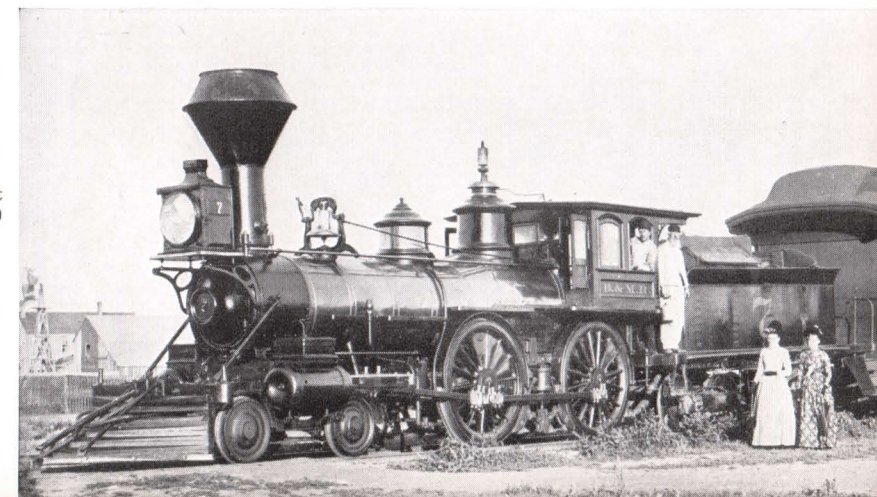
The Burlington's annual report in 1870 showed that freight from points on the Hannibal and St. Joseph destined for Chicago had nearly doubled in amount during the preceding year. During the 'seventies, traffic interchange between the two companies steadily increased, so that in 1880, when the H. & St. J. seriously considered building a line of its own to Chicago, it was not surprising that the Directors of the Burlington opened negotiations for the purchase of the Missouri road. This was accomplished on June 18, 1883, and the famous "St. Jo Line" became an integral part of the Burlington system.

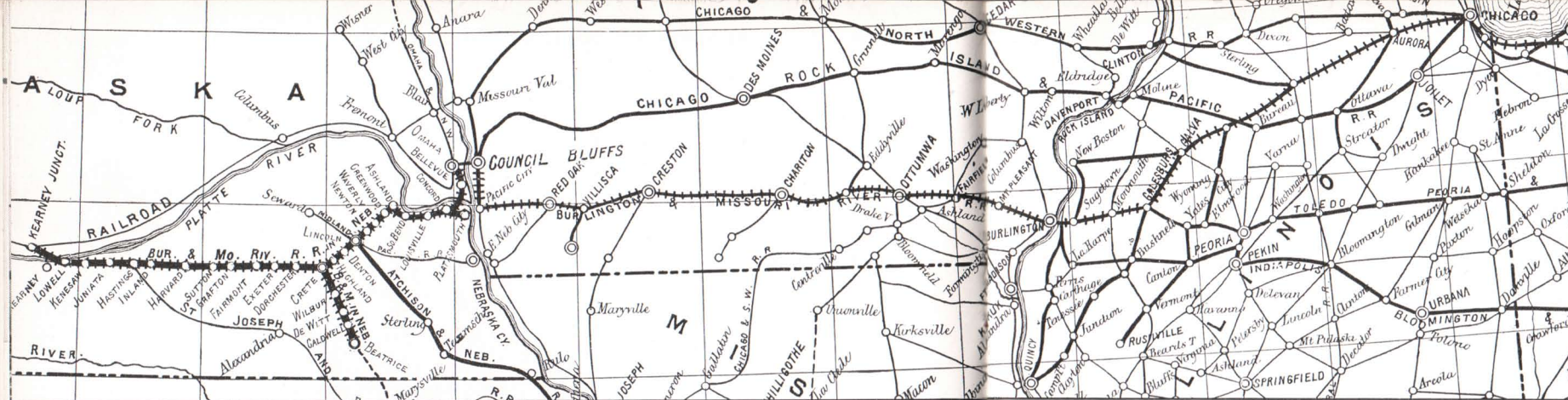
Westward to the Rockies: The Burlington and Missouri River Railroads—

The expansion of the C. B. & Q. westward through Iowa, Nebraska and Colorado is the story of a whole generation, for it was exactly 30 years from the time the first constituent road was projected west from the Mississippi, in 1852, until it reached its goal at Denver, Colorado. Into those years were packed the trials and hardships of frontier life, the difficulties of wartime operation, the dramatic episode of colonization, a major financial crisis, and, finally, the period of robust prosperity that saw the great corn and wheat country come into its own.

The origin of the "Burlington Route" as a pathway westward from the great river is lost in the mists of history; it may have been originally a buffalo trace. In any event, when the Black Hawk purchase in eastern Iowa was first opened to white settlement in 1833, a well-traveled Indian trail existed where runs the present main line of the railroad, and in 1851 a plank road company

B. & M. engine built by Manchester, 1870





The Burlington Route west in 1873,—the C. B. & Q. and the B. & M. in Iowa and Nebraska

began to operate from Burlington—named after the city in Vermont—to Mt. Pleasant, 28 miles to the west. White oak planks, however, were unable to bear the increasing traffic, and in January, 1852, the Burlington and Missouri River Railroad Company was formed by local business men to build across the state. At first, its future was uncertain, but in 1855, the C. B. & Q. reached the Mississippi River at East Burlington and was looking for a western connection. Furthermore, in 1856, Congress offered the Iowa Company a land grant on terms similar to those made with the Hannibal and St. Joseph. Thus, the Burlington and Missouri River Railroad became an attractive investment for Forbes and Joy, who at once began soliciting funds for its construction. As a result of their efforts, enough money was raised, despite the Panic of 1857, to finance the Iowa line as far as Ottumwa on the Des Moines River, which was reached on September 1, 1859. This was an exceedingly important achievement, because the new railroad could now tap the lucrative river trade which had hitherto gone eastward by water. The Civil War, however, with the consequent scarcity of men and capital, and the uncertainty of trade, prevented the B. & M. from building farther westward while hostilities continued.

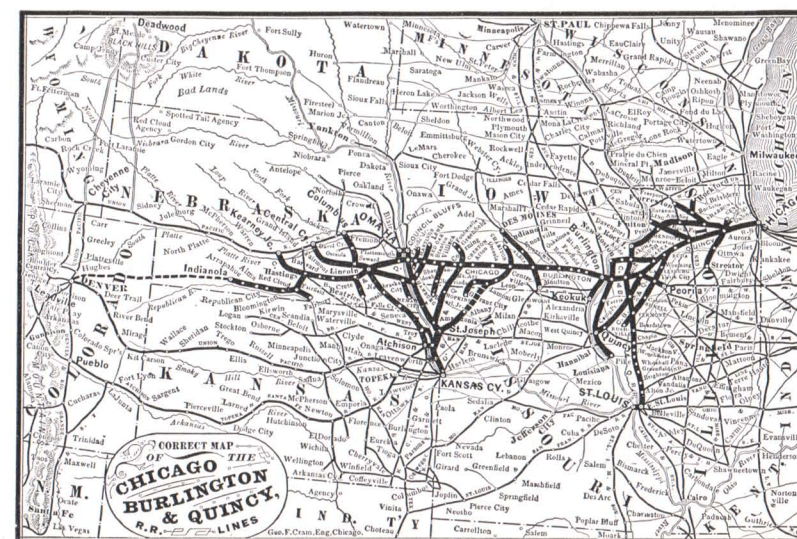
When peace finally returned, the B. & M. participated in the rapid development of the great West. Under the guidance of the youthful Charles E. Perkins, construction was resumed at Ottumwa in July, 1865, and completed to the banks of the Missouri River at East Plattsmouth on New Year's Day, 1870. Meanwhile, an entrance into Council Bluffs had been gained via Pacific Junction over the tracks of the Kansas City, St. Joseph and Council Bluffs, a railroad subsequently (in 1900) consolidated with the C. B. & Q. Progress across Iowa had indeed been slow, resembling in its uncertainty the halting trek of individual settlers across the prairie. Nevertheless, the company reached its goal without going through bankruptcy—a rare achievement indeed—and was ready to share in the rich traffic that was expected to develop in eastern Nebraska. Meanwhile, on August 13, 1868, completion of the Mississippi River bridge at Burlington provided a through rail line to Chicago, and on the last day of 1872, the B. & M. was absorbed by the C. B. & Q.

Even before this consolidation, work was under way on an extension westward. In 1864, Congress had granted the B. & M. permission to build a

short cut from a point in Nebraska (Plattsmouth) opposite its western terminus to a junction with the Union Pacific near Ft. Kearney, offering as an inducement a land grant of more than two million acres in Nebraska on the usual terms (See p. 17). It was not until 1869 that the Iowa Company felt able to accept this offer, but, on May 12 of that year, the officials formed a separate corporation called the Burlington and Missouri River Railroad in Nebraska. Two months later, construction began at Plattsmouth, and, during the summer of 1870, the rails reached Lincoln, the new capital, which was rapidly becoming a flourishing city. In 1871, control of the Omaha and Southwestern provided an independent entrance into Omaha via Oreadopolis. Finally, despite the threat of Indian attacks and the difficulties of construction in a virtually uninhabited country, the main line of 194 miles was completed westward to Kearney Junction on September 18, 1872.

As the new railroad speeded the settlement of eastern Nebraska, its increase in business matched the growth of the region, and by the time the Missouri River bridge at Plattsmouth was opened on September 12, 1880, it had constructed numerous branches and commenced an extension to Colorado by way of Red Cloud. In the meantime, on July 26, 1880, the Nebraska

The Burlington System showing the projected line to Denver, 1880





Custer Battlefield, Montana,
on the Alliance-Billings line



Colorado and Southern narrow
gauge locomotive built in 1898

to this market. Furthermore, Hill and Morgan keenly desired a direct connection from the north into the manufacturing centers and coal fields of Illinois. Such a connection would supply the westbound freight—some of it destined for the Orient—that would prevent cars from returning empty. In addition, the C. B. & Q. served Omaha, St. Joseph, Kansas City and Chicago, where the packing houses and market for the cattle and sheep of the northwestern ranges were located. At St. Louis and Kansas City, connections were available with lines traversing the southern states, from which came the raw and manufactured cotton required for shipment via the Pacific Northwest to China and Japan. From the standpoint of the Burlington, the new alliance assured a permanent through connection to Puget Sound, a valuable source of traffic interchange, and affiliation with one of the greatest railroad geniuses of America. It also made it unnecessary for the Burlington to build its own line to the Pacific Northwest.

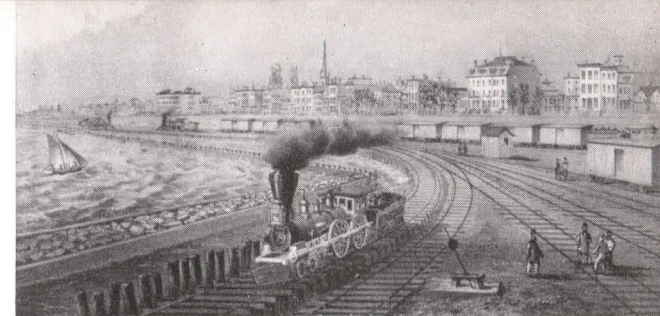
During the twentieth century, the major extension of the C. B. & Q. was accomplished by the acquisition, on December 21, 1908, of over 1,800 miles operated by the Colorado and Southern Railway, and its various subsidiaries, including the Fort Worth and Denver City and the Wichita Valley Lines. This transaction brought to the Burlington system a through line from Cheyenne and Denver southward to Fort Worth, Dallas, Houston and Galveston, and provided, by way of Alliance, a new short route from the Pacific Northwest to the Gulf. To improve the service with the northern roads, an alternate low-grade line was built almost immediately by the C. B. & Q. from Billings via Casper to the northern terminus of the Colorado and Southern at Orin Junction. (See map, pp. 20-21).

During the last generation, the Burlington's development has been intensive rather than extensive. Although the railroad plant has actually shrunk in road mileage, its capacity has been vastly increased by the building of multiple tracks, and by the use of improved equipment and new techniques. At present, the company operates more than 11,000 miles of road in 14 states—a striking contrast with the little 12-mile railway that began its operation just 90 years ago.

Trademark of Texas and Fort
Worth R.R. in 1889 timetable



Chicago, 1866, showing Illinois Central
city tracks used by the "Q", 1856-1881
(Courtesy, Chicago Historical Society)



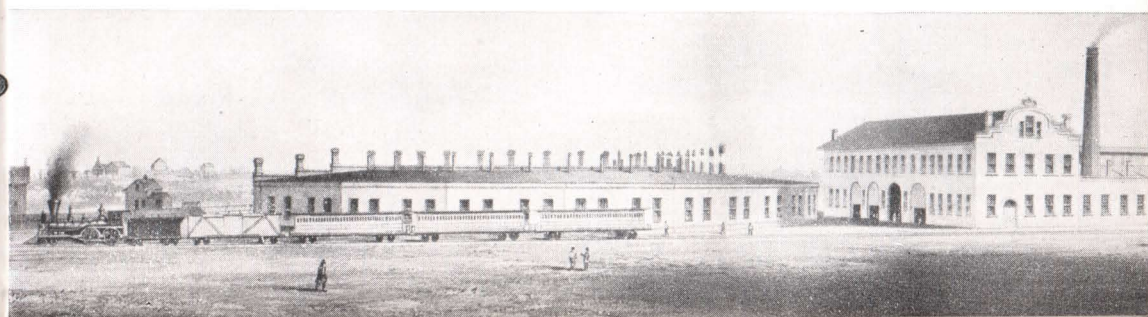
II. Building A Western Community

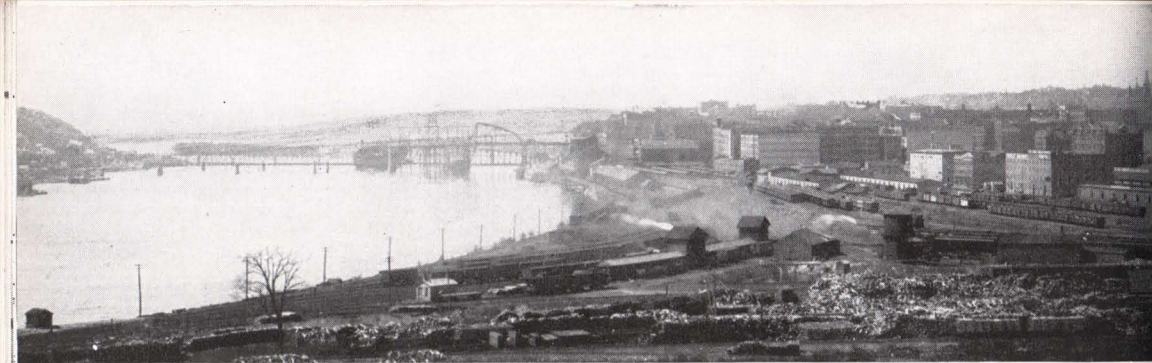
The Railroad, the Metropolis, and the Prairie Town—The growth of the great American West can be told in terms of railroads. One historian has remarked that when the first train ran from Chicago to the Des Plaines River and back, on November 20, 1848, "Chicago had become Chicago". Thus the opening of the second through service, less than two years later, by the Aurora Branch, was of far greater importance to the metropolis than its brief mileage and modest equipment would indicate.

To the little village of Aurora, the new railroad brought nothing less than a whole new future. Industry and trade leaped forward, and early in 1856, the railroad company added to the boom by erecting the "expensive Machine and Repair shops" that have been in operation ever since. Meanwhile, an engine house and another machine shop were put up at Galesburg.

On March 30, 1855, just 13 days after the opening of the Chicago-Burlington service, the *Monmouth Atlas* vividly portrayed what the iron horse meant to that community: "The railroad has put new life and activity into everybody. Business is going ahead rapidly. Pork buyers and pork sellers are on the alert for wheat and other kinds of grain coming into the country and as rapidly going out. Hogs are taken off alive, by the hundreds, to Chicago, where they are butchered and packed for the French soldiers in the Crimea; lumber and goods are arriving from abroad; strangers are on the lookout for new homes,

C. B. & Q. Shops at Aurora that have been in continuous
service since 1856 (from a contemporary ambrotype)





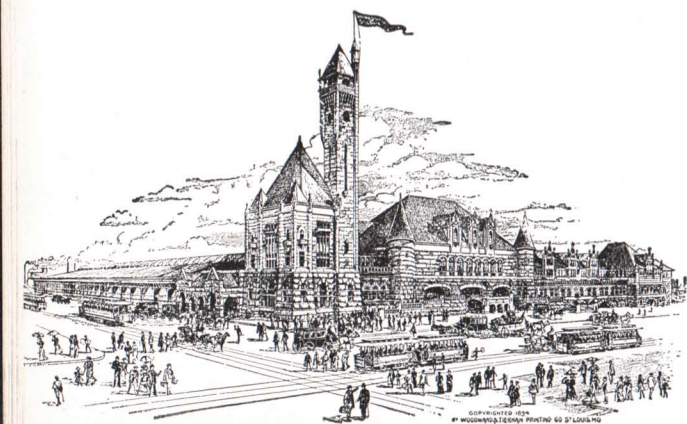
St. Paul and the C. B. & N. tracks in 1886
(Courtesy, Minnesota Historical Society)

and there seems to be a 'good time' generally among business men of all classes. All kinds of produce can be turned into cash at high prices, and if the farmers do not get rich, it is their own fault."

This was the story that was repeated over and over again as the tracks brought the nourishing streams of population and commerce to ambitious cities and towns. The decision, for example, of the Hannibal and St. Joseph to build to Kansas City, and the completion at that point of the first bridge across the Missouri River was the beginning of Kansas City's preeminence as a railroad center and gateway distributing point for the Southwest. To Omaha, the Burlington and Missouri River Railroads brought a link with the state capital at Lincoln and access to the rich farmlands south of the Platte River, as well as a third route to the eastern markets.

When the Burlington reached Denver, it already had an extensive network of lines, and brought to the local producers and consumers a strong railway connection with the great and growing areas which it served in Nebraska, Iowa, Missouri and Illinois. The extension to the Twin Cities had much the same result. Furthermore, this water-level line along the Mississippi gave to Minneapolis and St. Paul their first direct connection with St. Louis over the tracks of a single company.

Even more spectacular than the railroad's influence on urban growth, however, was its development of the agricultural lands it received from the United States in northern Missouri, western Iowa, and eastern Nebraska.



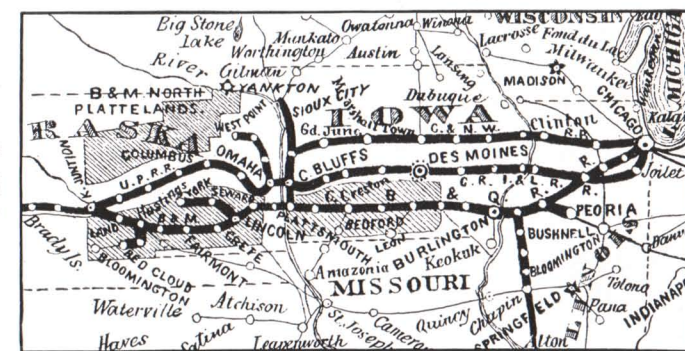
St. Louis Union Station, opened in 1894. First train to depart was the Burlington's "Fast Mail"

Federal Encouragement: The Land Grants—The grants of land made by Congress to the different lines composing the Burlington system were part of a broad federal policy by which approximately 150,000,000 acres of public domain were turned over to railroad companies between 1850 and 1871 to expedite the development of the great American West.

The procedure followed in the case of all the Burlington grants was to withdraw from private entry every alternate section (square mile) in checker-board fashion for six to ten miles on both sides of the projected railway route. As soon as each 20-mile stretch of track was completed and accepted by government inspectors, these reserved sections were turned over to the railroad, which could then sell them in the open market or use them as collateral for a loan. In either case, the funds obtained were to be used for construction, thus enabling the railroad to build into country otherwise wholly incapable of supporting such an undertaking.

In return for these lands, the railroad company was to carry United States mails, troops, and federal property free of charge or at prices fixed by

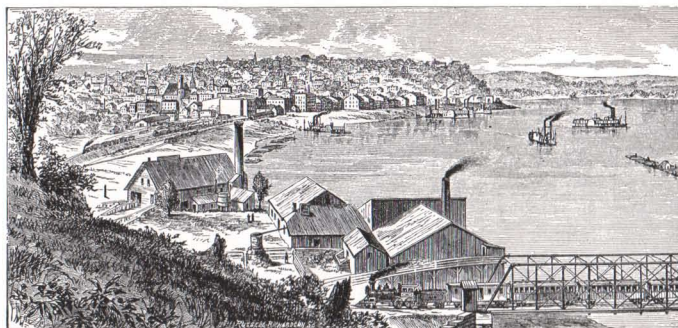
Shaded areas of map indicate B. & M. land grants in Iowa, 1856, and in Nebraska, 1864 (from a Land Dept. pamphlet)



Congress. (Subsequently, the United States agreed to pay for the transportation of its troops and property at approximately 50 per cent of commercial rates, and for the carriage of its mails, at 80 per cent of the charges collected by non-land grant roads.) Meanwhile, the alternate sections of land still held by the government within the lateral limits of the grant were doubled in price. Thus the United States not only assured itself of as much revenue from public land sales as it would have received if the grants had not been made, but also gained a permanent and very substantial reduction in transportation charges. Furthermore, the prospect of railway construction created a brisk demand for government as well as for railroad sections.

The chief beneficiary of the land-grant system, however, was the nation at large, for a way was thus found to open up rich agricultural sections that had lain relatively undeveloped because of inadequate transportation facilities. Indeed, each of the three grants to what is now the Burlington system was made with some specific national advantage in mind. The grant of 600,000 acres to the Hannibal and St. Joseph was not simply for the local benefit of

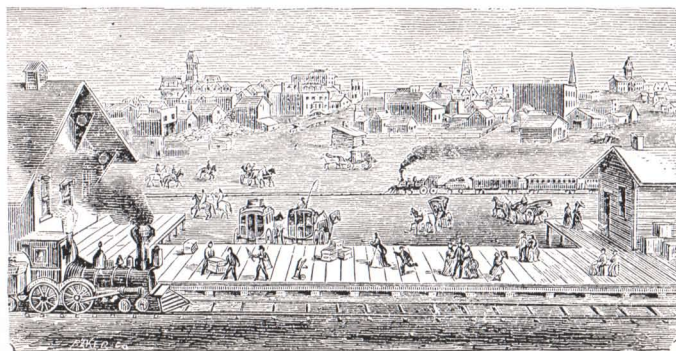
Burlington, 1872, headquarters
for B. & M. land sales in Iowa



northern Missouri, but to open that region as a market to the nation, and to provide the first rail link between the Mississippi and the Missouri Rivers. That the act of May 15, 1856, reserving approximately 250,000 acres (increased in 1864 to 350,000 acres) for the Burlington and Missouri River Railroad in Iowa had a similar well-recognized purpose was proved in the Senate debate over its passage: "We of the Atlantic coast," declared Wilson of Massachusetts in explaining his support of the bill, "who are engaged in manufacture and commerce, all have a direct interest in the settlement and development, growth and prosperity, of the new states of the interior." . . . "No railroad," added Senator Seward of New York, "can be made in the State of Iowa . . . that will not increase the trade that is to be poured into the city of New York." Needless to say, the new states of the West and Southwest solidly joined the industrial North and East in supporting every land-grant measure. Only the Old South, vainly striving to protect its plantation economy, consistently objected.

The last grant to the Burlington system was the largest of all. In 1864, the B. & M. of Iowa was offered approximately two and a half million acres in eastern Nebraska as an inducement to build a short-cut from the Missouri River 200 miles westward to the projected Union Pacific, which followed the Platte River between Omaha and Kearney. Congress realized, in making this grant, that this new line (completed by the B. & M. in Nebraska in 1872, see above p. 11), would not only lead to the development of a rich farming region, but would provide an alternate fast transcontinental connection.

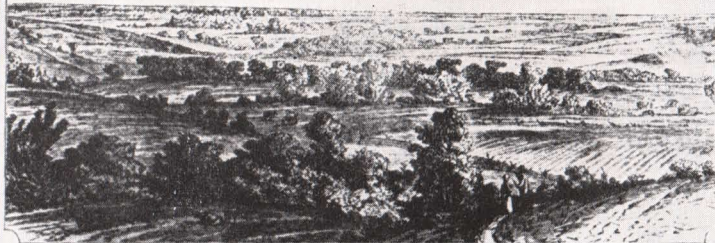
Advertising the Great West—The sale and the colonization of the Burlington's land grants extended over nearly half a century, beginning on July 12, 1859, when the Hannibal and St. Joseph Railroad placed part of its 600,000 acres on the market. Although first sales were to local residents, immi-



Lincoln, 1872, headquarters for
B. & M. land sales in Nebraska

MILLIONS OF ACRES

View on the Big Blue, between Camden and Crete, representing Valley and Rolling Prairie Land in Nebraska.



IOWA AND NEBRASKA LANDS

FOR SALE ON **10 YEARS CREDIT**

BY THE **Burlington & Missouri River R.R. Co.**

AT 6 PER CT. INTEREST AND LOW PRICES.

Only One-Seventh of Principal Due Annually, beginning Four Years after purchase
20 PER CENT. DEDUCTED FROM 10 YEARS PRICE, FOR CASH.

LAND EXPLORING TICKETS SOLD

and Cost allowed in First Interest paid, on Land bought in 30 days from date of ticket.
Thus our Land Buyers GET A FREE PASS in the State where the Land bought is located.
These TERMS are BETTER at \$5. than to pre-empt United States Land at \$2.50 per Acre.
EXTRAORDINARY INDUCEMENTS on FREIGHT and PASSAGE are AFFORDED TO PURCHASERS and THEIR FAMILIES.

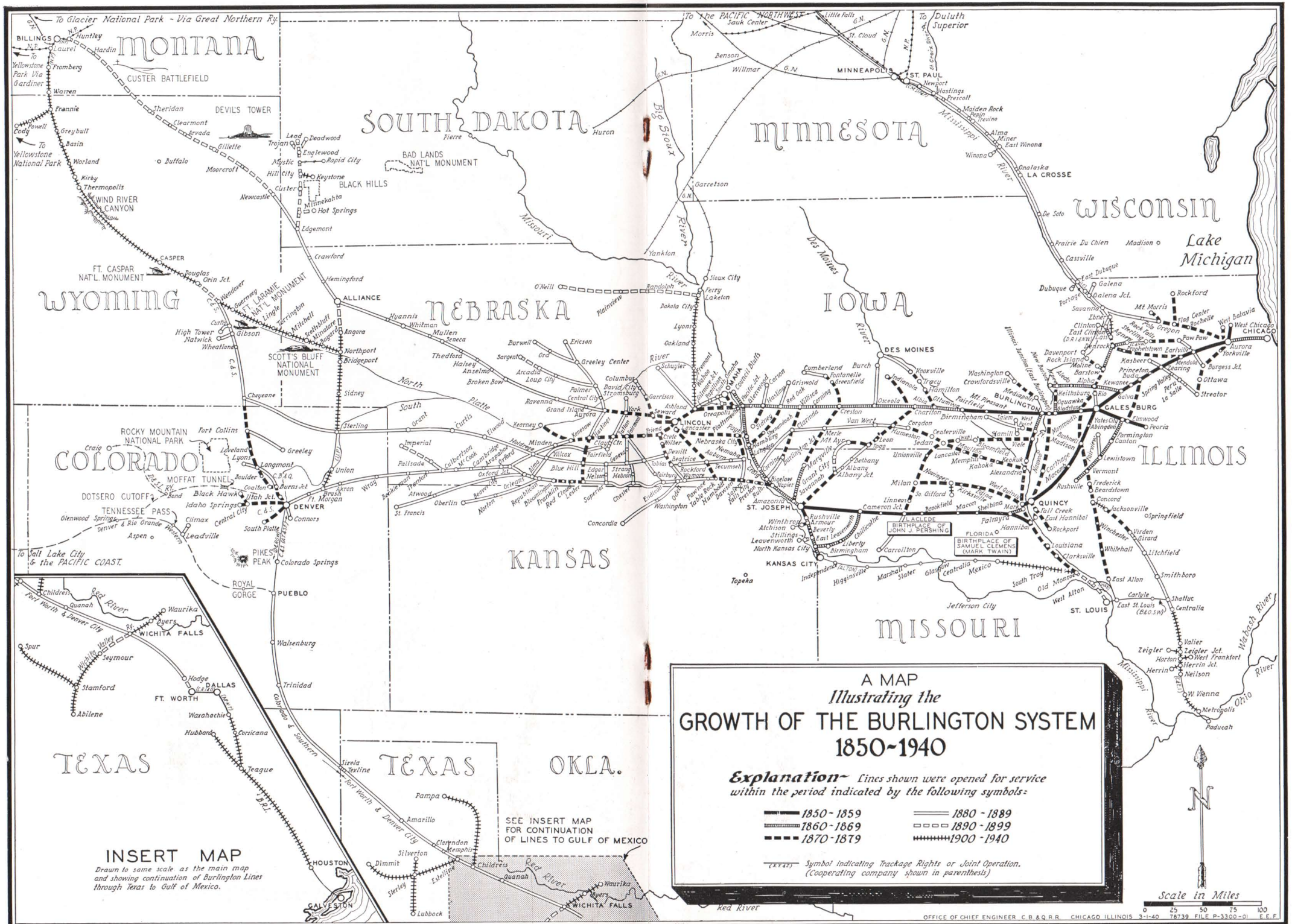
Address **GEO. S. HARRIS, LAND COMMISSIONER,**
or **T. H. LEAVITT, Ass't Land Comm'r, Burlington, Iowa.**

Or apply to

FREE ROOMS for buyers to board themselves are provided at Burlington and Lincoln.

B. & M. Land Advertising Circular, 1873

grants were soon attracted from Iowa, Minnesota and Wisconsin. To stimulate these sales, the Hannibal and St. Joseph Land Commissioner published an elaborate 60-page pamphlet in 1860, which included maps and copious illustrations of the fertile farm lands of northern Missouri, and gave complete information concerning soil, crops, stock-raising, timber, manufactures, education and markets in the promised land. Prices varied, according to quality of soil and location, and the settler was allowed ten years in which to pay for his land. This enabled him to use his ready cash for the purchase of farm equipment and building materials necessary to establish himself as a farmer.



"To the West, to the West, to the Land of the Free."

EMIGRATION

TO

IOWA and NEBRASKA, U.S.

The next Colony will leave Rochdale for Lincoln Nebraska, on Wednesday, June 28th, 1871.

The Burlington and Missouri River Railroad Company will provide the Colony with Through Tickets from Liverpool to Lincoln, at the following Rates:

				£	s.	d.
Steerage on Steamer and 3rd class Railway	....			11	11	0
Ditto	Ditto	1st	Ditto	....	15	2 5
Intermediate	Ditto	1st	Ditto	....	18	5 5
Cabin	Ditto	1st	Ditto	....	24	11 5

A Guide will be furnished to accompany the Party from the Landing Port to their Destination, and every arrangement will be made for the care and comfort of the Colony, until they are finally settled in their New Home.

HOMES FOR ALL!

More Farms than Farmers! More Landlords than Tenants!

WORK FOR ALL WORKERS!

2,000,000 Acres of LAND for SALE

At from Four to Fifteen Dollars per Acre, on Ten Years' Credit, and only charged Six per Cent. Interest.

Those intending to join the Colony, should apply to the undersigned at once for full information and Copy of the Guide to Iowa and NEBRASKA.

ASHWORTH & PARKER,

2, River-Street, Rochdale; and 4, Corporation-Street, Manchester,

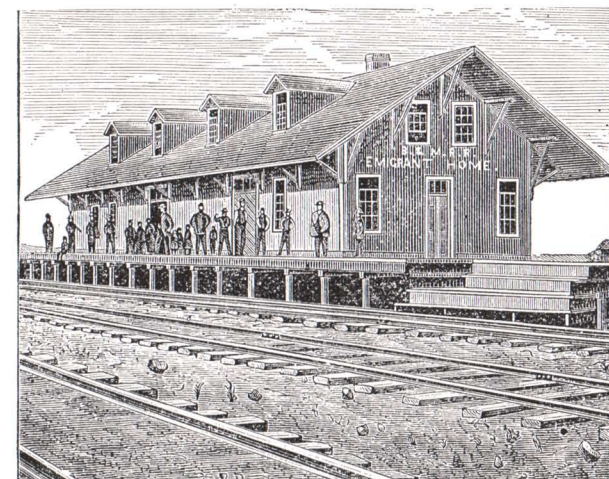
Agents to the Burlington & Missouri River Railroad Company.

JOHN TURNER, PRINTER, DRAKE-STREET, ROCHDALE.

Until the outbreak of the Civil War, land sales were brisk. The conflict inevitably caused an abrupt decline in business, but with the return of peace, immigration revived rapidly. By the end of 1870, nearly 80 per cent of the grant in Missouri had been sold; the balance was disposed of gradually during the next 20 years.

Meanwhile, colonization was taking place in Iowa and Nebraska. Except for a few scattered transactions in Iowa during the 'sixties, most of the sales in these regions took place between 1870 and 1880. The company opened its intensive campaign in April, 1870, by flooding the United States, Canada and Europe with hundreds of thousands of advertising pamphlets printed in German, French, Welsh, Bohemian, Norwegian and Swedish as well

B. & M. Emigrant Home, Lincoln which housed prospective buyers until they could select farms

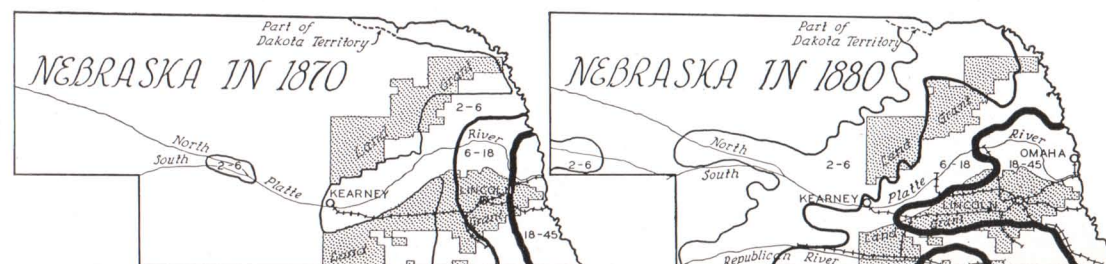


as English. More than 250 agents sought immigrants east of the Mississippi and north of the Ohio Rivers, and foreign offices were opened in England, Scotland, Sweden, and Germany. Crop samples from the rich lands of eastern Nebraska were sent to hundreds of agricultural fairs in this country and abroad. In addition to appealing to individual immigrants, the railroad encouraged formation of colonies which could travel as a unit from their native state or country to the land grant area. Members of these groups were carefully selected by company agents as to occupation and financial standing; frequently they came to the West under the leadership of their own pastor, and together with individual purchasers were free to stay in the company's Emigrant Homes until they could select their farms.

The results of the Burlington's colonization campaign were astonishing. During the 1870's, the company disposed of four-fifths of its Iowa and Nebraska grants by selling 2,273,885.37 acres to more than 20,000 purchasers, most of them heads of families. In the more settled State of Iowa, farm values and improved acreage in the granted area increased 126 and 354 per cent, respectively, during the decade. In Nebraska, the stream of migration that had been following the Platte River Valley in 1870 was diverted so that by 1880 its center passed southward through the region bisected by the B. & M. in that state. Population, farm values and improved acreage in this area increased in astronomical proportions.

During the years 1880-1905, the C. B. & Q. disposed of the balance of all its various grants, although even after 1905 settlers were encouraged by the railroad to make their homes in the territory served by the company.

How the stream of migration shifted to B. & M. territory: the figures show population density per square mile



Colonizing the Prairies—Important and spectacular as it was, the disposal of the Burlington's land grants was but part of a larger colonization process. As the officers pointed out repeatedly from 1859 on, they were running a railroad and not a land company. They well realized that in the long run the survival of that railroad would depend not on how many acres it sold, but on how many permanent settlers made their homes on the farmlands and in the towns along its line. Thus, from the very beginning, the Burlington endeavored to promote the community as a whole, and to safeguard its well-being. There was much the railroad could do in this respect—particularly in the newly-opened portions of the West.

Even before the rails were laid to Crete, Chief Engineer Thomas Doane and Land Commissioner Harris of the B. & M. in Nebraska were endeavoring to persuade the Congregationalists to locate a college in the town. As an initial inducement, the railroad offered 80 acres of land free, valued at \$3,000, and the local town-site company promised to give 50 lots, valued at \$4,000. (Later the railroad deeded an additional 600 acres to the college.) As a result, the first train ever to reach Crete brought the men who laid the cornerstone of the "Academy" that is now Doane College. Since no church had yet been erected in the village, the railroad offered the depot as a meeting house—with Commissioner Harris as superintendent of the Sunday School! At Harvard, where there was not even a depot, a coach was sidetracked every Sunday for use as a chapel. Nor was there ever racial or sectarian discrimination: in Iowa the B. & M. fostered colonies of Swedish Lutherans, Methodists, and Welsh Episcopalians, and helped French Icarians with agricultural experiments; a Catholic priest wrote a book describing northern Missouri and the Hannibal and St. Joseph lands, and urged his flock to settle there; in Nebraska the railroad brought in colonies of Russo-Mennonites, Bohemians, Yankee Congregationalists, a band of New England temperance advocates, and thousands of Scotch Presbyterians. When one group demanded exclusive privileges, the Land Commissioner promptly replied that there was "room eno' for all".

To the purchasers of its lands, the Burlington offered from the beginning a substantial reduction in freight rates on all "emigrant's movables". In 1876, this privilege was extended to any actual settler in a county where the

Special Through Rates
— ON —
EMIGRANT MOVABLES
FROM
CHICAGO
AND ALL C. B. & Q. STATIONS IN ILLINOIS
TO POINTS IN
Kansas, Nebraska and Colorado.

THE COMPANY RESERVES THE RIGHT TO WITHDRAW OR CHANGE THESE RATES WITHOUT NOTICE.

Taking Effect September 9, 1880.

E. P. RIPLEY,
General Freight Agent.

PAUL MORTON,
Assistant General Freight Agent.

railroad had lands for sale, or to any farmers' clubs wishing to bring in agricultural supplies, livestock, trees or shrubbery. Meanwhile, seed for the various Granges was brought in by the railroad free of transportation charges.

In times of emergency, the company was frequently able to give immediate and tangible assistance. In 1872, not long after settlement had begun west of the Missouri, one little village west of Lincoln ran short of food, whereupon the railroad sent two tons of meal and seven hundredweight of pork, freight free, to be distributed and paid for when convenient. Later on, farmers of western Nebraska, hard hit by drouth and low farm prices, were given winter employment in railroad shops and yards, and returned to their acres when spring came.

The company well knew, and candidly stated, that its own prosperity was inextricably bound up with that of its shipping and travelling public. And its attitude was reciprocated in kind; one editor of the *Saline County Post*, after carefully explaining his anti-monopoly beliefs, declared in 1871 that "people may grumble at the railroad companies, but they are a necessity of the age . . . the true interests of both the people and the companies are identical, and . . . all concerned should be convinced of this." In the West, the farmer, the townsman and the railroad suffered the same hardships and toiled with equal vigor to establish a thriving, permanent community. (The story of the Burlington's land and colonization work will be fully told in a forthcoming volume.)



*Merrill Hall, Doane College
(from the catalogue of 1894)*



Charles Elliott Perkins, who rose from clerk, 1859, to president, 1881-1901

Agricultural Development—Since the Burlington system was built to serve a region chiefly agricultural, it was natural that its various constituent companies should take an early interest in the promotion of crops and livestock. As in colonization, the Hannibal and St. Joseph took the lead in this respect; as early as 1854, its expert land examiner reported to the directors on the agricultural possibilities of its territory, and five years later the company was informing hundreds of prospective settlers just what crops could and should be raised in northern

Missouri. In 1858, before the Iowa line had built 50 miles of track or sold a single acre, Land Agent Charles Russell Lowell, a nephew of the poet and diplomat, was questioning local farmers about their yields of corn and wheat, and whether they thought vineyards would thrive on the banks of the Mississippi.

During the Civil War, when the Southern cotton supply was cut off, Charles E. Perkins, then Land Commissioner of the Iowa road, cooperated with the United States Department of Agriculture in distributing cotton seed. By the time active colonization began in 1870, the company was able not only to give complete statistical information as to crops and livestock, but also to submit samples of corn and wheat to prospective settlers. One of the most far-reaching services, however, was the introduction of alfalfa as a commercial crop in Iowa and Nebraska. Until 1875, this legume was practically unknown in the region, save for an occasional experimental patch or an ornamental hedge. In that year, the company distributed a quantity of seed free, an act that earned Governor Furnas' prompt commendation. Two generations later alfalfa was the leading hay crop in Nebraska. During the 'seventies, and again in the 'nineties, the Burlington and Missouri River roads published first the "Iowa and Nebraska Farmer", and then the "Corn Belt", both of them largely devoted to agricultural results and possibilities.

In an effort to counteract the scarcity of timber, and to experiment in re-forestation, 560,000 trees of various kinds were planted along the right of way in Nebraska in 1873, and the railroad was constantly urging farmers to report their experience with new crops or new breeds of livestock. In cooperation with the Granges and agricultural schools, exhibits were prepared for the numerous county and state fairs, one even going to the Paris Exposition; before the nineteenth century drew to a close, the Burlington had established a series of experimental farms along the line in Nebraska. As in the days of the pioneer settler with his relatively crude methods, the prosperity of the farmer was still inevitably linked with that of the railroad.

The Railway and the Worker—Throughout these years of growth, while the Burlington was bringing towns and farmlands within the orbit of the national market, another "community within a community" was developing, composed of the railway employees and their families. Specialists by trade, and often leaders in their towns, the "Q men" became a substantial and important element in social and economic life wherever the system penetrated.

Unfortunately, the names of the first actual workers on the system are unknown, but it is certain that they were hired in December, 1849, when construction began on the Aurora Branch. In 1889, the Burlington system was employing 23,014 persons, and by the turn of the century this figure had mounted to 35,640.

The nationality of this growing Burlington family was predominantly American, although with the flood of immigration during the 'seventies and 'eighties, some foreign labor—Irish, Scandinavian, Japanese—was used in the construction of lines west of the Missouri River.

From the very beginning, the social proclivities of the Burlington men and their families were apparent: in 1859, they inaugurated, in Aurora, the "Annual Employees Ball". That year was socially significant in still another way: the name of a woman appeared on the system payroll for the first time. She was Mrs. Ellen Conway, a boardinghouse keeper who received \$8.21 from the Hannibal and St. Joseph Railroad. The earliest recorded instance of a woman in the transportation service was that of Mrs. E. F. Sawyer, who received \$10 in January, 1872, for work as a telegraph operator in Montgomery, Illinois.

The common interests that united all C. B. & Q. men found expression by 1878 in the formation of the "Protective Association of the Employees". Of more lasting importance, however, was the founding of the Voluntary Relief Department in 1889.

As a result of the engineers' and firemen's strike of the preceding year, many new men had been hired from eastern roads, bringing with them information about the relief department plans of the Baltimore and Ohio and the Pennsylvania companies. The Directors ordered a thorough investigation of these systems, with the result that the Burlington Relief Department was established in the spring of 1889 to provide employees with accident and life insurance at moderate rates. Since that time, its members have received

FIRST ANNUAL

RAILROAD BALL,

OF THE EMPLOYEES OF THE

C. B. & Q. R. R.,

WILL BE GIVEN AT

Empire Hall, Aurora, Ill.

WEDNESDAY EVENING, DECEMBER 28th, 1859.

The Company of Gentlemen & Ladies is solicited.

SUPPER TO BE SERVED AT AURORA HOUSE.

Carriages will be in attendance at 6 o'clock, p.m.

Music by Glines & Templeton's Band.

Tickets, including Carriages and Supper, \$3.00; may be had of the Committee, or at the Depot.

BEACON PRINT.



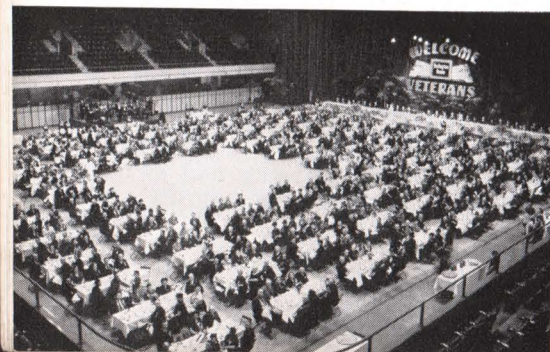
*Flag raising at Hannibal, 1898.
The pole was bought by H. & St. J.
employees during war with Spain*

\$25,663,536.39 in disability and death benefits. On June 1, 1922, a pension plan was inaugurated by which the company gave, without any cost to employees, a retirement compensation based on the beneficiary's age and length of service. This plan was replaced by the Railroad Retirement Act of 1937 which requires contributions from both company and employees.

For a great many years the Burlington has enjoyed an outstanding and noteworthy safety performance. On January 1, 1912, it became one of the first railways to organize a Safety Department with an especially appointed safety officer at its head. This department received such excellent cooperation that in the ten-year period ending with 1939, for example, 228 fewer employees were killed and 26,735 fewer men on duty were injured than within the ten year period, 1920 to 1929, inclusive.

A recent development which reflects the spirit and morale of the Burlington family, was the organization of the Veterans Association in 1920 at Havelock, Nebraska. Composed of employees with a record of twenty years' continuous service, the Association now has chapters all over the system; its purpose is "the promotion of such measures as shall be conducive to the general welfare of our company, our country, and our homes." More recently spontaneous Booster Clubs have sprung up to encourage railroad transportation and employee cooperation. To promote systematic saving and provide credit at reasonable cost, eleven Credit Unions have been organized and managed by the employees themselves.

*The Veterans' 19th Annual
Banquet, St. Paul, 1939*



*Engineer and fireman,
Burlington Lines, 1940*

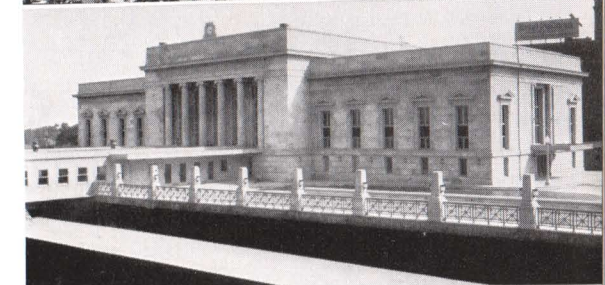
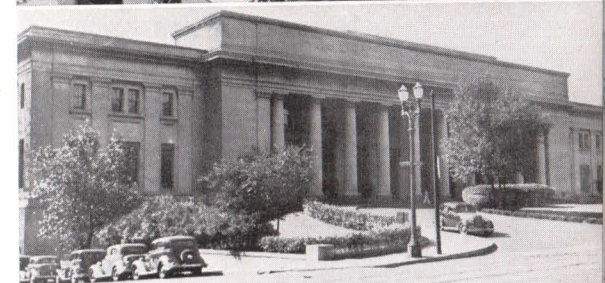


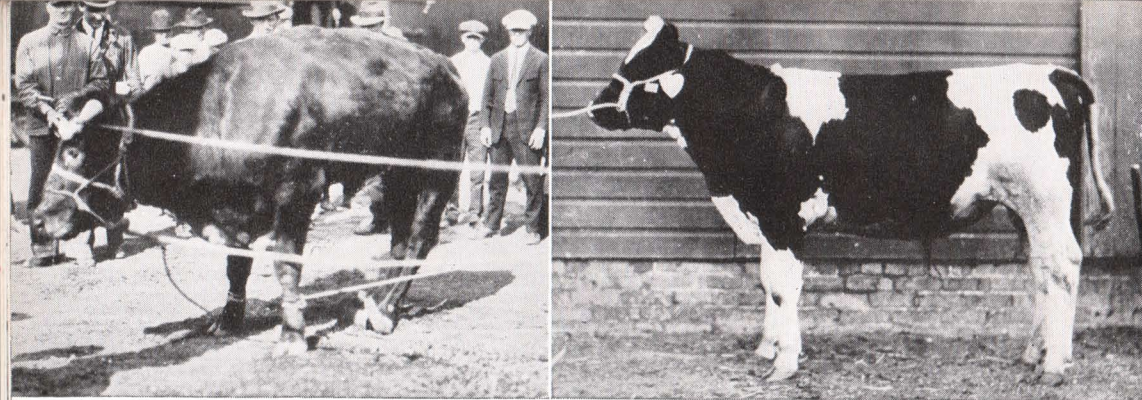
Community Development in the Twentieth Century—

The twentieth century role of the Burlington in the community has been to promote the social and economic well-being of the urban and rural societies it helped to create. Thanks largely to their railroads, the twenty major cities served by the Burlington increased in population from 3,536,491 in 1900 to 7,238,490 in 1930, and to accommodate this potential increase in traffic, the company has modernized its freight facilities and built, or cooperated in building, many new passenger terminals, among them the stations at Chicago, St. Paul, Kansas City, Omaha, Lincoln, and Denver.

The modern counterpart of the railroad's rural colonization work has been the encouragement of scientific agriculture throughout the 14 states in its territory. The magnitude of its task is shown by the increase in farm acreage in these states from 445,989,641 acres in 1910 to 602,061,131 acres in 1935. By means of seed and soil exhibits, poultry specials, and dairy trains, the Burlington has brought the contributions of the most advanced laboratories and experimental stations directly to the farmer. Outstanding in this program has been the promotion of sugar beets. Through this one crop alone prosperity has come to many

*Stations used by the
C.B. & Q. (reading from
top to bottom): Chicago,
St. Paul, Kansas City,
Omaha, Lincoln, Denver*





The Burlington traded 31 of these Purebred sires (right) for scrub bulls (left) in Nebraska towns during October, 1924

farms. To improve the quality of livestock raised along the line, the company in 1924 traded Purebred sires for scrub bulls in 31 Nebraska towns. To aid the farmer in fighting grasshopper plagues, it helped to form a turkey-raising association in the Big Horn Basin. To make farming more secure in the dry-land areas, the agricultural department distributed seeds of drouth-resistant grain sorghums. The initial project of this anniversary year, 1940, was the operation of a Soil Fertility Train through Colorado, Montana, Nebraska and Wyoming, under the auspices of the agricultural colleges of those four states and in cooperation with the United States Department of Agriculture.

To both urban and rural communities, the Burlington has brought relief in times of disaster. Following the devastating floods in the Republican River Valley of Nebraska in 1935, the railroad promptly initiated a rehabilitation project that not only restored transportation service in record time, but gave much-needed employment to communities suffering from months of drouth before the floods.

In order to help the fight against infantile paralysis throughout its territory, the Burlington in 1937 purchased a Drinker Respirator, or "iron lung". Although its primary purpose has been to serve the employees of the railroad, it has been frequently lent, without cost, to many midwestern communities; in December, 1939, it was sent off the line to the Salt Lake City General Hospital, where it was credited with saving two lives.

Thus in many ways does the Burlington play an integral part in community life.

Dairy exhibit on Soil Dividends Special, Missouri lines, 1928



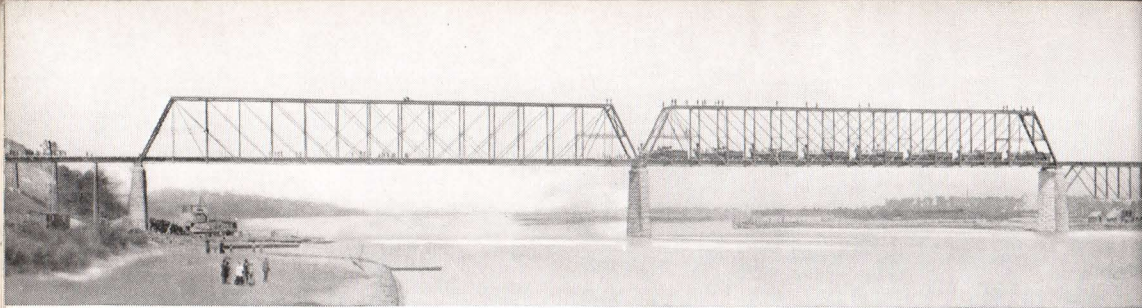
III. Creating the Modern Railroad

The Railroad's Changing Role—By the end of the Civil War, the railroads of the United States enjoyed a virtual monopoly of land transportation. Between the various individual lines and systems, however, there was vigorous competition, which not only led to steady technical progress but also to "rate wars", rebating, and discriminations. By 1870, the demand for regulation in the public interest took form in the so-called Granger laws of a number of midwestern states, but it became apparent that to be effective, railroad regulation had to be on a national basis, and in 1887, Congress passed the Interstate Commerce Act. That law required the railroads to publish their rates, adhere to them, refrain from discrimination, and make reports to the Government. It established a Commission to hear complaints and administer the law. Early experience under the Act indicated deficiencies which were remedied from time to time by amendments, notably in 1906 and 1910. By the Transportation Act of 1920, Congress extended the regulatory and administrative powers of the Commission over rates, service and safety, and gave the Commission new powers over finance, consolidations, extensions, and abandonments. Congress also has passed a number of laws regulating standards of railway equipment, hours of service, wages and working conditions, so that the railroad industry has changed from an extremely individualistic enterprise to a rigidly-controlled and highly-standardized business.

Regulated as a natural monopoly, the railroads in recent years have been confronted with intense competition from new forms of transportation which have made deep inroads on rail traffic and revenues at a time of serious economic stress. Since 1920, the rapid extension and improvement of public highways, the Federal development of waterways, and the construction of pipe lines, have resulted in diverting large quantities of freight and vast numbers of passengers from the railroads. Some of this competition has

Zephyr, truck and bus all play a part in modern Burlington transportation service





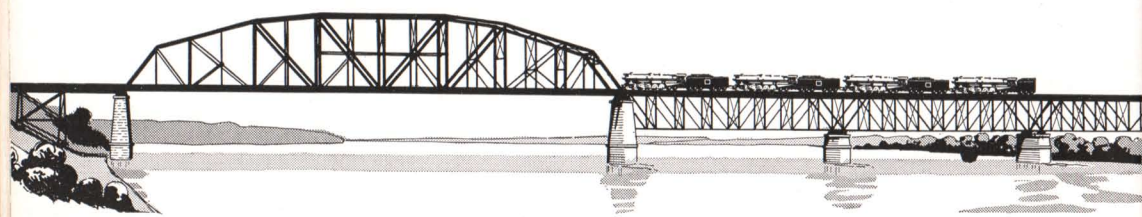
The Plattsmouth Bridge in 1879

been by common carriers, in part unregulated, but most of it has resulted from the use of the privately-owned automobile, truck, and barge. More recently, the airplane has become a serious competitor. Nevertheless, the railroads have remained the backbone of the commercial transportation system of the country. Ultimately each form of transport doubtless will find its proper economic sphere under equal regulation in the public interest.

In the meantime, the railroads have modernized their plant and equipment and have taken advantage of technical improvements as rapidly as consistent with sound management. They have also greatly increased the speed and efficiency of both freight and passenger service, and offered to the traveller by rail a degree of safety and luxury comparable with the best hotels and clubs. In this adjustment to new conditions, the Burlington has consistently been a pioneer.

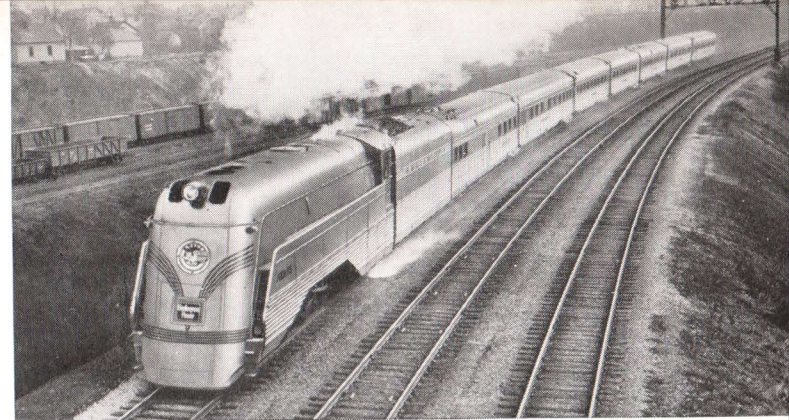
Research—Although the technical improvements which have created the modern Burlington railroad have been most rapid since 1900, steady progress has taken place from the earliest days. Even by 1876, it was apparent that patient research alone could determine which materials were most suitable for the construction of locomotives, cars, bridges and track, and in that year the C. B. & Q. established a testing laboratory in Aurora. Eight years later, a dynamometer car was constructed to obtain additional information for improving the efficiency of locomotives, for determining their proper tonnage rating, and for many other purposes. In 1886 and 1887, the company conducted at West Burlington the most exhaustive tests made up to that time in power brakes; it was there in 1887 that George Westinghouse invented the triple valve which perfected the air brake and brought it into universal use to the exclusion of other types of brakes. Without this improvement, modern train performance as we know it could never have been achieved.

Since 1900, the company laboratory and the successors of the original



The Plattsmouth Bridge in 1939

*Shrouded Hudson type
Aeolus engine with
lightweight cars on the
main line near Aurora*



dynamometer car have extended their investigations into every phase of railroad operation. The perfection of the treatment of water for boiler use, for example, has been a major factor in improved locomotive performance. Recently the Burlington streamline Zephyrs have also participated in tests—first in 1934, and later in connection with disc brakes. These trials have proved of vital importance to the progress of high speed operation.

Road-bed and Signals—One constant aim of Burlington experiments has been the improvement of road-bed, ties, rails and signals. Prior to 1905, gravel, cinders, crushed limestone and burned clay were the materials used for ballast, but none of them met the needs of increasingly heavy power and accelerated train speeds. In that year, chat, a waste product from lead and zinc mines, was found to have the desired qualities of weight and drainage, and was eventually adopted for use on all main lines east of the Missouri. A similar waste product from the gold smelters at Denver and Deadwood has been used on principal lines west.

Before the end of the last century, the hard wood originally used for ties was becoming scarce, and since the railroad had to resort to inferior soft wood, it was imperative to develop some form of chemical treatment to provide against rapid decay. Consequently, the company erected its first treating plant at Edgemont, South Dakota, in 1899, and added a second at Galesburg; 20 years later the entire system had been laid with treated ties. Whereas in 1900 the average life of a tie was 7.3 years, it has now been prolonged to over 20 years by scientific treatment.

In recent years, road-bed maintenance as a whole has benefited greatly from the development of the internal combustion engine, which has motorized the old hand-car, and been applied to all forms of grading equipment.

The original strap rail, laid on the Aurora Branch in 1850, was the same as that used on the Stockton and Darlington Railroad in England in 1825, and on the Baltimore and Ohio five years later. In 1853, however, the iron T-rail had made its appearance on the system, and this in turn was replaced by the first Bessemer steel rails in 1867. Up to this date, the heaviest rail in use on the C. B. & Q. weighed 56 pounds per yard, but as the rolling stock became heavier, rail weights increased proportionately. In 1909, when Open Hearth

steel replaced that made by the Bessemer process, maximum weight was 90 pounds per yard; today that figure has been increased to 131 pounds.

During the twentieth century, an important technical improvement has been the installation of automatic signals for the dispatching and safeguarding of trains. Prior to 1903, the manual block system was in universal use on the Burlington, but in that year automatic signals were installed along 23 miles of road; today 2,140 miles of principal main lines are so equipped. In addition, Centralized Train Control has been installed on 200 miles of single track line where double tracking would otherwise be necessary.

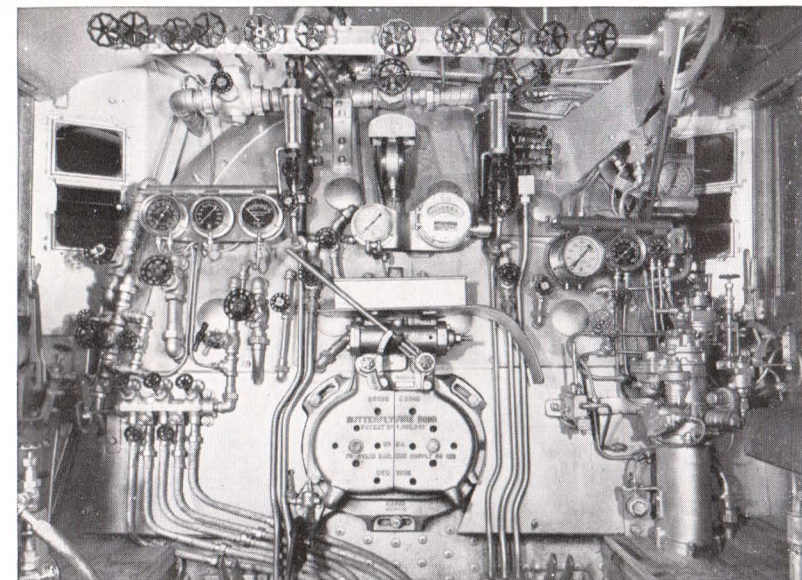
Steam Motive Power—Every one of these changes has contributed an essential element to the modern railroad. Throughout the years, however, the devel-



Colorado, or Heavy Santa Fe, freight locomotive (above). Northern, formerly Mohawk (below) for heavy passenger or fast freight service.

opment of the steam locomotive has been the most obvious and popular measure of railroad progress. It is indeed a far cry from the miniature ten-ton "Pioneer" that inaugurated Burlington operations to the 230-ton giants that are capable of pulling more than 100 loaded freight cars or a score of passenger cars on the present-day fast schedules. The story of the intervening years is one of steady improvement.

For the first 30 years, the only type of motive power in general use for freight and passenger service on the Burlington was the American locomotive with a four-wheel pilot truck and two pairs of drivers (2-2-2). In 1879, however, the first Consolidation engine with eight drivers was inaugurated to take care of the heavier freight trains, and this was followed a dozen years later by the Ten-Wheeler designed for the same purpose, while the Mogul, a

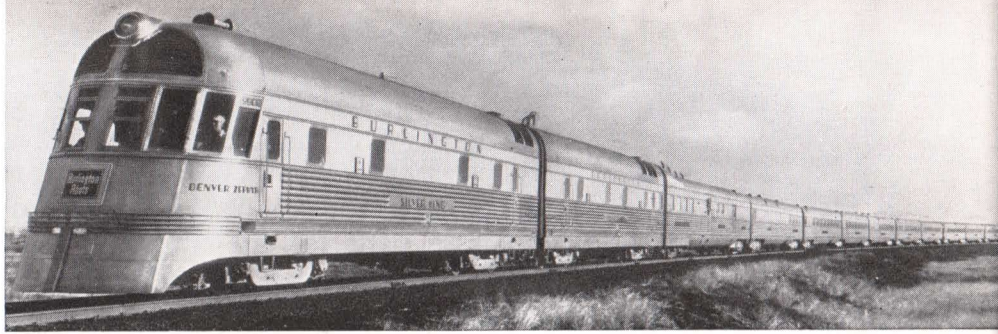


Inside the cab of a modern steam locomotive. Engineer's seat and controls at right

2-8-0 type, was developed for handling both freight and passenger trains. At the very end of the nineteenth century, two important new engines joined the roster: the fleet Atlantic locomotive, with a 2-6-0 wheel arrangement, for passenger service, and the Prairie, a 2-8-0 engine especially adapted for handling freight over the long level stretches of the Burlington. As freight loads grew increasingly heavier, the multiple-wheeled Mallet, Mikado, and Santa Fe types were developed, while the Mountain type (2-10-0) and the Hudson (2-8-2) were assigned to high-speed conventional passenger service. Today these types have culminated in the amazingly efficient Northern (2-10-2), capable of handling either heavy freight or passenger trains on very fast schedules.

During the last 20 years, the improvements incorporated in the most recent types of motive power have doubled the efficiency of the steam locomotive. In this breathtaking scientific advance, the Burlington has maintained an enviable position. The introduction of roller bearings, lightweight reciprocating parts, and the accurate cross-balancing of large locomotives have permitted unusually smooth and economic operation at high speeds, while the general use of nickel-steel and other alloys in construction has reduced impact or hammer blow of the drivers and insured longer life both of track and locomotive parts. Other important steps forward have been the development of integral steel casting for locomotive and tender frames, and the perfection of superheaters, force feed lubricators and constant curve-resistance devices on engine trucks and trailers; in connection with this last improvement, radial spring buffers have practically eliminated jolting when the train starts or stops. The wide-spread use of automatic stokers and the recent introduction of enclosed cabs have contributed greatly to the comfort of the engine men. As a result of these changes, the modern steam engine is stronger, safer, more efficient, and more comfortable than ever before.

Denver
Zephyr

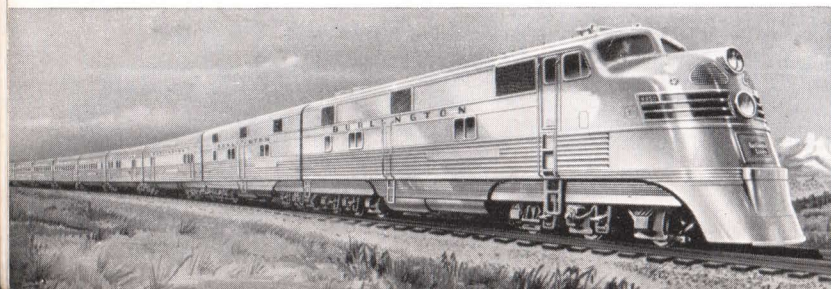


Diesel Motive Power—The most revolutionary event in the history of Burlington motive power has been the introduction of the Diesel-electric unit. The company's long experience with gas- and oil-electric cars on branch lines had demonstrated the great economy of the internal combustion engine. Thus, when a lightweight Diesel engine was first produced in 1933, and when at the same time lightweight cars became practicable, the Burlington experimented with a complete Diesel-electric train for main line service. On May 26, 1934, the 1,017-mile non-stop run of the stainless-steel Pioneer Zephyr from Denver to Chicago in 13 hours and five minutes demonstrated conclusively the ability of such a train to maintain with safety a consistently high speed.

This was the first Diesel-electric streamline train in America. It entered regular service on November 11, 1934, between Lincoln, Omaha, St. Joseph and Kansas City. So efficient and popular was the Pioneer that in the intervening six years eleven more Zephyrs, each one larger and more powerful than the Pioneer, have been put into service. The motors on these trains developed from 600 horsepower in the four-car Pioneer to 4,000 horsepower in the ten-car Texas Zephyrs; beginning this year, the Exposition Flyer has also been hauled by 4,000 horsepower Diesel locomotives.

The adaptability of Diesel power has been further demonstrated by its use on the highways. In April, 1939, the Burlington Transportation Company placed in its Chicago-California service the first transcontinental air-conditioned Dieseliners to be used in the United States. A few months later the same company began the gradual substitution of Diesel for gasoline motors in its trucking fleet.

Equipment—Progress in equipment, both freight and passenger, has kept pace with the evolution of motive power. As time went on, specialized freight cars were designed and perfected for the increasingly diverse needs of the agricultural and industrial shipper; tank, refrigerated, stock, automobile, grain, coal and container cars, to mention only a few, have made their appearance. Steel has largely replaced wood except for car lining, and there has been a uniform

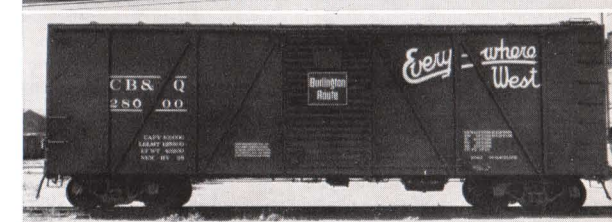
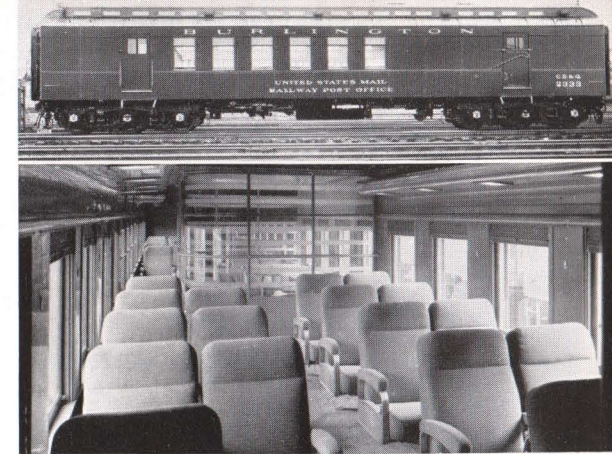


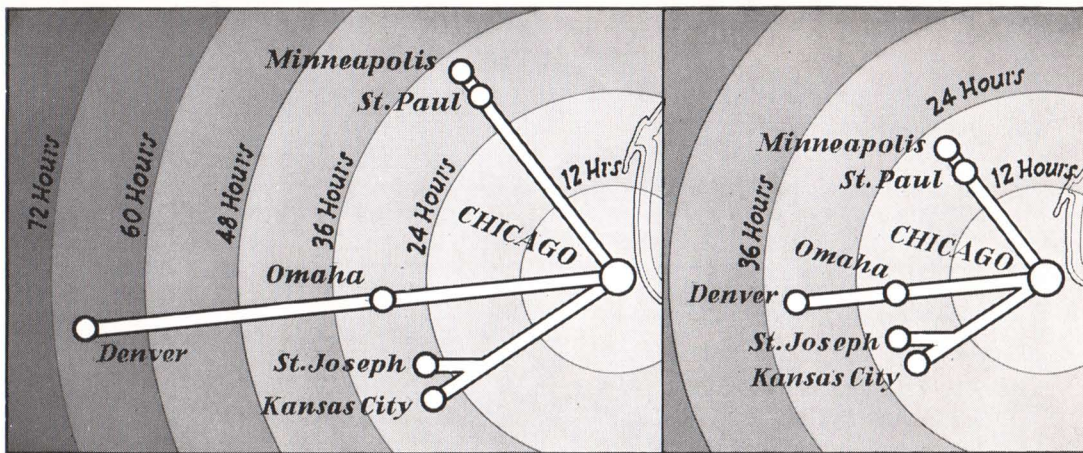
New Texas Zephyr

Modern Burlington equipment

increase in car capacity. Since September, 1935, highway trucks operated by the Burlington Transportation Company have added another specialized means of handling freight for the system.

Although passenger equipment has been radically changed in the last few years, some of the earlier improvements are well worth noting. By 1866, at least four sleeping cars were in service, and six years later a large banquet was given at Council Bluffs to celebrate the inauguration into Chicago-Omaha service of two "palatial" dining cars. By 1888, trains equipped throughout with vestibule cars were run between Chicago, the Twin Cities and Denver. The outstanding improvements in passenger equipment since 1910 have been the advent of the steel car, air-conditioning during the thirties, and the very recent introduction of lightweight stainless-steel streamline trains. The first of these three major improvements at once brought a new degree of safety to passenger travel, the second, cleanliness and quiet, and the last has combined even greater safety with a level of comfort never before achieved in land travel. All-room sleepers, cocktail lounges, buffet cars and deluxe chair cars equipped for over night service, are found on Burlington through trains. Each Zephyr in particular has surpassed its predecessors in luxuriousness of appointment, in riding qualities and passenger appeal. Since 1929, the buses of the Burlington Transportation Company have provided an alternative form of economic passenger travel.



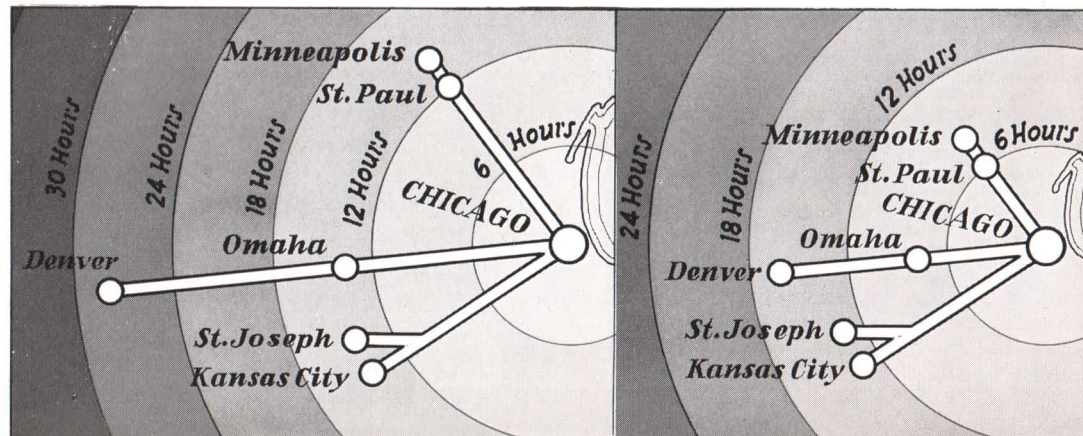


How the fastest freight schedules have been improved between 1925 (left) and 1940 (right)

Service—The constant purpose and inevitable result of these improvements have been to provide better transportation service. In 1887, for example, through passenger trains traveled from Chicago to Denver in 43 hours, to Kansas City in 20 hours, and to St. Paul in 16 hours. By 1900, these times had been cut down to 27½ hours, 14½ hours and 13¼ hours, respectively. In 1934, the opening of the Dotsero cut-off to connect the Moffat Tunnel line with the Denver & Rio Grande Western west of the Continental Divide immeasurably improved the Burlington's California service. Furthermore, it fulfilled the desire of Denver for a through transcontinental line proceeding directly westward from the city, and the hope of the Burlington to become a part of that through route. The introduction of the Exposition Flyer on this run in June, 1939, further shortened the schedule from Chicago to San Francisco by more than 20 hours.

Today a passenger may travel by Zephyr from Chicago to Omaha in 7¾ hours, to Denver in 16 hours, and to St. Paul in six hours. With the introduction of the Texas Zephyrs, approximately five hours will be saved in the running time between Denver and Fort Worth.

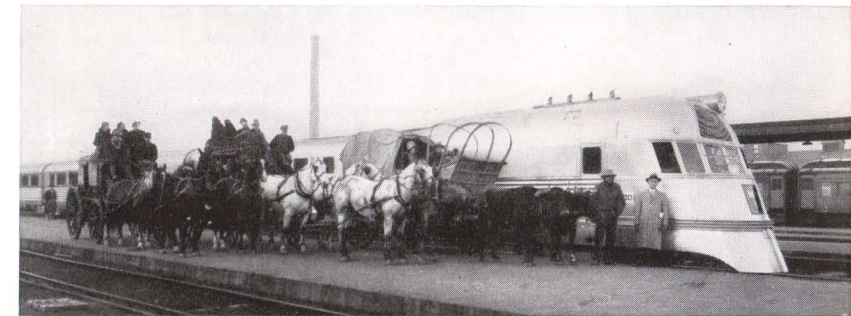
How the fastest passenger schedules have been improved between 1925 (left) and 1940 (right)



Freight schedules have experienced similar cuts. Since the turn of the century, eastbound freight trains from Denver have cut their time from 55 to 33 hours. A comparable saving has been achieved on the runs from Chicago to Omaha, Council Bluffs and St. Paul as well as in the Kansas City to Denver, and Denver to Omaha schedules. There has been a proportional speeding up in the shorter runs, particularly in the handling of livestock, perishables and merchandise.

Conclusion—The Burlington system is proud of the fact that for 90 years its service has become steadily safer, more rapid and more adaptable to the increasingly diverse needs of the shipping and traveling public. There are many reasons for the company's record of progress. From the beginning, a consistently conservative management has sought to keep capitalization low, to plow profits back into the transportation plant and to finance new ventures from earnings; as a result, the Burlington has never defaulted upon or compromised an obligation. At the same time, there has been a liberal disposition

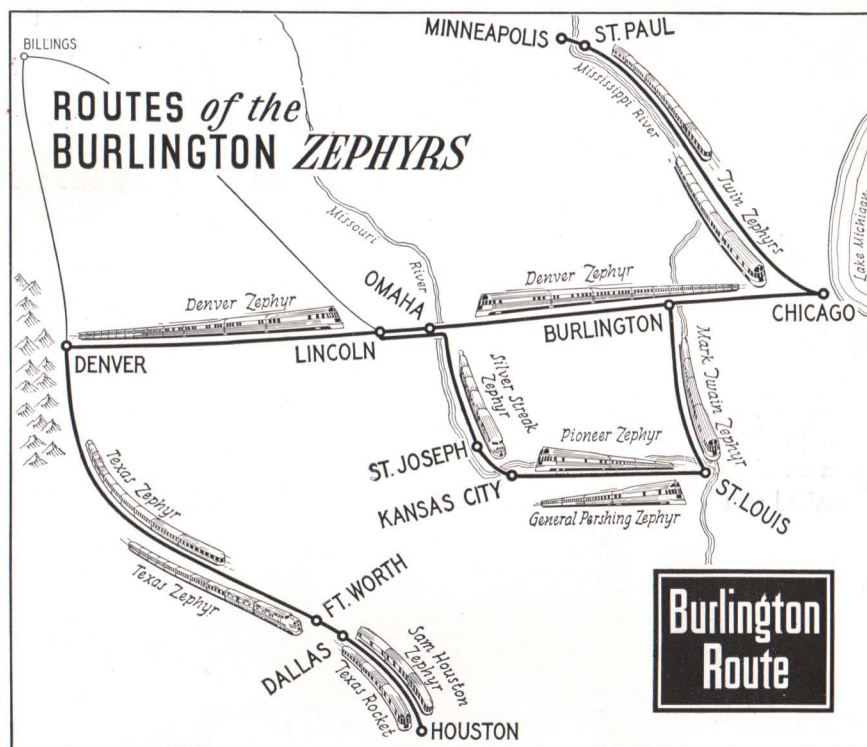
From Prairie Schooner to Pioneer Zephyr, a contrast



to expand into new territories and to experiment with the latest technical improvements in railroading. For their part, employees have contributed to the business success of the system by their loyalty and ready acceptance of responsibility.

As in the case of an individual, however, the life of a railroad cannot be told fully in terms of business alone. Throughout its 90 years, the Burlington has been part of the western community. It has shared the hopes and fears of prairie farmers, toiled side by side with the builders of cities, and experienced the alternate effects of prosperity and depression. Through its colonization work, and through its own family of workers, the "Q" has been intimately identified with the social and cultural development of its territory. Again like an individual, it has made many friends and, unfortunately, some enemies. It has performed good deeds, and made its mistakes, for a railroad too must learn by experience.

At the end of the first 90 years, the Burlington stands ready to play its part in the American West, a West still fired by the enthusiasm, the courage and the imagination of its pioneers.



Bibliographical Note

The chief sources of information for the material in this Pamphlet have been:

1. Manuscript corporate and historical records of the Chicago, Burlington & Quincy Railroad.
2. Manuscript Land Department records of the Hannibal and St. Joseph Railroad and Burlington and Missouri River Railroads.
3. Published Reports, circulars, charts and statistics of the Chicago, Burlington & Quincy Railroad and its constituent companies.
4. Federal and State Documents such as the *Census*, *Congressional Globe*, *Land Department Reports*, *Statutes-at-Large*, *State Reports*.
5. Published Correspondence, Speeches, Reminiscences, and Guide-Books.
6. Newspapers in Chicago, Aurora, Galesburg, Monmouth, Burlington, Omaha, Lincoln, Beatrice, Denver, St. Paul, Hannibal, St. Joseph, Kansas City, and elsewhere.
7. Standard secondary works on economic history, railroads and the West.

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