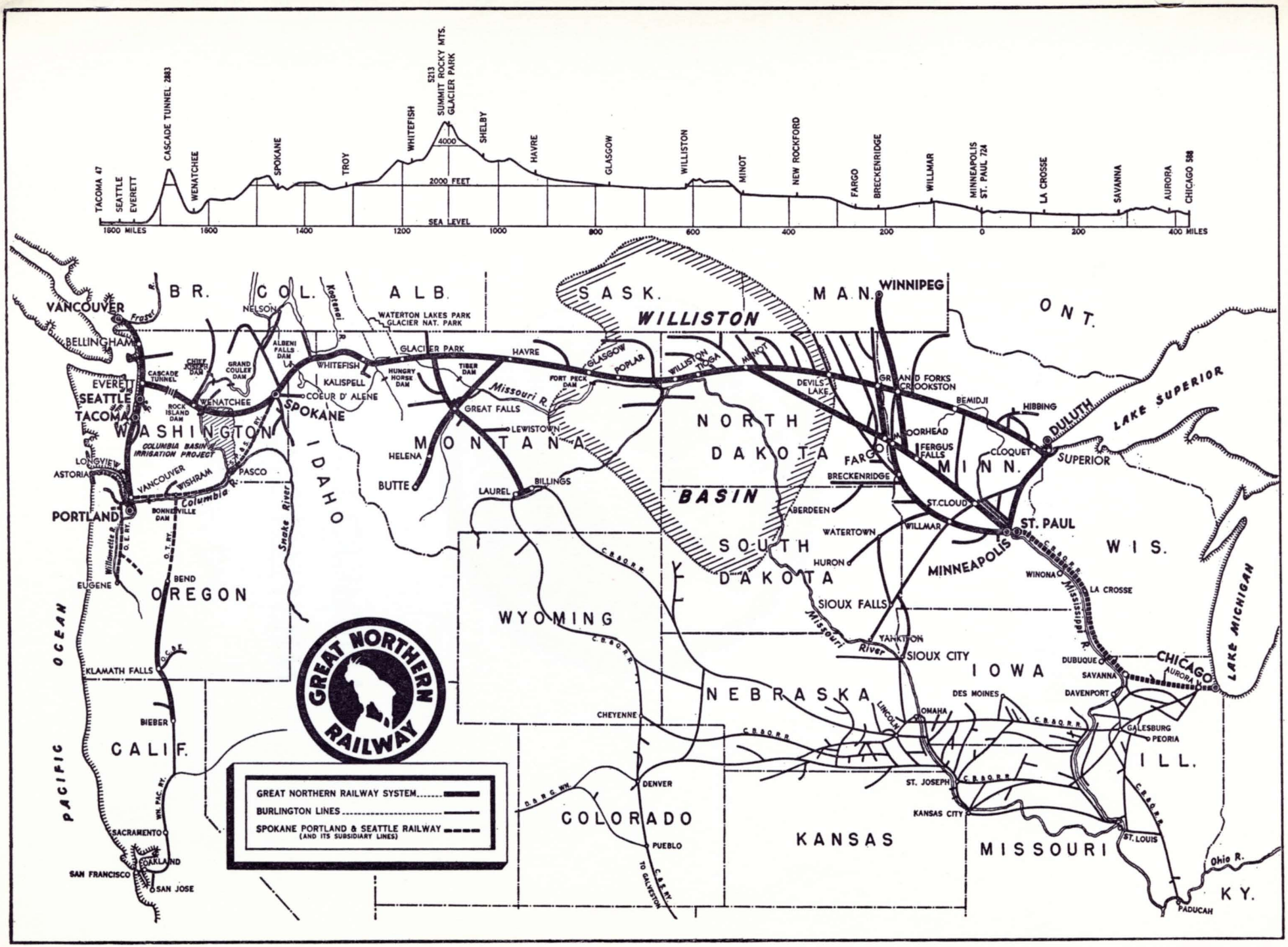
A Study of the

GREAT NORTHERN RAILWAY COMPANY

Prepared by

Hayden, Stone & Co.


TACOMA 47
SEATTLE
EVERETT
CASCADE TUNNEL 2883
WENATCHEE
SPOKANE
TROY
WHITEFISH
5213
SUMMIT ROCKY MTS.
GLACIER PARK
4000
2000 FEET
SEA LEVEL
SHELBY
HAVRE
GLASGOW
WILLISTON
MINOT
NEW ROCKFORD
FARGO
BRECKENRIDGE
WILLMAR
MINNEAPOLIS
ST. PAUL 724
LA CROSSE
SAVANNA
AURORA
CHICAGO 588
1800 MILES
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B R.
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SASK.
MAN.
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VANCOUVER
Fraser R.
BELLINGHAM
NELSON
Kootenai R.
WATERTON LAKES PARK
GLACIER NAT. PARK
WILLISTON
ALBENI FALLS DAM
GLACIER PARK
HAVRE
GLASGOW
POPLAR
WILLISTON
TIOGA
MINOT
DEVILS LAKE
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CROOKSTON
BEMIDJI
HIBBING
DULUTH
LAKE SUPERIOR
CASCADE TUNNEL
CHIEF JOSEPH DAM
GRAND COULEE DAM
WHITEFISH
KALISPELL
HUNGRY HORSE DAM
TIBER DAM
FORT PECK DAM
EVERETT
SEATTLE
TACOMA
WENATCHEE
COEUR D' ALENE
SPOKANE
Missouri R.
GREAT FALLS
MOORHEAD
FERGUS FALLS
CLOQUET
SUPERIOR
ROCK ISLAND DAM
COLUMBIA BASIN IRRIGATION PROJECT
W A S H I N G T O N
I D A H O
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N O R T H
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M I N N.
LONGVIEW
ASTORIA
VANCOUVER
WISHRAM
PASCO
Columbia R.
HELENA
BUTTE
LAUREL
BILLINGS
FARGO
BRECKENRIDGE
B A S I N
ABERDEEN
ST. CLOUD
ST. PAUL
PORTLAND
BONNEVILLE DAM
Snake River
WATERTOWN
WILLMAR
S O U T H
D A K O T A
MINNEAPOLIS
W I S.
HURON
WINONA
LA CROSSE
Willamette R.
EUGENE
BEND
O R E G O N
SIOUX FALLS
Missouri River
YANKTON
SIOUX CITY
Mississippi R.
DUBUQUE
CHICAGO
AURORA
LAKE MICHIGAN
PACIFIC OCEAN
KLAMATH FALLS
W Y O M I N G
I O W A
SAVANNA
DAVENPORT
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GALESBURG
PEORIA
BIEBER
CALIF.
I L L.
DENVER
ST. JOSEPH
KANSAS CITY
COLORADO
KANSAS
M I S S O U R I
ST. LOUIS
PUEBLO
SACRAMENTO
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K Y.
PADUCAH
GREAT NORTHERN RAILWAY
GREAT NORTHERN RAILWAY SYSTEM
BURLINGTON LINES
SPOKANE PORTLAND & SEATTLE RAILWAY
(AND ITS SUBSIDIARY LINES)

HAYDEN, STONE & CO.

Established 1892

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New York, N. Y.

10 Post Office Square
Boston, Mass.

400 Park Avenue, New York, N. Y.

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January 16, 1958

GREAT NORTHERN RAILWAY COMPANY

CAPITALIZATION—DECEMBER 31, 1957

Equipment Obligations	$ 65,310,227
General Mortgage Bonds (all Series)	200,506,900
Miscellaneous Obligations	597,350
	$266,414,477
Shares of Stock Outstanding	6,077,786 shares

Great Northern is the most northerly of the United States transcontinental carriers whose lines extend from the Great Lakes and the Twin Cities westward to Seattle and Vancouver. As compared with other transcontinental carriers, Great Northern benefits from the shorter distance traversed between the Twin Cities and Puget Sound. It has most favorable grades in crossing the Rockies, at the relatively low altitude of 5,213 feet and even in crossing the Cascades, construction of the longest railroad tunnel in the United States has restricted this summit to only 2,883 feet.

In its entire distance from the Twin Cities to the Coast, Great Northern has only two major eastbound grades, one an 1.8% grade of 14 miles, and the other, a 2.2% grade of 11 miles in length. This favorable profile is reflected in substantially lower helper mileage than other carriers which also must cross both the Rockies and the Coastal ranges.

Great Northern is one of the two transcontinental railroads which has never gone through receivership. Its assets are carried at so conservative a figure that in 1915, the Interstate Commerce Commission determined the valuation of the Company's properties to be 2% greater than carried on Great Northern's own books. This is in sharp contrast to the average Class I railroad whose book accounts have consistently exceeded the valuation established by the Commission.

Among the outstanding characteristics of Great Northern's financial record have been (1) the growing importance of Other Income, particularly in relation to fixed charges, and (2) the above average stability of Net Income.

Great Northern's Other Income has risen from $5.05 million in 1944 to $10.50 million estimated for 1957, which latter alone covered 1957 fixed charges 1.29 times.

Earnings of Great Northern have been remarkably stable for a carrier which depends so largely upon agricultural products for its net. In the past decade, the Company's earnings, adjusted to provide for the 2 for 1 stock split in 1954, have been as follows:

EARNINGS PER SHARE

1945	$3.91	1951	$3.91
1946	3.79	1952	4.55
1947	3.64	1953	4.92
1948	4.46	1954	4.21
1949	3.02	1955	5.27
1950	4.56	1956	5.32
		1957 Est.	4.40

Earnings as stated do not include any equity in the undistributed earnings of Great Northern's 48.6% ownership of Chicago, Burlington & Quincy common stock, its equity in the undistributed earnings of the 50% owned Spokane, Portland & Seattle Railway, or its equity in the undistributed earnings of its 100% owned Western Fruit Express. Such totals for the past five years have been as follows:

1952	$1.47	1955	$1.26
1953	1.26	1956	1.25
1954	1.25	1957 Est.	0.62

For the first ten months of 1957 Great Northern reported earnings of $3.72 per share compared with $4.37 per share for the corresponding period a year ago. For the full year, giving effect to seasonal factors, as well as to the weakening influences of our present business readjustment, Great Northern should earn approximately $4.40 per share which would compare with $5.32 reported last year.

Earnings in recent years have been distorted by reason of tax deferrals from excess of amortization over normal depreciation on equipment and/or facilities approved by the Federal Authorities. Such tax deferrals were equivalent to 45 cents per share in 1953, 56 cents per share in 1954, 62 cents per share in 1955, and 66 cents per share in 1956. For 1957 such deferrals will be on the order of 60 cents per share. However, in 1958 and in subsequent years, such distortions should be moderated importantly by special tax credits arising from special depreciation charges set up under the sum-of-the-digits, or declining balance methods, as authorized by the Revenue Act of 1954. All new equipment purchased by the Great Northern subsequent to 1954, may be depreciated in accordance with these schedules as authorized.

Dividends

Reflecting Great Northern's relative earnings stability, dividends have gradually been increased from $1.00 per share in 1944 and from $2.00 per share in 1953 to the present indicated rate of $3.00 per share. With the Company's cash resources rising from $38 million in 1949, to $61.7 million in 1951, to $71.2 million at the 1956 year end, and to $62.3 million on October 31, 1957, the current indicated $3.00 rate appears reasonably secure.

Capital Program

In the twelve years since V-J Day, Great Northern spent $317.9 million in gross Additions and Betterments, $117.0 million for roadway projects and $200.9 million for new equipment. Most of this capital program was financed from internal sources, since equipment debt during this period increased but $45.9 million, whereas non-equipment debt declined $27.4 million (a net increase of only $18.5 million), while Working Capital increased $9.71 million. Fixed charges for 1957 actually decreased $523,000 as compared with those of 1946. This is a relatively superior financial performance than for most Class I Carriers.

Salient data indicating annual expenditures and changes in the Company's finances are furnished herewith.

GREAT NORTHERN RAILWAY COMPANY

	Gross Capital Expenditures			As of December 31				
	Road Property	Equipment	Total	Working Capital	Equipment Debt	Non-Equipment Debt	Total Depreciation & Amortization	Fixed Charges
				000				
1945.....	—	—	—	$50,788	$19,380	$228,549	—	—
1946.....	$ 4,481	$ 7,388	$ 11,869	41,297	17,515	219,813	$ 7,556	$8,669
1947.....	6,476	14,484	20,960	38,801	19,813	215,748	8,275	7,696
1948.....	9,062	12,354	21,416	42,081	32,688	215,664	8,860	7,520
1949.....	10,003	19,624	29,627	36,971	39,907	215,364	9,536	7,693
1950.....	7,861	26,982	34,843	49,973	48,656	215,364	10,338	7,925
1951.....	10,663	19,226	29,889	44,221	70,296	205,193	10,779	8,199
1952.....	10,305	25,410	35,715	48,859	62,784	205,023	11,503	7,970
1953.....	11,608	15,518	27,126	55,060	63,226	204,863	12,240	8,060
1954.....	10,450	10,345	20,795	58,522	69,609	204,742	12,238	8,095
1955.....	12,225	14,997	27,222	65,871	62,765	204,566	12,422	8,122
1956.....	12,833	10,076	22,909	66,688	62,760	202,395	12,747	8,053
1957 Est.	11,000	24,500	35,500	60,500	65,310	201,104	13,300	8,146
12 yr. Total ..	$116,967	$200,904	$317,871					

Summary 1945-57

Increase in Equipment Debt.....	$45,930,000
Decrease in Non-Equipment Debt.....	27,445,000
Net Increase in Total Debt.....	18,485,000
Decrease in Fixed Charges.....	523,000
Increase in Working Capital.....	9,712,000

Continuing its program of improving property, Great Northern will doubtless over the years eliminate some of its worst remaining curves such as a 12 to 15 mile stretch along the Skykomish River, west of the Cascades. Some straightening of the Company's line near Summit, Montana, may also be undertaken. Great Northern is presently engaged in some line relocations between Everett and Seattle in order to avoid interruptions to service from mud slides from the adjacent slopes. Additional relocations may also be constructed later on.

Last year Great Northern completed a 3,600 car capacity yard (Gavin Yard) at Minot, N. D., at a cost of some $6.5 million, with annual operating savings estimated at some 20% on invested capital, before taxes.

Possibly one or two additional electronic yards, somewhat similar to the one constructed at Minot, may be authorized at a later date, as may also additional Centralized Traffic Control installations. For 1957, Great Northern's capital budget calls for the expenditure of some $35.5 million, including a carryover of equipment construction that should have been completed in 1956. For the next decade, however, notwithstanding achievement of almost complete dieselization, capital expenditures should continue on the order of from $20 million to $25 million annually, if for no other reason than to keep pace with the growth of the Company's service areas. Such an estimate compares with an average of $26 million annual expenditures over the past decade.

Dieselization

Because of the pronounced seasonal characteristics of this railroad's traffic, Great Northern has gone slow in completely replacing its older, less efficient steam locomotives with diesels. Even at the end of 1956, the Company had 157 steam locomotives on hand which compared with 511 on December 31, 1951. However, in 1957 the Company received delivery of 34 diesel units, and another fifteen will be delivered early in 1958. As a consequence, the property is now fully dieselized.

Great Northern has presently on hand eighty-three 1350 h.p. diesels, the age of which range between eleven and fifteen years. The Company is now confronted with the problem whether to repair these locomotives at a cost of $45,000 each, or to send them to Electro-Motive Corp. division of General Motors for rebuilding into 1750 h.p. units at a cost of $150,000 each.

A major development on the Great Northern has been the substitution of its older electric locomotives with diesels in the Cascade district. With a small addition of cash, sufficient funds were obtained, from scrapping twenty electric units as well as overhead wires, to equip its Cascade tunnel, longest in the United States, with fans thus enabling diesel operation in this eight-mile bore. Important savings, both in time and in operating costs, have resulted from this latest operational move.

Equipment

Great Northern has acquired a substantial number of new freight cars since 1946, with the result that the average age of its present fleet of 44,712 cars (including 6,109 refrigerator cars owned by its 100% owned subsidiary, Western Fruit Express) has been reduced from roughly 20 to 18 years. In the important category of box cars the average age of some 21,000 cars is less than 16 years. Condition of the Company's fleet is excellent, percentage of bad order cars awaiting repairs being only 2.7% as of October 1, 1957.

In the past seven years, Great Northern's hire of equipment has ranged from $2.85 million to $6.23 million, with 1956 equipment rentals being $4.04 million. These charges are chiefly accounted for by mileage charges, (four cents per mile) on the large number of privately owned tank cars and refrigerator cars hauled by the Great Northern, from which, however, Great Northern does obtain long haul, high-rated traffic.

Joint facility rentals have ranged within more narrow limits, from $578,971 in 1949 to an estimated $900,000 in 1957.

With a view of maintaining its present car ownership, and not permitting any sizable increase in equipment debits, Great Northern plans to purchase from 1,500 to 2,000 new freight cars every two years. In fact, Great Northern is planning to build 1,050 cars in its own shops in 1958, and 150 are to be built in outside shops, in line with this policy.

Taxes

The Company's Federal tax returns have been audited through 1954 and no important tax credits or debits for subsequent years may be expected.

Overall taxes continue to be a heavy burden to the Great Northern, the Company's 1957 total tax bill being nearly 13% greater than reported net income and 1.8 times dividends paid to stockholders.

Wages

Since 1939, both wage rates and material prices have almost tripled, while increases in average ton mile rates have not kept pace, rising only 70% in the face of increases of 90% actually authorized.

Great Northern has reduced its working force from 28,428 in 1947 to an estimated 25,000 in 1957, with total compensation, reflecting higher wages, rising from $91.80 million to approximately $136 million during this period. In 1951, the Company employed 29,907, the maximum number of employees on Great Northern's payroll since 1947.

Each one cent per hour wage increase at current levels of employment, costs the Great Northern approximately $575,000 annually, pre-tax. Allowing for the 12.5 cent per hour increase, effective November 1, 1956, the three cent escalator increase on May 1, 1957 and an additional twelve cents per hour on November 1, 1957 (7 cents per hour as agreed last year and five cents for an escalator cost of living increase), cost to the Great Northern of such increases will approximate $16 million annually, pre-tax.

As an offset, freight rate increases authorized in late December, 1956 and again in August, 1957, after holddowns and, on the basis of 1957 freight results, should provide annual revenues of some $21 million, more than sufficient to take care of its increased wage and material costs. Thus the Great Northern has emerged as a modest beneficiary from the most recent inflationary rounds.

Passenger Service

Under the ICC formula, Great Northern's passenger operating ratio for 1956 was 193.86% and its operating deficit was $23,965,884. However, on an out-of-pocket cash basis, management believes that its passenger service is provided on much more favorable terms. The Company's crack train, the Empire Builder, grosses around $5.35 per train mile (out-of-pocket costs about $4.50 per train mile) and its secondary train, the Western Star, grosses about $3.90 per train mile with out-of-pocket costs of some $3.45 per train mile. Management feels that since the Great Northern must operate passenger service, its service and equipment should be of the best, especially if it is to generate goodwill and create additional freight traffic. Toward this end, the Empire Builder has been completely equipped with new cars twice since the end of World Ward II, and continuing this policy, new dome cars were placed in service in 1955.

A major reduction in passenger train miles was accomplished in October, 1955, by combining the Western Star and the Fast Mail trains west of Williston, N. D., the consolidated train being operated during the months of light passenger business from October to May. As a consequence of this move total saving in passenger train miles approximated 480,000. Passenger train miles were reduced from 9,375,000 in 1947 to 6,500,000 in 1957 and further reductions are anticipated.

Operating Efficiencies

Among Class I Carriers, Great Northern has consistently maintained a high degree of operating efficiency. This is indicated by the following comparisons:

	Maintenance Ratio		Transportation Ratio		Operating Ratio		Gross Profit Margin (a)	
	Great Northern	Class I	Great Northern	Class I	Great Northern	Class I	Great Northern	Class I
1949.....	35.4%	33.7%	35.4%	39.8%	76.3%	80.3%	13.8%	11.1%
1950.....	32.6	31.6	33.5	36.9	71.3	74.5	19.4	17.3
1951.....	33.5	33.0	35.2	38.3	74.3	77.4	16.6	14.5
1952.....	34.6	32.8	33.4	36.9	73.6	76.1	17.1	16.0
1953.....	34.9	33.4	32.1	36.3	72.7	76.3	17.9	15.4
1954.....	35.7	32.9	33.4	38.7	75.4	78.8	14.1	11.7
1955.....	33.6	31.4	33.0	37.3	72.8	75.7	17.9	15.3
1956.....	35.1	31.3	33.4	38.3	74.6	76.8	15.9	13.8
1957 (11 mos.)	35.4	31.8(b)	34.3	38.6(b)	76.4	77.8(b)	13.4	12.5(b)

(a) Percent of Gross carried through to Net Railway Operating Income before Federal Income Taxes.
(b) 10 months.

Traffic Growth

In 1956, freight revenues reached an all time high, and ton miles a new peace time peak, exceeded only in the war year 1944. As compared with 1948-1949 equaling 100%, Great Northern ranked 6th among Class I carriers in 1956 with an index of 135. By contrast, the Class I average was only 119%.

Significant Traffic Developments

In 1957, some 170 new industries were located on the Company's lines. An important development was the increased activity in mining copper ore at Butte, Montana, which, in effect, doubled Anaconda's productive capacity to 60,000 tons per day, which production level was maintained until the price of copper began its year long decline from 46 cents to 25 cents per pound.

Supplementing its activity at Butte, Anaconda has both modernized and expanded the capacity of its refinery at Great Falls, Montana, a plant served by the Great Northern.

Frozen storage facilities and fertilizer plants, potato storage and washing facilities, cold storage plants, concrete mixing plants, lumber plants, and three large jet bases, in North Dakota and in Eastern Montana, were constructed along Great Northern's lines. A new iron ore mine was opened on the Mesabi Range and industrial expansion also occurred in the Columbia Basin area, as well as in western Canada, especially the City of Vancouver.

In order to attract new industries at an accelerating rate, with consequent increase in high-rated traffic, Great Northern has followed a policy of acquiring strategically located acreages, a policy now followed by many of the more aggressive traffic-minded carriers. Largest of the individual tracts, exceeding 80 acres each, together with their location, are furnished herewith.

Town or City	Acreage	Town or City	Acreage
Superior, Wisconsin	435	New Rockford, North Dakota	293
Verendrye, North Dakota	81	Minot, North Dakota	250
Palermo, North Dakota	80	Tioga, North Dakota	84
Great Falls, Montana	218	Spokane Area, Washington	230
Ephrata, Washington	1,071	Quincy, Washington	96
Fargo, North Dakota	353	Seattle Area, Washington	394

Three tables have been prepared furnishing (a) salient traffic data, (b) major sources of Great Northern's traffic and (c) distribution of Great Northern's postwar traffic.

GREAT NORTHERN RAILWAY COMPANY

Salient Traffic Statistics 1947-1957

	Tons of Revenue Freight (000)	Average Freight Haul (Miles)	Average Revenue per ton Mile (cents)	Freight Revenues (000)	Freight Train Miles (000)	Tons per Train Mile	Revenue per Freight Train Mile	Freight Traffic Density (000)
1947	55,624	293	1.013	$164,906	13,559	1,200	$12.13	1,975
1948	59,310	277	1.140	186,908	12,977	1,263	14.35	1,990
1949	52,752	292	1.197	184,062	12,366	1,243	14.84	1,870
1950	54,150	296	1.219	195,580	12,637	1,269	15.43	1,951
1951	62,979	286	1.195	215,628	13,560	1,330	15.85	2,180
1952	59,442	295	1.292	226,309	13,494	1,298	16.72	2,130
1953	66,335	280	1.269	235,815	13,677	1,358	17.19	2,241
1954	53,797	321	1.279	220,762	12,894	1,337	17.07	2,080
1955	66,769	285	1.240	236,236	14,165	1,345	16.63	2,302
1956	63,524	306	1.290	250,885	14,197	1,369	17.63	2,349
1957 Est.	60,000	290	1.400	246,000	13,100	1,375	18.80	2,120

GREAT NORTHERN RAILWAY COMPANY

Major Sources of Traffic 1956

	Tonnage			Gross Freight Revenues		Average Revenue per	
Commodity Group	(000)	% Originated	% of Total	(000)	% of Total	Car	Ton
Agriculture	10,550	93.8%	16.6%	$ 82,706	31.62%	$333.36	$ 7.84
Animal	426	84.4	0.7	5,262	2.01	152.98	12.36
Mines	38,537	79.7	60.7	48,856	18.68	81.80	1.27
Forests	4,928	64.4	7.7	37,774	14.44	263.47	7.67
Manuf. & Misc.*	8,863	49.3	14.0	81,116	31.02	268.24	9.15
L. C. L.	220	76.4	0.3	5,833	2.23	—	26.53
Total	63,524	76.6%	100.0%	$261,547	100.0%	$192.91	$ 4.12

(*) Includes forwarder traffic.

GREAT NORTHERN RAILWAY COMPANY

Postwar Traffic Distribution

	Gross Freight Revenues						
	000						
	Agriculture	Animals	Mines	Forests	Manuf. & Misc.*	L.C.L.	Total
1947.....	$50,796	$5,026	$33,246	$21,968	$52,237	$8,438	$171,711
1948.....	55,779	5,431	39,641	26,304	61,440	8,629	197,224
1949.....	60,289	5,428	34,097	25,059	58,454	6,811	190,138
1950.....	54,299	4,618	36,678	28,960	73,541	5,960	204,056
1951.....	65,476	5,209	43,381	30,947	72,813	5,706	223,532
1952.....	66,475	5,543	45,448	33,849	76,613	5,872	233,800
1953.....	65,106	5,422	54,032	34,409	79,365	5,838	244,172
1954.....	71,974	5,168	41,238	33,139	72,338	5,917	229,774
1955.....	70,128	4,971	50,131	36,855	77,779	6,172	246,036
1956.....	82,706	5,262	48,856	37,774	81,116	5,833	261,547
1956 vs.							
1951.....	+26.3%	+1.0%	+12.6%	+22.1%	+11.4%	+ 2.2%	+17.0%
1947.....	+62.8%	+4.7%	+47.0%	+72.0%	+55.3%	—30.9%	+52.3%

(*) Includes forwarder traffic.

Individual Traffic Items

Grain: The bread and butter business of the Great Northern is grain, in 1956 Great Northern having hauled 10.55 million tons of products of agriculture and having received therefor $82.71 million, or 31.6% of gross freight revenues. Greatest single constituent of this railroad's traffic is wheat.

Great Northern serves states producing one-third of the nation's wheat. Over the past five years, average number of cars of wheat hauled annually has exceeded 74,000, and average gross revenues have been slightly in excess of $34 million. Relative stability of this profitable traffic has been made possible, in large measure, by a large movement of high protein wheat used by millers for blending purposes. This type of wheat sells for a premium price, and has been in great demand, even in recent years, when an important part of the wheat crop has been remaining on the farms. High protein wheat is a very profitable traffic item, revenues per car from Montana to the Twin Cities currently averaging some $900.

About 90% of the nation's durum wheat used in macaroni and spaghetti products originates in Northeastern North Dakota in Great Northern territory.

Barley: There has been a substantial development in the production of high grade malting barley in North Dakota along Great Northern lines. Ten years ago this production ran 15 to 20 million bushels per year and at present it amounts to from 30 to 40 million bushels per year.

Produce & Fruits: Produce from the Red River Valley in Minnesota also provides profitable traffic volume for the Great Northern, as do also fruits and grains from both the Wenatchee and Columbia River Basin areas.

Iron Ore: Since 1892, iron ore has been an important source of revenue for the Great Northern. In 1956, there were shipped from the Allouez docks, some 27.3 million long tons (24.0 million tons originated), equivalent to approximately 39% of total upper lake shipments. From these tonnages revenues of $31.7 million were obtained, amounting to 11.3% of this railroad's total revenues. Reflecting lower iron and steel production schedules, 1957 tonnages handled over the Allouez docks were somewhat lower, at 25.5 million tons.

In recent years, the press has been full of stories emphasizing the gradual exhaustion of Mesabi ores and consequent loss of such traffic by all carriers serving the Range. These stories have seemingly been confirmed by the expenditure of large sums by the major domestic steel companies to exploit ore reserves in Canada, both at Steep Rock and in Labrador, as well as in Africa (Liberia) and South America (Venezuela), and by the allocation of equally large sums to build facilities where magnetic taconite ores are to be beneficiated close to Two Harbors, Minnesota, north of Duluth.

However, a visit made several years ago to the Mesabi Range, covering an area extending from Virginia to Grand Rapids, Minnesota, convinces us that there will be adequate ore supplies mined in this area for a minimum period of fifty years, if not longer. New mines are constantly being opened up. The ore in these mines is of high quality, of commercial grade, with large potential tonnages.

Of almost equal importance, new washing processes are being developed whereby ores of inferior content have much of the silica removed, so that the final product becomes a premium ore of a content well above the "merch" (Merchantable) average of 51.5% iron.

Another significant development is a new pilot plant, for handling taconite, operated by United State Steel's subsidiary, the Oliver Iron Mining Co. This pilot plant represents an investment of some $25 million. This company is experimenting with a beneficiation process of its own which gives promise of being able to exploit economically such waste ores as have been discarded over the past half century of mining on the Range.

From the standpoint of our U. S. economy, and particularly that of the State of Minnesota, it is well to realize that foreign ores are not likely to be imported in any sizable volume for several years. In fact, well informed sources do not anticipate ore imports in excess of 20 million tons for at least five years, which total, while important, would still represent only slightly more than 25% of 1956 shipments from upper lake ports. Nor do such sources expect delivery costs from Labrador or South America through the St. Lawrence Seaway after its completion, not now expected until 1960, to be as low as those from Duluth.

There are large quantities of non-magnetic taconite located in Great Northern's territory on the west end of the Mesabi Range and this railway is undertaking, with the help of the University of Minnesota and of the University of North Dakota, a research project toward developing an economical process for the production of useful concentrates from this non-magnetic taconite. Plants are now in operation, or being constructed, for the reduction of magnetic taconite by grinding and crushing the ore and removing the iron content magnetically. Great Northern's research is directed toward finding an economical process for treating the non-magnetic taconite.

While foreign ores are increasing in volume they will be used in large degree by tidewater furnaces. They enter the open market only in a limited degree, being used largely as a supplement to Lake Superior production by companies in that area with limited reserves. Lake Superior ores will not increase in volume with the increase in steel production as they would if they were the exclusive source of supply, but with foreign ores taking up this increase the Lake Superior production should hold fairly well with a gradual increase in the proportion of taconite pellets.

Notwithstanding the potential competition of both new ore supplies and subsidized waterway transportation, there seems to be little doubt that for many years to come, a combination of low mining and low transportation costs, will enable the Mesabi Range to continue as the number one source of high grade iron ores for steel mill consumption in the United States. Accordingly, Great Northern shareholders need not fear any appreciable diminution of this lucrative traffic, at least over the foreseeable future.

Lumber: In 1956, lumber ranked next to wheat as the most important traffic constituent. This traffic source provided Great Northern with $33.0 million, or 12.63% of the railroad's gross freight revenues. With Weyerhaeuser and other large interests currently following a policy of selective tree cutting and sustained yield practices, Great Northern's lumber volume should continue to be an ever increasing traffic source over the years.

Great Northern owns a tree farm near Whitefish, Montana, which provides the railroad with a source of low priced ties. By using modern practices, approximately two-thirds of the necessary supply of timber should be available to furnish Great Northern with its annual tie requirements for replacement purposes. The ties so obtained are creosoted in Great Northern's own plant.

Aluminum: Since power is one of the largest cost constituents in the manufacture of aluminum (10 k.w.h. of electricity being needed to produce one pound of aluminum), generation of low cost public power in the Pacific Northwest (financed with Government funds) has made possible a concentration of aluminum manufacturing plants in the State of Washington, and areas adjacent thereto. Virtually, all of the largest companies are located here. For instance, Kaiser Aluminum has built an eight pot line plant at Mead and a two pot line plant at Tacoma; Alcoa a five pot line plant at Vancouver and a four pot line plant at Malaga; Anaconda, a four pot line plant at Conkelley, near Columbia Falls, Montana; and Reynolds a three pot line plant at Longview. All of these plants are served by the Great Northern, which furnishes exclusive service to the three large plants at Mead, Malaga and Conkelley.

Alumina, principal raw material in the manufacture of aluminum, is reduced from bauxite ore in Alabama, Louisiana or Arkansas. Since alumina has the consistency of a very fine talcum powder, high grade box cars must be used in its shipment if seepage and loss are to be avoided. As a consequence, the Great Northern finds itself normally obtaining a substantial supply of box cars in Washington for shippers of high grade commodities, who, in turn, are able to provide the railroad with profitable long haul tonnage on the return trip eastward. The heavy movement of alumina is westbound which is the direction of Great Northern's lightest traffic flow.

Oil: Northern Pacific, as a land grant road, owns some three million acres of potential oil bearing land in the Williston Basin. Ironic as it may seem, however, with little or no land grants,

Great Northern, until pipe lines were constructed in 1955, had benefited more than had the Northern Pacific from such oil discoveries as have been made in the Basin. Great Northern also serves the Sunburst, Bowes, Chinook, Cut Bank and Pondera oil fields, all located in North Central Montana.

Both the movement of, and revenues from, crude petroleum have declined sharply since pipe lines from Tioga to Mandan, and from Poplar to Guernsey, Wyoming (connecting with lines to the Chicago area) have been built, revenues declining from $6.09 million in 1954 to only $694,000 in 1956. In the face of greater utilization of such pipelines as have been constructed, revenues from petroleum products have held up much better, declining from $10.71 million in 1954 to $7.55 million in 1956.

Despite the loss in crude oil shipments to pipe lines, there is no question but that the discovery of oil in the Williston Basin is of continuing benefit to Great Northern. Additional inbound traffic has been developed incidental to the business of producing oil and the correlative growth in population. In addition, the operation of a natural gas separation plant at Tioga and a small refinery at Williston have furnished new outbound tonnages. The local economy in the Basin has also been improved from royalty payments to individual farmers.

Dams and Irrigation Projects: The Great Northern is fortunate in being located adjacent to numerous dams, both on the upper Missouri and on the Columbia Rivers. In due course Great Northern will benefit from hauling produce grown on newly irrigated areas in Montana and North Dakota, adjacent to the Tiber and Garrison Dams, and particularly in Washington, in which state is located the large Columbia River Basin project. Additionally, cheap subsidized power should serve as a magnet to attract large numbers of good sized industries.

Lignite: Over the next decade, prospects are reasonably bright that some 350 million tons of recoverable North Dakota lignite will become a potential source of substantial future revenues to the Great Northern. Lignite can be mined for as low as $1.50 per ton (equivalent in cost to 10 to 11 cent natural gas) and this, in turn, may result in lower electric power costs, (other than subsidized hydro-electric power) than in most other areas in the United States. This cheap power, when ultimately generated, could attract plants for the manufacture of aluminum and fertilizer, as well as for the manufacture of chemicals which could use as their raw material existing large salt deposits, which in this area are 150 feet thick.

Vancouver

Several decades ago, both the Great Northern and Northern Pacific served Vancouver, British Columbia, by using Great Northern's line from the United States-Canadian border. Joint operations over Great Northern's tracks were discontinued by Northern Pacific during the First World War. In the early 1940's, this jointly-owned property was partitioned, with the Great Northern ultimately acquiring Northern Pacific's property, including a strategically located freight house. Since then, for all intents and purposes, Great Northern has been the sole United States carrier serving this city. Although Northern Pacific does go to the Canadian border, and there interchanges with the British Columbia Electric Railway and/or Canadian Pacific Railway, this combined operation does not equal the single line service afforded by Great Northern.

Great Northern has developed a sizable northbound traffic in miscellaneous fruits and vegetables, as well as in farm machinery, tractors, heavy machinery, etc. Southbound shipments are primarily paper and paper products, the Powell River Company delivering water borne pulp and paper to Vancouver where these products are trans-shipped south of the border via Great Northern. Traffic to and from Vancouver now provides Great Northern with some $5 million of freight revenues, and nearby New Westminster furnishes an additional $2 million of such revenues. Still greater growth is likely to develop over the next several years, or more, as new industries will doubtless be attracted to this area by reason of this railroad's ownership of strategically located industrial property.

Winnipeg

Unlike Vancouver, where Great Northern occupies a position of traffic leadership and superiority over that of the Northern Pacific, Winnipeg is served by both of these American railroads through joint ownership of the Midland Railway of Manitoba. Additionally, traffic rights over the Canadian National Railway permit both the Great Northern and the Northern Pacific to obtain access to the center of Winnipeg. Traffic over this segment is rather unbalanced, northbound traffic consisting primarily of fruits, vegetables and farm machinery, whereas southbound traffic is very light. Freight revenues obtained by the Great Northern from this segment, possibly on the order of $1 million annually, are much lower than those obtained from the better balanced traffic movement to and from Vancouver.

Seattle

Acquisition of the Pacific Coast Railroad has provided the Great Northern with an important terminal in Seattle, and of even greater importance, with access to a large industrial area in Renton, some six to eight miles south of Seattle, where large plants of Boeing Airplane Co. are located. In addition to this strategically located property, Great Northern has increased its land holdings by purchasing other property adjacent to the Pacific Coast Railroad's tracks. In due course, these combined strategically located properties should be the means of attracting large-size industries, with consequent increase of profitable high-rated traffic.

Bieber Extension

In 1928, Great Northern decided to build an inside line connecting the Pacific Northwest with Southern California. Great Northern and Northern Pacific were to participate jointly in this venture, but influenced in large degree by depression influences, the Northern Pacific withdrew, leaving the Great Northern to construct this segment alone. By 1932, at a cost of some $11 million, the Great Northern had completed an extension southward from Bend, Oregon, terminus of the Spokane, Portland & Seattle (jointly owned by the Great Northern and Northern Pacific) to Bieber, California. At Bieber, the Western Pacific built a 112-mile segment to Keddie, on its Feather River Canyon main line, and connection was made with the Santa Fe at Stockton, some 187 miles southwest of Keddie. The completion of this daring project was consummated thereby creating an inside route between the Pacific Northwest and Southern California, competitive to the Southern Pacific.

Gross revenues were slow in developing on this line, but by 1955 and 1956 they had reached some $20 million per year. This extension is the only piece of important Great Northern trackage which is not mortgaged.

Great Northern has been able to develop some significant traffic on this segment. The 50% owned Oregon, California & Eastern Railway hauls logs to Klamath Falls where such logs are processed by Weyerhaeuser. The finished products provide the parent company with a profitable long haul, principally northward, then eastward to the Twin Cities. Additionally, south of Klamath Falls, soil and climatic conditions permit the growth of a superior malting barley, which is shipped to Vancouver (State of Washington), processed, and then shipped east.

Further traffic has been developed by gradually speeding up the service between Southern California and the Pacific Northwest. As recently as a decade ago, delivery time between these areas was six days. Today, having speeded up delivery to three days, management is hopeful that profitable forwarder and general merchandise business from Southern California may be regained from the trucks. Such traffic, if obtained, might be hauled through piggyback facilities.

Trucks and Piggyback

In 1935, Great Northern established its own trucking line in Montana. Today this fleet operates over 1,634 one-way route miles. In 1948, the Company contracted with independent truckers to handle the Company's L.C.L. service in Minnesota. This service now covers 2,858 route miles.

While Great Northern has not been as adversely affected by trucking competition as have many Class I carriers, some loss of high-rated traffic has nonetheless been experienced. Accordingly, in an attempt to regain some portion of this lost traffic, Great Northern has established piggyback service between the Twin Cities and Duluth, between the Twin Cities, Fargo, Minot, Grand Forks and Williston in North Dakota, and Glasgow and Havre in Montana, and between Seattle-Tacoma, Portland, San Francisco and Los Angeles in conjunction with the Santa Fe, Southern Pacific and Western Pacific Railroads. Flat cars have been equipped to handle two 24-foot trailers. Great Northern will only handle controlled traffic, i.e., traffic originated by its own forces. This will avoid any possible breakdown of the present complex railroad freight rate structure.

For the return movement from Duluth to St. Paul, Great Northern is aggressively soliciting iron and steel and paper products traffic, previously lost to trucks. Should this traffic be regained in any appreciable quantities, it would make possible a balanced traffic movement between the two cities. To date, however, piggyback revenues have not attained too great significance in the overall Great Northern traffic picture.

Trucking operations have also permitted acceleration of delivery of livestock from Minneapolis to South St. Paul, by avoiding heavy congestion in the Twin Cities yards. Prior to using trucks, there had been abnormal delays in delivery of cattle from Minneapolis to the stock yards, and as a consequence, numerous complaints were then being made by important livestock interests.

Joint Operation Agreements

Many students of railroad finance believe that major savings, somewhat comparable in scope to those obtained from substitution of steam power by diesels, may be attained over the next decade,

or more, by abandoning segments of parallel mileage and thus obtaining tax and operational savings, and at the same time increasing traffic density. Important quantities of salvage rail and other track material would be made available for other projects as a result of such developments.

One such development, albeit on a modest scale, is currently benefiting both the Great Northern and the Soo Line. On one twenty-five mile parallel stretch of track, the Soo Line agreed to abandon its line between Schley and Bemidji, Minnesota, using Great Northern tracks; and the Great Northern in turn agreed to abandon its portion between Aberdeen Line Junction, Minnesota, and Hankinson, North Dakota, and use Soo Line tracks for approximately the same distance.

Doubtless equally important savings are realizable on other parallel stretches of track, particularly in light density farm areas, and it may be expected that the Great Northern will diligently explore further opportunities of joint trackage agreements somewhat similar in character to those described. Such savings are not limited to light density mileage, since technological developments of improved signaling—centralized traffic controls with electronic devices permitting two-way operations—will make possible joint trackage agreements even on segments of relatively heavy density.

Rate Cases

Class Rates: In its report dated December 30, 1955, the Commission ordered those railroads serving the Mountain-Pacific territory to establish class rates, somewhat lower than those presently in force. These rates became effective June 1, 1956. While the new rates will provide some loss of revenue to the Great Northern, they will nonetheless result in the continuation of a higher level of rates in the West.

Transcontinental Rate Divisions: The Eastern railroads have benefited to the extent of some $35 million in annual revenues at the expense of the Southern and Southwestern railroads, by reason of an Interstate Commerce Commission decision in the so-called Official-Southern and Official-Southwestern Divisions Cases. These roads are now attempting to have the Commission alter the East-West divisions in their favor. A number of Midwestern railroads, operating in the area between Chicago and the Rocky Mountains, have also lodged a complaint with the Commission in which they seek a larger share of the revenue on through-traffic between the Pacific Coast States and the East and also on traffic between the Pacific Coast States and the Midwest.

Rate divisions on through-traffic from the Pacific Coast to the East are now computed on an approximate basis of 72½% to the Chicago Gateway, and 27½% from Chicago to the Atlantic Seaboard. Of the 72½% there is an approximate allocation of 16½% to carriers operating in the area extending from the Missouri River to the Chicago Gateway.

Final hearings in this complicated case will probably be held in 1958, or early in 1959. In this case, the transcontinental railroads, including the Great Northern, have not only vigorously defended the present rate apportionment but also have made a strong case for an increase in Western divisions. Without attempting to prejudge what such a decision by the Commission is likely to be, were these complainant railroads successful in obtaining an additional 5% in their share of earnings on this traffic, the Great Northern, based on freight revenues of $250.9 million in 1956, would probably experience a decline of some $4.00 million of gross earnings, pre-tax.

Spokane Gateway

The Milwaukee Railroad attempted to obtain a greater share of freight destined for cities west of Spokane located on the Spokane, Portland & Seattle Railway and its subsidiaries, the Oregon Trunk and the Oregon Electric. However, the Commission, adhering to the precedents laid down in the Ogden Gateway case, ruled in favor of the Great Northern and the Northern Pacific by denying the Milwaukee the right to share in this lucrative traffic.

Management and Executive Training

Great Northern's operations are planned and directed by an officer group, which is comparatively youthful as to average age, but has had extensive formal education and experience on the railway. The Company continues to benefit from a student-officer training program inaugurated on an informal basis in the 1890's by James J. Hill, and established on a more permanent basis in 1936.

Under this program, from twenty to twenty-five carefully-selected trainees, largely recruited from colleges and universities, are continuously under training as assistants, principally to operations officers. In addition, Great Northern has for some time sent principal and junior officers to the advanced Management and Transportation courses presented by several large universities, including Harvard, Leland Stanford, Columbia, Northwestern and Pittsburgh.

Accounting Developments

Early in 1957, Great Northern received delivery of a Univac computer, the so-called electric brain, using punch cards and magnetic tape. At the outset, even though the railroad has programmed operations utilizing the machine only to 33% of maximum capacity, savings will be most satisfactory, more than sufficient to pay its monthly rental of $25,000. Thus far, the railroad has spent two years in preparing proper programming for maximum utilization of this machine for payroll operation. Ultimate savings will occur several years hence as more and more data are fed into the machine and its capacity is increased well above the initial 33%.

These new accounting machines are not primarily labor saving devices. In reality, they are more efficient machines replacing presently used less efficient calculators and tabulating machines, most of which are also on a rental basis. True, operational savings are expected, but major savings are somewhat intangible, namely, more rapid dissemination of information for better managerial controls. A by-product of importance will be space savings, the newer machines being far more compact than the older machines displaced.

Merger Studies

A joint study is being undertaken by the Great Northern and the Northern Pacific exploring the possible unification of these railroads with their subsidiaries, the Burlington, and the Spokane, Portland & Seattle. Committees have been appointed to ascertain whether unification of these properties is desirable and in the public interest. Operating studies are being progressed.

Obviously, such a system as proposed, which would be by far the largest, in point of mileage, of all Class I railroads, will run the gamut of objections both from other railroads operating in the territories served, and from numerous political bodies.

Assuming the successful hurdle of these objectives, worthwhile savings may be projected. In the 1928 merger as then proposed—rejected because of the mandatory requirement that stock ownership in the Burlington be disposed of—operational savings of $10 million were then projected, reduced to $8 million for today's comparative purposes, since $2 million involved joint use of coal properties, now no longer needed with both parent companies approaching 100% dieselization.

With operational costs, especially wages, increased several fold since the 1920's, and with ton miles more than doubled, it appears that annual savings from joint operations of these properties should amount to at least $30 million. Potential savings of the scale envisioned account for the interest shown by management and shareholders in the progress of these merger studies.

Subsidiaries

As is common with most carriers, Great Northern owns a number of subsidiaries. Relatively speaking, however, these subsidiaries are of greater importance to the Great Northern than for the average railroad, its other income in 1956 alone covering fixed charges 1.28 times, with such coverage for 1957 estimated at 1.29 times.

Of the numerous subsidiaries there are three of importance: the Burlington; the Spokane, Portland & Seattle; and the Western Fruit Express. Great Northern owns 48.59% of the stock of the Burlington, owns 50% of both the First Mortgage 4s and the common stock of the Spokane, Portland & Seattle, and owns 100% of the Western Fruit Express.

CHICAGO, BURLINGTON & QUINCY — The common stock of this 8,800 mile granger road, which radiates from Chicago and the Twin Cities westward through St. Louis, Kansas City, Omaha, Billings and Denver, is owned 48.59% by the Great Northern, 48.59% by the Northern Pacific, with the balance, 2.82%, owned by the public. The Burlington in turn owns 70.7% of the Colorado & Southern, which, together with the latter's subsidiaries, extends from Denver to Houston and Galveston, and thus provides the parent company with direct access to the Gulf of Mexico.

The Burlington has shown substantial financial improvement over the past decade or more, overall debt having been reduced from $236.25 million in 1941 to $218.03 million in 1956, and to $222.5 million on October 31, 1957, with fixed charges in the same period reduced from $9.81 million to $6.76 million, and to an estimated $6.96 million in 1957.

The Burlington is a reasonably efficiently operated railroad, over the past four years transportation ratios averaging 37.7% (38.8% in 1956 and 39.5% for the first ten months in 1957) and operating ratios 75.3% (76.4% in 1956 and 79.9% for the first ten months in 1957). Earnings per common share in the same period have averaged $13.52 ($12.62 in 1956 and $10.00 estimated for 1957) and dividends have been paid at a rate varying from $5.00 distributed in 1949 to $7.50 paid in each of the last six years.

Great Northern's share of the Burlington's $7.50 dividend ($6.23 million) is of real importance to that road, since such dividend in 1956 was equivalent to 77.3% of its own fixed charges, 60.4% of all of the Company's other income, and 71.9% of the railroad's dividend and interest income alone; and for 1957, to an estimated 76.5%, 59.3% and 34.2% respectively.

SPOKANE, PORTLAND & SEATTLE — Great Northern and Northern Pacific each owns 50% of the stock and bonds of the Spokane, Portland & Seattle, whose main line extends from Spokane to Portland, following the Columbia River from Pasco to its terminus. The Spokane, Portland & Seattle, in turn, owns 100% of The Oregon Electric, which serves the growing Willamette Valley and of the Oregon Trunk which, together with the Western Pacific and the Santa Fe, forms a segment in the inside route to Southern California, competitive to the Southern Pacific.

Since 1941, large sums have been expended for the rehabilitation of this road. New 112 pound rail has been laid, new ties and signals have been installed, and new diesels and freight cars purchased, so that today the property has been built up to highest Class I standards.

The area served by the Spokane, Portland & Seattle is one of the fastest growing agricultural and industrial regions in the United States, population having risen 40% in the past decade. Accounting in large measure for the area's substantial growth is cheap hydro-electric power. On the Snake River, two dams—Lower Monumental and Ice Harbor, of 240,000 and 260,000 k.w.—have been authorized; and on the Columbia River there are four dams either completed or in various stages of planning—McNary, Dalles, John Day and Bonneville—the total installed capacity of which will be 3,800,000 k.w., or sufficient to fill the needs of four cities with a consumption demand equivalent to Chicago and Detroit.

Rehabilitation of the Spokane, Portland & Seattle, coinciding with a rising freight volume, has resulted in a sharp increase in income available for fixed charges, from $3.40 million in 1949 to $6.12 million in 1956, and after deducting fixed charges of some $3.3 million, net income remaining rose from a deficit for the years 1948 and 1949, to a balance of $2.79 million in 1956. Results for 1957 are likely to be somewhat less satisfactory with net earnings, after fixed charges, estimated at $1.00 million. Of the $3.3 million of fixed charges paid out by the Spokane, Portland & Seattle over recent years, $2.63 million has represented interest on bonds held by the two parent companies, Great Northern's share alone being $1.3 million.

Supplementing this interest income, Great Northern and Northern Pacific each sold, in 1955 and 1956, $6.5 million par value of Spokane, Portland & Seattle 1st Mortgage 4s, 1961, to the latter, at their original cost of 70, thus enriching the treasuries of both railroads by $4.5 million and reducing the total amount of this subsidiary's bonds outstanding from $73.71 million to $60.71 million. With finances and earnings in 1957 affected by the current business readjustment, no further purchases were made last year. Should finances of the Spokane, Portland & Seattle permit, further sales may be made by both parent companies to their subsidiary in subsequent years until such obligations are reduced to a level of $50 million at maturity on March 1, 1961, at which time a refunding operation with subsequent public ownership may well be planned. Were such an operation successful, and the bonds sold at par, the Great Northern and Northern Pacific alike would then obtain some $25 million (less underwriting expenses) for their own corporate needs.

Prior to 1953, some $79,465,638 of unpaid interest had accrued to both parents, or $39.7 million for the Great Northern and an equivalent amount for the Northern Pacific. In 1953 the two parent companies, convinced of the inability of the Spokane, Portland & Seattle to ever liquidate such arrearages, gratuitously forgave such accumulations of unpaid interest. The Treasury Department has questioned whether such forgiveness represented a gift, and until this matter is either

settled in conference, or by litigation, it is impossible to estimate what tax deficiency, if any, may be assessed against this subsidiary.

For 1957 gross revenues of the Spokane, Portland & Seattle are estimated at $31.9 million. A goodly percentage of this freight traffic is interchanged with both parent companies, and in turn with the Burlington. A reasonably accurate estimate of derived annual freight revenues by both parent companies on products originated on the Spokane, Portland & Seattle is $30 million, and by the Burlington, $20 million.

The Spokane, Portland & Seattle has, at long last, become a profitable investment for the Great Northern, and should continue to enable both parents to profit still further in the great future development of the Pacific Northwest.

WESTERN FRUIT EXPRESS — This wholly-owned subsidiary was organized in 1923 to furnish refrigerated cars for both Oregon and Washington grown perishables and fruits, such as cherries, pears, peaches and apples.

Because of the seasonal nature of this business, the Western Fruit Express, whose seasonal peak is in the fall months, has entered into what may be described as a joint agreement with Fruit Growers Express Company, whose business complements that of the Western Fruit Express in that the Fruit Growers Express Company's seasonal peak occurs in winter, when both truck produce and citrus from the South are hauled to the large cities along the Atlantic Seaboard.

This agreement has been most satisfactory to both companies. Car miles per day for both have increased. Refrigerator cars in the pool now total 21,924 of which Western Fruit's ownership proportion is 28%. Included in the pool are 1,001 mechanical "reefers", and when cars now on order are delivered, this total will be increased to 1,270. These cars are used principally in the transportation of frozen foods, and such is their utilization that for 1956 these cars averaged 140 miles daily or double the mileage of that for non-mechanical "reefers".

Since 1947, Western Fruit Express has spent some $34 million in rehabilitating its car fleet. Some 2,654 new "reefers" have been built (including 160 mechanical refrigerator cars) and 1,277 reefers rebuilt. This represents nearly 62% of the Company's total fleet. Because of this modernization program, average overall age of Western Fruit's fleet is only 12.4 years.

At the end of 1957, Western Fruit Express had equipment obligations of $16.45 million outstanding. Its 68,000 shares were fully owned by the Great Northern. Earnings rose consistently in the past five years, from $293,883 in 1951 to $1.76 million in 1956, but fell off in 1957 to an estimated $900,000. No dividends have been paid to the parent company since 1944; but with this subsidiary's fleet of cars now in excellent condition, it may well be that dividends will be inaugurated within the next several years.

Equity in Undistributed Earnings of its Subsidiaries

Great Northern has an important source of hidden financial strength in its equity in the undistributed earnings of the above three subsidiaries. The following table will emphasize the relative importance of such equities to Great Northern.

GREAT NORTHERN RAILWAY COMPANY

Undistributed Earnings of Subsidiaries

Years	S. P. & S. 50% Owned		Western Fruit Ex. 100% Owned		C. B. & Q. 48.59% Owned		Combined		Consolidated Earnings	Ratio of GN Share Undist. Earnings to its Reported Earnings
	*GN Share of Undist. Earnings	Per GN Share	GN Share of Undist. Earnings	Per GN Share	GN Share of Undist. Earnings	Per GN Share	GN Share of Undist. Earnings	Per GN Share		
	(000)		(000)		(000)		(000)			
1951.....	$ 903	$.15	$ 294	$.05	$6,458	$1.06	$7,655	$1.26	$5.17	31.97%
1952.....	975	.16	598	.10	7,380	1.21	8,953	1.47	6.02	32.32
1953.....	205	.03	1,216	.20	6,243	1.03	7,664	1.26	6.18	25.60
1954.....	1,470	.24	1,149	.19	4,956	.82	7,575	1.25	5.46	29.77
1955.....	1,593	.26	1,505	.25	4,541	.75	7,639	1.26	6.53	23.82
1956.....	1,592	.26	1,763	.29	4,253	.70	7,608	1.25	6.57	23.60
1957 Est. ..	700	.12	900	.15	2,100	.35	3,700	0.62	5.02	14.00

* Amounts shown are in excess of interest payments made to Great Northern.

Debt and Fixed Charge Reduction

Great Northern's record of debt and fixed charge reduction is noteworthy, as indicated by the following:

	Non-Equipment Debt	Total Debt	Fixed Charges
		($ million)	
1934.....	$349.59	$345.81	$19.57
1940.....	315.63	331.95	14.21
1944.....	245.55	267.09	12.92
1948.....	215.66	248.35	7.52
1953.....	204.86	268.09	8.06
1954.....	204.74	274.35	8.10
1955.....	204.57	267.33	8.12
1956.....	202.40	265.15	8.05
1957 (Est'd)	201.10	266.41	8.15

Most of the decrease in funded debt was accomplished by aggressive purchases of some $100 million of non-equipment debt from 1936 through 1946. A smaller total of debt reduction was effected through an exchange of some $24 million of debt (through conversion), principally in 1944. As a consequence, the number of shares was increased from 2,498,922 in 1943, to 2,912,298 at the end of 1944, to 3,092,582 at the end of 1945, and (allowing for the 2-for-1 stock split effective July 2, 1954, and for modest company open market purchases) to 6,077,786 shares currently outstanding.

Debt reduction would have been still sharper than that actually recorded, had it not been for an increase in equipment debt from $23.5 million in 1942 to $65.3 million at the end of 1957.

In the mid-40s, Great Northern's management proved most astute in refunding all of its callable bonds at rates ranging from 2¼% to 3⅛%. Additionally, the road's management displayed unusual financial acumen in spacing its maturities in accordance with a well conceived plan, as indicated below.

Maturity	Interest Rate	Amount Outstanding Dec. 31, 1957 ($ million)
January 1, 1961	2¼%	$21.87
January 1, 1973	5	14.15
July 1, 1976	4½	14.51
January 1, 1982	2¾	40.00
January 1, 1990	3⅛	37.50
January 1, 2000	3⅛	37.50
January 1, 2010	2⅝	35.00

Finances

Great Northern's finances have shown consistent improvement over the past seven years, net current assets increasing from $36.97 million in 1949 to $66.69 million at the end of 1956 and to $60.8 million at the end of October, 1957. Cash items alone rose from $38.17 million to $62.3 million in the same period. Supplementing the Company's cash resources is an item of $7.5 million, invested in U. S. Government bonds and in municipal securities. This item is carried "above the line" as Capital and Other Reserve Funds, and may be used either for capital purposes or for debt retirement.

The company should benefit by the increasing cash inflow from depreciation accounts, over and above equipment maturities, as shown by the following:

GREAT NORTHERN RAILWAY COMPANY

	1951	1952	1953	1954	1955	1956	Est. 1957
	(000)						
Depreciation of Way and Structures	$ 3,477	$ 3,540	$ 3,632	$ 3,717	$ 3,698	$ 3,601	$ 3,660
Depreciation of Equipment Including Machinery	6,908	7,963	8,609	8,521	8,725	9,146	9,624
Combined Depreciation	$10,385	$11,503	$12,241	$12,238	$12,423	$12,747	$13,284
Equipment Maturities	6,050	7,512	8,079	7,566	6,892	6,605	6,520
Cash Inflow Over and Above Equipment Maturities	$ 4,335	$ 3,991	$ 4,162	$ 4,672	$ 5,531	$ 6,142	$ 6,764
% of Cash Inflow to Each Year's Fixed Charges	52.87%	50.08%	51.64%	57.71%	68.10%	76.27%	83.00%

One should note the widening margin of cash inflow in the past two years, which should be maintained around the $6 million level for several years in the light of Great Northern's maturity schedules:

GREAT NORTHERN EQUIPMENT MATURITIES

(000)

1958	$6,875	1965	$5,332
1959	6,875	1966	4,032
1960	6,875	1967	2,544
1961	6,875	1968	1,976
1962	6,875	1969	1,807
1963	6,875	1970	1,046
1964	6,027	1971	826

Bonds

All of the various series of Great Northern bonds are under one mortgage. Other than two series of high coupon, non-callable bonds, these general mortgage obligations are selling at prices ranging from 63 to 94 and offering yields of from 2.39% for the short term maturities to 4.16% for the longer term maturities. These bonds are callable for Sinking Fund purposes at prices ranging from 100 to 102½ and are callable in whole, or in part, at prices ranging from 100 to 104⅞. The various issues are well spaced as to maturities. They are rated "A" by the rating services. They are legal for savings banks in Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York and Rhode Island. In 1956, fixed charges absorbed only 2.87% of gross, and were covered 6.76 times before, and 5.00 times after, Federal Income taxes (corresponding percentages for 1957 estimated, 2.9%, 5.6 times and 4.3 times respectively). These general mortgage obligations are of institutional quality.

Great Northern Stock

Market interest in Great Northern's equity has not been as pronounced as has been the case in numerous other railroad issues of lesser quality. As a consequence, in recent years, the range in Great Northern stock has been relatively narrow.

In large measure, the failure of Great Northern to give a better account of itself, may well stem from the general misconception of the status of this carrier's iron ore traffic from the Mesabi Range, and the feeling that such tonnages will rapidly decline to an insignificant volume. The importance of this traffic, which contributes only 11% to 12% to the System's gross revenues, has been frequently overemphasized. As institutional investors become increasingly aware of the magnitude of iron ore reserves of high quality still available on the Range, and that Great Northern will continue to haul large tonnages of these high grade ores for many years to come, greater recognition of the investment characteristics of this stock appears inevitable.

Then, too, institutional investors have given little recognition to the potential industrial and agricultural growth of either the Pacific Northwest, or of the states of Montana and North Dakota.

The Pacific Northwest has already experienced an economic transformation as a consequence of the development of cheap subsidized hydro-electric power, as well as the growing exploitation of its existing large tracts of virgin timber. Cheap power alone has made possible the largest single concentration of aluminum manufacturing plants in the United States.

Less recognized by institutional investors are prospects of industrial growth in both Montana and North Dakota. Until now, the base of the economy of these two states has been agriculture. However, as the Williston Basin is further exploited, increasing availability of oil and natural gas, and availability of large deposits of cheap lignite and also of equally large deposits of salt, may provide the basis for an ultimate large scale industrial expansion, although possibly at a slow rate for the next half decade or more.

Great Northern has important revenue sources from three great sections of our economy. First, there is a steady year-in and year-out origination of grain, fruit, potatoes and other agricultural commodities. Regardless of market prices, these commodities must be transported with the volume affected only by crop conditions. Secondly, there is an almost assured increase in long haul lumber shipments which are responsive to building demands. Finally, Great Northern, through hauling iron ore obtained from strategically located high quality mines on the Range, must of necessity benefit by any increase in steel production.

At current levels of 31, Great Northern is selling at 6.4 times average five-year earnings (1952-1956) of $4.85 per share (5.0 times consolidated earnings of $6.15 per share), and yields 9.7% on its reasonably well protected $3.00 dividend. The stock is selling at 5.8 times 1956 earnings of $5.32 per share (4.7 times consolidated earnings of $6.57 per share) and 7 times estimated earnings of $4.40 for 1957 (6.2 times consolidated earnings of $5.02 per share).

As measured by above average operating and financial performance, by debt reduction, by reduction of fixed charges, by improved finances and by relative stability of earning power, Great Northern ranks among the best of all quality rail issues. Additionally, it possesses some measure of speculative attractiveness by reason of territorial growth potentialities, of its gradually increasing equity in the undistributed equity of subsidiary earnings, and above all, of the large probable savings when, as and if the Company is merged with the Northern Pacific, the Burlington, and the Spokane, Portland & Seattle. This combination of investment and speculative attractiveness is available in few sectors of our equity market today, and as a consequence, this good quality railroad equity may be recommended to investors as possessing considerable long term appeal.

In conclusion, we have prepared tables furnishing financial and operating data for selected years since 1946.

PIERRE R. BRETEY

January 16, 1958

GREAT NORTHERN RAILWAY COMPANY

	Gross Revenues (000)	Net Ry. Oper. Income (000)	Other Income (000)	Avail. for Fixed Charges (000)	Fixed Charges (000)	Margin of Safety (a)	Times Fixed Charges Earned: Before F.I.T.	Times Fixed Charges Earned: After F.I.T.	Net Income (000)	Per Common Share: Earned	Per Common Share: Divs. Paid	Per Common Share: Price-Range
1946	$167,368	$25,041	$ 7,734	$32,126	$8,669	12.1%	3.35x	3.71x	$23,457	$3.79	$1.50	32 -20¼
1947	193,752	23,816	6,773	30,194	7,696	15.2	4.83x	3.92x	22,499	3.64	1.50	24⅞-17¼
1948	216,342	27,200	8,341	35,088	7,520	15.8	5.54x	4.67x	27,567	4.46	1.75	25⅜-18
1949	212,267	20,545	6,345	26,394	7,693	12.9	4.57x	3.43x	18,702	3.02	2.00	21⅞-16⅝
1950	227,516	27,433	9,204	36,110	7,925	19.8	6.67x	4.56x	28,185	4.56	1.75	25⅛-16½
1951	248,039	23,214	9,399	32,145	8,199	16.9	6.10x	3.92x	23,946	3.91	2.00	28⅞-22⅞
1952	260,247	25,914	10,088	35,674	7,970	17.8	6.82x	4.48x	27,705	4.55	2.00	28½-23⅜
1953	268,035	27,531	10,864	38,003	8,060	18.8	7.26x	4.72x	29,943	4.92	2.00	29⅜-22½
1954	250,254	24,226	9,796	33,537	8,095	14.6	5.51x	4.14x	25,441	4.21	2.10	38½-22⅞
1955	267,095	30,154	10,334	40,186	8,122	18.6	7.11x	4.95x	32,064	5.27	2.35	44½-35⅜
1956	280,542	30,407	10,316	40,293	8,053	16.5	6.76x	5.00x	32,239	5.32	2.625	46⅞-38⅜
1957 (Est.)	288,500	25,000	10,500	35,100	8,100	12.9	5.58x	4.33x	27,000	4.40	3.00	47¾-29¼ (c)

(a) Pre-tax profit margin or the percent by which gross revenues can decline, assuming no reduction in operating expenses, before coverage of fixed charges is jeopardized.

(c) 1957 range to date.

GREAT NORTHERN RAILWAY COMPANY

Ratios

Year	Total Maintenance	Transportation	Operating	Gross Ton Miles per Freight Train Hour
1946.....	35.1	36.6	77.5	40,321
1947.....	32.7	35.9	74.1	42,019
1948.....	32.9	36.9	75.0	43,861
1949.....	35.4	35.4	76.3	43,561
1950.....	32.6	33.5	71.3	43,837
1951.....	33.5	35.2	74.3	45,682
1952.....	34.6	33.4	73.6	46,649
1953.....	34.9	32.1	72.7	49,987
1954.....	35.7	33.4	75.4	52,153
1955.....	33.6	33.0	72.8	53,660
1956.....	35.1	33.4	74.6	55,541
1957 (11 mos.).....	35.4	34.3	76.4	58,819 (a)

(a) August 1957.

GREAT NORTHERN RAILWAY COMPANY

Gateways and Connections

ABERDEEN, S.D.
C&NW
CMStP&P
*M&StL

BEMIDJI, MINN.
NP
SOO LINE

BEND, ORE.
UP
OT

BIEBER, CAL.
WP

BILLINGS, MONT.
CB&Q
NP

BONNERS FERRY, IDA.
SI

BUTTE, MONT.
BA&P
CMStP&P
NP

CASSELTON, N.D.
NP

CHEHALIS, WASH.
CMStP&P
NP
UP

COEUR D' ALENE, IDA.
CMStP&P
NP

CONRAD, MONT.
MONT. WEST.

DULUTH, MINN.
CMStP&P
C&NW
DSS&A
DM&IR
DW&P
SOO LINE
NP

HAMBONE, CAL.
McCLOUD RIVER, R.R.

HANLEY FALLS, MINN.
M&StL

HANNAFORD, N.D.
NP

HELENA, MONT.
NP

HIBBING, MINN.
DM&IR

HILLS, MINN.
IC

HINTON, IA.
C&NW
IC

HURON, S.D.
C&NW

JUDITH GAP, MONT.
CMStP&P

KLAMATH FALLS, ORE.
OC&E
SP

LAUREL, MONT.
CB&Q
NP

LEEDS, N.D.
NP

LESTER, IA.
CRI&P

LEWISTOWN, MONT.
CMStP&P

MARSHALL, MINN.
C&NW

NECHE, N.D.
CP

NELSON, B.C.
CP

NEWPORT, WASH.
CMStP&P

NEW ROCKFORD, N.D.
NP

NEW WESTMINSTER, B.C.
BC&E
CN
CP

NORTHGATE, N.D.
CN

NOYES, MINN.
CN
CP
SOO LINE

PALOUSE, WASH.
NP
WI&M

PAYNESVILLE, MINN.
SOO LINE

PIPESTONE, MINN.
CMStP&P
CRI&P
C&NW

PORTLAND, ORE.
*NP
NPT
OE
*UP
*SP
SP&S

ST. CLOUD, MINN.
NP

SIDNEY, MONT.
NP

SIOUX CITY, IA.
CB&Q
C&NW
CMStP&P
IC
C&NW

SIOUX FALLS, S.D.
CMStP&P
CRI&P
C&NW
IC

SPOKANE, WASH.
CMStP&P
NP
UP
SI
SP&S

SUPERIOR, WIS.
CMStP&P
C&NW
DSS&A
LST&T
SOO LINE
NP
DW&P

SWEETGRASS, MONT.
CP

TACOMA, WASH.
CMStP&P
NP
UP

THIEF RIVER FALLS, MINN.
SOO LINE

VANCOUVER, B.C.
BC&E
CN
CP
PGE
V&LLI

LLENDALE, N.D.
CMStP&P

ERSKINE, MINN.
SOO LINE

EVERETT, WASH.
CMStP&P
NP

FARGO, N.D.
CMStP&P
NP

FERGUS FALLS, MINN.
NP

GRACEVILLE, MINN.
CMStP&P

GRAND FORKS, N.D.
NP

GREAT FALLS, MONT.
CMStP&P

MINNEAPOLIS, MINN.
CB&Q
CGW
CMStP&P
GRI&P
C&NW
M&StL
MA&CR
MN&S
SOO LINE
MINN. TFR.
MINN. WESTERN
NP

MINN. TFR., MINN.
CB&Q
CGW
CMStP&P
C&NW
M&StL
SOO LINE
MINN. TFR.

MINOT, N.D.
SOO LINE

MOORHEAD, MINN.
NP

NAPAVINE, WASH.
NP
UP

ST. PAUL, MINN.
CB&Q
CGW
CMStP&P
CRI&P
C&NW
M&StL
SOO LINE
NP

SANDPOINT, IDA.
SI
NP

SAPPERTON, B.C.
CN
CP

SAUK CENTRE, MINN.
NP

SAUNDERS, WIS.
DM&IR

SEATTLE, WASH.
CMStP&P
NP
UP
PC

VANCOUVER, WASH.
NP
UP
SP&S

VIRGINIA, MINN.
DM&IR
DW&P

WAHPETON, N.D.
CMStP&P
NP

WARROAD, MINN.
CN

WATERTOWN, S.D.
C&NW
M&StL

WENTWORTH, S.D.
CMStP&P

WILLBRIDGE, ORE.
OE
SP&S

YANKTON, S.D.
CMStP&P
C&NW

• Freight may be also interchanged through switching line.

TRAFFIC OFFICES ARE LOCATED AT

Atlanta, Ga.
Bellingham, Wash.
Billings, Mont.
Boston, Mass.
Bremerton, Wash.
Buffalo, N.Y.
Butte, Mont.
Chicago, Ill.
Cincinnati, Ohio
Cleveland, Ohio
Dallas, Texas
Denver, Colo.
Des Moines, Iowa
Detroit, Mich.
Duluth, Minn.
Edmonton, Alberta
Eugene, Ore.
Everett, Wash.
Fargo, N.D.
Grand Forks, N.D.
Great Falls, Mont.
Havre, Mont.
Helena, Mont.
Kalispell, Mont.
Kansas City, Mo.
Klamath Falls, Ore.
Lewistown, Mont.
Longview, Wash.
Los Angeles, Calif.
Milwaukee, Wis.
Minneapolis, Minn.
Minot, N.D.
Nelson, B.C.
New York, N.Y.
Oakland, Calif.
Philadelphia, Pa.
Pittsburgh, Pa.
Portland, Ore.
St. Louis, Mo.
St. Paul, Minn.
Sacramento, Calif.
San Francisco, Calif.
Seattle, Wash.
Sidney, Mont.
Sioux City, Iowa
Sioux Falls, S.D.
Spokane, Wash.
Superior, Wis.
Tacoma, Wash.
Toronto, Ontario
Vancouver, B.C.
Vancouver, Wash.
Washington, D.C.
Wenatchee, Wash.
Williston, N.D.
Winnipeg, Man.
Winston-Salem, N.C.


GREAT NORTHERN
RAILWAY