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The Experiences of Local Enterprises Formed
to Take Over Railway Lines Abandoned by Major
Systems — A Preliminary Survey

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Department of Economics

Acknowledgment: The author is greatly indebted to the Caterpillar Tractor Company, whose grant to the College of Commerce of the University of Illinois financed the travel; the officials of the various railroads in the sample for their assistance; to the officials of Pend Oreille and Madison (Ind.) Port Authorities; officials of the state transportation departments, particularly Wisconsin, Indiana, and Washington; the Association of American Railroads; Mr. Edward Lewis of the Lamoyille Valley Railroad, and to Mrs. Suzanne Leever for typing the manuscript and assisting in many other ways.

Abstract

Short line railroads have been common to the American scene since the earliest days of the industry. But in recent years there has been renewed interest because a number of small local enterprises have developed to take over lines abandoned by major systems. This paper reviews the experience of ten of these lines, with a primary objective of determining the conditions affecting viability of such lines, and to give some indication of their operations and characteristics. Attention is given to their background, ownership of the track, the previous experience of the persons developing them, equipment, patterns of operation, employees, traffic patterns, volume of traffic, and profitability.

In general, it is obvious that some of the lines abandoned by major systems are viable if operated by local companies. There must, however, be at least some minimum volume of traffic, a figure not easily defined, adequate rate divisions, and effective management. Some of the lines in the sample are clearly succeeding; others are more marginal. Most are suffering currently from the depressed state of the economy. Some other lines failed after a year or so, some from inadequate traffic, some from poor management control, some from inadequate rate divisions.

This paper is preliminary to more intensive analysis of such roads.

THE EXPERIENCE OF LOCAL ENTERPRISES FORMED TO TAKE OVER
RAILWAY LINES ABANDONED BY MAJOR SYSTEMS--
A PRELIMINARY SURVEY*

John F. Due
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The exclusion of substantial Penn-Central mileage from Conrail, the liquidation of the Rock Island and the western portion of the Milwaukee, and proposed extensive abandonment by the Burlington Northern and other roads have greatly increased interest in action by local groups or other small enterprises to take over portions of these abandoned routes and operate them as short line railroads. Such activity is by no means new; some occurred as early as the 1920s, and possibly before. For example, the Casey and Kansas and the Kansas and Sidell took over portions of a line in east-central Illinois abandoned by a predecessor of the Baltimore and Ohio and continued service for a time.¹

In general the lines abandoned by the major systems until recent years were submarginal and offered little potential for continued operation. The railroads themselves were slow to seek to abandon service, and the Interstate Commerce Commission (ICC) exercised substantial restraining influence on discontinuance of lines on which there was any significant volume of traffic. But the recent abandonments offer much greater potential; some are lines with substantial traffic and even profitable operation by the major roads, but are left stranded by long line abandonments, such as that of the Milwaukee, or are lines on which the road does not wish to use its limited capital spending potential. Furthermore, some of the abandoned lines are in good physical shape--some being segments of former high speed main lines. The trend has

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1. The original line, part of the Cincinnati Hamilton and Dayton, extended from Olney through Casey and Hume to Sidell.

been furthered by the availability of Federal and state-local funds for acquisition, rehabilitation, and in some instances temporary operating subsidies.

The purpose of this paper is to review the experience of a sample of ten such railroads, with the primary objective of developing criteria for measuring potential success or failure. Some projects of this type, as subsequently noted, have failed within a year or so. The aim in the selection of the sample, subject to constraints of time and funds, was to get roads with a variety of backgrounds and patterns of ownership and traffic. While a substantial geographical distribution was sought there was some deliberate concentration in the midwest.

This work is preliminary to a more detailed analysis planned for the coming year.¹

1. Substantial detail on short line railroads generally is provided by the volume entitled Small Railroads, published by the Association of American Railroads (Washington: 1982).

The Pend Oreille Valley Railroad

The abandonment of the Milwaukee lines in the Pacific Northwest has resulted in the formation of at least three local railroad enterprises. One is the Pend Oreille Valley, which took over the operation of the Milwaukee's 61 mile line extending northward from Newport through Ione to Metaline Falls, in far northeastern Washington state. The Milwaukee also had trackage rights over the Burlington Northern (the ex-Great Northern main line) from Spokane to Newport to connect with its own line through Spokane, but the Pend Oreille operates only from Newport. This is a thinly settled wooded, hilly country; the largest town served, Ione, has a population of 575, Metaline Falls, 305. The line was built around the turn of the century; it had for many years carried a daily passenger train, discontinued in 1936.

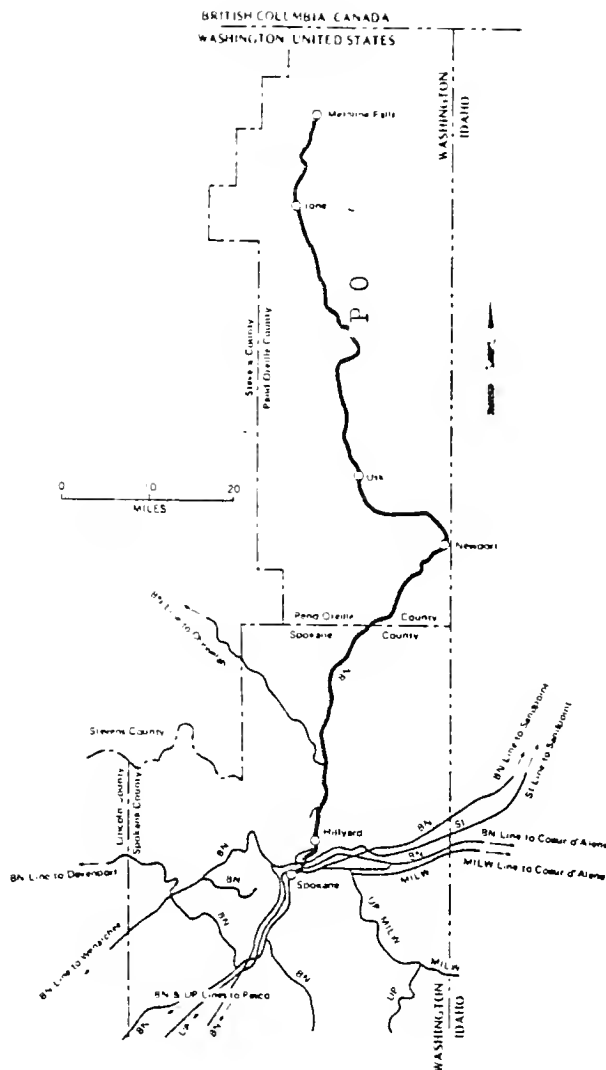
Ownership and Lease. The Milwaukee applied to abandon the line on August 4, 1968, as a step in the elimination of its western lines, although there was no evidence that this line was actually suffering a loss. Neither the Union Pacific nor the Burlington Northern were interested in the line. Analysis by the Washington DOT showed a benefit/cost ratio of retaining the line of 2.5, in part because of the serious adverse effects of abandonment upon the industries served by the line.

In September of 1978, the voters of the county approved the formation of the Port District of Pend Oreille to acquire the line; the state of Washington could not do so for constitutional reasons. Port districts, common in Washington (about 75) and Oregon (25), have as their primary function: aiding economic development of the area. This is the only one, however, thus far to acquire a railroad, although others are considering it. The District paid \$1,385,000, or \$22,700 a mile. \$1,050,000 was provided by the Economic Development Administration (EDA) of the U.S. Department of Commerce. \$350,000 was obtained by the sale of bonds issued by the Port district and sold to two major shippers, Lehigh Portland Cement and Louisiana Pacific. The grant was awarded in September 1979; the railway line was acquired in March 1980.

The Port leased the line to Kyle Railways for operation. This is a San Diego based firm that currently operates nine railways. Kyle pays an annual sum necessary to meet bond obligations (initially interest, then interest and principal) and then pays a percentage of gross receipts: 8% when the total of gross receipts is under a half million; 10% between one half and one million; 3% on the portion in excess of this amount.

Track and Equipment. At the time of transfer, about half of the line attained Class II Federal track standards, about half, Class I. Rail was primarily 75 pound, with some 100. About half the ties had deteriorated, and there was substantial need for reballasting and realignment. The Washington state rail plan estimated cost of rehabilitation between \$1 and \$1.5 million. Following transfer of operations, a 4 year, \$3.1 million rehabilitation program was undertaken. Part of the funds came from the

1. Information on this line was provided by Kyle Railways in San Diego, by the Pend Oreille Port, and the Washington State Rail Plan, 1978.



Pend Oreille Valley Railroad

Source: Washington State Rail Plan, 1978

Federal Railway Administration under the 4R and Local Rail Services Assistance Act; some came from Kyle, and some from the Port. The program is now over 90% complete and both the Port and the railroad report that the line is in good shape.

The road has two diesels, which it has purchased, and maintains these in its own shop in Metaline Falls. Primarily Burlington Northern freight cars are used; Milwaukee owned covered hopper cars assigned to the road are used for cement, and the road has its own chip cars. The train is now operating five times a week (in contrast to the Milwaukee's three times in later years; the latter road operated through from Spokane and could not make the run in 12 hours, thus requiring two days for the crew). A two man crew is used.

Traffic. The total cars originated/terminated for recent years are as follows:

1976	3261
1977	3240
1980	3157
1981	3545 (approx.; data available through Dec. 16 extended to the end of the year)

Thus, since assumption by the Pend Oreille, the traffic has increased; with 3500 cars, the road is originating/terminating 59 cars per mile. While exact ton mile figures are not available, the figure would be around 175,000 ton miles per mile, far higher than that of most light traffic lines. The traffic is as follows:

1. Cement, from the Lehigh Portland Cement plant at Metaline Falls. This firm is by far the largest shipper, and regards the railway as essential to its continuation in Metaline Falls. It is a major supplier of cement to the Washington public power system and other large users, including, currently, the Corps of Army Engineers dam on Willow Creek near Heppner, Oregon. The plant, which produces very high grade cement, is considering an expansion that would double its capacity.

2. Wood chips, produced by a subsidiary of Boise Cascade at Usk, the chips sent normally to Wallula, currently to St. Helens. These chips are from slash, not a product of lumber production.

3. The Louisiana Pacific lumber mill at Ione. Normally a major shipper, current output (lumber and chips) is limited, and the mill is likely to shut down again for a period.

4. Coal, the only significant inbound traffic, from Montana, for the cement plant kilns. There has been some gypsum traffic. During the coming year substantial traffic is expected from construction of a power plant for the Seattle power system. There also is the possibility of a new pulp mill, which would provide substantial inbound and outbound traffic.

The traffic thus far has been relatively immune to trucking, partly because of the remoteness of the area, but some of the coal is being trucked.

Rates and Earnings. The road has been successful in obtaining joint rates with the Burlington Northern, the only connection, with a reasonable division of rates. The management believes that the coal rates are too high, causing the loss to trucks. The cement plant would like to have lower rates on cement in order to widen its market areas.

A summary profit and loss statement is shown in table 1. Equipment rental cost is included in the "equipment" item in operating expenses (\$168,000).

Summary. This is one of the most promising of all the new railroad ventures and is certain to succeed so long as nothing happens to the major shippers--and this appears unlikely. The volume of traffic would appear to be adequate; relations with the connecting rail line are good; the track is owned by the Port and has been rehabilitated. The Port management is very well satisfied with Kyle performance. Like many small railroads, the fate does rest tremendously on the future and policies of a very few firms.

Table 1

PEND OREILLE VALLEY RAILROAD
 COMPARATIVE STATEMENT OF INCOME
 FOR THE TWELVE MONTHS ENDING DECEMBER 31, 1981 and 1980

	Year to Date	
	<u>1981</u>	<u>1980</u>
<u>OPERATING REVENUE</u>		
Freight	\$1,067,167	\$ 954,070
Demurrage	4,180	4,900
Incidental	<u>60,390</u>	<u>30,369</u>
	1,131,737	989,339
 <u>OPERATING EXPENSES</u>		
Way & Structures	155,392	253,344
Equipment	284,989	334,200
Transportation	247,411	262,526
General & Administration	<u>204,553</u>	<u>157,395</u>
	892,345	1,007,465
 <u>OPERATING INCOME</u>	 239,392	 (18,126)
 <u>OTHER INCOME</u>		
Interest Income	<u>3,707</u>	<u>4,620</u>
	3,707	4,620
 INCOME BEFORE TAXES	 243,099	 (13,506)
 PROVISION FOR TAXES	 <u>-0-</u>	 <u>(7,700)</u>
 <u>NET INCOME</u>	 <u>\$ 243,099</u>	 <u>\$ (5,806)</u>

Source: Provided by Kyle Railways.

Seattle and North Coast Railroad¹

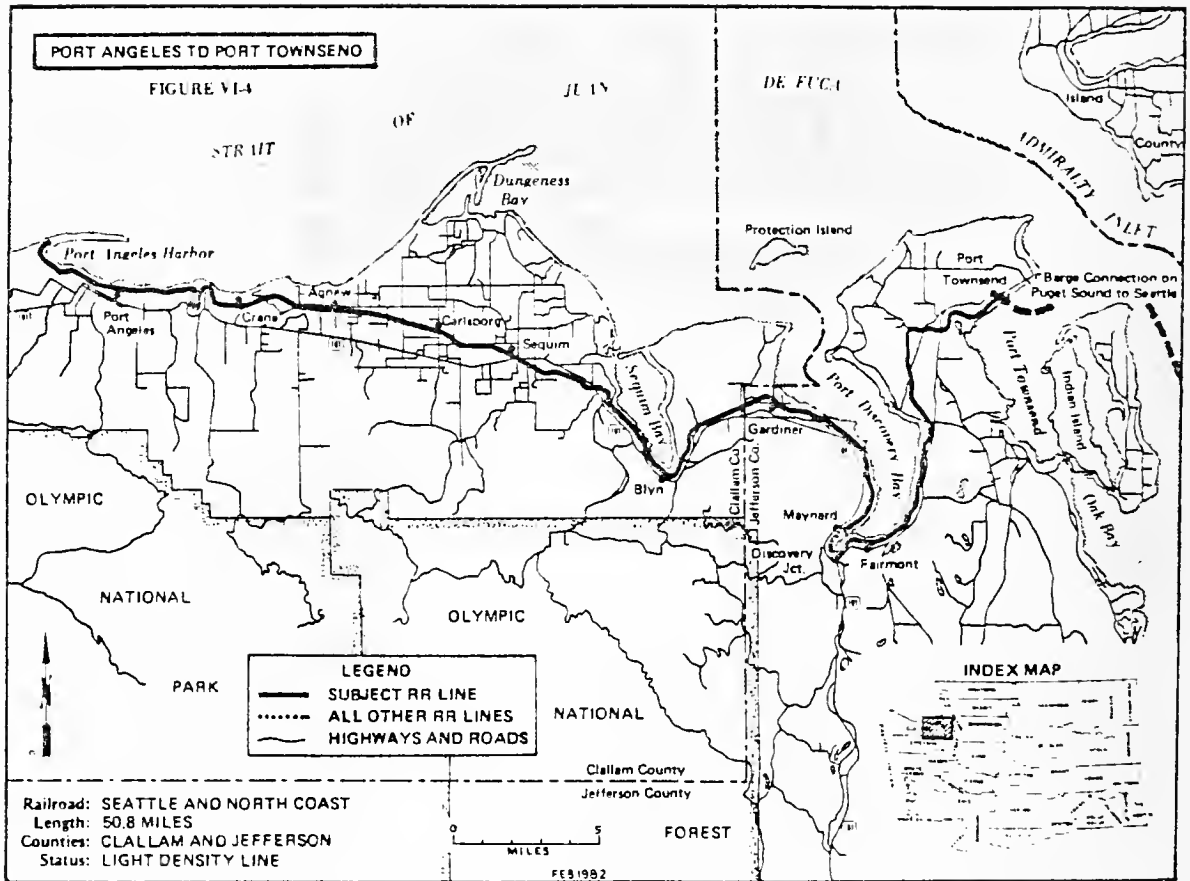
Background. The Seattle and North Coast has perhaps the most difficult operating conditions of any railroad in the sample. The line is one of the very few in the United States not physically connected to any other railroad track. The line extends 51 miles from Port Angeles to Port Townsend, on the Olympic Peninsula of Washington. From Port Townsend the freight cars are ferried across Puget Sound to Pier 27 in Seattle. Port Angeles has a population of 17,025, Port Townsend, 5,700, Sequim, 2,725. The line was built as the Seattle, Port Angeles and Western in 1915, and acquired by the Milwaukee in 1918. The Milwaukee ceased service March 1, 1980, and the Seattle and North Coast took over under contract, beginning operations March 21. The new company was formed by three Seattle men. The Vice President and General Manager, who holds a Ph.D. in Political Science, had some contact with the railroad industry, having worked for BRAE and as an inspector for Pacific Car and Foundry. He and his two associates developed the idea of taking over one of the Milwaukee lines, and ended up with this one; prior to doing so they operated the North Coast Lines, a locomotive leasing firm.

As of mid-1982, the line is leased from the trustees of the Milwaukee. Negotiations are under way for purchase of the line, for \$4,600,000, which includes the barges and piers, by two port districts, Port Townsend and Port Angeles, which will finance by the issuance of revenue bonds. No Federal funds have been available thus far; the state's position is that the funds cannot be made available until the line is owned by the port authorities-- which hopefully will be by September of 1982.

The 1978 Washington State Rail Plan analyzed the line, recommending rebuilding of the transfer bridge at Port Townsend, building a new one at Port Angeles, and eliminating the rail line between the two cities. The railroad did not regard this option as feasible, for several reasons. There appeared to be no good location in Port Angeles, and serious environmental problems would be encountered. There are major water surges in Puget Sound in the area that are difficult to overcome. The cost of barging around Point Wilson, especially in winter, would be high. The railroad would lose substantial revenue, getting about \$300 per car instead of \$800. The possibility of getting other shippers on the line between the two cities would be eliminated. Thus this option is not considered in the 1982 Plan update, but stress is placed on the need for modernizing the transfer bridge at Port Townsend, estimated to cost \$819,000, a project that shows a 14.7 benefit/cost ratio. This project receives high priority in the state rail plan and is recommended for assistance.

Track. When the S and NC took over, the line was barely operable. The Milwaukee had placed a load limit of 180,000 pounds, thus preventing the use of cars most efficient for the traffic. The S and NC did some cleaning of the transfer bridge and raised the weight limit, with special handling. But this is a temporary expedient, and rebuilding will be necessary. The track was in equally bad condition; the combination of the nature of the terrain and the very high rainfall make track maintenance far more difficult than on most lines.

1. Major sources in addition to the railroad management include Washington State Rail Plan, 1978, and 1982 Update (Olympia: Washington State Dept. of Transportation), and Theodore Kornweibel, Jr., "Is There Life After Milwaukee?" Trains, Vol. 41 (Oct. 1981), pp. 26-30.



Seattle and North Coast Railroad

Source: Washington State Rail Plan Update, 1982.

The line barely met Class I standards. The rail was 65, 75, 85, and 90 pound, badly worn and much of it too light for heavy cars. Many of the ties were gone, and in places the rails were down in the mud to the height of the ties. At least 1,000 new ties per mile and new ballast were urgently needed. The right of way was overgrown--with the luxurious growth of the Olympic Peninsula. The S and NC raised the track weight limit--but soon had two major derailments, in one of which several Union Pacific cars loaded with paper turned over down an embankment.

The new company succeeded in raising funds to begin rehabilitation; in the last two years, 5 miles of new rail, much of it 115 and 132, some from the Milwaukee, some from the Santa Fe in Arizona (\$170 ton delivered) have been laid. Five thousand new ties went in in 1981 and 3,000 thus far this year. One hundred and twenty car loads of ballast, which comes from the UP, have been installed. All of the track is now clearly to Class I standards,

and much of it to Class II, although additional work is of course required. The method used is to rebuild half mile sections at a time. The process will be speeded up later in the year once the line has been purchased. The original state estimate for funds needed for rehabilitation was \$2 million, plus the funds for the transfer bridge; the current figure is undoubtedly somewhat greater.

Equipment. The road has 3 GM F7s, 1500 hp diesels, which came from the Burlington Northern; they are old but are found to be satisfactory, far better than the Milwaukee owned SD 9s used at first, whose 6 axles and rigid frames were found to be hard on the track. The road also has three former Milwaukee switchers, one kept in Seattle, the others in the two cities served.

The road has acquired some 300 cars under lease from ITEL and BRAE, the former group coming from the City of Prineville line. The road finds the lease arrangement satisfactory, although the UP and the BN are not happy of course, and threatened to cut off the free hire period. Some 30 Longview Portland and Northern 60 foot cars are used, assigned to Crown Zellerbach. The line finds that it has about 75% utilization of its leased cars. Under an unusual arrangement, the line allows free demurrage relief up to 60 days. The cars are loaded, brought to Seattle, but are not billed, held in the Seattle yards until the shippers wish them sent on their way. This ensures quick movement when consignees want the loads quickly, and provides free storage space. This is in part a recession phenomenon.

The S and NC has a fourth interest in the Whatcom yard in Seattle, adjacent to the pier, and inherited the Milwaukee's full responsibility for maintenance.

Service is provided five times a week, compared to the Milwaukee's three times a week frequency in later years.

The Barge Operation. The road owns two barges, with 12 car capacity (50 foot cars). The tugs are not operated by the company, which contracts with Foss, but the railroad does provide personnel (two) for the barges. The crossing takes from 5 to 9 hours for the 45 miles. The dock also handles Union Pacific car barge movements from Sheldon and Port Gamble. The line has been interested in acquiring the Western Pacific car ferry Las Plumas. The railroad faces a major problem because the city of Seattle is seeking to take over Pier 27 for a container dock.

Traffic. There are ten shippers on the line. Three are paper products producers, the other lumber and lumber products. Crown Zellerbach and ITT Rayonier are the major shippers. Most of the shippers, including the two large ones, are located in Port Angeles. The chief single item consists of a wide range of paper items. Wood pulp has been increasing in volume, shipped in containers, for export. There is some lumber traffic, but it is only about 10% of the total. Plywood is a significant item. Much of the lumber moves on flat cars, the plywood in 40 and 50 foot boxcars. There is no remanufacture on the peninsula. There is a limited amount of transit traffic in veneer for finishing on the mainland. Inbound traffic largely consists of chemicals and other ingredients for the mills and some miscellaneous items such as farm equipment. There is no wood chip traffic, which all moves

by barge. The chip traffic may develop if imports of chips from Canada cease. While much of the traffic is not considered vulnerable to trucking, there has been some increase in truck use. In the past, trucks were reluctant to go to the peninsula, as there was no back haul; more are now willing to do so. They handle a considerable portion of the small-lot lumber shipments.

Total traffic in recent years has been as follows:

Year	Cars originated	Cars terminated	Total
1976	4069	1104	5173
1977	3761	892	4653
1978	2466	725	3185
1981	2349	154	2503
1982 est			3600

The decline reflected in part the deterioration in service and provision of poor cars in the last years of the Milwaukee, a severe car shortage, and the severe depression in the lumber industry. The road predicts a sharp increase in lumber traffic as recovery comes.

One estimate of the potential total traffic in 1978 was 6400 cars, with good rail service and adequate car supply. About 90% of the traffic is originating.

At the figure of 3600 cars, the line is originating/terminating about 71 cars per mile of line or about 140,000 ton miles per mile. These are good figures on the basis of experience elsewhere, and they should be adequate, and from every indication the traffic should increase. With the 6400 car estimate, the originated/terminated figure would be 125.

Rates. The S and NC first tried to operate with Milwaukee joint rates but this was impossible as there was no Seattle gateway. The line negotiated with the UP and BN, and came up with divisions regarded as adequate; the road receives typically a 15% share of the western carrier portion of the joint rates and as high as 22% on some. The road has frequently been able to get one of the roads to make a concession and then the other follows. Ninety percent or more of all traffic moves on joint rates; an exception is the use of combination rates on the movement of coal from Salina on the Denver and Rio Grande. Outbound rates are somewhat higher than from Seattle, but they always have been, reflecting the advantage the mills have of being close to their materials supply. About 60 percent of the interchange is with the BN, 40 percent with the UP.

Employees. There is a total of 53 employees, unusually large for a 51 mile line, but necessitated by the switching problems and the barge operation. There are three switching crews (one in Seattle, one each in the two cities served) and a 3 man train crew. A caboose is used and is regarded as essential. Train crews do other work as needed. The round trip run requires 8 to 10 hours; the line hopes to reduce this to 8. It was 16 when

the S and NC began. There are 6 men on the section crew. All but five of the operating employees are from the Milwaukee, and the superintendent had 10 years with that road.

All employees are paid on a salary basis, but with the requirement that they do a variety of tasks as required--particularly the switching crews, who do some of the track maintenance work. Operations are nonunion (though the operating personnel were union members on the Milwaukee). The unions brought legal action to require hiring of all ex-Milwaukee personnel used on the line, on the grounds that the so-called Miami agreement applied. The railroad won the fight; the unions then sought to organize the workers but did not succeed. The flexibility in the use of labor is essential for small railroads to operate, and this the S and NC has maintained.

Earnings. It is not possible to get a meaningful figure of earnings in recent years because of the rehabilitation work. The Milwaukee in proposing abandonment indicated that the line made a contribution to overhead and profit, but not enough to warrant rehabilitation (which the MILW lacked funds to do anyway). The road reported a 1980-81 loss of about \$1.2 million because of rehabilitation expenditures, and expects a figure of \$250,000 for the current year. But operations, because of the depressed economy, are only about 40 percent of normal, and the management expects a profit within a year or so--with some economic recovery. The operating cost is about \$4.5 million a year; the revenue estimate for 1983 is \$7 million. The high revenue is of course a product of the high rate commodities handled and the reasonable rate divisions.

Conclusion. The general impression is that despite all of its problems, including some reportedly bad relations with shippers initially, the S & NC should succeed, so long as traffic increases back to levels of pre-recession years. The heavy losses indicated by the shippers if the line is abandoned suggest their willingness to support it.

South Central Tennessee Railroad (Kyle Railways)¹

Background. The South Central Tennessee extends 51 miles from Colesburg, on the Nashville-Memphis line of the Louisville and Nashville (L&N) (formerly the Nashville Chattanooga and St. Louis main line) southward to Centerville and Hohenwald, in a heavily wooded, hilly area southwest of Nashville. The line was built by the N C and St. L. in the 1890s, and once extended an additional 10 miles to Allens Creek. The two counties for which the line is the only rail service, Hickman and Lewis, have about 20,000 population; Centerville has 2,824, Hohenwald, 3,922. There are a few other villages. The line is a difficult one to operate; in 24 instances the grade exceeds 3%, and there are 14 curves in excess of 15°.

The L & N first sought to abandon the line--known as its Centerville branch--in 1973. This was approved by the I.C.C. in 1976, but appeals and then an agreement with the Tennessee Department of Transportation, which sought to retain the line, delayed abandonment until 1978, although actually L & N service in later years was minimal. As of July 1, 1978, the South Central Tennessee bought the line and contracted with Kyle Railways of San Diego to operate it, under a lease purchase agreement extending to 1999. Federal and state funds were obtained for rehabilitation, which has been completed, with some new rail (most was 80 to 102, but some was 62 and 68, which was replaced), ties (atleast half were useless), and ballast.

Traffic. There are two principal industries served. The major one is a hardwood chip plant at Centerville. This plant grinds up hardwood trees to produce chips; the chips are not a byproduct of lumber production. The other major shipper is a firm in Hohenwald that produces synthetic rubber products, such as firehoses, and employs, in good times, 570 persons. There are also a few small hardwood lumber mills, including a tie manufacturing plant.

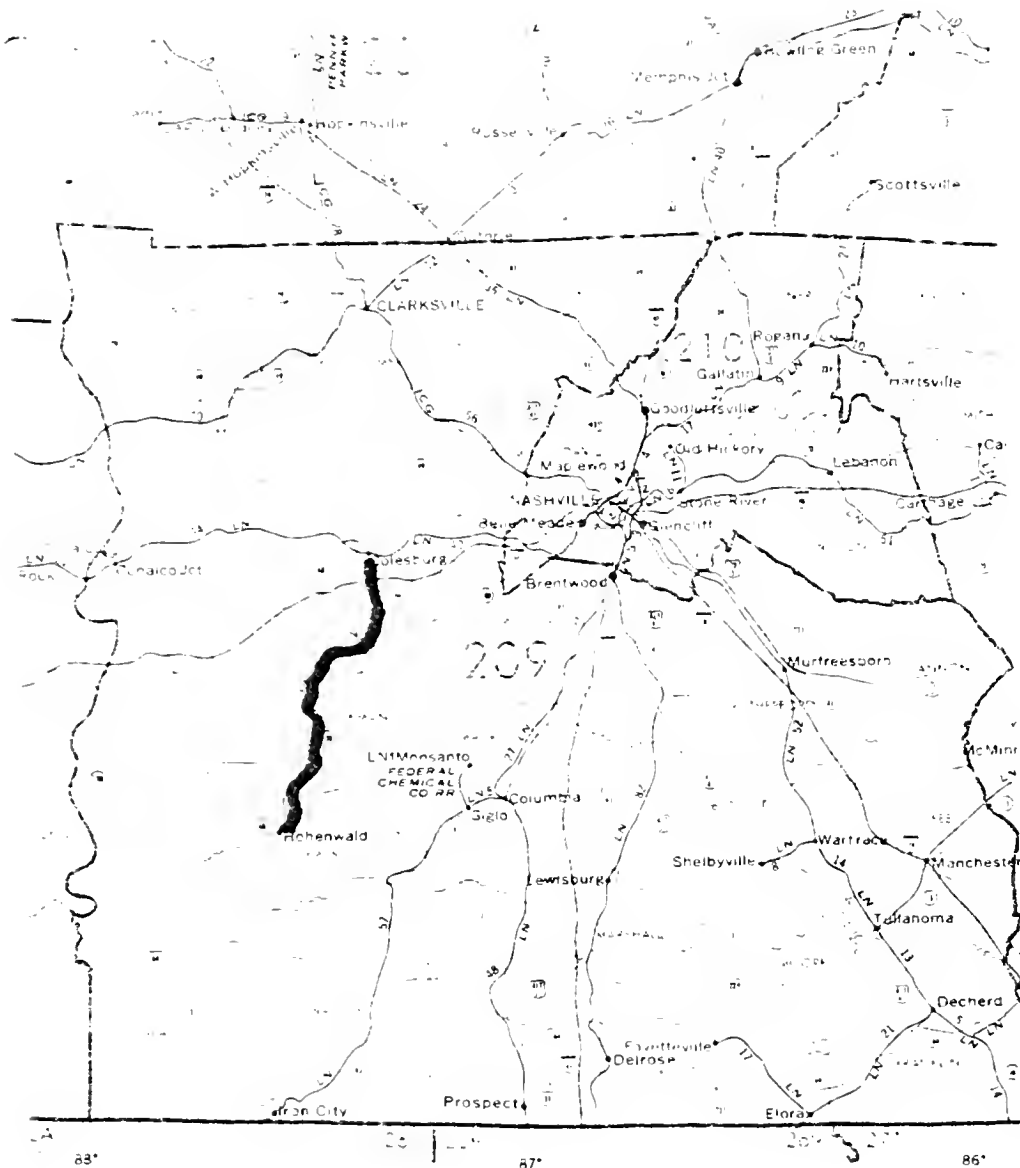
The most important traffic, volume-wise, is hardboard chips moving to a hardboard plant in Kentucky. The chips move entirely by rail. There is also a limited amount of outbound lumber. Inbound traffic consists of carbon, silica, and limestone, for the factory in Hohenwald (which does not normally ship out by rail). The L & N, the road's only rail connection, provides joint rates and a rate division regarded as equitable.

The volume of traffic in the mid-seventies and currently has been as follows:

Year	Carloads
1973	1,308
1975	944
1975	544
1981	1,836

The first five months of 1982 show an increase of 21% over 1981. The traffic volume is relatively light compared to other roads in the sample, amounting to 36 cars originated/terminated per mile, or roughly about 88,000 net ton miles per mile of line, but has increased sharply.

1. Primary sources were Kyle Railways and the Tennessee State Rail Plan, 1978.



South Central Tennessee Railroad

Source: Modified from Tennessee State Rail Plan, 1978.

Service and Employees. Service is provided five times a week between Colesburg and the chip mill near Centerville, 40 miles. Twice a week an extra crew goes on to Hohenwald. The L & N operated twice a week (in later years) through to Hohenwald, and encountered substantial overtime. The train is operated with a crew of two. There are only 15 employees (including some assistance from Kyle headquarters in San Diego), the General Manager, and an assistant general manager, one office person, an assistant superintendent, the crew of two, and 8 on track and equipment maintenance. Most of the workers can do other tasks as well. Operation is nonunion. The shop is located at Watsons Siding, south of Centerville.

Equipment. The line has four diesels; two are RS-11s, one of which was bought from the L & N, one from the Southern Pacific (built 1959); these are used in tandem on the run to Centerville. An FM H10-44 is normally used on the run to Hohenwald. The trains average only about 5 cars. The railroad leases chip cars from BRAE; these are returned empty by the L & N after completing the run to Kentucky. The L and N cannot supply cars of this type and thus has no objection to the leasing.

Summary. As noted above, traffic has been rising, despite unfavorable economic climate, and operations are profitable. But this is certainly a marginal operation, given the traffic volume and the difficult operating conditions. But it appears to be succeeding.

Gettysburg Railroad¹

Background. The Gettysburg Railroad extends from Holly Springs, Pennsylvania, where it connects with Conrail, southward 23.4 miles to Gettysburg and a connection with the Chessie System. The Holly Springs connection is with Conrail's line to Hagerstown and its junction with the Norfolk and Western; the Chessie connection is with the former Western Maryland line between Baltimore and Hagerstown via Hanover. The principal intermediate towns are Biglerville, the major source of traffic, and Gardners, with populations of 991 and 160 respectively. This was a portion of the Reading's Harrisburg-Gettysburg line, a major route for handling of through traffic between the Western Maryland and the Reading (which were affiliated roads under the Baltimore and Ohio), particularly coal traffic originating on the WM. The line was also once a major passenger route.

The Reading stopped service in May of 1976 as its operations ended; Conrail provided irregular service for a few months; and in October of 1976 the Gettysburg Railroad took over the lines. The USRA Preliminary Plan did not propose inclusion in Conrail², but suggested further study; the final plan recommended sale to Chessie. It was evident from the analyses made by USRA and the Pennsylvania Department of Transportation that the line served a significant purpose and was not far from breaking even. But the Chessie did not acquire it, and thus it became available for a designated operator.

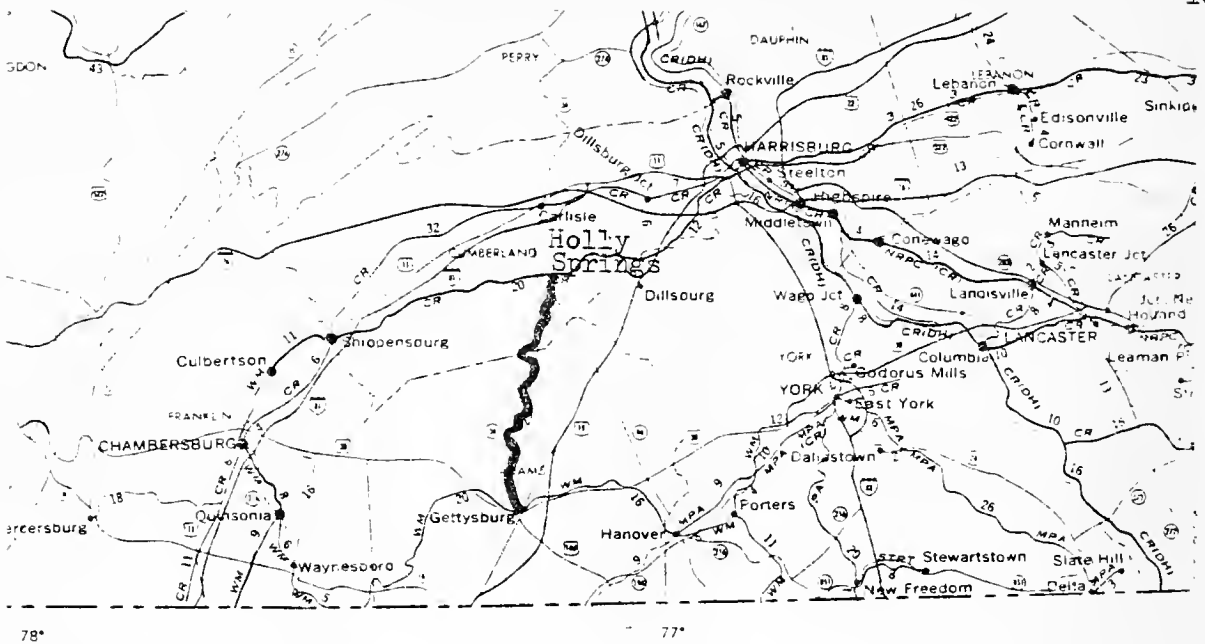
The Gettysburg was a project of three members of the Cornell family, who had operated a tourist line in western Pennsylvania. In May of 1976 they learned that the Gettysburg line would not be included in Conrail, and that the state sought an operator. The Cornells met with the shippers, applied to the state to be the designated operator, and received authorization.

From 1976 to December 1981, the state leased the line from the trustees of the Reading, and the railroad leased from the state. In December the state bought the line from the trustees; after the original offer was turned down, the state filed a condemnation suit, and received the line for a tentative figure regarded as reasonable, \$1,512,612. The funds came partly from the Federal government, partly the state, and partly the owners, acting for the shippers. The railway is obligated to pay the state when the earnings are adequate to do so, as they have been in several years.

Track and Equipment. The line is laid with 130 pound rail because it was once a main line, a weight unusual for light traffic lines. Some was worn on curves and required replacing. A number of ties have been replaced. Over the whole, the track is in good shape for the traffic.

1. Primary sources were officials of the railroad, Pennsylvania State Rail Plans, and Pennsylvania Department of Transportation.

2. In 1973, according to the USRA Final System Plan, the line originated or terminated 1590 cars, or 67.9 cars per mile (10 per train). The stations and carloads were Peach Glen (86), Gardners (208), Bindersville (266), Biglerville (959), Gettysburg (71). There were 18 shippers, Inland Container providing about half the traffic. Duffy-Mott and Musselman were the other major shippers. USRA, Final System Plan (Washington: 1975) pp. 912-13.



Gettysburg Railroad

Source: U.S. Department of Transportation, Transportation Map of Pennsylvania, 1976

The line owns 12 insulated boxcars with moveable bulkheads purchased from the Reading, to meet the needs of the fruit shippers; the firms often ship in 8 car groups, and the two major roads could not supply the cars, resulting in the loss of traffic to trucks. The firm has avoided the car leasing deals. There are four diesels. One 1000 hp Baldwin came from the firm's operations in western Pennsylvania; four ALCO 1600 diesels were purchased from the Long Island. One has been sold and one cannabilized; two are still in service. The fourth is a 2000 hp ALCO purchased from the N & W. There is no piggyback operation. Chessie is unwilling to give joint rates as currently the trailers (usually handling food products) are trucked to points on the Chessie lines.

Trains were operated six or seven times a week, compared with three by the Reading; the service has been cut to 5 because Conrail has eliminated its Saturday and Sunday trains. The trains operate in the daytime, leaving Gettysburg in the morning, servicing the industries, going on to the Holly Springs interchange, and returning in the afternoon. Sometimes cars brought to the container plant are dropped off in the morning and are ready empty for pickup on the return trip. Usually only one diesel is required on the trains. A typical train has nine or ten cars.

The trains operate with a crew of two, without a caboose. There are 11 employees, total, including the three members of the Cornell family who provide the management and office staff; a crew of 2, 4 for equipment and track maintenance, and one general work. The line is nonunion. The road does its own diesel maintenance, calling in a retired Chessie repairman on occasion for more difficult jobs. The line is able to clear its derailments, which are not common. There have been only two significant ones since the Gettysburg company took over, and they did little harm. The derailments were apparently a product of "running up" of cars rather than track defects.

The railroad also runs regular passenger excursion service on weekends during the summer, and several major special excursions, which handle as many as 500 passengers. The road has several old steam locomotives, and a half dozen coaches for this purpose. This is, however, incidental to the freight business.

The traffic pattern is much more varied than that of most small railroads, the bulk of the traffic to or from points on the line being inbound. The largest inbound shipper is a container plant that brings in pulpboard by rail and ships out some containers by rail. There are three fruit (primarily apple) canners on the line, which bring in materials, such as sugar and corn syrup, by rail, and ship some of their canned produce by rail. There is one fertilizer plant plus feed stores and lumber yards that bring in some of their supplies by rail. By far the most important source of the traffic is Biglerville, 8 miles from Gettysburg; relatively little originates or terminates in Gettysburg itself. The major interchange is with the Chessie, a smaller portion with Conrail. The road has joint rates with both of the two connecting lines; the management has found Chessie to be highly cooperative with rates and handling of traffic, Conrail less so.

Distinct from the traffic to and from the lines is the very substantial amount of bridge traffic between Conrail and Chessie: as noted below, this greatly exceeds the points-on-line traffic. A portion of this is dimensional traffic--shipments too large to pass through a tunnel on Chessie and too wide for the clearances on Conrail in Baltimore. This was also important prior to the formation of Conrail. But there is substantial other bridge traffic as well--sugar, scrap metal, paper, etc. This proves to be a more satisfactory connection between the two roads than other more congested junctions.

Figures of carloads handled are for selected years are as follows:

Year	Carloads to and from the line	Bridge Traffic	Combined
1973	1872	12,000	
1974	2028	12,000	ave.
1976	--	--	6556
1981	1757	4,150	6907

Thus the carloads originated/terminated per mile in 1981 was 76, similar to the figure in 1973; the bridge traffic constituted 180 cars per mile, to bring the total to 256. This is obviously a figure adequate to allow the covering of costs. The bridge traffic is much less than it was a decade ago, largely because of the reorganized structure of the major railroads. Without the bridge traffic the survival of the road would be marginal. The combined traffic is about 300,000 ton net miles per mile of line.

Except for funds for purchase of the line, the road is not subsidized and is operating profitably, sufficient in most years to meet the requirements for repayment of a portion of the purchase assistance. The earnings picture has been as follows:

Period	Attributable Revenues	Avoidable Costs	Excess Revenues
4/1/77 - 3/31/78	\$ 635,206	\$ 543,553	\$ 91,653
4/1/78 - 3/31/79	820,872	768,994	51,878
4/1/79 - 3/31/80	825,696	804,328	21,368
4/1/80 - 3/31/81	763,970	702,542	61,428

In the leasing period, the "excess revenues" were paid to the state toward the leasing cost. Now that the state owns the line, the excess revenues are paid into an interest bearing account that the railroad can use only with the state's permission--for example, to repair washouts or make improvements.

The Gettysburg provides a good example of a line that is succeeding under local operation that was not profitable as a part of a major system. While reorganization of the eastern railroads cost it a substantial portion of its bridge traffic, its on line traffic has been increasing. The bridge traffic, however, is important to the financial success of the line.

Prairie Central¹

The Prairie Central Railroad extends from Decatur, Illinois, eastward to Paris, 75 miles in length (the first 11 mile section out of Decatur is on trackage rights over the Illinois Central Gulf). This company, owned by Trans-Action Associates of New Lenox, Illinois (the Burroughs system) began operating the line June 26, 1981, replacing the Wabash Valley Railroad, owned by Morrison Knudson of Boise, Idaho, which ceased on March 1, 1981.

Background. This line was built in the rail building boom after the Civil War, as part of the Vandalia Railroad. This firm was absorbed by the Pennsylvania, its main line becoming the Pennsylvania's Indianapolis-St. Louis line, this portion the Pennsylvania's Terre Haute-Peoria line, a roundabout way of reaching Peoria from the east. The track deteriorated badly in the last days of the Penn Central and was not recommended by USRA for inclusion in Conrail. The Decatur traffic was eliminated in the evaluation; with this approach the 1973 traffic was only 1087 cars, or 15 per mile originated/terminated. The Illinois Department of Transportation, however, in the 1975 Rail Plan, gave the line top category priority for preservation, on the grounds that it was profitable if the Decatur traffic was included, and no subsidy, except for rehabilitation, would be required. Conrail operated the line under subsidy from April 1, 1976 to January 1, 1977, when the state designated the newly formed Wabash Valley Railroad as the operator and provided subsidy to it. Between 1977 and 1980 a total of \$1.5 million was provided under subsidy, much of it for rehabilitation. But as shown below, an operating subsidy was required, despite track improvements, and more adequate car supply. With the expiration of the availability of Federal funds for the subsidy, the state terminated funds as of March 1, 1981, and WV ceased operations. As noted, Prairie Central offered to operate it without subsidy, and was so designated, commencing June 26, 1981.

The losses incurred under Wabash Valley operation are as follows:

Year	Revenues	Expenses	Operating Subsidy	Accelerated Maintenance
			(millions of \$s)	
1977	4.8	4.8	neg.	.5
1978	2.3	3.6	1.3	.7
1979	1.6	2.9	1.3	.4

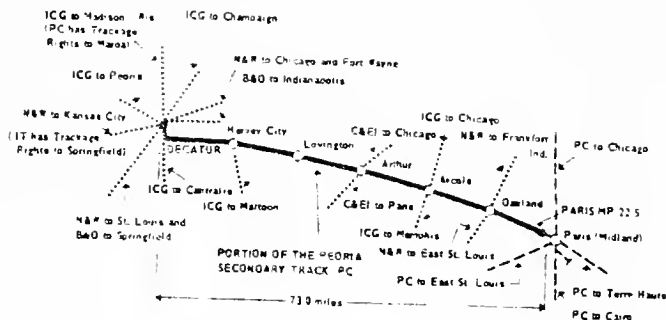
Source: Illinois State Rail Plan, 1979

Line, Track, and Equipment. The line provides service to 15 shipping points, by far the largest being Decatur (population 94,081). Lovington (1,313) is the other largest shipping point (and has no other railroad); others, with population, if any, in parentheses, are as follow: Prairie Hall, Lake City (100), Arthur, also on the Missouri Pacific, (2,122), Kemp (50), Hindsboro (407), and Oakland (1,035). These are primarily grain shipping points. There are only nominal grades and very little curvature of track. The line connects with Chessie, Norfolk and Western and ICG at Decatur,

1. Source: the railroad management and various Illinois State Rail Plans.

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Prairie Central

Source: U.S. Railway Association, Final System Plan (Washington: 1975), Vol. 2, p. 70, modified to eliminate the abandoned Lovington line. There is no connection with the ICG main line at Arcola. C & EI is now Missouri Pacific.

the Missouri Pacific at Arthur, a secondary line of the N & W at Oakland (the connection not now used) and Conrail at Paris. The track is now in good condition, meeting class II standards, and operations are typically at 20 miles per hour. A substantial amount of subsidy money was used for rehabilitation of the line, including rebuilding a bridge at Oakland. The Conrail weight limit of 220,000 pounds, which prevented the use of loaded hopper cars, has been raised to 263,000 tons. The deferred maintenance has been eliminated, and only routine maintenance will be required in the future.

The line has 5 diesels, 3 UP 25s (General Electric), 1200 hp, purchased from Penn Central trustees, and 2 GP9s, 1500 hp., leased from Penn Central with an option to buy. The firm maintains these itself. The railroad leases 120 hopper cars from Thrall to ensure a better car supply, and has six Louisiana Midland boxcars assigned to it.

Operations are somewhat complex. Typically service is being provided six times a week, trains averaging about 30 cars. The night crew begins work at Decatur at 10 pm, does the switching of the cars provided by the connecting lines, and heads for Paris, picking up loaded cars and dropping empties along the way. The crew performs the switching at Paris and starts back; when it reaches normally 10 hours, and never more than 12, as required by law, it is relieved by the day crew, sent out by car. The day crew brings the train back and does the switching in Decatur. The two crews alternate by the week. The crew consists of two men.

All personnel are paid on a salary basis, with overtime where necessary. Employees are not unionized; wages are essentially those based on local standards, with good fringe benefits. There are 24 employees for the Paris-Decatur line:

Crew members, 4, plus 2 trainees
 Track, 4
 Equipment maintenance, 2
 Administrative and office, 8 (President and Vice President (shared with other Trans-Action roads), General Manager, Superintendent, Agent, Director of Marketing, agency clerk, auditor, assistant auditor.

The traffic is primarily grain and grain products, roughly 99 percent. Ninety percent of the traffic originates in Decatur, from the ADM and Staley mills. The road does not have direct access to the plants, picking up the cars after switching by the other roads. Primarily the traffic is outbound, but some does come in, as for example, paper for a plant in Arthur. There is a limited amount of bridge traffic; basically the road is not well located to serve as a bridge route. Most of traffic goes to the northeast, but there is some grain traffic to Arkansas, for example.

The road has joint rates with its connecting lines; it simply took over the tariffs and rate divisions of the Wabash Valley. By far the most important interchange is with Conrail, which the road reports to be highly cooperative. This is the only direct route that Conrail has to tap the important Decatur traffic.

For the eastbound grain and grain products traffic, the principal competitor is the Norfolk and Western; the Baltimore and Ohio, which parallels the road from Decatur eastward seven miles or so to the north, is not aggressive in seeking traffic. The Prairie Central-Conrail combination can save, according to an ADM check, 5 days each way on the cars over the N & W; this is the main basis for capturing traffic.

No figure of total carloadings for the line for the first full year of Prairie Central operations is available, but at present levels should exceed 7,000. The 1976-77 fiscal year was 5,533; 1978, 5347; 1979, 6584. With estimated current traffic, the net ton miles per mile of line would be about 400,000; cars originated/terminated per mile about 90. This is clearly within the range of possible profitable operation--but not with any surplus.

The company reports successful and profitable operation. The interesting question is: why did the Wabash Valley not succeed? There are several possible answers. For a time a serious car shortage reduced traffic. Wages and salaries paid were much higher than those of the Prairie Central--though it too was nonunion. Morrison-Knudson apparently lost all interest in the line, and made the decision to quit once the subsidy was coming to an end; the line had not been successful in attaining the subsidy-free status which the various state rail plans regarded as possible. The Prairie Central appears to be operating much more successfully.

As of June 1982 the Prairie Central has taken over operation of the former New York Central line extending from Paris to Lawrenceville, which was abandoned by Conrail. Three track workers have been added for this line, which is still being operated on an intermittent basis, by supervisory personnel. The plans call for additional personnel and regularly scheduled operation.

Indiana Hi-Rail Corporation¹

The Indiana Hi-Rail is the first line in Indiana to be formed under the feeder line provisions of the Staggers Act; the line was originally included in Conrail, which in 1980 indicated plans to abandon it; the Hi-Rail firm was organized and successfully bid for the line, winning out over the owners of the Indiana and Ohio, reviewed in the next section.

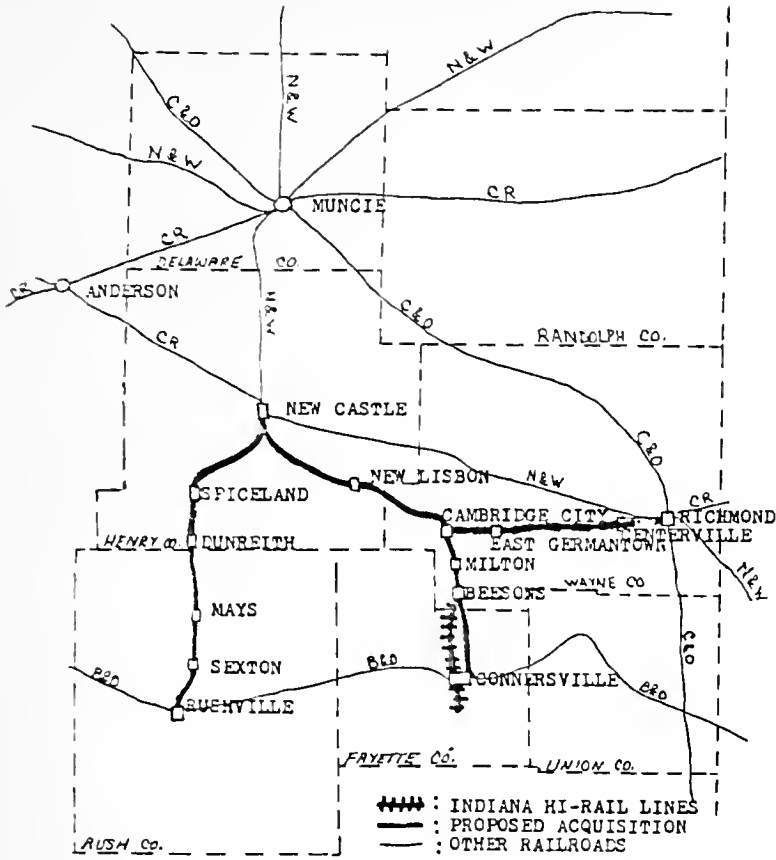
Background. The line extends 6.1 miles southward from a junction with the N & W's Connersville branch at Beesons (merely a junction) to Connersville (population, 17,023). It parallels the N & W's own line to Connersville, but has far better access to shippers. The line crosses under, and currently does not connect with, Chessie (B & O) in Connersville, and at its southern end connects with the Whitewater Valley, a passenger-only carrier operating excursion trains to Metamora. This is a portion of the former New York Central (Big 4) line from Cincinnati to Cambridge and Hagerstown, Ind., a semi-main line, known as the White Water Division. The Indiana and Ohio also operates on a portion of this line close to Cincinnati. There is no longer a connection between the southern end of the Whitewater Valley and the I and O at Brookville.

The Beesons-Connersville Line was recommended in the USRA final system plan for sale to the N & W, to be included in Conrail if the N & W did not buy it. As the N & W was not interested, the line became a part of Conrail. But with the abandonment of the former Pennsylvania main line across Indiana this segment was left disconnected from the remainder of the Conrail system by a 45 mile gap, covered by trackage rights over the N & W. Thus in the 1980-81 restructuring of Conrail the decision was made to abandon it, despite the relatively high traffic volume.

The Indiana Hi Rail Corporation was formed by R. Powell Felix and David Smoot; the members of the Felix family own a majority of the stock in the Chap. S corporation. Both Felix and Smoot had worked for the Indiana Public Service Commission, Smoot having written the first three Indiana rail plans. Felix, who was originally a school teacher, had contact with other small railroads in the state on a consulting basis. The new company bought the line from Conrail for \$100,000 (or \$16,667 a mile), a price regarded as a very good one--and a figure that is in tremendous contrast with those Penn Central is asking for their lines. Operations by the new company began Dec. 11, 1981.

Track and Equipment. Most of the track was below class I standards; Conrail, which had avoided capital improvements on the line, estimated that \$60,000 would be required before Spring of 1982. The most urgent work was done; 225 ties and 200 tons of ballast were installed. An estimated 5500 ties, about 900 per mile, will be required. Application has been made for \$379,000 in Federal funds for rehabilitation; the firm believes that this will be forthcoming. Rail is 80, 90, and 105 pound, and is in good shape; it does not require replacing.

1. Source: The company; Indiana 1980 State Rail Plan.



**INDIANA
HI-RAIL
CORP.**

Source: Modified from map provided by Indiana Hi-Rail corp.

The road has one ALCO diesel, S4, 1000 hp., built in 1953 for the Santa Fe. It had been used on the Michigan Northern and the Carthage (Ind.) line. The company finds it to be in good shape, and parts are available, made by Bombardier. Such a diesel has a \$55,000 list price, but the company paid less than this. The line also has access in an emergency to the Whitewater Valley RR's Lima Hamilton 750 hp. switcher. The road has a number of leased cars, 20 gondolas, 71 box cars, from Rail Car Parker in Atlanta and from BRAE, some of the latter still labeled Union Railroad of Oregon and Oregon and Northwestern. The line also has 9 covered hoppers. Of the leased cars, 63 are currently in service off line; they are leased for the road's own use on originating shipments, not for leasing earnings, per se. The line also has 31 assigned cars from BRAE for dishwasher service, and 84 high cube cars assigned for the automobile parts service. These are loaded with car parts and return empty to Connersville. Some are N & W, some Conrail, and one Rio Grande car.

Employees. There are 9 full time employees--a train crew of 3, President, Vice President, superintendant of track, superintendant of equipment, two in the office, and 3 crew members plus 7 part time track crew. All employees are from Conrail (New York Central portion). The crew are members of United Transportation Union, with which the road has a

contract, but one very different from those applying to the major roads. Pay is 80 percent of the standard wage schedule; there are no work rules, and the train can operate with a crew of 2. Three are used as a matter of necessity, given the extensive switching. Overtime is paid only after 10 hours. Management is convinced that as a small road grows, unionization is inevitable and it might as well be started early.

Operation. The train operates five times a week, Tuesday through Saturday (this best serves the shippers). The crew begins at 3:30 am, does the switching, goes to the junction and back and distributes the cars, finishing in the early afternoon. Currently, trains average 7 to 8 cars a day, but operations of the shippers are at very low levels, and the figure is certain to increase with recovery.

There are three major shippers, all in Connersville. One of the two largest, a Ford plant (technically Ford Aerospace and Communications Corp.) produces car parts; in 1979 it shipped 1524 cars. The second is Design and Manufacture, which, it is estimated, produces about half of all the dishwashers in the United States for a variety of brand name sellers. The third, Cohen Bros., is a major shipper of scrap metal. Outbound traffic constitutes 95 percent of the total, including logs and grain as well as the major categories. There is some inbound traffic in steel. The firm is engaged in a rate dispute with the N & W, and believes that with appropriate rate adjustments it can get most or all of the steel traffic. The shippers accept the line as permanent, and are planning major expansions. The scrap metal firm just installed a new large press.

The line interchanges only with the N and W at Beesons, and via the N and W to the B and O; there is no connection with Conrail. The line plans to install a direct interchange with the Chessie system in Connersville. There are no joint rates; the company is regarded as a switching carrier only, and receives a flat amount per car from the major carrier--currently \$185, to go to \$264. This is paid by the line haul carrier. The road regards this as good compensation. There is no interline billing; only a simple waybill is prepared. The Indiana Hi Rail also applies a surcharge, \$30 on auto parts, \$20 on scrap, none on dishwashers, which move at relatively high rates. The shippers do not object.

The current volume of traffic is somewhat over 2,000 cars a year, or 333 cars per mile, but with a normal economy the figure should reach 3000 cars, or 500 per mile. At the present volume, the revenue ton miles per mile per year is about 120,000.

The firm took over the line on a nonsubsidized basis, and is earning a profit even at present traffic levels. Given the strong potential traffic volume there should be no question about the ability of the company to survive. Operation was not unprofitable under Conrail; its problems centered around the isolation of the line from the system and the need for substantial capital for rehabilitation.

The company has recently taken over operation of a coal carrying line in eastern Ohio, under the name of Ohi-Rail, from Minerva to Hopedale, 39 miles, abandoned by Conrail early in 1982.

In Eastern Indiana, the company is seeking three additional lines:

1. The Newcastle-Rushville line of the N and W, which the latter company is seeking to abandon; Hi-Rail has offered \$113,000 for 23 miles. This line has substantial potential for grain unit trains. The company also is interested in the N and W's Newcastle-Connersville line as far as Beesons, which would give it direct access to the main line at Newcastle. The N and W had this up for abandonment and then withdrew the petition, perhaps as a bargaining device. These two N and W branches are portions of the old Lake Erie and Western, later part of the Nickel Plate. Finally, the company would like to acquire the Cambridge City-Richmond line abandoned by Conrail, a portion of the old Pennsylvania main line. One track remains in place, but is not now operated (except the eastern 6 miles, on N and W track). The rail is 140 pound weight, in excellent shape. Thus the present 6 miles may become the nucleus for a substantial system.

The criteria of the Hi-Rail owners in selection of possible lines are as follows:

1. Adequate traffic density--over 70 to 80 cars per mile. Usually if the figure exceeds 100, major carriers want them. The Connersville line is an exception.
2. Connection with more than two major carriers.
3. More than one dominant customer.

The Indiana and Ohio Railroad¹

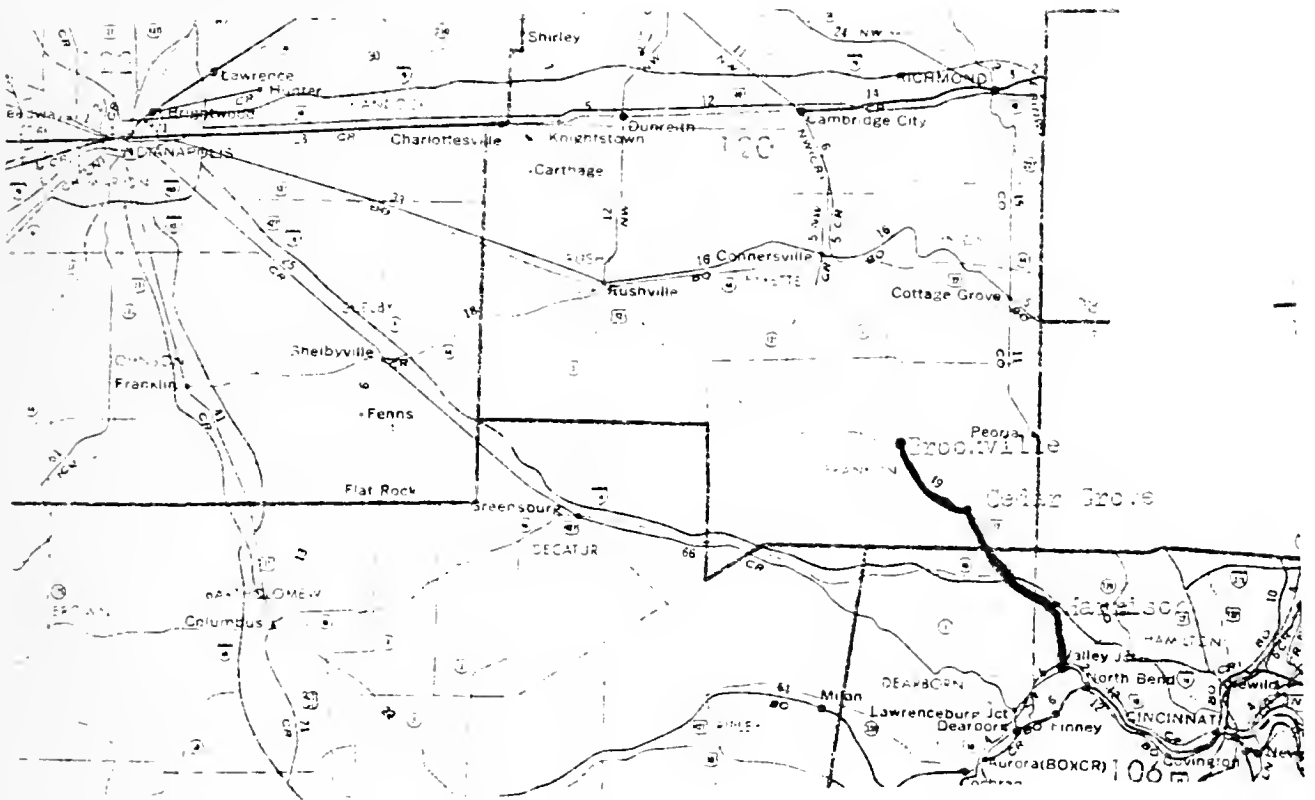
The Indiana and Ohio Railroad, with offices in Brookville, Indiana, extends 26 miles southeastward from Brookville to Valley Jct., near Cincinnati. The line was excluded from Conrail, but given sufficient priority (#3) by the Indiana Rail Plan to be eligible for subsidy, which it received through June 30, 1982. This is a segment of the Big Four, later Penn Central, line that extended from Cincinnati through Connersville to Cambridge City and originally to Hagerstown. Subsidy was initially provided by Indiana and by shippers for continued operation by Conrail, which did so on a limited basis from 1976 to 1979. Then, it was embargoed north of Cedar Grove, and finally north of the Indiana border.

Background. The principal shipping point on the line is Brookville, population 2874. Others are Cedar Grove and Harrison (populations 217 and 5855 respectively). This is very hilly, wooded area, with mixed farming and some industrial activity. It is a highly scenic area, particularly along the Whitewater.

The Indiana and Ohio was formed by four local families, headed by H. E. Weller, a third generation railroader, who had worked for the Chessie system. He had long been interested in the road and when the opportunity arose, took the initiative. The company was formed, owned by the four families, and would have been ready to take over the line as early as 1976, but was not willing to do so until the rehabilitation was completed. Meanwhile, Conrail operated sporadically, on the portion not embargoed. The I and O took over June 21, 1979, but could not operate to Brookville until the bridge at Cedar Grove was rebuilt, Feb. 28, 1980.

The I and O leases the line from the Penn Central and has been endeavoring to buy it. The Penn Central has pushed the rent up sharply, from \$76,000 to \$174,000 a year, and is demanding \$2.3 million for the line, or \$88,000 a mile--a figure in no way related to the salvage value or the earning capacity. The I and O has taken the issue to court in litigation and is currently operating under court order. The Penn Central reportedly resists a condemnation suit on the grounds that it is a railroad, but resists intervention by the I.C.C. on the grounds that it is not a railroad--or so it appears. Hopefully the courts or the commission will establish a reasonable value. A figure between \$300,000 and \$500,000 is regarded by the railroad as a fair figure.

Equipment and Track. The I and O has one functioning engine, a Baldwin DS 44, 1000 hp., which does all of the work. It was built in 1948 for the Western Railway of Alabama, worked on the Seaboard and other roads, and is leased by the I and O from an equipment dealer. The manager regards the Baldwin as very satisfactory, a 4 cycle engine easy to repair. Equipment is maintained by the road; for major work one of the customer firms would provide assistance. The I and O has also a Lima Hamilton 20, but it is not operable for freight service at present. It could be run in multiple with the Baldwin. The company has some freight cars "deployed" on the line by Rail Car Parker of Atlanta--35 box cars and 2 flat cars. About 20 are in service, 14 in storage. The line has these under the usual arrangement, whereby it receives a portion of per diem while the cars are in use but does not pay otherwise--unless payment for storage is necessary.



Indiana and Ohio Railroad

Source: Modified from Transportation Map of Indiana, U.S. Department of Transportation 1976.

The rail is about 45% 80 pound, 45% 90, the rest 60 and 70. Most of the original 60 pound rail was replaced in 1918 and 1919. The rail, much of which was rolled in 1914-15, is in bad shape. Currently, the train can operate--cautiously--the track meeting Class I standards, following substantial rehabilitation, although more is required. A \$755,529 track rehabilitation program was completed in September 1977 and a bridge at Cedar Grove rebuilt for \$102,274. There have been two derailments in the last three years. One was due to a broken rail, one to soft earth. The plan is to get the line on a 40 year replacement cycle.

Operation and Personnel. The train operates with a two man crew, the president often assisting in the switching. The train operates two or three times a week, taking $7\frac{1}{2}$ to 8 hours; the actual running time is about 5 hours. It operates on alternate business days, thus Monday, Wednesday, Friday one week, Tuesday, Thursday the next. The train begins in Brookville, typically with 10 to 12 cars, though the Baldwin will pull up to 20. The line is all downhill from Brookville, with grades up to $2\frac{1}{2}$ and 3 percent. The line has a caboose but rarely uses it.

The road has five full time employees--the three corporate officers and two hourly paid crew members, who do track and equipment maintenance as well. There are two half-time office employees, working alternative weeks, one on corporate accounts, one on interline accounting. There are three part-time track employees. Operations are nonunion.

The total traffic volume will be about 1,000 cars in 1982, or originated/terminating about 39 cars, per mile, and perhaps 50,000 ton miles per mile. These figures are of course low by comparison with some other roads in the sample. Figures for earlier years were 1973, 1077; 1977, 829; 1980, 427; 1981, 1,153.

The principal shipper is the Owens-Corning Fiberglass plant, the bulk of its traffic consisting of inbound movement of ingredients for the production of roofing: roofing granules, sand, fibre glass mats, sawdust, scrap paper, talc, boiler ash, etc. Some come in covered hoppers, some in boxcars. The firm ships a portion of its outbound product by rail, including shingles, particularly to Detroit, and also felt. Smaller lots to dealers go by truck. A major shipper in the past has been Crest Component Homes, a producer of prefabricated homes, bringing in an average of 2 cars a day of lumber. Currently, however, the market is so depressed that the firm is making little use of the rail line. Cincinnati, Inc., a producer of heavy machinery, located near Valley Jct., brings in steel by rail. Other shippers include the Franklin Casket Company in Brookville, which brings in lumber but ships its products out by truck; some feed and fertilizer, and some block rubber. The largest part of the traffic terminates or originates in Brookville, but a portion is handled at Cedar Grove, plus that in the 8 miles between Valley Jct. and Harrison, on the Ohio border. A high percentage of total traffic is inbound.

Rates. The line has joint rates with Conrail, its only connection, through Valley Jct., on the outskirts of Cincinnati, with interline settlement. Conrail has changed one rate, on waste paper, from joint to combination resulting in a higher figure, but has not altered others. The line finds Conrail officials in the area cooperative, but encounters some problems with higher authority.

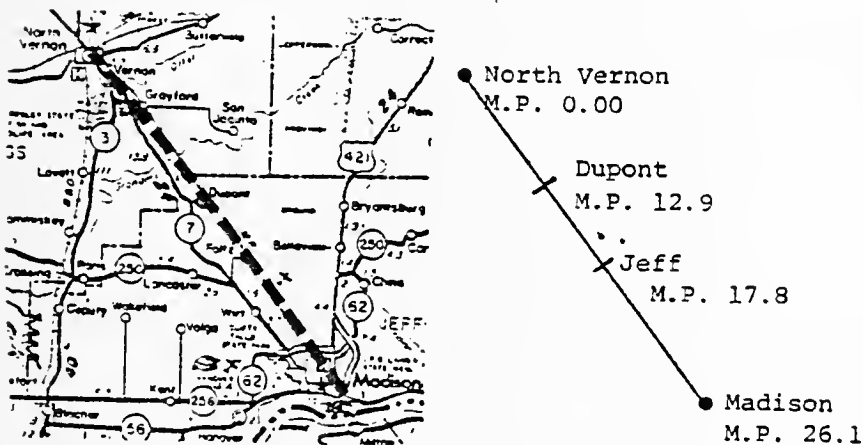
Earnings and Subsidy. The line received substantial subsidy, for rehabilitation and operation, from the state of Indiana. The 1981 projection for example, showed revenue of \$113,178, operating costs \$435,000, lease, \$178,000, taxes \$21,000, and thus total subsidy of \$522,000, of which \$365,000 were Federal funds. In the year ending June 30, 1982, the state provided only half of the lease and tax cost, and as of the 1982-83 year, nothing. These figures are seriously distorted by the rehabilitation expenses and the extortionate lease figure, which is completely out of reason and reflects deliberate extortion by the Penn Central of the state--Federal funds then available. The road has also been aided by Owens-Corning, which is much interested in preserving the line and has considered buying it.

The ability of the line to survive on its own depends upon satisfactory settlement through court action of the purchase of the line, and traffic improvement. The actual operating costs are of course very low. Strong support by Owens-Corning is a major positive factor.

Madison Railroad¹ (Indiana)

The Madison Railroad is the only one in the sample and one of the very few in the United States operated by a municipal government, in this instance the Madison Port Authority, a unit of the municipality. The line extends from Madison, on the Ohio River, northwestward 24 miles to a connection with the Chessie system (B and O main line to St. Louis) at North Vernon, and 1.5 miles beyond to serve the North Vernon industrial park. The 7,000 foot segment coming up from the river has the steepest grade (6%) on any commercial freight railroad in the United States. The line, built in the 1840s, was the first railroad in Indiana, connecting Madison with Indianapolis, ultimately becoming a portion of the Pennsylvania and thus Penn Central, with which it connected at Columbus. Madison has a population of 12,472, North Vernon, 5,768, Dupont, 392, Vernon, 329.

LOCATION WITH RESPECT TO STATE:



Madison Railroad

Source: Indiana State Rail Plan, 1981.

Background. The Pennsylvania Railroad lost interest in the line as early as 1969, indicating in that year that it was considering abandoning it, partly because of the cost of operating on the grade. The portion between Columbus and North Vernon was abandoned when a bridge washed out, and the Penn Central reached the Madison portion via the B & O. The situation dragged on over several years; the track was allowed to deteriorate, until ultimately, for example, there were reported to be 21 derailments in one month. As a consequence, the business groups served by the railway became active in trying to save the service. The line was not included in Conrail, but was operated by the latter for a short period. It received #1 priority for

1. Primary sources were the manager of the railroad, the chairman of the Port Authority Board, and Indiana state rail plans.

state aid in the first Indiana State Rail Plan, and in 1976, operation was taken over, under subsidy, by a private firm, Madison Railway, as designated operator. The firm was owned by persons from Illinois. Substantial Federal funds under the 3R and 4R Acts were obtained for line rehabilitation.

In July of 1978, however, the private company indicated it would cease operations Sept. 15, because of an impasse over the contract with the state. A committee of rail shippers and receivers, appointed by the city council, now pushed hard for municipal operation to preserve the line. The local legislator succeeded in getting the Indiana Port Authority law changed to allow a Port Authority to operate a railroad line not in excess of 50 miles in length. Meanwhile, the mayor of Madison created the Madison Port Authority, as the law permitted him to do. Within 30 days, the railroad was organized and approval obtained from the Public Service Commission and the I.C.C., and on September 16, the Port Authority took over operation as the designated operator.

Ownership of the Line. The line is still owned, at present, by the Penn Central (PC). As with other such lines, the PC has pushed the lease to an exorbitant figure, \$243,000, exceeding the total gross revenue. The Port Authority has been negotiating with PC to acquire the line. In the usual pattern, the PC asked a completely unreasonable amount--\$2,265,000, for a line appraised for salvage value of \$250,000. PC is now down to \$750,000. The Port Authority regards purchase as imperative and will resort to condemnation if an agreement cannot be reached. The plan is to obtain a portion of the funds from the State Rail Loan Fund, established by the legislature, some \$250,000 from a special grant available to the Port, and the rest locally. The state funds will be available at low interest rates. The Port Authority could issue bonds, but this approach is being avoided thus far.

Ownership of the line is considered essential to avoid the rental payments and to assure shippers of the permanence of operations.

Track. There are about 30 miles of track in total, including sidings. Through over a million dollars of Federal-state funds over the past 6 years, the track has been brought into acceptable shape; it meets Class I standards and some segments Class II. Speed is limited to 10 miles an hour. The line has no trouble with derailments. One problem is the numerous curves on the northern portion of the line, and the track on these is watched carefully. Substantial numbers of ties have been installed, plus ballast and ditching. The rail is predominately 70 and 85 pounds, with some 100 and a little 115. It is old and worn but is usable. The line has two track men, but would like to have 5 or 6. Weight limit is 130 tons, and some heavier loads are handled.

Engines. Because of the steep grade, historically the line used specially built steam locomotives, and in later years, diesels with special features. In 1980 the road acquired its present diesel, an 1850 hp GP 10, purchased from the Precision firm in Mt. Vernon, Illinois, with a HUD development grant. The engine was previously used on the Toledo Peoria and Western and was rebuilt in 1971 by the ICG shops in Paducah. It is a standard locomotive, with no special features for the grade. It is capable of pulling 229 tons, gross, up the grade. The road does its own routine maintenance, but receives help from Rexnord and other shippers for major repairs, usually without cost. The engine is kept in the Rexnord plant in the winter to avoid having to keep the diesel running continuously.

Operations. The train does not operate on a regularly scheduled basis, operations being adjusted according to the needs of the shippers. It typically runs twice a week, but may run from 1 to 4 times. The engine may be overnight at either end, depending on the needs of operations.

There are special safety requirements for operations down the grade, particularly with regard to braking power, which in some instances requires adding empties to the train to provide adequate total braking. Needless to say, extreme care is taken by the crew on the grade. The grade is perfectly straight--it resembles the grade on an amusement park line roller coaster. The operations on the grade are complicated by the need on occasion for moving unusually heavy and wide equipment for the Indiana and Kentucky power plant.

Cars. The line does not own or lease any freight cars (except for maintenance cars owned). The cars are supplied by the Chessie; currently there is no shortage, though the road encountered some problems two years ago. The line resisted temptation offered by the car leasing firms.

Employees. The line operates with 5 full time employees--the manager, two crew members, and 2 trackmen, plus a part time (3 days a week) agent-secretary-billing clerk. The manager chooses the employees, usually from persons sent from the employment service. Technically they are city employees, but do not have civil service status. They can be fired for cause. For a time the line also used some CETA help. Operations are nonunion. There are no employees who had worked for the Penn Central, but two carried over from the private company, including the manager, whose earlier background was in manufacturing.

Traffic. The line has a substantial variety of traffic, both inbound and outbound. Substantial quantities of coal, often handled with multiple cars, are brought in for the state mental hospital. Steel comes in for Rexnord, which also ships out various types of heavy construction equipment, conveyors, etc.. Chemicals move in and out. While the power plant--a major one--receives all its coal by barge, it brings in and ships out various types of equipment. Some fertilizer and lumber come in by rail, and occasionally farm machinery. There is limited amount of traffic in silica and borax transferred from barges. The Madison traffic is divided about equally between that going down the grade and that of plants on top of the grade.

For the industrial park in North Vernon located on the remnant of the track that once went to Columbus, the line handles General Motors parts, paper, some furniture, bus chassis, and other items.

The number of cars handled was 1180 in 1973, fell to 552 in 1978, but was only about 400 cars in 1981, no more than 200 in 1980 (for reasons explained below) and about 400 expected in 1982. This is only 17 cars originated/terminated per mile. The road regards 1500 cars as necessary for break even operation, or 63 cars per mile. The decline was partly the result of the closing of a major wholesale grocery firm, and more recently, the recession, which has hit the manufacturing firms severely. As noted below, the potential for additional traffic is substantial.

A limited amount of traffic is handled to or from intermediate points--Vernon (which adjoins North Vernon), Dupont, and the Jefferson Proving Grounds.

The line does not provide piggy back service; this will be considered, but would require more frequent operation than at present. Presently, piggy-back traffic to or from Madison is hauled to Cincinnati or other main line points.

Rates. The traffic, both from Madison and from the North Vernon industrial park, moves on joint rates with Chessie, the line getting between 15 and 20 percent, depending on the destination. The Madison does the billing but rates and routing are provided by Chessie. Recently, on some new movements, Chessie has been requiring combination rates, asking the Madison for its figure. This of course may lead to higher overall rates. A more serious problem has been that in some instances, Chessie has simply not been interested in establishing a commodity rate where the movement will be small--providing only class rates, which are usually higher than truck rates. The effect of truck deregulation has been to bring truck rates down.

On the whole, however, the road has found Chessie to be highly cooperative; relations are very good.

Relationships with the City. The railroad is essentially a unit of the city government; technically it is operated by the Port Authority, itself a unit of the city of Madison. The railroad manager reports to the Board of Directors of the Port Authority, 9 persons, appointed by the mayor, consisting of the mayor's administrative assistant; two members of the city council, and persons from the major firms shipping on the line. The primary contacts of the manager are with the chairman of the Board, who is from Rexnord, the largest shipper, and the secretary, a retired army colonel, who was the manager of the line in the early period after the city took over operations. The board receives no salary or expense money. The railroad and the Board go to the City Council only on major issues of policy; the mayor and the council do not become involved in day to day operations. The city economic development agency works closely with the railroad and the port authority as well.

The Financial Problems and the Future. First the private Madison Railway and then the city operated Madison Railroad received Federal and state operating subsidy, as well as rehabilitation funds, in view of the high priority attached by the state to the line. However, in 1981, the Federal subsidy funds were suddenly cancelled as an element in the policies of the Reagan administration. This left an \$80,000 gap in revenues to cover obligations in 1981, and in May of that year the port authority shut the railroad down, and it did not operate for two months. Ultimately \$170,000 was raised from the local business interests, and operations were resumed. The state financed half of the rental and tax payments for the year.

At the present traffic levels, the line is not able to break even, and only the strong support of the business community is enabling it to continue. The Port Authority is asking the cities of Madison and North Vernon and the two counties involved to add 3 cents to the property tax levies to provide subsidy for the next several years until traffic improves.

There is strong conviction on the part of the business community that the railroad is essential for continuation of present activity and for development of additional manufacturing and bulk commodity terminal operations. There are problems, however, in getting some shippers to use the railroad as much as possible--in part because of the long unhappy experience with the Pennsylvania and the Penn Central.

The Port Authority and the management believe that once the city gains ownership of the line, it will be able to operate successfully--assuming of course recovery of the economy. There have been major plans for bulk commodity terminals, some of which have been built, but the effect of the recession has been to stop any further progress. These plans, if successful, could provide as much as 4800 cars a year in traffic. The master plan of the area envisages strong effort to obtain more industry--for which the railroad is essential, and which will ensure profitability of operations. The track is now adequate; management is obviously effective; costs are very low. There is great potential--and a strong desire of the business community to keep the line.

Conclusions. The Madison is obviously not viable under private operations with present traffic. It must be regarded essentially as an instrument to aid economic development of the community, one that has great potential. There is clearly strong justification for continuation of the line, and for state and/or local subsidy when essential to keep it going in the immediate future.

Central Wisconsin Railroad--Whitewater Line¹

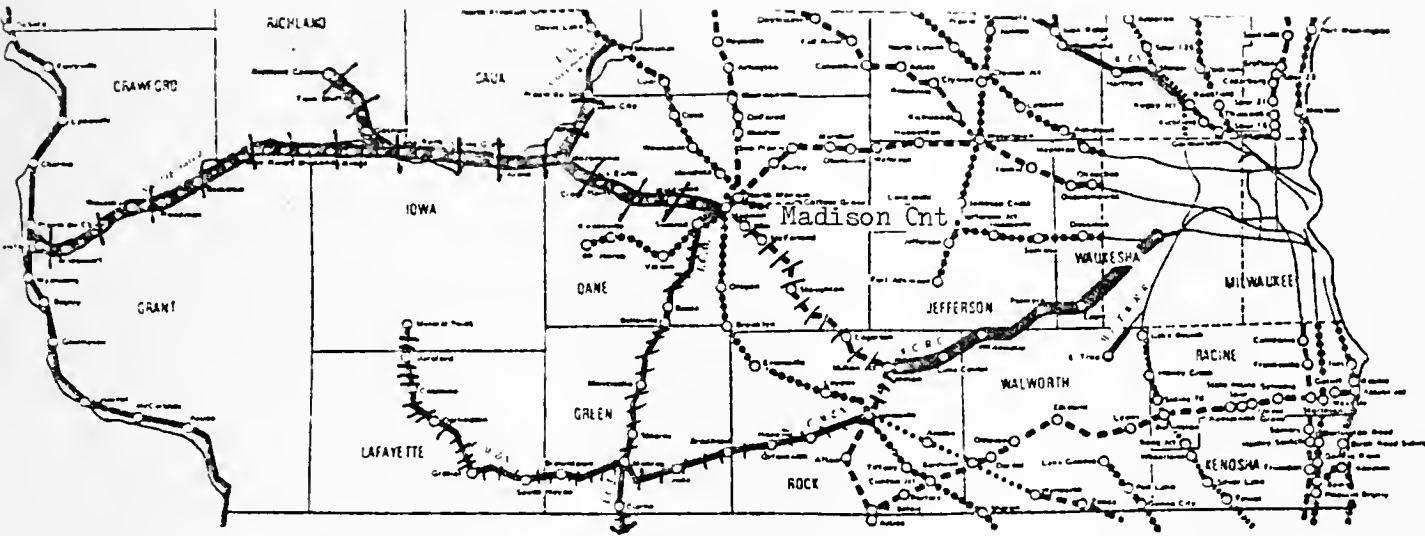
The Central Wisconsin Railroad began operations in March 1980, on the former Milwaukee (Milw) line extending from Waukesha, on the western outskirts of the Milwaukee metropolitan area, southwestward 41 miles, through Whitewater to Milton Jct., in an agricultural area. It is a portion of the state's first railroad, built from Milwaukee via Madison to the Mississippi at Prairie du Chien in the early 1850s, and on to St. Paul. The Wisconsin portion was long known as the Milw's Prairie du Chien division. At Milton Jct. the direct route from Chicago joined the line. Later the line became a rather minor Milwaukee branch, as through traffic shifted to the La Crosse route. The principal city served solely by the line is Whitewater, pop. 10,950. Other towns exclusively served, with population, are N. Prairie, 753; Eagle, 865; and Palmyra, 1542.

Background. In 1976 the Milwaukee applied to the ICC to abandon the Waukesha-Whitewater portion. This request was denied by the ICC. The Milwaukee's second application to abandon the whole line was granted late in 1978; the state bought the line for \$266,677, or \$6500 a mile. The 1978 Rail Plan recommended state action to ensure continuation of service to Whitewater, preferably from the western end, but abandonment of the eastern portion because of light traffic. The state conveyed the property to the city of Whitewater, which provided 20% of the cost. The city contracted with the Central Wisconsin Railroad Co. to operate the line as of March 4, 1980. The city owns the track and structures, the state, the land.

Origin. The Central Wisconsin was developed by John Zerbel, a CPA, with offices in Brookfield, adjoining Waukesha. Zerbel grew up in a railroad family (his father was an executive of the Lake Superior and Ishpeming, in Marquette, Michigan). He worked for the railroad for six years before moving into the accounting field. In the early sixties he was involved in a development project in northern Michigan, and acquired a small railroad as an element in the project. This did not succeed because of various problems, but he retained the railroad, on which excursion trains are operated in the summer.

His interest in lines in southern Wisconsin began when he served as a consultant to shippers concerned with the prospective abandonment of the Whitewater line in 1976. He and others offered to buy the line; the Milw refused. Ultimately abandonment and state purchase followed. Zerbel then formed the Central Wisconsin Railroad, which became the operator for the Whitewater line, under a 25 year contract with the City of Whitewater, with an option to buy the line. Zerbel was able to raise the capital from private sources, local area investors, in large part because of the significant tax advantages arising out of rapid writeoff of the rehabilitation costs for income tax purposes. The company has Chapter S status and thus can pass losses through to the stockholders. The line has received no subsidy either for rehabilitation or operation. Zerbel recognized the light traffic potential but was convinced the line could break even--and primarily he wanted it for access from Milwaukee to the lines in the Madison area, which he hoped ultimately to obtain.




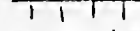
1. The primary sources were Mr. John Zerbel, president of the line, and Wisconsin state rail plan volumes.



To Freeport, Ill.

The Central Wisconsin and Wisconsin Western Railroads

Source: adapted from map provided by Central Wisconsin Railroad.

-  Central Wisconsin Whitewater line
-  Central Wisconsin Madison lines
-  Wisconsin Western
-  Trackage rights

Track. The line has no grade over 1%. The track is laid primarily with 75 pound rail, most of it rolled around the turn of the century but is in relatively good condition; rails of that period, made with some nickel content, are more resilient and less likely to go down at the joints than newer rail. Many of the ties were deteriorated, and ballast was inadequate. The new company installed some 4000 ties the first summer and 3000 the second (treated oak ties) ensuring safe operation. By October 1982 the line, which already looks remarkably good, will be up to Class III standards, allowing 40 mph operation. Zerbel has brought the line up to this standard for less than \$300,000, compared to the state's original estimate of \$671,000 to bring it to Class I standards. His philosophy is to avoid expensive equipment. The line has not had a derailment from track problems in the two years of operations. The only one was caused by snowmobiles packing the snow down to ice.

Equipment. The line was operated for most of the first two years by one diesel, a 660 hp General Electric (originally Cooper Bessemer) built in 1946, brought down from Northern Michigan. The company, as noted below, has recently acquired several FM 1200 hp engines from the Milw, and one of these is being used on the line. The policy is to avoid leasing freight cars; the line bought 15 new covered hopper cars from Thrall to facilitate outward movement of grain.

The firm built a three-stall equipment maintenance shop a few miles west of Waukesha, where all repair (except machine work) can be done, for this line and the others noted below.

Operation. The line is not operated on a schedule, but on the basis of the needs of the shippers--typically two or three times a week. A caboose is not normally used, although the line has one.

Employees. The basic philosophy of the management is that a high degree of flexibility in the work done by employees is essential. All persons hired are required to be proficient in two areas. Apart from management, the line is operated with four persons--a two man crew, an equipment supervisor (a highly skilled diesel engine electrician) and a track foreman. All do other work as well. Additional workers are hired for track work during the summer season. There is no unionization.

Relations with Other Roads. The line has physical interchange facilities with the Milw at Milton Jct., and with the Milw, the Chicago and Northwestern and the Soo at Waukesha, the latter reached by trackage rights over a section of the Milw.

The company has had substantial difficulty with the major lines over joint rates and rate divisions. Zerbel has fought hard to obtain what he regards as adequate divisions, 25% or so. Initially the Milwaukee cancelled all joint rates; but these were ultimately restored. The Soo has joint rates with the line. But the Chicago and Northwestern cancelled the joint rates and no agreement has been reached with them, so there is no interchange--except in a few cases, in which the CW has insisted on prepayment, on a local class rate basis. Surcharges are imposed--which the company can do unilaterally--but the aim is to keep these as low as possible.

Traffic. In 1979, the last year of Milw operation, a total of 309 carloads were handled, all but 22 inbound. In 1981, outbound traffic was about 100, inbound 500, a total of 600, or 14 cars originated/terminated per mile. The company believes that with a little effort the outbound traffic (primarily grain) can be raised to 500 to 600; this, plus the 500 inbound cars, will provide 1000 to 1200 cars a year. With average earnings of about \$325 per car, or \$325,000 total, the line can break even. Currently it is showing on paper a substantial loss--but this is a product of rapid depreciation, advantageous for tax purposes. As noted, much of the interest in the line centers around its access to the lines to the west, as noted in the next section.

The Madison, Wisconsin, area lines, formerly operated by Chicago Madison and Northern, now Central Wisconsin, and the Wisconsin Western

Southwest Wisconsin, the area west and south of Madison, once had a substantial network of rail lines, which were built by or ultimately became portions of the Milwaukee or the Chicago and Northwestern, plus one Illinois Central line. But not only was there excessive duplication of lines, but the area is primarily a dairy area and much of the earlier traffic was taken over by trucks, and mining declined. The Chicago and Northwestern had sought over a decade ago to abandon its line serving Lancaster and Platteville, agreed to continue it for a time in exchange for legislative changes relating to full crew laws, and finally abandoned it in the mid seventies.

The Milwaukee Lines. The more southerly Milwaukee line extended from Janesville west through Monroe and Gratiot, then swinging north to Mineral Point. The Janesville-Monroe segment, 33 miles, serving Hanover and Brodhead as well as Monroe, is primarily a terminating road. The traffic, primarily to Monroe, consists of paper products and nonmetallic ores, as well as fertilizer; the limited outbound traffic, mostly logs. It originated/terminated 46 carloads per mile in 1979. The line was purchased by the state for \$361,900 or \$10,990 per mile, as of March 27, 1980. The portion from Monroe to Mineral Point, 46 miles, serves Darlington and Mineral Point, as well as smaller communities. It originated/terminated only 8 cars per mile in 1980, the primary traffic being inbound fertilizer. This portion was acquired by the state for \$214,091, as of Feb. 26, 1980 or \$4,654 per mile.

In the 1981 state rail plan, the B/C ratio on the Janesville-Monroe portion was found to be 10.29, on the Mineral Point portion, 1.31. The two lines ranked 10th and 13th in priority in the 1981 plan.

Following purchase, both lines were conveyed to the Pecatonica Transit Commission, which paid 20% of the cost, and which contracted with the Chicago Madison and Northern to operate the lines.

The state estimate for funds necessary for rehabilitation was \$884,116 for the first phase (1980-1982), a total of \$4,177,161 for the total project. About 2/3 of the money would be Federal, the rest from the state, the railway, and the transit commission.

The Madison-Freeport Line. The third element in the Madison area lines extends 59 miles south from Madison to Freeport, Illinois, where it connects with the Illinois Central Gulf's Iowa line. This was an Illinois Central line. The ICG first sought to abandon the line in 1976; the request was originally denied by the ICC, then finally approved, and then delayed by appeals. This line originated/terminated in 1977, 17 cars per mile, almost all of it to or from Madison, plus some food products to Monticello. Terminating traffic was about 3 times originating traffic. In addition to Madison, the line also served Monroe, but had relatively little traffic to or from that point. It intersected Milwaukee track in Monroe. The 1981 rail plan showed negative benefits for retention of the entire line, but .89 for the Monroe-Monticello portion to be operated in conjunction with the ex-Milwaukee lines. The line serves no useful purpose in Madison. The line was in relatively good shape with 20 MPH speed, except for a 10 mile limit in one tunnel.

This line was also purchased by the state, for \$2.69 million, or \$45,420 per mile, and Chicago Madison and Northern originally designated to operate it. This company also operated the Sparta-Viroqua line.

Failure of the Chicago Madison and Northern. The CM&N failed in March of 1982 and ceased operations. There were several reasons reported for the failure. It was managed by persons without railroad experience, or apparently, much management expertise generally. Primarily the promoters were rail fans, interested in trying to run a railroad. They accepted rate divisions with the Milwaukee that were hopelessly inadequate. There were serious problems with methods of operation, particularly, in holding cars for substantial periods in order to run larger trains. There was inadequate cost control. In addition, some of the lines had very limited traffic, and the company apparently overestimated the potential. In any event, the company went into bankruptcy. In March of 1982, the Central Wisconsin became the designated operator, including the Freeport line, but not the Sparta-Viroqua line; the company had no interest in this line because local shippers were not willing to provide funds or show much concern. The line, difficult to operate, had deteriorated significantly. The Central Wisconsin, in addition to taking over these lines, obtained trackage rights over the Milw between Milton Jct and Janesville and between Milton Jct and Madison, thus linking, by two ways the Waukesha line and the newly acquired routes.

Employees and Equipment. With these lines added, the number of CW employees was increased by 9, to operate 137 additional miles. Four FM 1200 hp diesels were acquired from the Milw, and 4 more are on order; 5 will be able to operate in multiple. These will all be maintained at the shop near Waukesha, and there will be substantial run-through operations. A single agent in Monroe will do all the billing, handling of accounts, demurrage, etc. The track on these lines has experienced some rehabilitation. The line to Freeport is in relatively good shape, although additional ties are needed plus some tunnel repair. Service is currently operated between Monroe and Janesville, the heaviest traffic route, 5 times a week; and once or twice a week to Mineral Point. This is a very light traffic line, but the company hopes for increased shipments of fertilizer ingredients from the mine tailings. There is hope for all of these lines for increased outflow of grain, particularly if the port of Milwaukee ever develops as hoped.

Wisconsin Western. In July of 1982, the owners of Central Wisconsin took over the Milw's line from Madison to Prairie du Chien, 118 miles, to be operated as the Wisconsin Western Railroad. The eastern portion of this line--as far as Lone Rock and Richland Center--was operated by the Milw up until the time of transfer. The portion west of Lone Rock to Prairie du Chien had not been operated by the Milw since March 1980, but the rail were intact. The WW is already operating the eastern portion, but will not have track repairs completed to operate to Prairie du Chien until early Fall, 1982.

The track on this line is in relatively good shape, with 85 and 90 pound rail laid in the late twenties; with little work it can be brought to Class III standards. The track on the two branches, however, is very light, some of it 56 pound rail, which ultimately must be replaced.

Traffic. These two lines have considerably heavier traffic potential than most of the Central Wisconsin system. In 1979, the cars originated/terminated per mile on the portion east from Richland Center was 31, on the western portion 27. There are a number of products handled, principally inbound fertilizer, outbound cheese, casien, and the like, and some logs and lumber and manufactured goods. The line as a whole terminates much more than it originates, but the company has hopes of substantial increases in lumber traffic.

Overall System Traffic. For the entire system, now about 315 miles, with trackage rights of about 50 miles, the firm expects traffic of about 6500 cars originated/terminated the first year, or 21 cars per mile. About \$1 million will be raised from private sources for rehabilitation in addition to \$500,000 of Federal funds for the Mineral Point line, originally arranged by the CM&N. The expectation is that after a few years the traffic will be up to 10,000 to 12,000 cars, or 32 to 38 per mile--if the outbound grain traffic can be increased. The firm has 400 additional cars on order from North American. The line expects to have 24 full time employees when the system is complete, equivalent to one per 16 miles, in addition to seasonal track workers.

There are also plans for piggyback operation, not now handled, primarily with pick up of trailers at such points as Waukesha and Janesville, even coming out of the Chicago area, and going west.

Conclusions: The Central Wisconsin System. This is an interesting experiment--an attempt to bring together a network of abandoned lines, all of which have light traffic and two of which have so little traffic that most operators would not attempt them even under subsidy. Basically this is being done with private capital. The lines have, of course, been greatly aided by state purchase of the track. It is entirely possible that very close cost control, efficient management, and aggressive seeking of traffic will make the project succeed. Already the seemingly hopeless Whitewater line has experienced a traffic gain and may very well break even, as well as contributing to the system as a whole. Tax considerations have played a major role in the development of this system.

SUMMARY

Table 1 summarizes some of the basic information on the sample roads. It is possible to separate the various lines of Central Wisconsin for some purposes, but they cannot be separated for others.

Ownership of Track

There are three patterns of ownership of the lines:

1. By the new company: The Indiana Hi-Rail and the South Central Tennessee.
2. By the predecessor railroad--although the plan is in all instances to acquire the line: Penn Central, Prairie Central, Indiana and Ohio Milwaukee Seattle and North Coast, pending purchase by local port authorities.
3. By a governmental unit: State: Gettysburg; Port Authority: Pend Oreille, Madison, Ind.; Local Transit Commission: Central Wisconsin.

Operating Entity

Similarly, the pattern of ownership of the railroad enterprise varies.

1. Local enterprise:

Indiana Hi-Rail, formed by persons previously involved in state rail planning.

Indiana and Ohio, formed by local families, the principal person having railroad experience.

Gettysburg, formed by a family with tourist excursion railroad experience.

Central Wisconsin, local interests, principal being a CPA; railroad experience.

Seattle and North Coast, formed by persons with some contact with the railroad industry.

Table 1

Summary of Major Characteristics of the Sample Roads

Railroad	Year began operation	Miles	Traffic-cars originated/terminated per mile	Diesels	Track standards	Employees	Crew size	Frequency of operation-days per week
1. Pend Oreille Valley	1980	61	59	2	I, II	12	2	5
2. Seattle & North Coast	1980	51	71	6	I	53	3	5
3. South Central Tennessee	1978	51	36	4	I	15	2	5; 2 ³
4. Gettysburg	1976	23	76; 180 ²	4	I	11	2	5
5. Prairie Central	1981	75	90	5	II	24	2	6
6. Indiana Hi-Rail	1981	6	333	1	I	9	3	5
7. Indiana and Ohio	1979-80	26	39	1	I	5	2	2-3 ⁴
8. Madison (Ind.)	1978	24	17	1	I	5 ¹	2	2-3 ⁴
Central Wisconsin:								
9. Whitewater line	1980	41	14	1	III	4	2	2-3 ⁴
10. Madison area lines:								
Monroe-Mineral Point	1982	46	7					1-2 ⁴
Janesville-Monroe	1982	33	46	-- 8	I, II	24	2	5
Madison-Freeport	1982	59	17					2-3 ⁴
Madison-Prairie du Chien ¹	1982	118	29					--

1. Wisconsin Western. Not yet operating to Prairie du Chien.
 2. overhead traffic
 3. 2 to Hohenwald
 4. as needed, not regular schedule.

2. Group Systems. Enterprises have developed in the last decade (some earlier) that have taken over the operation of several small railroads, either newly formed ones of the type covered by the study or existing roads. Three of the sample lines fell into this pattern:

Pend Oreille Valley and South Central Tennessee, both operated by Kyle Railways of San Diego California. This system began when two decades ago Willis Kyle took over the Pacific Great Eastern, primarily a tourist road in Oregon; it has expanded rapidly in recent years, to operate, under different types of arrangements, about a dozen lines. Kyle had been involved in the family steel distribution business in Fresno, California.

Prairie Central, owned by Trans-Action Associates, headed by Craig Burroughs, of New Lenox, Illinois. This enterprise operates several other lines as well, some for over a decade.

In both the Kyle and Burroughs systems, substantial autonomy is allowed the local manager, but the central enterprise assists and is involved in major decisions.

3. Local Government. Only the Madison Railroad is operated by a local governmental unit; the other such units owning lines prefer to contract with private firms for actual operation, as did Madison initially.

One additional pattern would have been noted if it had been possible to include either the Kankakee, Beaverville and Southern or the Tippecanoe--both owned by the major shippers on the line, grain elevators.

One obvious trend is for existing short lines, whether newly formed or not, to take on additional lines: Central Wisconsin, the Indiana Hi-Rail, as noted above; the La Salle and Bureau County in Illinois, the Cadillac and Lake City, for example, making use of their expertise.

Track, Engines, Cars, Operation

Miles of Track. The miles of track range from 6 to about 300 if the entire Central Wisconsin-Wisconsin Western network, exclusive of traffic rights, is counted as a unit; otherwise, 75 is the longest. Four are between 41 and 61; 3 between 20 and 30. A short line has the advantage of the traffic moving only a short distance at the relatively high cost of light traffic lines, but suffers from lack of specialized personnel and perhaps efficient use of equipment. A system combining a number of short lines over which the traffic is moving short distances with centralized management and equipment maintenance may be the optimal arrangement.

Engines. The number ranges from 1 to 5 (to 8 if the Central Wisconsin system is treated as a unit). All but one of the roads with less than 45 miles has only one engine; between 50 and 75 miles, 2 to 4 is typical, with 6 on the Seattle and North Coast with its unusual operating problems. While the needs vary with the traffic volume, a reasonable generalization is that up to 45 miles a line can get by with only one engine. All are second hand, many are 20 to 30 years old, originally built for Class I railroads. Horsepower is typically in the 1000 to 1600 range, from 660 for the Central Wisconsin Whitewater engine to 1850 on the Madison, with its steep grade. Virtually all manufacturers are represented--EMD, GE, FM, LH, Baldwin. All roads maintain their own diesels, with some outside assistance when necessary. Highly important is a place to keep them in the winter when they are not operating, or the diesel has to be kept running. With only one exception the lines own their engines.

Freight Cars. The policies vary widely, from roads that use entirely cars from their connecting carriers to those that have acquired a few cars to facilitate some type of outbound business, and to one, the Seattle and North Coast, which has entered into an agreement with car leasing firms for substantial numbers of cars. For a time this was advantageous for short lines;

now that there is a surplus of cars, these agreements can become a serious nuisance, as the cars yield revenue only when they are in use. None of these lines, however, are primarily car leasing operations, as are some short lines.

Track Conditions. Most of the lines merely meet Class I track standards (10 mph), and do not seek to move to higher classes, as the time savings is not worth the additional cost. The Prairie Central, however with 75 miles of operation, meets Class II (25 mph) and the Central Wisconsin Whitewater line will reach Class III by October 1982. Most have had access to Federal funds for rehabilitation, and the Indiana Hi-Rail is now seeking Federal funds, although Central Wisconsin has financed most rehabilitation work privately. Rail is typically 75 pound--adequate but barely so for the maximum weight cars. Some is 90 pound, and the Gettysburg has 130 pound rail (this was once a main line freight route). The lowest is 56 pound, on the Richland Center branch of Wisconsin Western. Much of the rail is old, some dating back to the turn of the century, but the age is not important so long as the rail is not worn and the ties and ballast are adequate. The midwest and eastern roads typically use treated oak ties, the western, treated fir.

Operation. About half of the lines operate on a regular five times a week schedule (6 on the Prairie Central); of the rest, two to three times a week on three lines and portions of Central Wisconsin. The least frequent is once to twice a week on the Mineral Point line of Central Wisconsin. Several, such as the Madison, do not run on a scheduled basis but according to the needs of the shippers. The typical train would have 5 to 10 cars, except the Prairie Central, with a usual figure of 30.

Employees

The number of employees is dependent upon the length of line and the volume of traffic. The roads fall into three groups:

1. The very light traffic lines, 5 to 6 employees, including managerial-- a manager, a train crew of two, a track supervisor and an agent-auditor-billing clerk. In addition seasonal help is hired for track maintenance. This type of operation involves maximum flexibility in the use of labor--for example, the train crew will do both equipment and track maintenance work when not running the train; the manager will aid in the switching.¹

2. The somewhat heavier traffic and/or longer lines: 9 to 15 employees-- with, for example, a train crew of 2, 1 for equipment maintenance, 4 for track work, an auditor, an agent, and a manager. Only 3 exceed these figures: 24 for the entire Central Wisconsin system, a very low figure per mile; 24 for Prairie Central, with its heavy traffic, relatively long line and need for two crews, and 53 for Seattle and North Coast, with its separate switching operations and maritime problems.

Train crews consist of two persons on all except for three on the Indiana Hi-Rail, with its extensive switching, and Seattle and North Coast, with difficult operating problems. Most of the lines do not use a caboose.

Only the Indiana Hi-Rail employees are unionized--with a very liberal contract with the United Transportation Union, with the privilege of using a crew of 2, flexibility in the use of labor, and no work rules, and pay of 80% of the standard union contract. For the typical small road, the number of employees is so small and the need for a high degree of flexibility in the use of labor and payment of local wage scales so imperative for operation that the lines could not operate with the standard Class I union contracts, and are not particularly suited for unionization of any kind.

1. The operator of one line in Iowa maintains that he can run a line with only two persons.

Traffic

The types of products handled vary widely. Some lines concentrate heavily in a few products, as explained in previous sections; others have a wider range of agricultural and industrial goods. While all have some inbound and outbound traffic, five of the lines are primarily originating carriers; two (Indiana-Ohio and Central Wisconsin) are primarily terminating, and Madison and Gettysburg have some of each. Only Gettysburg has a substantial volume of bridge traffic; it is an important overhead carrier between Conrail and Chessie. Most do not handle piggyback traffic but several are interested in developing it.

The volume of traffic likewise varies widely. Exact figures of net ton miles per mile of track, the best measure, are not available, though they can be approximated for some lines. Therefore cars originated or terminated per mile of line are used as the best available information. The figures for the Wisconsin Central lines are based on previous experience, as the new system has not been functioning long enough to have satisfactory data.

Indiana Hi-Rail	333
Gettysburg, including overhead traffic	276
(originating-terminating)	76)
Prairie Central	90
Seattle and North Coast	71
Pend Oreille	59
Central Wisconsin: Janesville-Monroe	46
Indiana and Ohio	39
South Central Tennessee	36
Wisconsin Western	29
Madison (Indiana)	17
Central Wisconsin:	
Madison-Freeport	17
Whitewater line	14
Monroe-Mineral Point	7

Thus the range is phenomenally high, from 7 to 333.

Relations with Major Carriers and Joint Rates

Short lines are highly dependent upon their connecting railroads; it is of tremendous advantage for a line to be able to connect with more than one carrier. The sample lines are about equally divided on this; the Central Wisconsin lines, Seattle and North Coast, Gettysburg, Prairie Central (though heavily dependent on Conrail), and Indiana Hi-Rail indirectly have more than one connecting line. The major carriers also differ in their attitudes toward connecting roads: Chessie, in general, has a good reputation for this, Conrail has improved materially, others fare less well. The major carriers have become less interested in establishing joint rates, and more strict on their rate divisions. But on the whole the sample lines do not fare too badly. Indiana Hi-Rail does not have joint rates but is treated as a switching carrier, getting a fixed sum per car it handles.

The Profitability of the Lines

It is impossible to be certain of the potential profitability of the lines at present. Some have been operating for only a short period; some are not willing to reveal profits or losses (they do not report to the ICC); some have grossly inflated (legally) loss figures for income tax reasons at present (via accelerated depreciation, for example). The profitability depends upon several factors: traffic density (since costs cannot be reduced below certain minimum figures); rates (these do not vary nearly as much by commodity as in the past), the all-important rate division with major carriers, the ability to keep costs under control, and the condition of the track.

The importance of traffic density is apparent when the sample firms are considered. Of the five with high density, there is every indication that four will succeed: Gettysburg, Indiana Hi-Rail, Prairie Central and Pend Oreille. The other, Seattle and North Coast, should also so long as it can solve its pier problems. The South Central Tennessee, with somewhat less traffic,

appears to be succeeding. The Indiana and Ohio is suffering from a major problem relating to the lease of track and purchase; it should make it if it can acquire the line at some tolerable figure. The Central Wisconsin Whitewater line is one of the lightest traffic routes, but management believes that it can break even with some increase in grain traffic and the line is important as an element in the expanded system. The Janesville-Monroe line and the line to Prairie du Chien should be self-supporting. The Mineral Point line is not viable without considerable traffic increase.

The Madison,(Ind.), line is not viable with present traffic and probably could not survive as a private enterprise. But it is regarded as an important element in the economic development of Madison, and its continuation is clearly justifiable on this basis.

It must be stressed that almost all of these lines--particularly ones such as Indiana and Ohio, Indiana Hi Rail, and Madison--are suffering from traffic declines due to the recession; improved conditions should materially aid the railroads. It is also important to note that despite the bad business conditions, most of the lines are carrying more traffic than they carried under the previous major system operation.

CONCLUSIONS

Out of the experience of the sample roads, some conclusions can be drawn--but they must be regarded as tentative, given the limited experience to date of most of these lines.

1. There are clearly lines that have been or are about to be abandoned by major rail systems that can be operated profitably by small enterprises. Their costs are lower, and they can adapt services much more effectively to the needs of shippers--as evidenced by the growth in traffic on these lines in a period of economic decline.

2. The ability of such a local line to succeed is greatly influenced by the volume of traffic. It is impossible to establish a precise minimum figure because of the effect of other factors, but except under unusual circumstances, a line with traffic over 60 cars is almost certain to succeed, and over 40 to have a good chance of survival; between 20 and 40, marginal--but a chance, and below 20, success only under unusual circumstances.

3. In general, the shorter the distance the traffic must flow on the light traffic line, the greater is the chance of success, but combining a number of small lines under common overall management offers advantages in specialization in management and maintenance functions and bargaining power with large railroads.

4. Another major influence on survival is the share of the total rate. Since the short line does the switching and, with originating carriers, the billing (except with junction settlements), it is obviously entitled to a share greater than the percentage its mileage constitutes of the total haul, plus some additional based upon its higher costs. The ability to get a reasonable share relative to costs is largely a matter of bargaining with the

major system, bargaining in which large shippers often can be more effective than the railroad itself. Having connections with more than one railroad is of great importance in getting fair treatment.

A major problem has been arising with the tendency of some of the large roads to cancel joint rates with small lines, resulting in combination rates that are almost certain to be higher and cause possible loss in traffic to trucks.

5. Effective management is of key importance for success--the ability to hold costs down to an absolute minimum with the lowest traffic lines, and at the same time to provide service that is suitable to the shippers. Management is most effective if the manager has railroad experience, preferably coupled with general management experience. One is impressed with the hard work and enthusiasm of the officials of these roads, but management skill is also highly important. The experience of "rail fans" without management background trying to operate railroads has not been good.

6. Given the need for maximum flexibility in the use of labor and for paying no more than local wages for comparable work, these railroads cannot survive with under standard railroad union contracts based on major line conditions. Survival is possible only on a nonunion basis, or with a union contract that meets the two requirements noted in above.

7. Purchase of the right of way and track by states or local governments as in Wisconsin and Washington has been of great aid in assisting newly formed lines to get under way. Wisconsin, which will pay only net salvage value, has been very successful in getting the lines cheaply, for what their commercial value --usually not over \$20,000 a mile.

8. Lines whose track is owned by Penn Central have had a very difficult time. One of the greatest mistakes made in transport legislation in recent decades was that of allowing lines not included in Conrail to remain with the

Penn Central (and other previous rail owners). The Penn Central has used techniques reminiscent of the monopoly railroads of the last century at their worst: demanding rental payments that are irrational--often exceeding total gross revenue to force the companies to buy the lines, at equally extortionate prices, four times or more their commercial value. The new lines of course cannot pay these figures; the result is to delay settlement of the title and cause expensive condemnation suits. Wisconsin won a major court case against the Chicago and Northwestern on the Lake Geneva line--a decision which should serve as a precedent that legally the lines are worth only net salvage value (net after costs of removal).

9. Strong support by major shippers is of great importance for survival.

AppendixOther Lines in Indiana, Illinois and Wisconsin

The lines in the sample have all succeeded--to date at least. To provide a broader view, Table A has been prepared to list all railroads formed to take over lines abandoned by major systems, so far as is known, in the three states of Indiana, Illinois, and Wisconsin.

In Indiana, there have been two failures. The Indiana Interstate attempted to operate the line between Goshen and Shipshewanna, with a marginal volume of traffic. Inability to control costs, the low traffic, and reported by some personal problems resulted in failure. Two successive companies, Erie Western and then Chicago and Indiana, attempted to operate the former Erie Lackawanna main line across the state to the Ohio border, plus the Decatur-Portland line. The basic problem was that the line was very long--187 miles on the two portions--and while traffic volume was not hopeless, the consequence was that the traffic had to move long distances at relatively high cost per ton mile, this violated the basic principle that light traffic lines, per se, can survive only if the traffic moves a short distance on the light traffic line and a long distance on a low cost main line.

In Illinois, none of the lines have actually ceased, but the original operator of the Decatur-Paris line gave it up, as discussed.

In Wisconsin, apart from the Chicago Madison and Northern, referred to previously, the other failure was the Chippewa River, which had considerable traffic, but major repairs required to two bridges made continued operation uneconomic.

Thus the overall record of continued operation in these three states has, to date, been relatively good in the sense of the lines being kept in operation even if the initial operator fails.

The average figure of cars originated/terminated per mile of the lines that are clearly succeeding in these states is 124 (73 if the highest traffic line is omitted), of those failing, 32, of those somewhat marginal, 42. But some lines under 32 appear to be succeeding.

Table A-1. Local Companies Formed to Take Over Railroad Lines Abandoned by Major Systems
 Points Served Original Owner Miles Cars Originated/Permi- nated per mi Began Operation Ceased Operation Comments

Company	Points Served	Original Owner	Miles	Cars Originated/Permi- nated per mi	Began Operation	Ceased Operation	Comments
<u>Indiana</u>							
Hilldale County	Michigan border-Angola- Pleasant Lake	Penn Central	15	47			Primarily in Michigan
Indiana & Ohio	Brookville-Valley Jet (Ohio)	"	26	44	1978		
Indiana Eastern Madison	Carthage-Emporia	"	20	71 ¹	1981		Serious financial problems Municipal line--Port Auth. Grain traffic A high traffic line
Tippicanoe	North Vernon-Madison	"	26	48	1978		
Indiana-Hi Rail	Monterey-N. Judson	E-L	16	75	1979		
	Counersville-Beesons	Conrail	7	333	1981		
<u>Ceased operations:</u>							
Indiana Interstate	Goshen-Shipshewana	Penn Central	16	28	1980		Grain traffic
Erie Western replaced by Chicago & Indiana	Hammond-Ohio border	E-L	160	38	1976		E-L main line
	Decatur-Portland	Penn Central	27	27	1979		
<u>Illinois</u>							
Grab Orchard & Egyptian	Ordill-Marion-Mande	ICG	9	71	1977		Traffic piggyback primarily ownership city of Marion
Kankakee Beaver- ville & Southern	Kankakee-Sheldon	Penn Central	27	45	1978		Grain traffic
Wabash Valley- Prairie Central	North Walz (Danville) Decatur-Paris	Milw Penn Central	57 75	na 90	1981 1977 1981		Grain traffic 1981(WV)Grain products traffic
Prairie Trunk	Flora-Shawneetown	B&O	68	na			Grain traffic
Chicago Madison & Northern - now Central Wisconsin	Freeport-Wisc. border	ICG	14		1980		Primary line in Wisconsin
					1981		
<u>Wisconsin</u>							
Brilliant&Forest Jct Wisc. & Southern	Brilliant Milwaukee, Cambridge, Oshkosh & others	CNW Milw	7 155	28 55	1978 1980		Light traffic Substantial traffic
Chicago Madison & Northern, replaced by Central Wisc.	Sparta-Viroqua Monroe-Mineral Point Janesville-Monroe Freeport-Madison Milton Jct-Waukesha Madison-Prairie du Chien	Milw Milw Milw ICG Milw Milw	32 46 33 59 38 118	23 8 46 16 14 29	1980 1982 1980 1982 1980 1982		Not operated -Token over by Central Wisconsin
Central Wisconsin Wisconsin Western Ceased operations							
Chippewa River	Eau Claire-Durand	Milw	32	46	1980		Abandoned
Not Yet Operating Nicolet Badger & Northern							

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