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WHITEWATER AREA RAIL SERVICE PLAN



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Planner and Mr. Bruce E. Daniels of the firm of Howard Needles Tammen &
Bergendoff for their contributions to the conduct of his study.

COMMUNITY ASSISTANCE PLANNING REPORT
NUMBER 30

WHITEWATER AREA RAIL SERVICE PLAN

Prepared by the
Southeastern Wisconsin Regional Planning Commission
P. O. Box 769
Old Courthouse
916 N. East Avenue
Waukesha, Wisconsin 53187

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August 1979

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Outside Region \$8.00

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SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

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August 25, 1979

Members of the Common Council
of the City of Whitewater
c/o Mr. Quinn C. Smet, City Manager
City Hall
Whitewater, Wisconsin 53190

Mr. Lowell B. Jackson, Secretary
Wisconsin Department of Transportation
P. O. Box 7913
Madison, Wisconsin 53707

Gentlemen:

On November 3, 1978, the City of Whitewater formally requested the Southeastern Wisconsin Regional Planning Commission to undertake a special study of the best means of providing freight transportation service in the corridor served by the Chicago, Milwaukee, St. Paul & Pacific Railroad Company's branch line from Waukesha through Whitewater to Milton Junction in the event of the abandonment of that line. Acting in response to this request, the Regional Planning Commission on January 8, 1979, created a special advisory committee of state and local officials, shippers, and other interested parties to assist it in the conduct of the requested study. The Commission further on November 8, 1978, requested the Wisconsin Department of Transportation to provide a planning grant in partial support of the requested study, which was awarded on January 3, 1979.

The Regional Planning Commission completed the requested study and rail freight service plan on August 13, 1979, and the findings of the study, together with the recommendations of the plan, are set forth in this planning report. More specifically, this report documents the physical condition of the Waukesha to Milton Junction railway line; presents economic and operational analyses of present and probable future rail freight service in the corridor served by the railway; identifies the number and characteristics of the shippers utilizing the railway, presents data on the traffic generated by commodity type, and sets forth the effect of the potential abandonment of rail service on the communities and businesses located in the corridor; explores alternative means of providing transportation of those goods and materials that currently move or are projected to move via the railway line; and recommends what appears to be the best course of action for providing freight transportation service in the corridor from among the alternatives available. Although costs were developed for all of the alternatives considered, particular attention was given to the potential application, operation, expenses, and revenues of a shortline railroad operation in the corridor.

The results of the study indicate that potential economic losses attendant to abandonment of the railroad may be expected to exceed \$1 million per year. The results of the study further indicate that the alternative that best meets the freight transportation needs of the corridor is a shortline railroad, which, however, may be expected to incur an annual deficit of approximately \$287,000 per year. Such a deficit would have to be financed over the long term by the shippers who benefit from retention of rail service in the corridor. Based on per car surcharges, the total individual carload rate may be expected to increase from 10 to 138 percent of current rates depending upon the commodity to be carried and the total traffic generated. Although the study concludes that no action should be taken to operate a shortline railroad under public ownership or long-term public subsidy, the study explicitly recognizes the possibility that there may be a private concern willing to operate a shortline railroad without a guaranteed public subsidy. The plan does recommend public assistance toward the initiation of such an operation provided that any associated public investments are recoverable over time. Should efforts to establish a shortline railroad fail, the plan recommends that the right-of-way be publicly acquired and used for trail-oriented outdoor recreation purposes.

The Regional Planning Commission is particularly appreciative of the assistance in the completion of this report of individual shippers located along the line, the City of Whitewater, the Wisconsin Department of Transportation, and particularly the members of the Advisory Committee which guided the preparation of this report. The Commission stands ready to assist the City of Whitewater and the Wisconsin Department of Transportation in prompt implementation of the study recommendations.

Sincerely,



Kurt W. Bauer
Executive Director

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Chapter I

INTRODUCTION AND BACKGROUND

By letter dated November 3, 1978, the City of Whitewater requested the Southeastern Wisconsin Regional Planning Commission to study the freight service needs of the Whitewater area in light of the imminent abandonment of the Chicago, Milwaukee, St. Paul & Pacific Railroad Company (Milwaukee Road) railway line from Waukesha to Milton Junction. The Commission agreed to undertake the requested study utilizing Commission Community Assistance planning funds, and planning funds made available through the Wisconsin Department of Transportation under the provision of the U. S. Railroad Revitalization and Regulatory Reform Act of 1976 (4R Act).

Following established Commission practice, the Commission, on January 8, 1979, acted to create a Technical Coordinating and Advisory Committee to assist in the study. The membership of the Committee, which is set forth in Appendix A of this report, and which was chaired by Commissioner Anthony F. Balestrieri, was composed of 13 representatives from local government, shippers, and regional and state planning organizations, as well as citizens knowledgeable and concerned about the freight service needs of the Whitewater area. This Committee, working from January 30, 1979 to August 13, 1979, and assisted by the staff of the Regional Planning Commission, completed the requested study, the findings and recommendations of which are set forth in this report.

The report consists of seven chapters. Chapter I sets forth the need for and purpose of the study accompanied by the current railroad industry's status from the national, state, regional, and railroad perspective. A brief history of the line is presented documenting the previous abandonment attempt, followed by a description of the line's existing economic condition. The chapter concludes with the identification of the geographic areas included within the study. Chapter II sets forth the plan objective, underlying principles, and standards that will constitute a rational basis for alternative plan selection in the study. Chapter III is a description and analysis of all pertinent information and data related to the physical and economic characteristics of the railway line. Inventoried are fixed plant characteristics, including

the condition of track, roadbed, and structures; revenues and expenses; shipper characteristics, including past and current carloads/tonnages shipped, commodity types, and expansion plans; present freight needs and adequacy of services; and future freight service needs, based on the aggregate demand of all shippers anticipating future use of the railroad line. Chapter IV discusses the probable impact on local communities and shippers of abandonment of the existing railroad service. Environmental impacts are also discussed in the chapter. Chapter V illustrates the various alternative plans which are appropriate to this situation. Each alternative is discussed in detail and evaluated. Important considerations that relate to more than one alternative are explained separately and include track rehabilitation costs and shortline potential. Chapter VI presents the recommended alternative along with implementation considerations felt to be critical. Chapter VII concludes this report and presents a summary of the study.

NEED FOR AND PURPOSE OF THE STUDY

On March 30, 1978, the Milwaukee Road filed a petition with the federal Interstate Commerce Commission (ICC) to abandon all service on its line extending from Waukesha to Milton Junction, wholly within the State of Wisconsin. The abandonment petition, identified as Docket No. AB-7 (Sub-No. 59F), states that because of insufficient demand for service over the line as well as the applicant's marginal financial condition, continued operation over the 41-mile segment is no longer justified. A decision by the ICC is scheduled to be rendered on or about March 15, 1979.

The communities and shippers along the line are concerned about the possible impacts of such an abandonment on their economic status. As in similar actions concerning other light-density railway lines, the general public sentiment appears to be that loss of rail freight service will hamper the current shippers' competitive positions as well as future expansion, and will constrict the on-line communities' economic stability and potential for growth.

The Whitewater area, where the majority of carloads currently transported on the line originate or are destined, is especially concerned. The proposed abandonment would leave the community without any railway freight service. The City recognizes that although continuation of the service has been won through the regulatory process in the past, there is a much greater chance for approval of the abandonment application this time. This belief is substantiated by the fact that since 1960, more than 97 percent of all requests for abandonment before the ICC have been approved. The City also believes that if the current application for abandonment is denied, service and maintenance will continue to decline, with an inevitable subsequent application for abandonment being filed with an even better chance of success. In light of the need for a permanent solution to this situation, the City of Whitewater, as already noted, formally requested the Southeastern Wisconsin Regional Planning Commission to undertake a study of the freight service needs of the area served by the line. The purpose of the study is to examine the economic, service, and physical characteristics of the railroad line in question, identify various alternatives to the endangered rail freight service presently provided by the Milwaukee Road, and select and recommend the best way to provide some form of continued freight transportation service to the affected area. In addition, the study is intended to provide an objective information base for funding applications should public ownership and/or subsidy of the continued operation of the line be recommended.

CURRENT STATUS OF THE RAILROAD INDUSTRY

The National Perspective

During the last five years, attention in transportation planning in the United States has been directed at an assortment of problems affecting the railroad industry. As private for-profit corporations, American railroads feel that they are not now earning, and have not earned for a significant period of time, an adequate rate of return on their investment. The average rate of return on net investment for Class I railroads in 1977 was only 1.26 percent. This marked the third consecutive year in which these railroads experienced an annual rate of return of less than 2 percent. Moreover, the rate has not exceeded 3 percent since 1966. These figures are substantially below what is considered satisfactory by other for-profit private corporations.

A wide range of interwoven problems contribute to the present poor financial condition of the industry, including competition from other modes, changing freight markets, inflation, high labor costs, burdensome government regulation and policy, and low or inefficient utilization of plant and equipment. With respect to the last factor, probably the most generally recognized problem is that of light-density lines, or branch lines. Such lines predominate in the northeastern and midwestern regions of the United States and were originally built as collector and distributor systems when railroads provided the only practical means for transporting raw materials and farm products out of, and finished goods into, rural areas. The railroad network as it exists today is the result of a system development designed to serve transportation needs at a time when railways were the primary mode for most, if not all, freight and passenger transportation. Since that time, far-reaching changes in technology and social and economic conditions have made some segments of the railroad network no longer profitable, and therefore not justified in terms of continued operation by a for-profit corporation. Developments such as the advent of modern, high-speed, all-weather highways and attendant motor truck service and a shift in market emphasis to urbanized areas have caused a severe decrease in traffic over many of these branch lines. The branch lines, when acting as unprofitable segments in the entire system, constitute one of the major problems contributing to the currently prevalent situation of deferred maintenance, deteriorated facilities, inadequate service, unsafe operation, and, in certain recent cases, bankruptcy facing a number of northeastern and midwestern American railroads.

The State of Wisconsin Perspective

As of January 1, 1978, the State of Wisconsin ranked first in the nation in railroad mileage currently under consideration for abandonment by the federal Interstate Commerce Commission (see Table 1). The State ranked third in railroad mileage that potentially may be abandoned, and fourth in mileage proposed to be abandoned within three years. In the total of these three categories, the portion of Wisconsin's railroad system mileage under potential abandonment is more than twice that of the national average—22.2 percent as compared to 8.4 percent.

With respect to individual railroads, the Chicago & North Western Transportation Company owns and operates the largest mileage in the State—2,139 miles, or 39.0 percent of the total (see

Table 1

PENDING AND PROSPECTIVE RAILROAD ABANDONMENTS BY STATE: JANUARY 1, 1978

State	Mileage Subject to Abandonment				State 1975 Mileage	Percent Subject to Abandonment
	May be Abandoned Within 3 Years	Subject to Potential Abandonment	Abandonment Application Before ICC	Total		
Alabama	62	22	3	87	4,534	0.2
Arizona	--	64	--	64	2,036	3.2
Arkansas	56	23	--	79	3,522	2.2
California	52	18	182	252	7,291	3.5
Colorado	--	67	--	67	3,334	2.0
Connecticut	3	21	--	24	634	3.8
District of Columbia	--	12	--	12	30	40.0
Delaware	1	--	--	1	291	0.3
Florida	223	23	81	337	4,075	8.3
Georgia	50	54	--	104	5,414	1.9
Idaho	162	145	--	307	2,681	11.7
Illinois	316	122	497	935	10,555	8.9
Indiana	258	166	144	568	6,357	8.9
Iowa	889	402	220	1,511	7,547	20.0
Kansas	82	28	67	177	7,514	2.3
Kentucky	21	37	121	179	3,517	5.1
Louisiana	94	128	95	317	3,710	8.5
Massachusetts	91	153	--	244	1,404	17.4
Maryland	40	9	26	75	1,062	7.1
Maine	64	88	33	185	1,660	11.1
Michigan	337	266	444	1,047	5,901	17.7
Minnesota	655	238	234	1,127	7,294	15.5
Mississippi	80	--	208	288	3,432	8.4
Missouri	625	--	112	737	6,010	12.3
Montana	209	54	2	340	4,862	7.0
North Carolina	127	39	26	192	4,104	4.7
North Dakota	154	177	--	331	5,060	6.5
Nebraska	154	51	115	320	5,360	6.0
Nevada	80	40	16	136	1,573	8.7
New Hampshire	171	63	0	234	761	31.2
New Jersey	0	39	2	41	1,676	2.5
New York	85	186	--	271	5,215	5.2
Ohio	149	227	95	471	7,506	6.3
Oklahoma	300	82	51	433	4,807	8.4
Oregon	14	44	25	83	3,043	2.7
Pennsylvania	72	132	9	213	7,867	2.7
Rhode Island	--	--	--	--	169	--
North Carolina	146	15	25	115	3,063	3.3
North Dakota	291	861	301	1,453	3,342	43.4
Tennessee	43	15	87	145	3,101	4.6
Texas	293	118	349	760	13,255	5.7
Utah	--	2	--	2	1,726	0.1
Virginia	36	9	8	53	5,848	1.4
Vermont	3	--	98	101	767	13.2
West Virginia	1	56	143	199	3,450	5.8
Washington	310	234	20	564	4,723	11.9
Wisconsin	386	300	588	1,274	5,733	22.2
Wyoming	--	--	--	--	1,778	0.5
Total	7,174	4,830	4,502	16,516	196,684	8.4

Source: Wisconsin Department of Transportation and Interstate Commerce Commission.

Table 2)—and ranks second nationwide in total mileage under abandonment consideration (see Table 3). The Milwaukee Road owns and operates the second largest mileage in Wisconsin—1,353 miles, or 24.6 percent of the total, but holds the dubious distinction of ranking first nationwide in total mileage under some sort of abandonment consideration. The Milwaukee Road declared bankruptcy for the fourth time in its history on December 19, 1977. As a result of the bankruptcy, the railroad was placed in receivership and may soon undergo reorganization. This has prompted an acceleration of its program of abandoning unprofitable light-density branch lines. With the Milwaukee Road operating almost half of all railroad mileage in southeastern Wisconsin (see Table 4), the situation is of direct concern to the Region, and to the areas served by the lines proposed to be abandoned including the Waukesha to Milton Junction line.

The Wisconsin Department of Transportation (WisDOT) is the agency officially recognized by the Federal Railroad Administration (FRA) as responsible for developing and implementing a state railroad system plan and for selecting and submitting projects to the FRA for funding under the 4R Act. As part of its active and ongoing statewide railroad planning program, WisDOT recognizes regional planning commissions as the agencies responsible for local planning projects in which federal funding may be used. Thus, while WisDOT has assumed the responsibility

for examining the overall financial, policy, and system rationalization problems relating to the statewide railroad transportation network, localized problems such as the fate of individual network segments have become the province of the regional planning commissions and their constituent municipalities.

The Regional Perspective

As the official transportation system planning agency, as well as the comprehensive areawide planning agency, for the seven-county Southeastern Wisconsin Region, the Southeastern Wisconsin Regional Planning Commission is responsible for planning for all modes of transportation as they affect the physical and social development and economic health of the Region. The Commission has become involved in the rail planning process because it recognizes the need to maintain a balanced transportation system within the Region, a system which includes an adequate level of rail service.

On March 10, 1977, WisDOT requested regional planning commissions throughout the State to classify existing branch lines within their respective regions having potential for abandonment, ranking the lines according to their importance to the social and economic development of the region. On April 11, 1977, the Southeastern Wisconsin Regional Planning Commission submitted to WisDOT a memorandum report entitled, Request for Consideration, Selected Light Density Rail

Table 2

SUMMARY OF POTENTIAL ABANDONMENTS BY WISCONSIN'S RAILROADS: NOVEMBER 1, 1978

Railroad	Mileage Subject to Abandonment in Wisconsin					Total Wisconsin Mileage	Percent Subject to Abandonment
	May be Abandoned Within 3 Years	Subject to Potential Abandonment	Abandonment Application Before ICC	Operated Under Subsidy	Total		
Milwaukee Road	161.1	226.1	189.4	--	576.6	1,353	42.6
Chicago & North Western	142.9	16.2	192.3	--	351.4	2,139	16.4
Soo Line	26.2	--	--	--	26.2	1,306	2.0
Illinois Central Gulf.	--	--	44.9	--	44.9	45	100.0
Ahnapee & Western	--	14.0	--	--	14.0	14	100.0
Municipality of East Troy	7.0	--	--	--	7.0	7	100.0
Marinette, Tomahawk & Western	--	--	3.1	--	3.1	14	22.1
Brillion & Forest Junction	--	--	--	6.7	6.7	7	100.0
All Others	--	--	--	--	--	603	--
Total	337.1	256.3	429.7	6.7	1,029.9	5,488	18.8

Source: Wisconsin Department of Transportation.

Table 3

PENDING AND PROSPECTIVE RAIL ABANDONMENTS IN THE NATION BY RAILROAD: JANUARY 1, 1978

Railroad	Mileage Subject to Abandonment				1976 Rail Miles	Percent Subject to Abandonment
	May be Abandoned Within 3 Years	Subject to Potential Abandonment	Abandonment Application Before ICC	Total		
Atchison, Topeka & Santa Fe . . .	139	251	48	438	12,366	3.5
Boston & Maine	262	162	--	424	1,317	32.2
Bangor & Aroostook	39	55	--	94	532	17.7
Burlington Northern	1,521	--	40	1,525	22,670	6.7
Central Vermont	3	--	--	3	377	0.8
Chessie System	206	294	743	1,243	11,685	10.6
Chicago & North Western	846	314	577	1,737	9,977	17.4
Conrail	22	732	--	866	--	--
Duluth, Missabe & Iron Range . . .	--	9	--	9	487	1.9
Detroit, Toledo & Ironton	11	--	31	42	588	7.1
Duluth, Winnipeg & Pacific	70	--	--	70	170	41.2
Frisco	206	--	101	307	4,598	6.7
Grand Trunk Western	60	--	45	105	999	10.5
Illinois Central Gulf	151	--	931	1,082	9,159	11.8
Illinois Terminal	42	--	--	42	447	9.4
Kansas City Southern	17	54	--	71	1,665	4.3
Louisville & Nashville	124	83	63	270	6,571	4.1
Maine Central	25	--	33	58	908	6.4
Milwaukee Road	1,193	2,006	601	3,800	10,074	37.7
Missouri-Kansas-Texas	65	--	38	103	2,223	4.6
Missouri Pacific	73	212	40	325	11,262	2.9
Norfolk & Western	266	--	40	306	11,643	2.6
Pittsburgh & Lake Erie	7	4	127	138	274	50.3
Rock Island	245	--	--	245	7,247	3.4
Seaboard Coast Line	352	103	114	569	9,019	6.3
St. Louis-South Western	156	--	--	156	1,441	10.8
Soo Line	210	168	49	427	4,590	9.3
Southern	235	37	10	282	5,956	4.7
Southern Pacific	88	--	478	566	11,449	4.9
Union Pacific	259	277	--	536	10,072	5.3
Western Pacific	--	--	--	--	1,482	0.4
Others	203	42	539	784	--	--
Total	7,208	4,803	4,612	16,623	200,000	8.3

Source: Wisconsin Department of Transportation and Interstate Commerce Commission.

Lines of Southeastern Wisconsin, setting forth the requested classification. Of the six lines discussed in the memorandum report, the Waukesha to Whitewater segment was ranked third in terms of overall socioeconomic importance. This branch line segment was ranked behind the Lake Michigan carferry services as well as behind the Municipality of East Troy Wisconsin Railroad (METWRR), but ahead of the Chicago & North Western's Lake Geneva to Genoa City line in perceived importance. Although the six lines were chosen because of their inclusion as light-density lines in the

August 1, 1976 Wisconsin State Rail Plan, only four ranking positions were generated since the two cross-lake ferry services were considered together and the Merton-Menomonee Falls line had already been abandoned (see Table 5). Because of the interstate character, as well as the far-reaching importance, of the Lake Michigan carferry service, that service has been studied by WisDOT itself. The Commission has examined a range of alternatives for the continued provision of freight service to the area served by the METWRR, recommending the rehabilitation of the existing line,

Table 4

RAILROAD ROUTE MILEAGE IN SOUTHEASTERN WISCONSIN: NOVEMBER 1, 1978

Railroad	Mileage in Region ^a	Percent of Total Mileage in Region	Mileage in Region Subject to Abandonment	Percent of Total in Region
Chicago, Milwaukee, St. Paul & Pacific	259.2	44.6	66.2 ^b	11.4
Chicago & North Western	234.1	40.3	9.9 ^b	1.7
Soo Line	80.3	13.8	--	--
Municipality of East Troy	7.2	1.2	7.2	1.2
Total	580.8	100.0	83.3	14.3

^a Does not include carferrries.

^b Approximation.

Source: SEWRPC.

Table 5

LIGHT-DENSITY BRANCH LINES IN SOUTHEASTERN WISCONSIN: DECEMBER 31, 1978

Rank	Line	Railroad	Length (miles)	Current Status
1	Milwaukee-Ludington, Michigan (carferry) . .	Chessie System	97	Initial Decision Under Appeal
	Milwaukee-Muskegon, Michigan (carferry) . .	Grand Trunk Western	88	Abandonment Approved
2	Mukwonago-East Troy	Municipality of East Troy	7	Rehabilitation Anticipated
3	Waukesha-Whitewater	Chicago, Milwaukee, St. Paul & Pacific	28	Abandonment Application Currently Pending
4	Lake Geneva-Genoa City	Chicago & North Western	10	Abandonment Anticipated
5	Merton-Menomonee Falls	Chicago, Milwaukee, St. Paul & Pacific	15	Within Three Years Recreation Trail and Inactive Trackage

Source: SEWRPC.

utilizing federal funds, and the continued operation of the railroad by the Village of East Troy. The Commission has in addition rendered assistance in the implementation of the recommendations by the Village. Accordingly, an analysis of the Waukesha to Milton Junction line is now in order.

The Milwaukee Road Perspective

The Milwaukee Road occupies a significant position in the railroad network of the State of Wisconsin. As shown in Table 2, it is the second largest

of all rail carriers in the State, with 1,353 miles. The Class I carrier operates 24.6 percent of the total railroad mileage in the State, and carries a similar share of rail traffic based on revenue tons of freight originated and terminated in Wisconsin (see Table 6). Although three lines do reach into northern Wisconsin, the majority of the Milwaukee Road network in Wisconsin is located in the southern portion of the State, where it constitutes nearly 50 percent of the total railroad. Most of the railroad's light-density lines are located in the southern portion of the State.

Table 6

ORIGINATING AND TERMINATING FREIGHT TRAFFIC ON CLASS I WISCONSIN RAILROADS: 1977

Railroad	Tons of Freight Originating and Terminating in Wisconsin	Percent of Total
Chicago & North Western	21,088,800	40.7
Chicago, Milwaukee, St. Paul & Pacific. . .	13,618,255	26.3
Soo Line	8,399,871	16.2
Burlington Northern	5,651,183	10.9
Illinois Central Gulf.	45,395	0.1
Duluth, Missabe & Iron Range.	9,058	Negligible
All Class II Railroads	2,604,403	5.0
All Class III Railroads	408,550	0.8
All Switching Railroads	N/A	N/A
Total	51,825,515	100.0

NOTE: N/A indicates data not available.

Source: Wisconsin Department of Transportation.

The railroad serves each of Wisconsin's 8 largest cities, and 16 of the 20 largest. For 184 communities, including Whitewater, it provides the only rail freight service. About 3,000 Wisconsin citizens are directly employed by the company. Obviously, the future configuration of the State rail network, as well as the quality of rail service within the State, is highly dependent upon the financial and other conditions of the Milwaukee Road.

Milwaukee Road's financial history has been an almost continuously troubled one in that it has never earned quite enough money for the reinvestment in rolling stock and fixed plant required to put it in a solid competitive position. Presently the sixth largest railroad in the United States in terms of total track miles, the railroad has undergone four bankruptcies in its history. The first bankruptcy occurred in 1857, when the two original predecessors of the Milwaukee Road (The Milwaukee & Mississippi Rail Road Company and the La Crosse & Milwaukee Rail Road Company) were dissolved as a result of the national economic crisis of that year. In 1867 both were reorganized and consolidated into the Milwaukee & St. Paul Railway Company. From 1874 to 1901, the railroad (by then known as the Chicago, Milwaukee & St. Paul Railway Company) enjoyed a brief period of prosperity until acquisition of the Chicago, Burlington & Quincy Railroad Company by the Great Northern Railway Company and Northern Pacific Railway Company drastically changed traffic patterns. In response to the resultant traffic losses, the Milwaukee Road attempted to tap other

market areas by expanding to Seymour, Indiana, Kansas City, Missouri, and Omaha, Nebraska. Importantly, a decision was made to construct a line to most of the Pacific coast. The latter decision is often regarded as a primary reason for the Company's marginally competitive position today. The debt from such expansion resulted in bankruptcy in 1925, reorganization in 1926, and bankruptcy again in 1935. World War II traffic produced adequate revenue for reorganization in 1945. Despite its history of financial problems, the Milwaukee Road's most recent bankruptcy was precipitated by a series of short-term operational problems that depleted the Company's cash reserve to the extent that financial obligations could not be met without the relief from the demands of creditors provided under Section 77 of the Federal Bankruptcy Act, the section of the act that covers railroads. These operational problems, which included severe weather combined with a steadily declining traffic volume and market share, caused the railroad to operate at a loss for five years of the six-year period of 1972 through 1977. The ability of competitors to increase investment in plant and equipment during this period while the Milwaukee Road was unable to, further diminished the competitive ability of the Company. Therefore, following 32 years of marginally solvent operation, the Milwaukee Road filed for bankruptcy on December 19, 1977.

Because of the historic importance of rail service, railroad bankruptcies are given special treatment under federal law in order to keep undesirable impacts to a minimum. When a railroad files a bankruptcy petition in federal court, the court assumes immediate jurisdiction over the railroad and its operations, allowing the judge to order the continuation of normal operations as long as revenues are sufficient to cover operating expenses. The court then appoints a trustee who assumes management of the railroad for a period of time in order to examine the problems of the railroad and to formulate recommendations for the company's future.

In February 1978 the United States District Court for Illinois Northern District, with ICC approval, appointed Stanley E. G. Hillman, retired Chairman of the Illinois Central Gulf Railroad Company, as trustee. Mr. Hillman immediately retained the management consulting firm of Booz, Allen and Hamilton, Inc. to examine the railroad's current condition and potential future profitability under various reorganization alternatives. The trustee

stated that he was prepared to recommend liquidation if none of the reorganization alternatives possessed a good potential for future profitability. Although liquidation is certainly a possibility, it is considered unlikely. Should liquidation be implemented, transfer or cessation of service will be subject to federal regulation, with large portions of the system probably being sold to other railroads for continued operation. Indeed, the ICC has the authority to order other railroads to provide emergency service to shippers for a period of up to six months in the event of liquidation.

Reorganization alternatives center around a substantially reduced network that may remove the Milwaukee Road from several major market areas, leaving it to concentrate service in the Midwest. In addition, marginal service to significant medium-sized communities may be terminated through a program of market exchanges with other railroads. Under this approach, two railroads that presently compete with each other at the same locations exchange shippers and facilities, each railroad leaving one of the areas to the other. The railroads retain approximately the same volume and value of traffic but with reduced operating and maintenance costs because of the trackage abandonments made possible by the exchange. The Milwaukee Road has been actively pursuing this concept with the Chicago & North Western Railway. A final way to reduce the network is through the elimination of unprofitable light-density branch lines, regardless of the presence or absence of railroad service to the areas concerned. This policy has been greatly accelerated by the Milwaukee Road over the last two years and directly affects the Waukesha to Milton Junction line.

HISTORY OF THE LINE

From an historical point of view, the Milwaukee Road line from Waukesha to Milton Junction is significant since it is a part of the first railroad line constructed in the State of Wisconsin. Byron Kilbourn, a leader in the early development of the City of Milwaukee, conceived the Milwaukee and Rock River Canal project to provide better transportation for freight moving to and from Milwaukee, "capturing" a large developing, agricultural hinterland for the City's port. When canal technology was replaced by railroad technology, Kilbourn and the canal company's board of directors proposed the construction instead of a railroad from Milwaukee to the Mississippi River.

In 1847 the Milwaukee and Waukesha Rail Road Company was chartered to build between the two namesake cities. In 1850 the corporate name was changed to the Milwaukee & Mississippi Rail Road Company, with construction beginning on September 12, 1850. The line was completed to Waukesha in 1851, with February 25 marking the date of the operation of the first scheduled train to Waukesha. The rails reached Eagle in 1851, Milton in the fall of 1852, Madison in 1854, and Prairie du Chien in 1857. By November 1867, this line had become part of the first railroad connection between Chicago and St. Paul via Milwaukee. The mainline status of the Waukesha-Milton Junction segment did not last long, however, as Milwaukee to St. Paul traffic was soon routed over a new and shorter route through La Crosse. Since that time, the primary function of the line has been that of providing local freight and passenger service. For most of its existence, the segment from Waukesha to Milton Junction has been operated as part of a longer branch line extending northeast of Waukesha to Brookfield, where a connection is made with the main line of the Milwaukee Road into Milwaukee.

As is the situation with most other branch lines, service frequency has been greatly reduced from its peak during the 1920's. During 1922, for example, five passenger trains operated daily in each direction between Milwaukee and Janesville. Passenger service was discontinued on November 26, 1951, service at that time being provided by one daily self-propelled motor train in each direction. All freight service is now accommodated by twice weekly train operation.

An additional branch line previously existed in the immediate area, leaving the Waukesha to Milton Junction line at Eagle and running in a southerly direction to Elkhorn, where it connected to the Milwaukee Road's "Southwestern Line" running from Milwaukee to Savannah, Illinois. The Eagle to Elkhorn branch was constructed in 1870, and was abandoned from Eagle to Troy Center in 1930 and from Troy Center to Elkhorn in 1931.

PREVIOUS ABANDONMENT ATTEMPT

The Milwaukee Road has previously attempted to abandon a portion of the line from Waukesha to Milton Junction (Docket No. AB-7 [Sub. No. 20]). On December 20, 1974, the railroad filed an application under the ICC short form process for abandonment of a portion of the line beginning at

Milepost 23.00 near Waukesha and extending in a southwesterly direction to Milepost 48.86 near Whitewater. This segment consists of 25.86 miles of mainline track along with 1.60 miles of other track, all in Waukesha, Jefferson, and Walworth Counties. Service was proposed to be discontinued to the nonagency stations located at Genesee, North Prairie, Eagle, and Palmyra, and to a location known as "Williams Siding" west of Waukesha. All service was to have been continued to the Waukesha Industrial Lumber Siding, Inc. as well as to all shippers in Whitewater. The Milwaukee Road proposed to continue servicing Whitewater with approximately the same—twice weekly—frequency of service from Milton Junction as presently provided from Waukesha.

Reasons stated for the first proposed abandonment were a decline in traffic over this segment to a point where expenditures for track rehabilitation and maintenance were no longer warranted, therefore causing an undue burden on interstate commerce. Rehabilitation costs were estimated by the railroad at \$731,344, and expenses necessary to provide service over the five-year period of 1975 through 1979 at \$469,798, or approximately \$3,630 per mile per year. A total of 152 cars were received and forwarded on the segment of the line proposed for abandonment in 1972, and 142 were received and forwarded in 1973 (see Table 7). During the first nine months of 1974, only 78 cars were handled. The Milwaukee Road showed a loss of \$20,801 in 1972, \$14,286 in 1973, and \$15,057 during the first nine months of 1974 for operations over this segment.

The applicant additionally stated that analysis by its staff personnel indicated no expectation that there would be an increase in the number of annual carloads sufficient to pay for the maintenance expense required to keep the line in service, let alone the expense needed to rehabilitate the line. Since the railroad considered itself a marginal carrier at best, it stated that it was unrealistic to expend the sums necessary for such a small amount of revenue. The applicant also pointed out that there were adequate all-weather highways serving the communities where service was to be discontinued, as well as common carrier truck lines serving the same points, and that other rail service was available nearby. The Milwaukee Road contended that approval of the abandonment would not constitute a major federal action significantly affecting the environment.

Table 7

ANNUAL TRAFFIC GENERATED BY WILLIAMS SIDING TO PALMYRA SEGMENT

Station	1972	1973	1974	1975
Williams Siding				
Carloads.	11	31	33	28
Tonnage.	351	1,519	1,288	1,566
Genesee Depot				
Carloads.	21	--	--	--
Tonnage.	1,077	--	--	--
North Prairie				
Carloads.	31	30	17	12
Tonnage.	1,162	1,163	564	408
Eagle				
Carloads.	10	9	6	7
Tonnage.	339	409	270	243
Palmyra				
Carloads.	79	72	69	58
Tonnage.	3,446	3,859	4,356	4,425
Total				
Carloads.	152	142	125	105
Tonnage.	6,375	6,950	6,478	6,642

Source: Interstate Commerce Commission—Initial Decision Docket No. AB-7 (Sub-No. 20).

Opposition to the abandonment application came from various individuals, agencies, and groups, including U. S. Congressman Les Aspin, the Wisconsin Department of Transportation, the Wisconsin Public Service Commission, the Wisconsin Department of Business Development, the State Historical Society of Wisconsin, the City of Whitewater, the Village of Palmyra, the Whitewater Area Chamber of Commerce, the Geneva Lake Area Joint Transit Commission, the Waukesha County Historian, the United Transportation Union, the Brotherhood of Locomotive Engineers, the Wisconsin Dairy Supply Company, Badgerland Cooperative, Federal Chemical Company, Jefferson County Farm Cooperative, Union Forest Products, the Wisconsin Coalition for Balanced Transportation, and nine individuals.

Opposition to the abandonment centered around the following arguments expressed by one or more of the opposing interests:

- The line had a potential for increased utilization.

- Current operating deficits were minimal and projected maintenance expenditures unrealistic.
- Alternate transportation services were unsuitable for goods currently handled.
- Service to Whitewater from Milton Junction would involve substantial circuitry in freight car movement and would result in inferior service compared with what was at the time available.
- Abandonment should not be allowed before a formal feasibility study could be conducted.
- Abandonment would have adverse impacts on industrial development, and therefore on localized economic development.
- Abandonment would severely impede efficient and competitive operation of agriculturally oriented business, which is very sensitive to increases in transportation costs.

The federal statutory test for determining the outcome of an abandonment petition is whether present or future public convenience and necessity permit discontinuance of service. The federal Interstate Commerce Commission's function in abandonment proceedings is to balance the conflicting interests of immediate and local needs of communities and shippers against the broader public interest in freeing interstate commerce from undue burdens. Since the rail carrier desires to stop investing resources in unprofitable services while shippers believe a need for the service exists even if lightly patronized, a serious conflict inevitably exists in contested abandonment proposals.

Mr. Francis P. Desmond, the Administrative Law Judge responsible for examining the arguments of the applicant and opponents, arrived at the following set of conclusions that pointed to the resulting decision:

- Milwaukee Road records showed that carloads handled at two of the shippers' sidings decreased from 1973 to 1975, but because of large hopper cars replacing boxcars for the shipment of crops, tonnage shipped actually increased. Overall, carloadings from nonagency stations to be discontinued have decreased, but actual tonnage

"remained constant in spite of a 1973 crop failure, notice of the proposed abandonment which influenced shippers to route via truck, no visible rail solicitation efforts, and an inadequate supply of rail cars."¹ Future prospects were determined to be promising because of shipper forecasts for increased crop commitments, expansion plans, and the marketing advantages of shipping by rail.

- The railroad appeared to be satisfied with revenues produced from Whitewater shippers since this service was proposed to be continued. Since this traffic can apparently support the 12 miles of line west of Whitewater to Milton Junction, it could instead support track maintenance for at least 12 miles east of Whitewater.
- The applicant insisted that revenue from Whitewater was not relevant in the proceeding since service would be continued over a then unused segment of line from another direction. The ICC, however, has held that revenue from bridge traffic is a factor in determining the earning capacity of a branch line for purposes of abandonment. In reopening the unused 12-mile segment of track, the railroad deems the revenues from Whitewater relevant. Yet, in justifying the abandonment of track between Waukesha and Whitewater, the same revenues are deemed irrelevant.
- Substantial expenditures were claimed to be necessary in order to rehabilitate and maintain the track in question. The hearing examiner stated that, while normalized maintenance is an objective to be strived for, no reason exists why theoretical or ideal standards of maintenance should apply if operations can be conducted safely using minimum expenditures as was done during the years previous to this application.

¹ *Interstate Commerce Commission, Initial Decision, Docket No. AB-7 (Sub-No. 20), October 4, 1976.*

- Abandonment would present area farmers and cooperatives with “harsh and expensive” alternatives since corn shipments delivered by rail return higher prices to the farmers.

The final conclusions also included several other relevant considerations, those being:

- Service on the line had been provided by trains operating out of Milwaukee. To abandon a segment of the track and suggest that revenues attributable to that section be considered separately would establish a program that would leave dead-end branch lines that could produce greater costs and divert more rail traffic to highways.
- The ICC has held on numerous occasions that line retention for the purpose of allowing shippers rate advantages and not subjecting them to costlier freight charges is insufficient grounds to deny abandonment. This, however, does not mean that rate impacts may not be considered along with other facts and circumstances affecting the question of public convenience and necessity.
- Shipper carloadings did not meet the “34-car standard” at times espoused by the Milwaukee Road, and used as a rule of thumb for determining the viability of light-density lines.² This standard was not considered to be a reliable indicator of profitability, however, since shipments were shown to have been shifted from box-

cars to large hopper cars, which resulted in fewer carloadings but equal or greater tonnage hauled.

- Opposition to abandonment based on the potential for future passenger service was regarded as entirely too speculative, as prospects for meaningful passenger usage of this trackage were judged to be too remote.
- The agricultural business community must recognize that if service is to continue over the segment of trackage proposed for abandonment, the businessmen have a duty to perform, as the future of the line rests largely in their hands. Support must amount to more than a mere desire to have the line available in that shippers should not have to be coaxed to use it. Similarly, communities served by the line should cooperate with the carrier in matters of common concern such as maintaining public grade crossings.
- The absence of rail service could have a negative impact on local industrial development. Communities that could be thus affected must recognize, however, that it would be imprudent to force a carrier to continue services that fail to generate a reasonable amount of traffic.

The Milwaukee Road’s financial health was such at that time that it could not long survive unprofitable operations. When a line clearly burdens the system, its removal must be permitted. The line in question, however, based on evidence of record and in the opinion of the Judge, did not constitute an undue burden on the system. Supporting factors included the present track conditions; the minimum expenditures required to maintain it in a safe, operable condition; the absence of persuasive evidence to establish that the track had outlived its usefulness or was an economic burden to other commerce; the relatively expensive alternatives available to those who rely on rail service; the applicant’s failure to consider revenue from traffic handled at all stations on the line; the realistic prospects for increased tonnage; and the willingness to expend funds to repair an unused, 12-mile stretch of track.

These factors, along with increased traffic forecasts for local stations in 1976, led to a conclusion that abandonment of this segment was not in the public

²In 1972 the Interstate Commerce Commission announced new procedures designed to expedite the abandonment process. One of the revised procedures allowed a railroad to submit a simpler modified form of abandonment application when the trackage that is the subject of the application currently generates an average of 34 carloads of freight or less per mile annually. This arithmetic average of estimated traffic required for break-even operations was derived from 39 sample lines where the actual break-even traffic was highly variable. Hence, the use of this number as a standard is not universally accepted.

interest. The abandonment of the trackage in question was accordingly denied, effective 20 days after the service date of October 4, 1973.³

EXISTING ECONOMIC CONDITIONS OF THE LINE

In its latest petition for abandonment, the Chicago, Milwaukee, St. Paul & Pacific Railroad Company presents three reasons why abandonment of service between Waukesha and Milton Junction should be approved: 1) there is insufficient demand for service to justify continued operation; 2) continued operation constitutes a burden upon interstate commerce⁴; and 3) there is insufficient traffic volume to justify the necessary rehabilitation.

The applicant contends that the demand for service over the line is insufficient to justify continued operation. The losses from providing service on the line were \$39,755 in 1975, \$39,868 in 1976, and \$31,515 in 1977. In the first six months of 1978, however, the line made a profit of \$8,952.

The Milwaukee Road also contends that because of its marginal financial condition, and the burden of continued operation on interstate commerce, the public convenience and necessity do not require continued operation of this line. Under ICC accounting procedures, operating losses for the entire system exceeded \$12,000,000 in 1976, more than \$38,000,000 in 1977, and more than \$50,000,000 in the first nine months of 1978.

Finally, the railroad states that traffic volume is insufficient to justify the substantial rehabilitation now required if the line is to handle modern day loads such as "jumbo" hopper cars. It feels that

³ *Interstate Commerce Commission, Initial Decision, Docket No. AB-7, (Sub-No. 20), October 4, 1976.*

⁴ *The phrase "burden upon interstate commerce" is often used by applicants in abandonment proceedings to point out that the outlay of excessive expenditures—for example, for track maintenance and rehabilitation—for a line that cannot be expected to cover such investment in revenues lessens the railroad's ability to properly serve interstate commerce since those investments could be better utilized elsewhere in the system.*

in light of the railroad's overall financial condition, maintenance expenses other than those absolutely necessary to operate trains safely and to satisfy minimum Federal Railroad Administration Track Safety Standards are not justifiable. Hence, regular maintenance has been deferred, an economy measure that the railroad feels allows service to be prolonged, but not maintained indefinitely, over light-density marginally profitable lines. There is a point in time when substantial expenditures are necessary in order to "catch up" on this deferred maintenance. According to the railroad, that time has arrived.

In order to offset deferred maintenance and to continue service over this line during the next five years, expenditures of \$362,333 in 1978, \$394,943 in 1979, \$430,488 in 1980, \$469,232 in 1981, and \$511,463 in 1982 would be required for the renewal of ties, rail, and bars, the surfacing of track, weed and brush control, bridge repairs, and other projects. In addition, the applicant feels that if modern day carloadings of 263,000 pounds are to be handled at speeds of 25 miles per hour, extensive rehabilitation will be necessary, including the replacement of all rail that has a weight of 85 pounds per linear yard or less. Such loadings are typical of the "jumbo" hoppers and other large capacity railroad cars that are in demand by shippers today. The railroad has calculated the cost of carrying out such a major rehabilitation to be \$8,894,507. Traffic volume is deemed by the Milwaukee Road to be insufficient to justify such substantial investment.

In conclusion, the applicant believes that the evidence of record conclusively shows that the costs of operating, maintaining, and upgrading this line far exceed any revenues the line might generate. In view of this, and of the apparent availability of alternative transportation services, the Milwaukee Road believes it should be relieved of the burden of continued operation of this line. This position on the part of the company creates the problem to be addressed by the freight service study requested by the City of Whitewater.

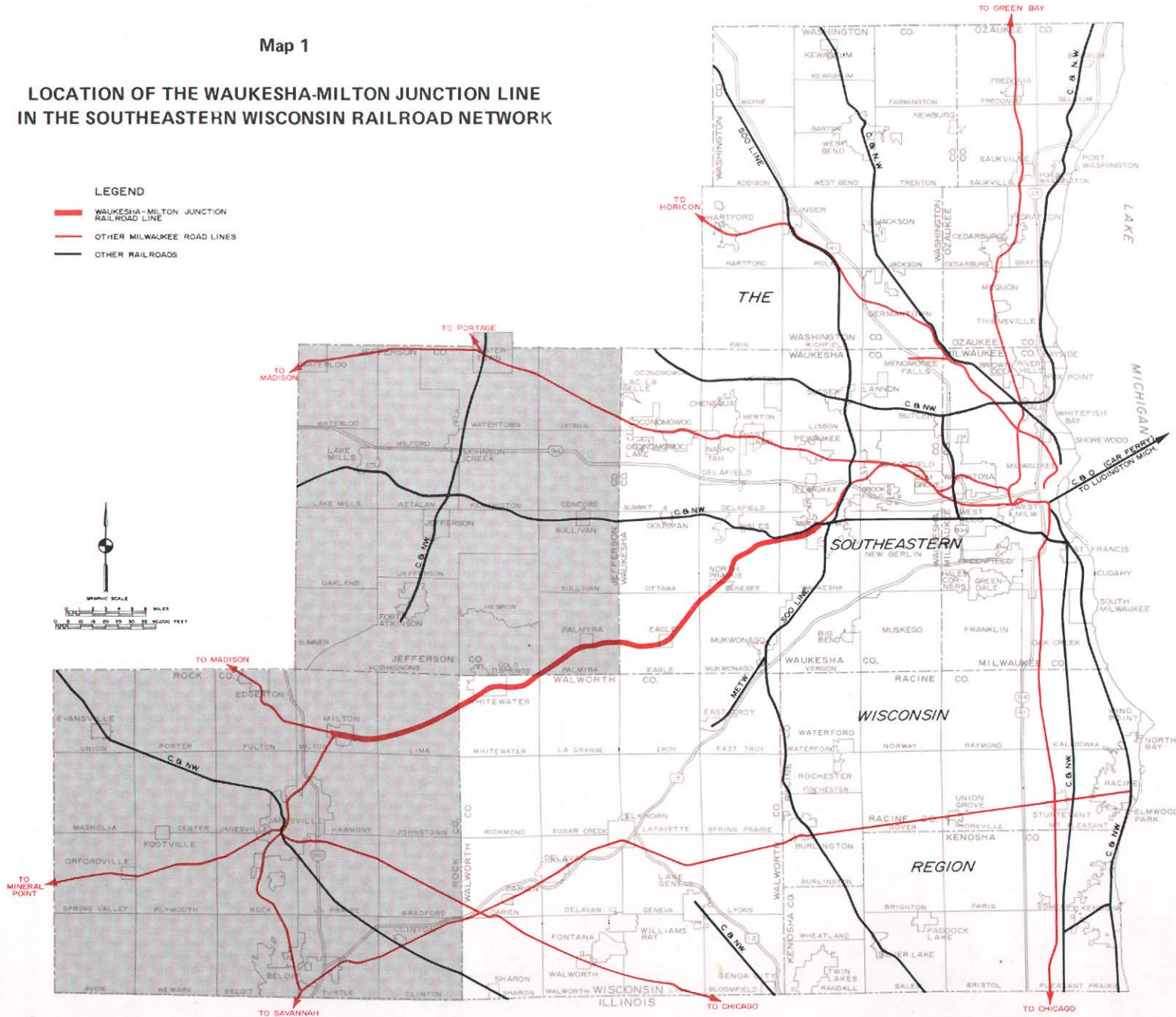
STUDY AREA

The Milwaukee Road line extending from Waukesha to Milton Junction is located entirely in the southeastern quadrant of Wisconsin (see Map 1). Situated on a general northeast to southwest alignment, the route passes through portions of Waukesha, Jefferson, Walworth, and Rock Coun-

Map 1

LOCATION OF THE WAUKESHA-MILTON JUNCTION LINE IN THE SOUTHEASTERN WISCONSIN RAILROAD NETWORK

- LEGEND**
- WAUKESHA-MILTON JUNCTION RAILROAD LINE
 - OTHER MILWAUKEE ROAD LINES
 - OTHER RAILROADS



ties, a total distance of 41 miles. The line traverses the following nine townships from east to west: Waukesha, Genesee, Mukwonago, and Eagle in Waukesha County; Palmyra and Cold Spring in Jefferson County; Whitewater in Walworth County; and Lima and Milton in Rock County. Although listed on the railroad's application as Milton Junction, the western end of the line is technically located in the City of Milton. The application calls for the abandonment of 41.0 miles of railroad line along with 4.41 miles of auxiliary track such as sidings and spurs, all of which are located in the twenty-sixth subdivision of the Milwaukee Road's Wisconsin Division, which extends from Brookfield to Milton Junction. Although the line contains two portions that are located outside of the Southeastern Wisconsin Regional Planning Commission's geographic planning area, it must be examined in its entirety. Those two portions are located as follows:

1. From approximately Milepost 39.0 to Milepost 45.8, or approximately between Eagle and Whitewater. This portion of the line is located in an area that is not served by a regional planning commission.
2. From approximately Milepost 52.4 to Milepost 61.5, or approximately between Whitewater and Milton Junction. This portion is in an area served by the Rock Valley Metropolitan Council, an interstate, multi-county regional planning agency.

There are eight stations located on the segment under consideration for abandonment. From east to west these are Genesee, North Prairie, Eagle, Palmyra, Whitewater, Lima Center, Milton, and East Wye. The easterly limit of the proposed abandonment as described in the application is Milepost 20.5, located just west of the Godfrey Company switch on the southwest side of the City of Waukesha. This switch is the railroad's entrance into the Waukesha Industrial Park. The westerly limit is Milepost 61.5, located just east of the Plumb Street grade crossing in the City of Milton. Regardless of the abandonment decision, the Milwaukee Road proposes to continue to serve all customers in Waukesha and Milton Junction.

Eight communities are located on the line: Waukesha, Genesee Depot, North Prairie, Eagle, Palmyra, Whitewater, Lima Center, and Milton (see Table 8). Shippers that use the line are located in Eagle, Palmyra, and Whitewater, with by far the

greatest number of shippers being located in, and the largest number of carloads originating from or being destined for, the immediate Whitewater area. In addition, two shippers are located on-line between Waukesha and Genesee Depot at the locations known as Portz and Williams Siding (see Map 2).

Land uses between Waukesha and Eagle are predominantly residential and agricultural. Although the population of the Southeastern Wisconsin Region is growing at a relatively slow rate overall, the population is continuing to decentralize outward from the larger urban centers. This is evidenced by the fact that large tracts of agricultural land along this portion of the line are being developed into single-family residential subdivisions. Terrain throughout this portion varies from relatively flat to gently rolling. Between Eagle and Palmyra, surrounding land use is mixed agricultural and recreational, while terrain is rolling to rough and forested. Here, the line passes through the Southern Unit of the Kettle Moraine State Forest. West of Palmyra to Milton the land use is predominantly agricultural, with some wetland. Terrain varies from gently rolling to relatively flat over this portion.

SUMMARY

One of the many problems hindering the American railroad industry's ability to earn an adequate rate of return on its investment is the unprofitable light-density line, or branch line. The purpose of this report is to study the economic, service, and physical characteristics of one such line in southeastern Wisconsin, a 41-mile line extending from

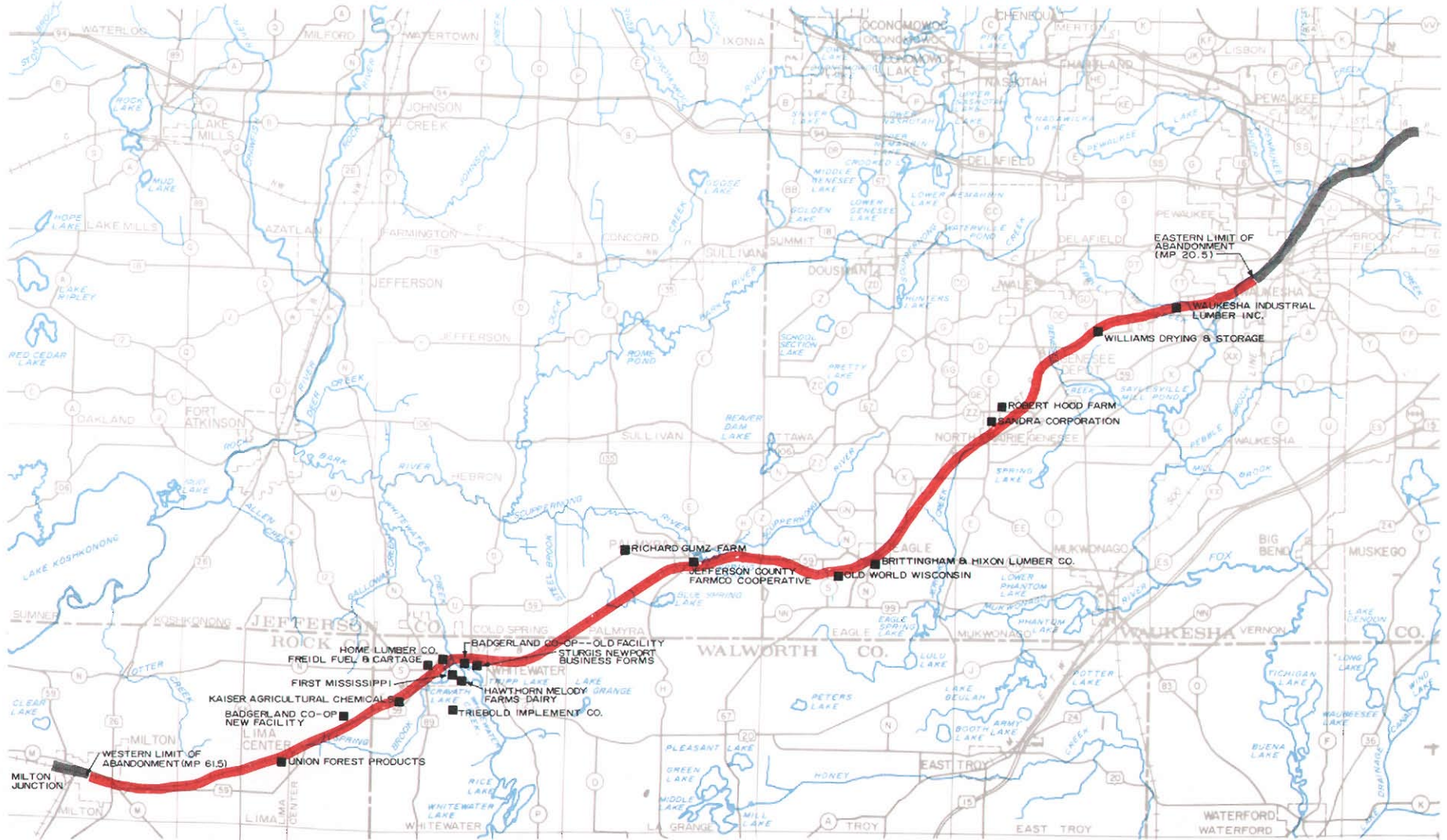
Table 8

COMMUNITIES LOCATED ON THE WAUKESHA-MILTON JUNCTION LINE

Community	Estimated 1978 Resident Population
City of Waukesha, Waukesha County	50,572
Genesee Depot (unincorporated), Waukesha County	300
Village of North Prairie, Waukesha County	777
Village of Eagle, Waukesha County	884
Village of Palmyra, Jefferson County	1,556
City of Whitewater, Walworth County	10,700
Lima Center (unincorporated), Rock County	135
City of Milton, Rock County	4,759

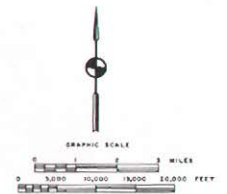
Source: Wisconsin Department of Administration and SEWRPC.

DETAILED CONFIGURATION OF THE WAUKESHA-MILTON JUNCTION LINE



LEGEND

- WAUKESHA - MILTON JUNCTION RAILROAD LINE
- REMAINDER OF BROOKFIELD - MILTON-JUNCTION BRANCH LINE



Waukesha through Genesee Depot, Eagle, Palmyra, Whitewater, and Lima Center to Milton Junction.

Although part of the first railway line in Wisconsin, the principal function of this segment has been to provide local transportation services to the immediate area. In 1976 an abandonment application for a portion of this line was denied. A petition for abandonment of the entire line is currently before the Interstate Commerce Commission, and a decision is expected in mid-March of 1979.

The Milwaukee Road, as applicant in the pending abandonment procedure, believes that such action is justified because the low traffic volume on the line does not earn enough revenues to justify continued operation of the line. In addition, because of the carrier's marginal financial condition and the need for major track rehabilitation,

the railroad believes that it should be relieved from the burden of continued operation of this line.

Accordingly, the Southeastern Wisconsin Regional Planning Commission has, at the request of the City of Whitewater, undertaken a study intended to present an accurate representation of impacts that may be expected from such abandonment, as well as to recommend a course of action to minimize those impacts. The results of this study are documented in this report. This, the first chapter of the report, has outlined the current status of the railroad industry in general, and has presented a brief history of the line, including a discussion of the previous abandonment attempt, and a description of the line's current economic condition. The next chapter sets forth the objective and standards utilized to evaluate alternative plans.

Chapter II

RAIL SERVICE OBJECTIVES, PRINCIPLES, AND STANDARDS

INTRODUCTION

Planning is a rational process for formulating and meeting objectives. The most effective plan is usually identified through an evaluation of alternative means of achieving the agreed-upon objectives. In such an evaluation, information on the ability of each alternative considered to meet the previously agreed-upon objectives is organized and systematically presented. The alternative plan that best meets these objectives becomes the recommended plan.

Many types of areawide planning problems require the formulation of multiple objectives together with relatively complex sets of standards which permit those objectives to be linked to alternative system plans. Because of the nature of the rail freight service problem facing the Whitewater area, however, it appears that a simple objective can be formulated as a basis for alternative plan preparation and evaluation.

PLAN OBJECTIVE

The principal purpose of operating a privately owned railway freight line is to transport goods at an economically acceptable cost to shippers while providing for a profit to the operator. From this tenet, the supporting presumption can be drawn that railroads, like any other provider of freight transportation service, are instrumental in determining the economic viability and the competitive position of some shippers. Since the basis for the provision of freight transportation services is of an economic nature, from the demand as well as supply side, it appears reasonable to limit the plan objective to a single statement calling for the cost-effective provision of the required service. Therefore, the following objective is proposed as a basis for formulating and evaluating alternative means for the continued provision of freight service to the Whitewater area:

To insure the provision of adequate, economical, and equitable freight transportation service to current and potential shippers at the lowest possible cost.

UNDERLYING PRINCIPLES

A set of four principles are proposed in support of the plan objective, as set forth in Table 9. These principles provide the foundation on which the objective is constructed, asserting the validity of the objective. The first principle relates to the need for an adequate quality of freight service; the second relates to the importance of such service to economic activity and development in the corridor; the third addresses cost and potential investment; and the fourth refers to other issues, such as accident costs, energy utilization, and environmental impacts. Even though the study is to predominantly address surface freight transportation modes, specifically rail and motor freight, the objective and supporting principles have deliberately not been made mode specific.

STANDARDS

Four groups of freight transportation service standards have been developed. Each of the four groups directly relates to one of the principles, setting forth the requirements against which each alternative plan will be judged in terms of service quality, economic development in the corridor, costs of operation, and matters pertaining to government policy and regulation (see Table 9). These standards are used as measures of effectiveness in determining which alternative plan most fully meets the plan objective. In applying the standards to the alternative plans, it should be recognized that certain standards may be in conflict with each other, requiring resolution through compromise or modification. Also, it is highly unlikely that any one plan will completely meet all of the standards.

CONCLUSION

The general purpose of the Whitewater area rail service planning effort is to determine the best way to provide continued freight transportation services to the Whitewater area for goods that are currently moved, or that may be expected to be moved, via the existing Waukesha to Milton Junction railway line. The more specific purpose is to provide

recommendations to those federal, state, and local units of government that are concerned with the negative impacts of removal of the current facility, and that possess the legal and financial capability

to take action to alleviate those impacts. This chapter has set forth a single rail service objective for the Whitewater area, together with four supporting principles and 14 supporting standards.

Table 9

WHITEWATER AREA RAIL SERVICE PLAN OBJECTIVE, UNDERLYING PRINCIPLES, AND FREIGHT TRANSPORTATION SERVICE STANDARDS

OBJECTIVE

To insure the provision of adequate, economical, and equitable freight transportation service to current and potential shippers at the lowest possible cost.

PRINCIPLE NO. 1

In order to function in an efficient, profitable, and competitive manner, shippers must have access to a transportation service that is convenient, reliable, and frequent enough to reasonably meet current and probable future needs.

STANDARDS

1. Service should be maintained at a minimum frequency of twice during each Monday through Friday work week.
2. Total in-transit time for shipments should be minimized.
3. Pick-up and delivery of shipments from and to shippers should occur within 48 hours following adequate notice to the carrier.
4. Flexibility should be maintained in the design and operation of the service to permit ready adoption to changing demand, technology, and policy.

PRINCIPLE NO. 2

Competitive transportation is essential in order to maintain and expand the economic base of an area. Services necessary to comply with this tenet should be preserved while those not necessary should be allowed to be discontinued with a minimum of economic disruption to the area.

STANDARDS

5. Freight transportation service should be made available in such a manner as to make possible the preservation and expansion of existing private sector employment.
6. Where it is determined that a particular freight service is not required, provision should be made for alternate common carrier or private service if necessary, and for the orderly withdrawal of the existing service.

Table 9 (continued)

PRINCIPLE NO. 3

Available financial resources are limited. Costs involved in implementing, maintaining, upgrading, or otherwise changing current and future transportation services should, therefore, be minimized.

STANDARDS

7. The sum of transportation service capital and operating costs in the corridor should be minimized.
8. Investment and subsidies should be minimized and in no event should costs exceed direct, quantifiable benefits.
9. Transportation costs to current and potential shippers should be minimized so that the most advantageous market position may be achieved.

PRINCIPLE NO. 4

Federal, state, and regional transportation policies and goals mandate a commitment to the development and assistance of transportation systems and services that promote efficient and economical freight movement, modal integration, public safety, energy efficiency, environmental enhancement, and the viability of private enterprise to the greatest extent possible.

STANDARDS

10. Transportation services should be in conformance with policy enunciated by federal, state, regional, and local transportation plans and programs including appropriate funding guidelines and requirements.
11. Provision should be made for the coordination and/or substitution of modes employing each mode's inherent advantages to provide the most economical and efficient service possible.
12. Transportation services should be utilized that minimize the potential for accidents stemming from hazardous materials, equipment or roadbed failure and deficiencies, or conflict situations resulting in safety hazards to the public and property.
13. The amount of energy used for transportation services should be minimized.
14. Adverse impacts to the physical environment, including but not limited to air and water, should be minimized.

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Chapter III

INVENTORY, ANALYSIS, AND FORECAST FINDINGS

INTRODUCTION

Intelligent consideration of alternative courses of action in the provision of adequate freight service to the Whitewater area, in the face of imminent abandonment of the railroad line from Waukesha to Milton Junction, requires definitive information concerning the physical and economic characteristics of the railway line, as well as the needs of current and potential shippers in the area served by the line. The necessary information and data have been collected and are herein presented and analyzed as necessary.

Information and data collected as pertinent to the study include: an inventory of all current physical conditions of the railway line segment subject to the pending abandonment petition; an inventory of the present operation of the line, including information on service frequency and operating problems; an inventory of the financial characteristics of the line as presently operated; an inventory of the characteristics of all known recent past, current, and potential shippers, including information on the nature and size of the economic enterprises involved and on the types and quantities of commodities that are shipped and/or received; an identification of the present freight service needs, with discussion of the quality and adequacy of service provided; and finally, an estimation of future freight service needs, including probable future traffic volumes forecast on the basis of projected changes in the level of shipper activity and the area's economic potential.

PHYSICAL CONDITION OF THE LINE

The engineering firm of Howard Needles Tammen & Bergendoff (HNTB) was retained by the Commission to provide assistance in the determination of the existing condition of the line. Visual inspection of the entire line from Milton Junction to Waukesha was carried out on November 21 and November 22, 1978. This inspection included a large number of random spot checks to ascertain the condition of the rail, ties, ballast, track surface and alignment turnouts, track drainage, weed and brush growth, turnouts, grade crossings, structures, fencing, and other applicable features (see Appendix B).

Right-of-Way

The railway line was constructed in 1851 and 1852 across predominantly gently rolling land that required only minor cuts and fills. As noted in Chapter I, the segment currently under consideration for abandonment extends from Milepost 20.5 in Waukesha to Milepost 61.5 in Milton, a distance of 41.0 miles. The width of the right-of-way is generally 66 feet, resulting in a total right-of-way area of 379.39 acres. According to the Supplemental Environmental Evaluation submitted by the railroad as part of the abandonment application, approximately 30 acres may revert to adjacent property owners should the line be abandoned and the track dismantled. These 30 acres consist of easements that will revert to adjacent property owners only if the railway right-of-way is utilized for another purpose. Fencing of the right-of-way is about one third intact, and in poor condition.

The horizontal alignment of the railroad grade does not cause any severe operational limitations. There are 28 curves on the line, most of which have a degree of curvature of less than 1°00'. There is one short curve in Whitewater of 3°20', and another of 2°00', also in Whitewater. Both of these sharp curves, however, are in an area where train speeds are low because of station and urban area features as well as proximity to a trestle. The horizontal alignment contains long stretches of tangent track between curves.

Vertical alignment is marked by minor grades, most of which are of little operating consequence. The track ascends from an elevation of 806 feet above sea level at Waukesha to a maximum elevation of 955 feet at Eagle, descends to an elevation of 803 feet at a point about two miles west of Palmyra, and ascends once more to an elevation of 879 feet at Milton. The controlling westbound grades are 0.4 percent between Mileposts 22.5 and 29.5, located from Portz to North Prairie, and 0.6 percent between Mileposts 50.0 and 52.0, just west of Whitewater. Eastbound, the controlling grades are 0.4 percent between Mileposts 44.7 and 42.4, just west of Palmyra, and 0.6 percent between Mileposts 39.0 and 36.4, just west of Eagle.

Track Structure

The subgrade is for the most part adequate. It is old and there are a few shoulders that are narrow, but the subgrade is nonetheless fairly stable. Drainage is good to fair over the entire line, although in some cuts, inadequate drainage has left the subgrade soft and the track uneven (see Figures 1 and 2). The track structure was ballasted at one time with gravel. Railroad section diagrams show as much as 18 inches of gravel ballast, but this has long since been obliterated by dirt and weeds and, therefore, the roadbed must be considered largely earth. The subgrade soil has worked up between the ties in many instances, and sod has developed between the ties (see Figure 3). The track has not been aligned or surfaced for a long time, resulting in only fair line and surface (see Figure 4). Because of these existing conditions, new ballast will be required if service is to be continued over some or all of the subject line. This will not only correct surface and alignment problems, but also will provide greatly improved track stability and drainage. Very heavy weed and brush growth was noted along portions of the line between Whitewater and Milton Junction due to minimum usage except to store "bad order" equipment (see Figures 5 and 6).

Figure 1

**TYPICAL TRACK CONDITION—
WAUKESHA TO MILTON JUNCTION**



This view typifies the general condition of right-of-way and railroad track between Waukesha and Milton Junction during the spring of 1979. Grass and brush overgrowth is predominant along the entire line and although drainage ditches are visible along most of the line, vegetation and other obstructions appear to lessen the ditches' usefulness. This view of the main line looks west approximately one-half mile east of the Whitewater station.

Source: SEWRPC.

A number of creosoted, hardwood cross ties are incorporated into the track structure, but most of the ties are old. Date nails observed during the inspection carried 1934 and 1935 installation dates, with most ties appearing to be much older than that. On the basis of sampling groups of 100 ties located in random stretches over the line, it was concluded that from 45 to 50 percent of the ties need replacement.

All of the rail is 75-pound-per-linear-yard, laid in the years 1899 to 1918, except for a total of about 3.2 miles of 90-pound and 100-pound rail located in three separate sections. These and some other short sections were relaid with used rail in the years 1940 through 1959. On the average, rails are 33 feet in length. The rail is old and there is evidence of both surface wear and bent rail (see Figure 7). However, with proper tie and ballast support, the rail should be adequate to carry foreseeable traffic loadings at reasonable operating speeds, assuming there will not be an extreme increase in tonnage.

All ties observed were fitted with the larger seven-inch-wide plates. Angle bars are of the four-hole type, are old, and many have become worn. Some

Figure 2

**DRAINAGE CONDITIONS ALONG RAILWAY LINE
WAUKESHA TO MILTON JUNCTION**



Inadequate drainage of the roadbed caused by either the lack of properly maintained drainage ditches or the lack of properly applied subballast and ballast may cause water to stagnate, lessening the stability and shortening the useful life of the track structure and components. This view of the main line looks northeast in the unincorporated community of Genesee Depot.

Source: SEWRPC.

Figure 3

**CONDITION OF ROADBED
WAUKESHA TO MILTON JUNCTION**



For all practical purposes, the original gravel ballast has been fouled by dirt and weeds to the point where the roadbed must be considered largely earth. In this view in the Village of North Prairie, dirt was worked up between the ties. Note the conditions of the cross ties.

Source: SEWRPC.

do not properly support the rail joints. Bolts are loose or missing in some instances. There are from four to eight rail anchors per rail length but many are in need of reapplication, being no longer in place against cross ties. Rails were observed to be fastened to the ties with four spikes to most ties.

The present condition of the track and roadbed permits trains to operate at a maximum speed of 25 miles per hour (mph) between Waukesha and Whitewater, and 15 mph between Whitewater and Milton Junction, the designated speed limits cited in the employees' timetable. Because of the speed limits in effect for freight train operation, there is implied compliance with Federal Railroad Administration Track Safety Standards for Class II track over the entire segment.¹ There are no known

¹*Federal Railroad Administration Track Safety Standards are a detailed set of engineering standards that prescribe minimum requirements for safe operation of freight and passenger trains over railroad lines that are a part of the general railroad transportation system. There are a total of six classes that apply to specific track conditions existing in isolation. These standards should not be confused with good engineering design and construction standards.*

Figure 4

CONDITION OF TRACK GEOMETRY—WAUKESHA TO MILTON JUNCTION



This view looking east near the Taft Street Crossing in the Village of Palmyra during the spring of 1979 illustrates the effect of deferred maintenance on track geometry and, consequently, on operating speeds and safety. Track conditions shown include deviations from proper gauge, track surface, and track alignment. Jumbo hoppers in the distance are spotted on the Jefferson County Farmco Cooperative siding.

Source: SEWRPC.

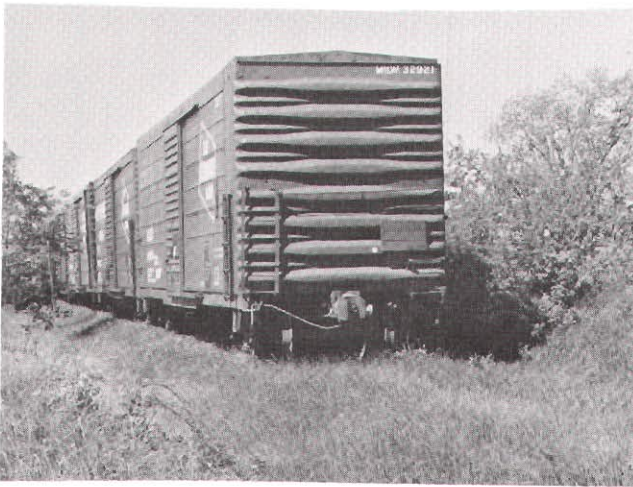


The action of vehicular traffic over a sustained period of time may cause track at some grade crossings to become misaligned. This view, looking southwest at the STH 83 crossing in Genesee Depot in the spring of 1979, illustrates not only this phenomenon, but also the general roadbed condition between Waukesha and Milton Junction.

Source: SEWRPC.

Figure 5

**STORAGE OF "BAD ORDER" EQUIPMENT
WAUKESHA TO MILTON JUNCTION**

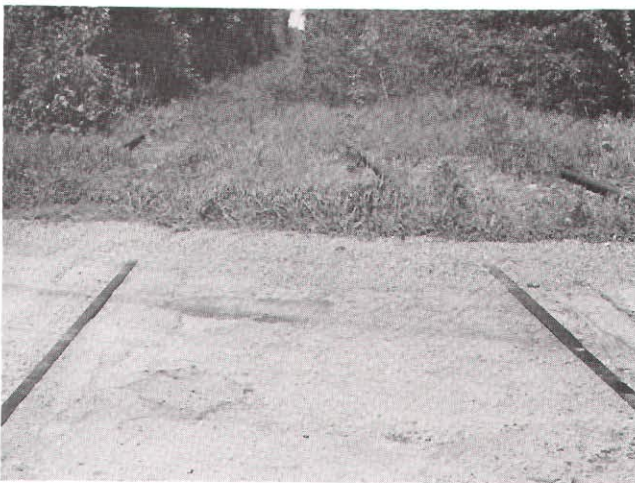


That segment of the Waukesha to Milton Junction railway line between Milepost 53.5 and the City of Milton has been used for revenue service only twice since the fall of 1974. As a result, the eastern end of the unused segment is used to store damaged and other unused freight cars.

Source: SEWRPC.

Figure 6

CONDITION OF RIGHT-OF-WAY IN LIMA CENTER



The unincorporated community of Lima Center is located on that portion of the railroad line that has not had freight train operation since 1976. Consequently, the right-of-way is currently overgrown in many places with brush and other vegetation, and flangeways at most grade crossings have been filled up with gravel and dirt. This view looks northeast from the Lima Center Road crossing in the spring of 1979.

Source: SEWRPC.

weight restrictions in effect on specific carloadings, including the 263,000-pound "jumbo" hopper cars. Also, there are no known speed restrictions below the overall limits cited above because of specific track conditions. This is not to imply, however, that "slow orders" may not be placed into effect during certain time periods, since changing track and weather conditions may dictate temporary speed restrictions until remedial action is taken. This is not an uncommon situation for most railroads, especially on light-density branch lines.

The overall physical condition of the railroad track and roadbed between Waukesha and Milton Junction may be classified as fair. It is in fact currently in better condition than many, if not most, other light-density branch lines in the Region and in the State. Maintenance, however, has been deferred by the Milwaukee Road for economic reasons, and while adequate train speeds and carloadings can be maintained at present, an initial rehabilitation effort as well as an annual maintenance program should be implemented if adequate service is to be provided over this track over the long term.

Turnouts

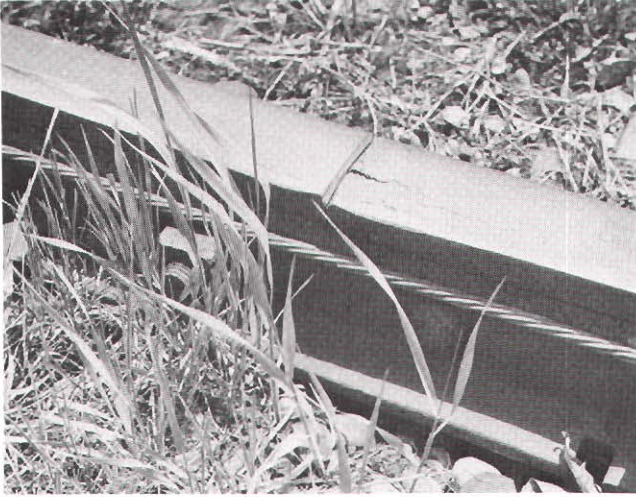
Twenty-seven main line turnouts exist on the 41 miles of main line track along with seven other turnouts located on sidings or spurs. Most of the frogs, switch points, and guardrails are old and worn. Auxiliary parts such as plates, filler blocks, nuts, and bolts are also worn. Switch stands and connecting rods are old but can be rehabilitated. Approximately 50 percent of all switch ties are deteriorated and should be replaced. Major rehabilitation of the turnouts could be carried out on an "as needed" basis. Most of the switch frogs on this segment of track are of the movable spring type (see Figure 8). This type of frog is no longer installed because it increases the probability of derailment. Over a long-term maintenance cycle, these should all be replaced with rigid frogs. Also, if service is continued over some or all portions of this line, turnouts that connect to tracks that are no longer used should be removed, or, at the least, points and frogs should be removed and replaced with straight rail to eliminate unnecessary risk of derailment.

Crossings

There are a total of 105 street and highway crossings of all types on the Waukesha to Milton Junction line. Included in this total are 57 public at-grade street or highway crossings, 1 public overhead highway crossing, 43 private at-grade

Figure 7

TYPICAL RAIL DEFECTS—WAUKESHA TO MILTON JUNCTION



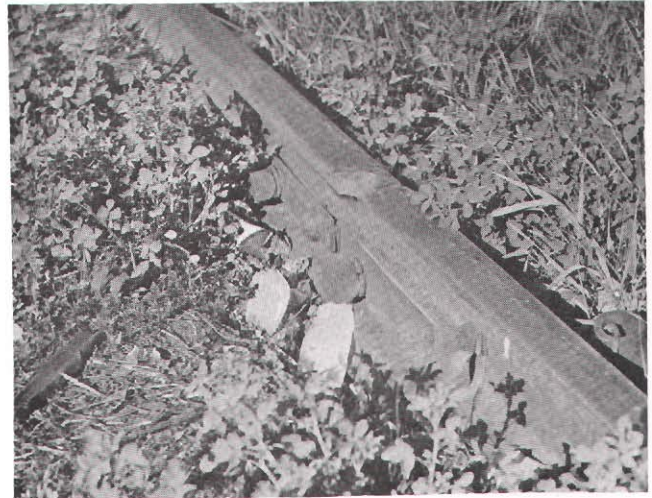
Shown here is one of several visible and hidden—within the rail itself—defects commonplace on light-density branch lines that have had maintenance deferred. According to Federal Railroad Administration Track Safety Standards, this defect, known as a “vertical split head,” necessitates either replacement of the rail or visual supervision of each operation over the defect.

Source: SEWRPC.

residential, industrial, or farm crossings, 1 private farm overhead crossing, 2 pedestrian at-grade crossings, and 1 pedestrian overhead crossing (see Figures 9 through 13). All crossings are numbered according to the Federal Railroad Administration National Grade Crossing Inventory Project Standards. The assigned block of numbers for the track segment included under the current abandonment application is 391526 to 391632, inclusive. There are no crossings with other railroads or navigable waterways.

Signals and Communication

Automatic crossing signals are in operation at 13 of the 58 at-grade public crossings. These include flashing lights and bells at 8 of the crossings, bells only at 2 of the crossings, and wigwag signals at the remaining 3 crossings. Wigwag signals are no longer regarded as providing adequate visual indication to motorists of approaching trains. Such installations on this and other Milwaukee Road lines have been gradually phased out (see Figure 14). All other public at-grade crossings are signed with crossbucks. The U. S. Highway 12 (Wisconsin Street) crossing in Whitewater is subject to modification, as the State of Wis-



This rail defect, which appears to be an “ordinary break,” creates a potentially hazardous situation since the gauge side of the adjacent rail could cause a wheel flange to ride up onto the railhead and derail one or more cars. Note the cross tie and roadbed condition as well as the insulated joint bars utilized for grade crossing signal circuits.

Source: SEWRPC.

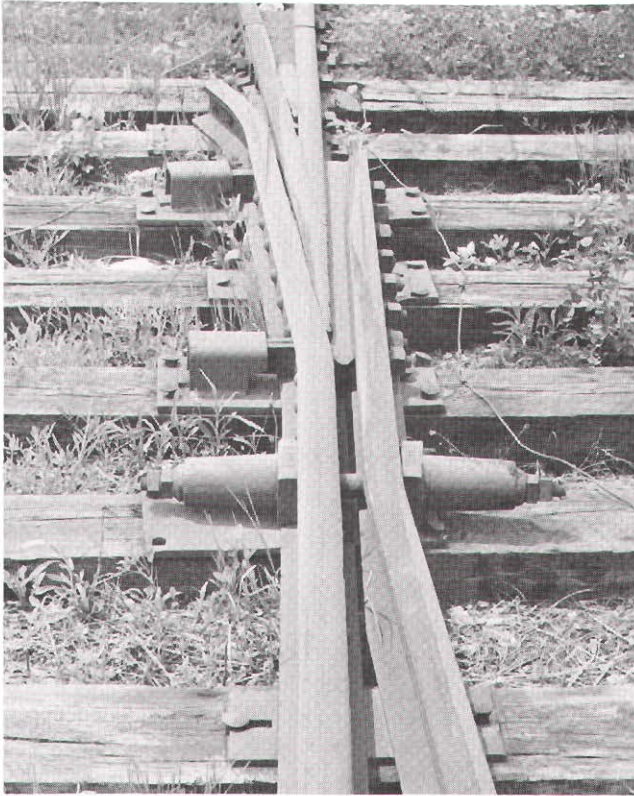
consin plans to widen and improve that portion of the highway (see Figure 15). There are no other signal installations—including interlocking or block signals, or communication (telephone or telegraph) lines—existing on or along the line.

Structures

Structures consist of bridges, culverts, and buildings. There are a total of eight bridges of all kinds on the line. This total includes four small timber pile trestles having a total of 12 spans, and one single span steel girder bridge over various drainage features (see Figure 16). The total also includes one four-span concrete highway bridge, one timber private farm crossing bridge over the track, and one timber pedestrian walkway bridge over the track. There are no known weight restrictions on any of the railroad bridges or trestles. The private farm crossing bridge has been damaged by fire and may have to be replaced unless it can be abandoned. Also, one of the pile trestles requires replacement of the bulkheads (see Figure 17). In addition to the five bridges crossing drainageways, there are 77 culverts, including concrete pipe, cast iron pipe, stone arch, corrugated iron pipe, and timber box culverts, on the line. There is

Figure 8

EXAMPLE OF A SPRING RAIL FROG



Movable spring frogs are no longer installed by most railroads because of the increased probability of derailment associated with their use. The American Railway Engineering Association does not recommend the operation of two-way traffic over this type of frog.

Source: SEWRPC.

only one building on the property, that being a 28 foot-by-111 foot one-story frame freight house in Whitewater that is in relatively good condition (see Figure 18).

PRESENT OPERATION CONDITIONS

Carload freight service on the line is currently provided by a patrol, the Milwaukee Road's term for a way freight, that works the entire branch line between Brookfield and Whitewater. Brookfield is the junction at which the line from Milton Junction connects with the Milwaukee Road's Milwaukee to La Crosse main line. Based at the Brookfield station, the train and crew serve shippers in the Waukesha area five days a week. Shippers west of Waukesha are scheduled to be

Figure 9

TYPICAL RURAL PUBLIC GRADE CROSSING
WAUKESHA TO MILTON JUNCTION



Most public grade crossings on the Waukesha to Milton Junction railway line are guarded only by reflectorized crossbucks and advance warning signs. This view looks east about one and one-half miles east of Palmyra.

Source: SEWRPC.

Figure 10

TYPICAL RURAL PUBLIC GRADE CROSSING,
DRIVER'S VIEW—WAUKESHA TO MILTON JUNCTION

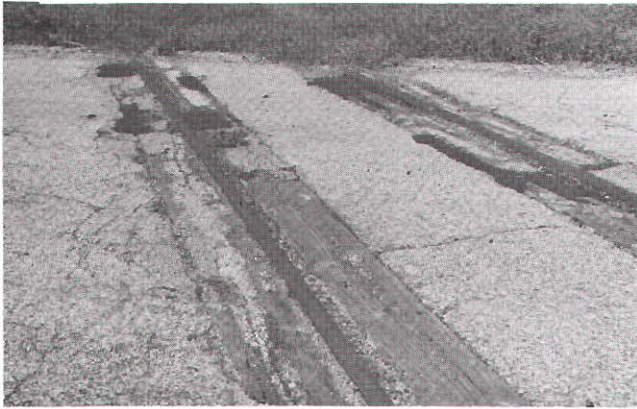


Many grade crossings on the Waukesha to Milton Junction railway line have poor visibility for both vehicular and railroad traffic. A continuation of rail service would require a combination of brush and vegetation clearing as well as improved signage at select crossings. This view looks south midway between the Village of Palmyra and the City of Whitewater.

Source: SEWRPC.

Figure 11

CONDITION OF TYPICAL PUBLIC GRADE CROSSING—WAUKESHA TO MILTON JUNCTION

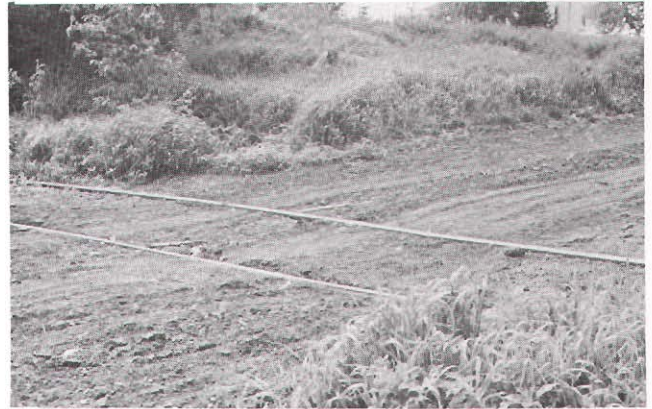


This view represents the condition of a typical public grade crossing in populated areas along the Waukesha to Milton Junction line. The grade crossing consists of bituminous concrete placed up to wood plank headers on either side of each rail. This view looks west approximately one-half mile east of Lima Center on the segment of trackage no longer in regularly scheduled service.

Source: SEWRPC.

Figure 13

CONDITION OF TYPICAL RURAL PRIVATE GRADE CROSSING—WAUKESHA TO MILTON JUNCTION



The condition of each of the 44 private grade crossings varies with the individual crossing. This view represents a more or less typical private crossing, located approximately four miles west of the Village of Palmyra.

Source: SEWRPC.

Figure 12

CONDITION OF DETERIORATED PUBLIC GRADE CROSSING—WAUKESHA TO MILTON JUNCTION



It should be recognized that the degree to which each grade crossing is in need of repair or maintenance varies considerably. This view illustrates one of the more deteriorated crossings, located in the City of Milton on the Waukesha to Milton Junction railway line.

Source: SEWRPC.

Figure 14

AUTOMATIC WIGWAG GRADE CROSSING SIGNAL



At the time of writing, three installations of automatic wigwag crossing signals were in place on the Waukesha to Milton Junction railway line, and were located at the CTH DT crossing in Waukesha County, at the CTH E crossing in North Prairie, and at the Lima Center Road crossing in Lima Center. Because it provides inadequate visual warning, this type of warning device is no longer installed.

Source: SEWRPC.

Figure 15

U. S. HIGHWAY 12 (WISCONSIN STREET) GRADE CROSSING IN THE CITY OF WHITEWATER



This view, looking southwest, typifies public grade crossings that are protected by automatic signals on the Waukesha to Milton Junction line. At the time of writing, this grade crossing is subject to improvement as part of the State of Wisconsin plans to widen and improve about 1.3 miles of USH 12 in Whitewater.

Source: SEWRPC.

Figure 17

DETERIORATED TRESTLE BULKHEADS WAUKESHA TO MILTON JUNCTION



The only bridge repair work that appears to be required immediately on the Waukesha to Milton Junction line is the replacement of some bulkhead timbers at each end of the five-span timber pile trestle east of the Whitewater station. This view looks east from the Whitewater creek and demonstrates the apparent danger to the track roadbed presented by the fill erosion.

Source: SEWRPC.

Figure 16

TYPICAL TIMBER PILE TRESTLE WAUKESHA TO MILTON JUNCTION



This three-span trestle, located approximately at Milepost 45.4, is one of four small timber trestles that carry the Waukesha to Milton Junction line over various drainage features and waterways. The three other trestles are one span, three spans, and five spans in length.

Source: SEWRPC.

Figure 18

WHITEWATER FREIGHT HOUSE



The one-story frame freight house near downtown Whitewater is the only building on the railroad property between Waukesha and Milton Junction. Unsuitable for use as a locomotive facility, it may be able to be utilized for office and materials/small parts storage.

Source: SEWRPC.

served on a twice-weekly basis, on Tuesdays and Thursdays. The train only goes as far west as there is traffic, often turning around short of Whitewater (see Table 10). Service as far west as Genesee Depot averages out to closer to three times per week. This service schedule is typical of a large number of other Class B branchline operations in the upper midwest.²

Before the spring of 1973, a patrol served the line on a triweekly basis between Madison and Waukesha. The train would lay over at Waukesha and return the next day. From the spring of 1973 until the fall of 1974, patrols served the line out of both Madison and Waukesha five days a week. The trains met and exchanged cars at Lima Center. Since the fall of 1974, service has been provided as far as Whitewater from the east, with the train originating in Milwaukee and, more recently, in Brookfield. Service to Lima Center was provided by the Janesville to Madison patrol, which travels up the branch from Milton Junction when required, until 1976. This branch is now used only to store bad order rolling stock. The line, because it is connected to use lines at both ends, has a potential for carrying bridge traffic—defined as through traffic that neither originates or terminates on-line—and was probably utilized in this capacity to some extent in the past. Any such use, however, has been discontinued since the line is operated for all intents and purposes as a stub-end branch.

The average train crew size is 4.05 persons and consists of one engineer, one conductor, two brakemen, and an occasional fireman. Operation over the entire line generally takes the full 12 hours allowed by law. On Mondays, Wednesdays, and Fridays, the crew and locomotive does work on the main line between Brookfield and Hartland in addition to serving Waukesha. Until October 1977, the agent for this branch line was located in the station building at Waukesha. At that time, he was moved to Brookfield.

Motive power for the service over this line consists of one diesel-electric locomotive. The locomotive has generally been an Electro-Motive Division (General Motors) model GP-9 diesel rated at

² Class B branch lines handle less than one million gross tons per mile per year and account for the largest total mileage out of four classes of main lines and branchlines developed by the FRA to assist in the determination of essential rail links and railroad capital needs.

Table 10

ROUND TRIPS ON WAUKESHA
TO MILTON JUNCTION LINE

Station	Number of Round Trips				
	1975	1976	1977	January through June 1978	Base Year ^a
Genesee Depot . .	66	61	36	3	9
North Prairie. . .	10	11	8	5	8
Eagle	1	4	--	--	--
Palmyra	1	1	2	1	3
Whitewater. . . .	89	94	79	38	71
Lima Center	--	2 ^b	--	--	--
Total	167	173	125	47	91

^a July 1, 1977 through June 30, 1978.

^b Served by Janesville-Madison patrol.

Source: Chicago, Milwaukee, St. Paul & Pacific Railroad Company Abandonment Application AB-7 (Sub-No. 59F) and Initial Verified Statement of Applicant.

1,750 h.p. (see Figure 19). More recently, a model MP-15AC, rated at 1,500 h.p. by the same manufacturer, has been utilized (see Figure 19). This engine is designed for multiple-purpose service and serves as a replacement for older models of locomotives retired from the Milwaukee Road over the last three years. Other equipment such as freight cars, cabooses, and maintenance-of-way equipment is drawn from the systemwide pool and, therefore, like the locomotives, is not specifically assigned to this line.

Typical operation consists of only one train being on the line at any given time, negating the need for block signals. Rights of trains using the line are governed by timetable instructions that designate the entire twenty-sixth subdivision, Brookfield to Milton Junction, as Absolute Block Register Territory.³ As already noted, the maximum speed

³ Rules governing such operation state that trains may be operated into the subdivision without written train order authority after the conductor has registered the train's departure at the initial station. Until that train's arrival back at the initial station has been registered, no other train may enter the subdivision, except as authorized by train order. This procedure is designed for subdivisions where normal train operation incorporates a round trip, with the train and crew always returning to the initial station.

Figure 19

DIESEL LOCOMOTIVES USED ON WAUKESHA TO MILTON JUNCTION LINE

EMD GP-9 DIESEL LOCOMOTIVE



Horsepower	1,750
Length	56'-2"
Width	10'-0"
Height	14'-11-15/16"
Distance between Truck Centers	31'-0"
Date Built	1954-1959
Weight	Approximately 124 tons

Photo courtesy of Otto P. Dobnick.

EMD MP-15AC DIESEL LOCOMOTIVE



Horsepower	1,500
Length	48'-8"
Width	10'-3/4"
Distance between Truck Centers	24'-2"
Date Built	1975-1976
Weight	Approximately 124 tons

Source: SEWRPC.

limit for freight trains is 25 mph east of Whitewater and 15 mph west of Whitewater. A speed restriction of 15 mph is imposed for safety reasons while crossing STH 67 in Eagle.

From the railroad point of view, the predominant year-round operating problem is derailments. According to a verified statement before the federal Interstate Commerce Commission (ICC) on the matter of the line's currently pending abandonment application, derailments have been occurring with increasing frequency on this line. In 1975 there were none. In 1976 there were two, one in March at Waukesha attributed to a split switch, and another in November at Waukesha attributed to rough handling. Two derailments occurred in 1977—one at Waukesha in June, attributed to soft track, and the other at Genesee in December, attributed to ice and snow in the flangeways at a crossing. In 1978 two more derailments had occurred as of November—one at Palmyra in February, attributed to ice and snow in flangeways, and one at Whitewater in June, attributed to a car "rock-off" due to poor track cross level at joints.

Of these six derailments, only two, the ones attributed to soft track and poor cross level at joints, can be attributed to poor track conditions. The other four derailments were caused by operational failures or human error. A split switch can be caused either by a "sharp wheel" picking the point or frog, or by a train running through the turnout when it is set the wrong way. Derailment occurs when the next car or locomotive goes through in the leading direction before repairs have been made. Derailments from rough handling are usually caused by cars being coupled or "kicked" at too high a speed. Finally, when ice and snow are not cleared from flangeways at grade crossings, accumulated ice can cause wheel flanges to ride up above the head of the rail. All railroad lines, whether mainline, branchline, or switching and yard tracks, experience derailments for a variety of reasons. While zero derailments per year should be an objective, an average of two minor derailments per year on a branch line is not normally considered cause for undue concern.

A major service problem was encountered during the winter of 1977-1978. Severe weather conditions, not only along this line but throughout

the entire Region, resulted in severe operating difficulties due to snow removal problems, and attendant unsafe track conditions, and to locomotive failure. Because of the unusually large amount of snow that fell, snow removal equipment was assigned to main lines and other areas where, in the opinion of the railroad management, more significant traffic demanded more immediate service. Locomotive failure resulted from wet electric traction motors caused by the snow. At one point during the winter cited, more than half of the Milwaukee Road's locomotives were out of service. Snow conditions on the Waukesha to Whitewater line caused the line to be closed for short periods and to be embargoed for several weeks in January and February.

From the shippers' perspective, service problems also exist in the form of delays in obtaining an adequate supply of railroad cars to meet their shipping needs. According to some shippers, problems include the railroad's inability to locate sufficient cars of the correct type to meet shipping needs, to transport cars to the correct siding, and to deliver cars in adherence to schedules promised by the railroad.

FINANCIAL CHARACTERISTICS OF THE LINE

Revenue and cost data for the Waukesha to Milton Junction line are available from information in the current abandonment application and verified statements submitted by the applicant. As is required of all railroad carriers that submit annual reports and other financial information to the Interstate Commerce Commission, the cost accounting system utilized by the Milwaukee Road is the Uniform System of Accounts for Railroad Companies. This system is highly specialized and differs from accounting practices generally used by many other types of corporations. The revenue and cost data for the years 1975, 1976, 1977, and the first six months of 1978 are presented in Table 11).

Revenues

Revenues attributable to the Waukesha to Milton Junction segment totaled \$158,745 in 1975, \$216,018 in 1976, \$161,708 in 1977, and \$108,760 during the first six months of 1978. During the base year of July 1, 1977 through June 30, 1978, the revenues totaled \$154,266. The base year calculation is designed to show revenues and costs for the most recent 12-month period preceding either the application or verified

statement, and is used to determine potential subsidy payments. Originating and terminating freight is, of course, the predominant source of revenue (see Table 12). Other sources include demurrage payments from shippers who hold freight cars longer than the allowed "free time" and miscellaneous revenue, which consists chiefly of rent income for the lease property along the line. Since this line is presently operated as a stub-end branch, there is no revenue attributable to bridge traffic.

The predominant commodity hauled by originating and terminating traffic is agriculture-related goods (see Table 13). According to tonnage figures supplied by the Milwaukee Road, chemicals used in the production of agricultural fertilizers are by far the most prevalent commodity hauled, accounting for almost 84 percent by weight of the freight tonnage moved during the 42-month period for which revenue data are provided. Other commodities that contribute significant revenue are grain and soy beans, 11 percent of total tonnage; lumber, 2 percent; and paper, about 1 percent. All other commodities contribute less than 0.5 percent each and can, therefore, be considered to contribute insignificant amounts of revenue.

Total revenues appear to have remained fairly stable throughout the three and one-half years except during 1976, which exhibited somewhat increased tonnage and therefore revenues. By comparing the six-month sources of revenue figure for 1978 with the base year figure in Table 11, it can be seen that approximately 70 percent of the total revenues are earned in the first half of the year. This is to be expected, since that is the time of year when fertilizer is normally shipped, and fertilizer raw materials are the principal commodities shipped on this line.

Assuming that the revenue figure of \$108,760 for January through June 1978 accounts for 70 percent of total annual 1978 revenues, the total revenues attributable to this line in 1978 should approximate \$155,000. This figure is not significantly different from revenues for 1975 or 1977.

Expenses

Expenses for the line are defined as avoidable costs, or costs that would not be incurred without operation of this particular piece of trackage. The avoidable costs are divided into two basic components: off-branch costs and on-branch costs. Off-branch costs are avoidable costs incurred by

Table 11

**CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC RAILROAD COMPANY,
WAUKESHA TO MILTON JUNCTION, WISCONSIN REVENUE AND COST DATA**

Revenue and Cost Items	Revenues and Costs				
	1975	1976	1977	January through June 1978	Base Year Operations ^a
Sources of Revenue					
Freight originated and/or terminated on branch	\$148,688	\$198,163	\$154,389	\$ 99,049	\$147,314
Bridge traffic	--	--	--	--	--
Demurrage	4,568	12,380	420	6,290	110
Other	5,489	5,475	6,899	3,421	6,842
Total	\$158,745	\$216,018	\$161,708	\$108,760	\$154,266
Avoidable Costs					
Off-branch costs	\$ 77,712	\$ 89,364	\$ 82,178	\$ 44,526	\$ 69,230
On-branch costs					
Maintenance-of-way and structures . . .	47,834	62,322	26,147	7,131	13,604
Maintenance of equipment	4,679	6,373	7,358	5,650	9,110
Traffic	--	--	--	--	--
Transportation	43,366	65,026	55,039	30,722	55,554
Miscellaneous general	--	--	--	--	--
Miscellaneous operations	--	--	--	--	--
Fringe benefits	14,929	20,755	13,311	6,160	11,159
Taxes	1,026	1,367	1,096	703	1,046
Rent income	85 ^C	30 ^C	--	--	--
Rent costs	9,039	10,709	8,094	4,916	8,075
Bridge traffic rerouting	--	--	--	--	--
Contingencies	--	--	--	--	--
Subtotal	\$120,788	\$166,522	\$111,045	\$ 55,282	\$ 98,548
Total	\$198,500	\$255,886	\$193,223	\$ 99,808	\$167,778
Subsidization Costs					
Rehabilitation	--	--	--	--	--
Administrative costs (subsidy year only) .	--	--	--	--	--
Casualty reserve account	--	--	--	--	--
Return on Value					
Valuation of Property					
Working capital	\$ 4,853	\$ 6,720	\$ 4,470	\$ 4,485	\$ 3,960
Income tax benefits	--	--	--	--	--
Net liquidation value	284,000	284,000	564,000	564,000	564,000
Subtotal	\$288,853	\$290,720	\$568,470	\$568,485	\$567,960
Rate of return (percent)	21.50	19.10	16.68	16.68	16.68
Total (valuation of property times rate of return)	\$ 62,103	\$ 55,528	\$ 94,821	\$ 47,412	\$ 94,736^b
Avoidable loss from operations (sources of revenue minus avoidable costs)	\$ 39,755	\$ 39,868	\$ 31,515	\$ 8,952^C	\$ 13,512
Estimated subsidy (sources of revenue minus avoidable costs, subsidization costs, and return on value)	\$101,858	\$ 95,396	\$126,336	\$ 38,460	\$108,248

^a July 1, 1977 through June 30, 1978.

^b This figure represents total return on value for six months.

^c This figure represents a profit rather than a loss.

Source: Chicago, Milwaukee, St. Paul & Pacific Railroad Company Abandonment Application AB-7 (Sub-No. 59F) and Initial Verified Statement of Applicant.

Table 12

**WAUKESHA TO MILTON JUNCTION
LINE SOURCES OF REVENUES**

Source of Revenue	Percentage of Total Revenues				
	1975	1976	1977	First Six Months 1978	Base Year ^a
Freight originated or terminated on-line . . .	93.7	91.7	95.5	91.1	95.5
Bridge traffic	--	--	--	--	--
Demurrage	2.9	5.7	0.3	5.8	0.1
Other	3.4	2.6	4.2	3.1	4.4

^aJuly 1, 1977 through June 30, 1978.

Source: Chicago, Milwaukee, St. Paul & Pacific Railroad Company Abandonment Application AB-7 (Sub-No. 59F) and Initial Verified Statement of Applicant.

Table 13

**COMMODITIES HAULED BY ORIGINATING AND
TERMINATING TRAFFIC: 1975 THROUGH JUNE 1978**

Commodity	Tons	Percentage
Chemicals	81,354	83.5
Grain and Soybeans	10,386	10.7
Lumber and Plywood	2,109	2.2
Paper	1,272	1.3
Metal Products	412	0.4
Cement, Sand, Ores and Minerals . . .	368	0.4
Machinery	338	0.3
Grain Mill Products	310	0.3
Paperboard and Containers	224	0.2
Food Products (including tobacco) . .	170	0.2
Manufacturing and Miscellaneous Traffic	164	0.2
Waste or Scrap Materials	130	0.1
Primary Forest Products	90	0.1
Wood and Millwork Products	76	0.1
Automotive Parts	30	Negligible
Petroleum and Coke	23	Negligible
Total	97,456	100.0

Source: Chicago, Milwaukee, St. Paul & Pacific Railroad Company Abandonment Application AB-7 (Sub-No. 59F) and Initial Verified Statement of Applicant.

the branch traffic while on the remainder of the railroad's system. These costs include terminal, line-haul, and interchange costs that are computed by applying variable unit costs to service units that relate to moving specific increments of traffic over the system.

On-branch costs are those costs incurred directly from the operation of the particular branch line. This component is broken down into several categories, the two largest being "maintenance of way and structures," and "transportation." The assumption is made here that expenses for these items during the first six months of 1978 represent roughly half of the total annual expenses, since these items relate to the regular operation of trains on a schedule that remains the same throughout the year.

Expenditures for maintenance of-way and structures, as shown in Table 11, rose from \$47,834 in 1975, or \$1,054 per mile,⁴ to \$62,322 in 1976, or \$1,373 per mile. In 1977 there was a sharp decline in expenditures to \$26,147, or \$576 per mile, followed by an expenditure of \$7,131 in the first six months of 1978, or \$314 per mile when converted to an annual figure. Even the figure for 1976, which represents the largest annual expenditure over the period of record being considered, is well below the national average of \$7,430 per mile of track,⁵ as well as below what a typical Class II short line could be expected to spend per mile.⁶ The relatively small recent maintenance expenditure is probably due to the deferring of maintenance by the railroad, a practice utilized to decrease the amount of avoidable losses attributable to a particular line when overall revenues decline, especially when, as is the case with the Milwaukee Road, the railroad system is experiencing financial difficulties.

The other major on-branch costs shown in Table 11 do not appear to fluctuate much over the period of record being considered relative to the amount of service provided.

Net Profit or Loss

When subtracted from total revenues, total avoidable costs, both on- and off-branch, result in the profit or loss attributable to the Waukesha to

⁴Based on a total of 45.4 track miles.

⁵Based on 1975 overall statistics for Class I line-haul railroads.

⁶Based on a sample of operating and financial performance for 15 Class II shortline railroads during 1976. The average maintenance of way and structures expenses ranged from \$2,308 to \$14,000 per mile of trackage operated.

Milton Junction line. A loss of slightly under \$40,000 was posted for both 1975 and 1976, as shown in Table 11, while in 1977 the loss was reduced to about \$32,000, primarily because of a significant reduction in expenditures for maintenance of the fixed plant. If maintenance had been sustained at the 1975 level, the avoidable loss from operations in 1977 would have totaled more than \$53,000.

Although a gain of \$8,952 is shown for the first six months of 1978, this is not sufficient evidence to conclude that the service is now able to produce a profit. This revenue was produced during the six months that include the fertilizer season. Since fertilizer is the predominant commodity shipped on the line, it may be assumed that total shipments, and thus revenue, will be less during the second six months of 1978, quite possibly balancing out the almost \$9,000 gain. Also, maintenance was further reduced during 1977. If the maintenance effort of 1977 had been sustained, the net gain for the first six months would have been only \$3,010, and if the 1975 effort had been sustained, the avoidable loss from operations would have totaled \$7,834 for the six-month period.

SHIPPER CHARACTERISTICS

In 1979 nine shippers utilized the 41-mile segment of branch line between Waukesha and Milton Junction. Within the last four years, an additional three shippers have also used the line. Information pertaining to each shipper has been assembled from a mail-out/mail-back survey sent to each of the known shippers (see Appendix C), follow-up telephone calls, and personal interviews conducted by the Commission staff, as well as from the abandonment application and verified statements supplied to the federal Interstate Commerce Commission by numerous interested parties, including some shippers.

Kaiser Agricultural Chemicals

Kaiser Aluminum & Chemical Sales, Inc. is a manufacturer and distributor of all types of aluminum products as well as industrial and agricultural chemicals. As part of its nationwide network of facilities, the Kaiser Agricultural Chemicals Division maintains a fertilizer manufacturing plant near Whitewater. The plant is situated approximately one-half mile west of the City on approximately 11 acres of property, and was purchased in April 1976 from Federal Chemical Company, the owner and operator of the plant since 1950

(see Figure 20). Rail freight service is an integral and necessary part of this operation. To handle railroad cars, this facility is equipped with two single end sidings capable of storing a total of 11 cars.

The principal function of Kaiser's Whitewater facility is the manufacture and distribution of dry fertilizer products utilized for increasing agricultural productivity. Raw materials are brought in principally by rail and include phosphate that originates in Florida, potash that originates in Saskatchewan, and nitrogen that originates in Illinois and Iowa. Because of the large quantities of these low-value bulk ingredients that are required and the distance over which they must be transported, highway transportation is considered uneconomical as compared to rail transportation.

For example, a rate for a hypothetical movement of phosphate from Lakeland, Florida to Whitewater—1,482 miles—would be \$34.29 per ton utilizing trucks⁷ and \$25.77 per ton utilizing 100-ton "jumbo" hopper cars.⁸ A long-distance truck can carry about 25 percent of the tonnage of a jumbo hopper. The rate differential between motor carrier and rail would be even greater for potash originating in Saskatchewan since extra charges attributable to international border inspections would be incurred. These rates are given for illustrative purposes only. In actuality, phosphate and potash would probably not be shipped long distances entirely by motor carrier, but would be unloaded from railroad cars as close to the destination as possible and trucked the remaining distance.

Inbound rail shipments require the use of covered hoppers, tank cars, and boxcars. As with other concerns that transport large quantities of bulk commodities, Kaiser's freight car requirements over the last several years have shifted to greater utilization of the larger capacity cars. Currently,

⁷This movement is based on using a contract carrier. Common carrier trucking would be even more expensive.

⁸Modern covered hopper cars, referred to by railroad and traffic people as "jumbo hoppers" have a net loaded capacity of 100-plus tons. More advantageous rates are frequently available to shippers when these cars are used.

Figure 20

KAISER AGRICULTURAL CHEMICALS



Kaiser Agricultural Chemicals, a manufacturer of granular ammoniated fertilizer compounds, is the largest railroad user on the Waukesha to Milton Junction line—shipping and receiving a total of 122 carloads during 1978. Purchased in 1976 from the Federal Chemical Company, the facility is located about one and one-half miles west of the Whitewater station. This view looks southwest at the rear of the plant.

Source: SEWRPC.

about 85 percent of all inbound freight cars have a 100-ton capacity (see Figure 21). Some of the jumbo covered hoppers serving the Whitewater plant are in assigned service or are leased by Kaiser. Inbound rail shipments are fairly evenly distributed throughout the year except for June, July, and August, when there are almost none. Smaller quantities of other raw materials are required by the plant, including sulfuric acid, anhydrous ammonia, and limestone. These originate in Wisconsin, Illinois, and Iowa, respectively, and are presently shipped by truck.

Granular ammoniated fertilizer compounds, the outbound product of the plant, are marketed to wholesale customers in Wisconsin, northern Illinois, eastern Iowa, and southeast Minnesota. Although most outbound shipments are by truck, a significant quantity is shipped by rail. At present, approximately half of the outbound rail shipments are made in 100-ton jumbo covered hoppers and the other half in 50-ton boxcars. These cars are ordered from the Milwaukee Road, the originating carrier.

Kaiser is both the largest rail user in the City of Whitewater area and the largest user on the entire line. Carloads and tonnage were depressed during

Figure 21

TYPICAL 100-TON COVERED HOPPER UTILIZED FOR DRY BULK COMMODITY MOVEMENT



Although a wide variety of 100-ton covered hopper cars exist, this Canadian-built freight car—less than one year old—is typical of freight cars used in potash movement. Large-capacity cars such as this one are usually preferred by shippers since there is generally a significant difference in rates between the shipment of 50-ton minimum carloads and 95-ton maximum carloads.

Source: SEWRPC.

1977 and 1978 (see Table 14) due to poor spring weather conditions, which caused a small market for fertilizer products. Based on improved railroad service and the expanded sales that Kaiser is anticipating over the next three years, carloads should at least double by 1982 over the 1978 level. The carloadings forecast for 1979 through 1981 do not include traffic that the facility would like to ship by rail instead of motor carrier. Kaiser indicated that such an increase would require improved rail service in terms of reliability and car availability.

Table 14

KAISER AGRICULTURAL CHEMICALS
CARLOADINGS: 1975-1981

Year	Inbound		Outbound		Total	
	Carloads	Tons ^b	Carloads	Tons ^b	Carloads	Tons ^b
1975	166	12,782	23	1,608	189	14,390
1976	178	14,418	21	1,449	199	15,867
1977	139	11,954	17	1,223	156	13,178
1978	114	10,545	8	600	122	11,145
1979 ^a	150	13,875	10	750	160	14,625
1980 ^a	208	19,240	20	1,500	228	20,740
1981 ^a	256	23,680	30	2,250	286	25,930

^aProjection.

^bEstimate.

Source: Kaiser Agricultural Chemicals.

Kaiser's Whitewater plant reports having experienced service problems with both inbound and outbound rail shipments. Both types of shipments have been hampered by interruptions in the regular twice-weekly schedule throughout the year. This is borne out by the fact that the average frequency of train round trips per week operating to Whitewater was 1.71 in 1975, 1.81 in 1976, 1.52 in 1977, and 1.46 during the first six months of 1978 (see Table 10). To a facility such as the Kaiser plant, where the primary raw materials are received entirely by rail, service interruptions can seriously affect production and distribution scheduling, as well as sales plans.

As equally severe service problem is ordering freight cars for outbound shipments. Kaiser would like to increase the outbound shipment of fertilizer by rail because of customer preference as well as lower cost.⁹ Difficulty has been encountered, however, in securing an adequate supply of covered hoppers and boxcars. Orders for cars are routinely placed with the agent one week in advance of the date they are needed. Delays of up to two and three weeks have frequently been experienced. In some cases, cars arriving late have still been accepted and the shipments made by rail. In other instances, rail cars that have not arrived on time are canceled either because the shipment is trucked, necessitating a higher transportation charge and hence less profit for Kaiser, or because the business has been lost. Both of these situations happen frequently according to Kaiser.

This plant is Kaiser's only agriculture-related facility in the Upper Midwest. It employs 22 people full time, with additional part-time help as necessary, resulting in an annual payroll of \$336,000. Total sales for 1978 were \$6,073,000, and \$11,000 was paid in local property taxes in 1978. Because of strengthened sales efforts since control of the plant was assumed from Federal Chemical, expanded sales can be expected without a need for physical expansion of the facility. Such expansion of sales appears to be contingent upon a level of rail service above what is now available. The rate advantages offered by rail service for the raw materials and finished products of this operation are vital to the continued competitive

⁹For example, transportation charges to certain Illinois locations are \$14.00 per net ton via contract motor carrier vs. \$11.30 per net ton via rail with a 50-ton minimum.

economic viability of this plant for fertilizer manufacturing since virtually all potash and phosphate shipped to the Midwest is transported by rail.

People at Kaiser in Whitewater indicated that the availability of improved rail service is vital if business is to expand. Outbound rail movement of fertilizer products could be increased by shifting away from trucks. Also, sulfuric acid, anhydrous ammonia, and limestone that are now delivered by truck could be handled by rail. Both moves would enhance the economic viability of the Whitewater plant. However, if railroad freight service becomes unavailable to the Whitewater plant, economics dictated by competing fertilizer manufacturers in the Upper Midwest would appear to render continued operation at Whitewater unfeasible. This would give Kaiser no alternative but to seriously consider phasing out operations at this location.

Home Lumber Company

Home Lumber is one of three shippers that receive building materials over the line. Located for 11 years immediately southwest of downtown Whitewater, this business is a retail outlet for many types of building materials, selling to customers within an approximately 20-mile radius of Whitewater (see Figure 22). With an average employment of 10 people and an average annual payroll of \$88,000, the company has an annual sales volume of about \$1 million. The local property tax paid in 1978 totaled \$1,078.

Figure 22

HOME LUMBER COMPANY



Located in the City of Whitewater, Home Lumber is one of three lumber and building supply distributors served by the Waukesha to Milton Junction railway line. The only one of the three with immediate expansion plans, this shipper received an estimated four freight cars of lumber from the Pacific Northwest during 1978.

Source: SEWRPC.

Home Lumber receives carload quantities of gypsum on open flatcars, and lumber on flatcars or in boxcars. Originating in Idaho and western Canada, the carloads average between 40 and 45 net tons each. Within two years, an expansion program incorporating the office, showroom, and warehouse will begin. This expansion program is anticipated to result in an increase of two jobs as well as an attendant increased demand for freight transportation services. The increase in rail traffic is hard to predict because it depends very much on building industry trends, but the increase shown in Table 15 is based on normal growth as well as the future expansion program.

While the items received at Home Lumber by rail can be transported by motor truck, Home Lumber would prefer to use the railroad service because of the greater cost and inconvenience of shipping the materials by truck. Smaller items are received by common carrier motor freight, including fence posts, roofing, insulation, and cement. These goods originate in Milwaukee, Minnesota, and the Upper Peninsula in Michigan, and on the West Coast. With larger warehouse capacity, some of these items could be shipped to Whitewater by rail. Home Lumber has its own siding available.

No service problems of significance have been encountered by Home Lumber Company, and the present twice-weekly service is satisfactory. If railroad service is discontinued, Home Lumber will maintain at least its present level of activity but will have to truck lumber and gypsum shipments from a nearby railroad, which would result in an estimated 25 percent increase in transportation costs.

Table 15

**HOME LUMBER COMPANY
CARLOADINGS: 1975-1981**

Year	Inbound Carloads	Tons ^b
1975	5	212
1976	2	85
1977	4	170
1978	4 ^b	170
1979 ^a	10	425
1980 ^a	12	510
1981 ^a	14	595

^aProjection.

^bEstimate.

Source: Home Lumber Company and the Chicago, Milwaukee, St. Paul & Pacific Railroad Company.

Sturgis Newport Business Forms

Sturgis Newport Business Forms, a division of Litton Business Systems, Inc., is involved in the manufacture of various types of business forms that are distributed strictly to wholesale customers, generally within an approximately 300-mile radius. This plant employs an average of 68 people, with an average total annual payroll of \$1,612,000, and generates an average annual sales volume of \$4,500,000. Local property taxes paid in 1978 totaled \$13,422.

Located on the east side of Whitewater for 22 years, Sturgis Newport has no railroad siding of its own (see Figures 23 and 24). Roll paper is shipped in boxcars from Oregon and Louisiana and is unloaded at the Friedl Fuel & Cartage siding, located approximately one mile west of the Sturgis Newport plant. Friedl unloads the cars, generally 40 tons net, and trucks the paper to the plant. Projected utilization (see Table 16) is based on continued normal operations that involve the need for roll paper.

The majority of materials used at the Sturgis Newport plant arrive by common carrier truck. Items including additional roll paper, carbon, corrugated cartons, and all other supplies are shipped from Michigan, New York, Minnesota, Illinois, Indiana, and Wisconsin points. Although these inbound truck shipments have been steadily increasing since 1975 and are projected to further increase over the next three years, shipment by rail has not been considered since there is no direct rail siding and because in-transit time by rail is longer. Outbound shipments of finished business forms are trans-

Table 16

**STURGIS NEWPORT BUSINESS
FORMS CARLOADINGS: 1975-1981**

Year	Inbound Carloads	Tons ^a
1975 ^a	18	720
1976 ^a	12	480
1977 ^a	8	320
1978 ^a	8	320
1979 ^b	7	280
1980 ^b	7	280
1981 ^b	7	280

^aEstimate.

^bProjection.

Source: Sturgis Newport Business Forms.

Figure 23

STURGIS NEWPORT BUSINESS FORMS



Sturgis Newport is located on the east side of the City of Whitewater. Although located along the Waukesha to Milton Junction railroad right-of-way, the business does not have a railroad siding adjacent to this plant.

Source: SEWRPC.

Figure 24

FRIEDL FUEL & CARTAGE



Friedl Fuel & Cartage does business principally as a local trading firm in and around the City of Whitewater. During 1978 about eight boxcar loads of roll paper were trucked by Friedl from his siding and dock to Sturgis Newport plant.

Source: SEWRPC.

ported entirely by common carrier motor freight, generally destined for the Milwaukee and Chicago metropolitan areas. Continued growth in the number of outbound truckloads is anticipated, with a significant increase beginning in 1979.

If railroad service to Whitewater is discontinued, it appears that there would be little impact on Sturgis Newport. Roll paper currently shipped by rail would be shipped by truck directly to the plant, raising freight shipment costs but eliminating the extra handling and unloading charges for Friedl's local services.

Badgerland Co-op

Established in 1934, Badgerland Co-op is a retail cooperative serving 3,800 members out of operations at Whitewater, Milton, and Palmyra. Services include feed grain processing and storage, fertilizer blending and processing, and sales of dairy products, petroleum, hardware, and other items necessary to the agri-business community. Badgerland is affiliated with Midland Cooperative, a large cooperative supplier predominant in the upper midwestern states. In 1978 Badgerland sales totaled approximately \$5,200,000. Total investment by Badgerland in plant and equipment approximates \$2,700,000. Badgerland employs an average of 48 people a year, resulting in an average

annual payroll of \$474,000. The above information as applicable to the individual operations is not available.

The Palmyra location, although on the railroad line between Waukesha and Milton Junction, does not ship or receive shipments by rail. Therefore, there is no need to further discuss this operation.

Badgerland has two facilities in Whitewater. The older of the two, which is located in the east side of the City, has drying and storage capabilities, and serves as the distribution point for incoming seed, hardware, and petroleum and other materials and parts (see Figure 25). In 1976 a new fertilizer blending and processing facility was constructed on four acres of land about three miles west of Whitewater, representing an investment of \$250,000 (see Figure 26). Work is now near completion on a new grain storage and drying facility adjacent to the new fertilizer blending plant. Designed to load railroad cars, this facility will represent an additional investment of \$350,000. Both the old and new drying and storage facilities together will be capable of processing 500,000 bushels of grain per year. According to the co-op, construction of the new grain facility was predicated upon the belief that there would be continued railroad service following denial of the

Figure 25

BADGERLAND CO-OP—OLD FACILITY



The older of the two Badgerland Co-op facilities in the Whitewater area is located on the east side of the City. With the newer of the two facilities going "on-line," this one sees only miscellaneous carloads of twine and feed. Although this facility is also the distribution point for petroleum, hardware, and other agri-business-related supplies, these items arrive almost entirely by truck.

Source: SEWRPC.

previous abandonment application for a portion of the Waukesha to Milton Junction line. The older facility contributed \$9,260 in local property taxes during 1978, while the newer facility contributed \$1,764.

The newer of the two Whitewater facilities receives potash, anhydrous ammonia, phosphate, and nitrates by rail from Saskatchewan, Florida, and Louisiana, shipped via 100-ton jumbo hopper cars. Badgerland sees no other economical method for long-distance movement of these bulk commodities. The number of inbound carloads of fertilizer raw material significantly increased in 1977 due to the operation of the new fertilizer blending plant (see Table 17). Because of its recent expansion efforts the co-op sees its fertilizer sales expanding over the next three years, with an attendant need for increased inbound shipments of fertilizer ingredients.

The older facility in Whitewater receives chiefly boxcars with loads of twine and feed. Other items and materials distributed from this location are shipped in by motor freight and include liquid

Figure 26

BADGERLAND CO-OP—NEW FACILITY



Badgerland's newest facility in the Whitewater area was constructed in 1976 and is designed to blend and process fertilizer. A new grain storage and drying facility is near completion on the same site. The co-op invested on these new facilities in the belief that continued railroad freight service would be available following denial of the abandonment application for a portion of the Waukesha to Milton Junction line. During 1978 Badgerland received a total of 46 carloads at the old and new facilities in the Whitewater area. This facility is located approximately three and one-half miles west of the Whitewater station.

Source: SEWRPC.

chemicals, inbound feed, petroleum, steel, and miscellaneous parts and supplies. Originating mostly in the Midwest, these items are largely volume purchased by Midland for distribution to the various cooperatives such as Badgerland.

Outbound rail shipments from the co-op have decreased because of difficulties in obtaining hopper cars for the shipment of corn. This operation used to ship as much as 100 carloads of corn per year, but car shortages have prompted a shift to contract motor carriers. With the new grain drying and storage facility just west of Whitewater near completion, the co-op is anticipating a significant expansion of its grain market and indicates that rail transportation would be desirable since shipment of corn by rail earns up to eight cents more per bushel than does truck delivery because carload volumes are easier for elevators to handle. In addition, Krause Milling Company, a major corn buyer in Milwaukee, only accepts shipments by rail. During 1978 attempts made to obtain empty hopper cars were discouraged by the lengthy wait time of six months to a year between order and delivery of cars.

Table 17

BADGERLAND CO-OP CARLOADINGS: 1975-1981

Year	Inbound		Outbound		Total	
	Carloads	Tons ^b	Carloads	Tons ^b	Carloads	Tons ^b
1975	15	1,170	12	776	27	1,946
1976	27	2,214	12	776	39	2,990
1977	46	4,025	--	--	46	4,025
1978	46	4,025	--	--	46	4,025
1979 ^a	50	4,375	--	--	50	4,375
1980 ^a	60	5,250	66	6,600	126	11,850
1981 ^a	70	6,125	100	10,000	170	16,125

^aProjection.

^bEstimate.

Source: Badgerland Co-op and the Chicago, Milwaukee, St. Paul & Pacific Railroad Company.

Given the fact that Badgerland will be able to process approximately 500,000 bushels of grain per year, equivalent to 140 jumbo hopper car loads, it is conceivable that this commodity could be transported by railroad. Because of the current unavailability of covered hoppers, however, it is difficult to reasonably predict usage of the railroad for outbound movements.

If railroad service becomes unavailable to the Whitewater area, all corn and soybeans will continue to move to market by truck, which will dilute some of the potential earnings available from moving commodities by rail. Inbound fertilizer ingredients will have to be trucked to Whitewater from a nearby railroad facility, which will add an estimated \$8.00 per ton to the transportation charges, or \$36,800 per year based on 46 cars in 1978. According to Badgerland, the price increases would have to be passed on to farmers. In addition, without railroad service the Whitewater fertilizer operation will be in a less favorable position to compete with suppliers that still have railroad service. Operations at the older of the two facilities would probably not be greatly affected by a loss of rail service. Overall, however, significant impacts are expected by Badgerland should rail service be terminated.

Jefferson County Farmco Cooperative

The Jefferson County Farmco Cooperative offers a complete line of farm supplies and agricultural services to about 3,000 customers in Jefferson, Dodge, Waukesha, and Washington Counties. This

business is a member of FS Services, Inc., a regional farm supply cooperative providing manufacturing, volume purchasing, quality control, supplies, and other services to its 130-member companies throughout Illinois, Iowa, and Wisconsin. Jefferson County Farmco has facilities in the Cities of Jefferson, Sullivan, Fort Atkinson, Ixonia, Mapleton, and, on the Waukesha to Milton Junction line, Palmyra. Only the feed mill at Fort Atkinson has no direct rail service.

The facility at Palmyra serves two primary functions: the blending, distribution, and bagging of fertilizer and the grinding and mixing of ingredients for production of swine and poultry feed (see Figure 27). Fertilizer and feed are sold to farmers within an approximate 10-mile radius of Palmyra, and the product of the fertilizer bagging operation is distributed to other sales locations within the company.

The Palmyra facility has been in existence for at least 40 years under different owners. In 1958 it was merged with Jefferson County Farmco. The average annual sales volume is approximately \$1 million, and average annual employment is five full-time and two part-time employees. The annual payroll totals about \$58,000. Local property taxes

Figure 27

JEFFERSON COUNTY FARMCO COOPERATIVE



During 1978 the Jefferson County Farmco Cooperative received 45 inbound carloads. As with Kaiser Agricultural Chemicals and Badgerland Co-op, rail shipments of potash originate in Saskatchewan and most rail shipments of phosphate originate in Florida. During the spring months, however, some phosphate is shipped by rail from Illinois warehouses to this facility.

Source: SEWRPC.

paid in 1978 totaled \$2,500 on an investment of more than \$60,000. With the addition of a fertilizer blending plant in 1968, expansion of facilities at Palmyra has been completed, and there are no plans for further expansion at this location at this time.

Availability of railroad service was a prime consideration in locating a facility at Palmyra. Rail shipments to the Palmyra operation are all inbound and consist principally of potash originating in Saskatchewan and phosphate originating in Florida, which are blended to produce fertilizer. Occasional carloads of prebagged mixed fertilizer and beet pulp, utilized in feed, are also received. Covered hopper cars are utilized almost entirely, with the proportion of shipments handled by jumbo hopper cars increasing each year. Although the number of inbound carloads received by Farmco has remained fairly constant between 1975 and 1978 (see Table 18), the average net tonnage has been steadily increasing, signifying the continuing replacement of older hopper cars with 100-ton-capacity cars. Inbound potash and phosphate shipments are skewed to the months of September to December and March to May. In the spring season, some phosphates originate from warehouses in Illinois as opposed to directly from the mines during the remainder of the year. Based on normal agri-business conditions, Jefferson anticipates unloading between 45 and 50 carloads per year during the next three years.

Table 18

JEFFERSON COUNTY FARMCO
COOPERATIVE CARLOADINGS: 1975-1981

Year	Inbound Carloads	Tons ^b
1975	48	3,504
1976	51	3,933
1977	42	3,433
1978	45	3,950
1979 ^a	47	4,136
1980 ^a	47	4,136
1981 ^a	48	4,224

^aProjection.

^bEstimate.

Source: Jefferson County Farmco Cooperative and the Chicago, Milwaukee, St. Paul & Pacific Railroad Company.

Because the commodities used to blend fertilizer are of very low value, it is not economically feasible to ship them via means other than rail. In fact, freight charges on fertilizer ingredients to this area are almost as much per ton as the commodity is worth. According to Farmco, when potash is bought from warehouses in Illinois or Wisconsin, both considerably closer than Saskatchewan and Florida, the rate is \$10.00 per ton more if moved by truck than if moved by rail. Because of the large difference in rates between these two modes, the facility at Palmyra is equipped to unload railroad cars only.

All feed as well as bagged manufactured fertilizer is delivered to the Palmyra facility by truck, either by local contract carriers or FS Services trucks that are used as a pool between all members. Originating in Columbus, Wisconsin, the feed is received in quantities too small for rail shipment. The bagged fertilizer is trucked from Prairie du Chein because of the smaller volume involved and more reliable schedules.

Except for winter weather conditions, Jefferson has apparently experienced no significant service problems and cites current service as adequate. In fact, the operation is pleased with good service given to damage claims. Incoming cars are delivered and unloaded at the team track adjacent to the facility, as the cooperative has no private siding at this location.

If railroad operations to Palmyra are discontinued, the major change anticipated would be the moving of the fertilizer bagging operation to one of the other locations. Such a change would reduce the employment at Palmyra by at least one person. Bulk fertilizer would be distributed to customers around Palmyra by unloading it from railroad cars at Jefferson and trucking it the remaining distance. It is estimated that this operation would require 171 truckloads at 23 tons each per year, which would incur an additional transportation cost of nearly \$36,000 per year, based on 1978 tonnage.¹⁰

Richard Gumz Farm

The Richard Gumz farm is engaged in truck farming, with potatoes and onions being the major crops raised. Located for approximately 20 years

¹⁰ This figure is based on \$5.00 per ton trucking plus \$3.00 per ton loading and unloading plus \$1.00 per ton shrinkage.

near Palmyra, this business is a subsidiary of Richard Gumz Farms, Inc. of North Judson, Indiana. The average annual employment is about 20 people. Other information is not available.

Fertilizer is shipped to the farm from Canada in 100-ton covered hoppers and unloaded from the team track in Palmyra. According to the Gumz farm, an average of about four cars per year are received (see Table 19), usually during the spring and fall. This average is the basis for the projected rail usage over the next three years.

Produce shipped out consists primarily of potatoes and onions, which are sold to buyers in Milwaukee and Racine. Shipment is via contract motor carrier and is expected to remain at a constant level. If railroad service to Palmyra were discontinued, the fertilizer would probably be trucked to the farm from a nearby railroad.

Brittingham & Hixon Lumber Company
 Brittingham & Hixon (B & H) is a retail dealer for lumber and other building materials, selling to an area of Eagle of approximately a seven-mile radius (see Figure 28). Established in Eagle for 50 years, the business has an average annual sales volume of about \$650,000, and employs an average of four people. The firm has an average annual payroll of \$46,000, and in 1978 paid a local property tax of \$1,500. B & H has two other lumberyards in the Region, one in Mukwonago and one in Oconomowoc. Both of these retail outlets also have railroad sidings. The parent company of B & H is

the Alexander Lumber Company, headquartered in Aurora, Illinois. Alexander currently has 51 locations in the northern Illinois area.

Plywood and other lumber is delivered to Eagle on open flatcars, generally averaging about 45 net tons each. This material originates in Oregon and other West Coast locations and is unloaded on B & H's siding, which has a three- to four-car capacity. The number of carloads received during 1978 was somewhat depressed because of a reduction in building industry activity in 1978 as compared with the two previous years. Assuming a return to normal sales and growth, carloadings during the 1979-1981 period should significantly increase (see Table 20). Other products required for the retail operation at Eagle include miscellaneous lumber and plywood, insulation, and roofing. Originating in Wisconsin, Illinois, and Montana, these items are transported by contract carrier truck.

B & H would like to see railroad freight service remain available, although loss of it would apparently have only a small effect on the operation. If railroad service were discontinued, building materials currently received by rail would have to be trucked in from another railhead, probably the B & H facility in Mukwonago. In such an event, an additional cost of \$2,000 per year would be incurred because of rehandling.

Table 19

RICHARD GUMZ FARM CARLOADINGS: 1975-1981

Year	Inbound Carloads	Tons ^b
1975	5	500
1976	5	500
1977	2	200
1978	2	200
1979 ^a	4	400
1980 ^a	4	400
1981 ^a	4	400

^aProjection.

^bEstimate.

Source: Richard Gumz Farm and the Chicago, Milwaukee, St. Paul & Pacific Railroad Company.

Figure 28

BRITTINGHAM & HIXON LUMBER COMPANY



Brittingham & Hixon received eight carloads of lumber during 1978 at its siding in the Village of Eagle. B & H also has lumberyards in the Village of Mukwonago and the City of Oconomowoc.

Source: SEWRPC.

Table 20

**BRITTINGHAM & HIXON LUMBER
COMPANY CARLOADINGS: 1975-1981**

Year	Inbound Carloads	Tons ^b
1975	8	360
1976	11	495
1977	10	450
1978	8	360
1979 ^a	10	450
1980 ^a	12	540
1981 ^a	12	540

^aProjection.

^bEstimate.

Source: Brittingham & Hixon Lumber Company.

Williams Drying & Storage

Williams Drying & Storage operates a single facility in the study area for the drying and storage of corn. The facility is located at an abandoned station known as Williams Siding, approximately five miles west of the proposed eastern limit of abandonment (see Figure 29). During its seven years at this location, the Williams operation has developed an annual sales volume of \$450,000. It employs two people at an average annual payroll of \$9,000. After an initial investment of \$90,000 in the facility, storage capacity was increased in 1978 to 120,000 bushels following the Interstate Commerce Commission's denial of the Milwaukee Road's first abandonment attempt. The amount of corn processed annually since 1975 has steadily increased from 74,997 bushels in 1975 and 114,587 bushels in 1976 to 199,779 bushels in 1977 and 211,500 bushels in 1978.

For the most part, corn is delivered to Williams Siding by area farmers with farm wagons. As farm wagons are practical transportation for only short distances, the farmers claim they have no alternative but to ship via the Williams Drying & Storage facility. Outbound corn is shipped by rail and truck to customers in Milwaukee and Chicago. While outbound shipments are distributed throughout most of the year, the peak shipping period is during October, November, and December.

Shipment by rail instead of truck is definitely preferred because it contributes significantly to the operation's profitability. Customers who pur-

Figure 29

WILLIAMS DRYING & STORAGE



Williams Drying & Storage, presently the only shipper of corn on the railway line, is located at a place known as Williams Siding, approximately five miles west of the eastern limit of abandonment proposed by the Milwaukee Road. In 1978, 33 carloads of corn were shipped from this location.

Source: SEWRPC.

chase the corn quote a higher price per bushel shipped by rail as opposed to truck. This price differential is offered because corn can be handled with greater economy when shipped by rail than when shipped by truck. A 100-ton jumbo hopper car is capable of carrying approximately 3,300 bushels of corn, while motor trucks have a capacity of approximately 800 bushels. Inspection fees are \$16.00 per railroad car and \$9.10 per truck, with four inspections of trucks being required for one inspection of a railroad car to transport an equal quantity of corn. Even when truck rates to Milwaukee are less than rail rates, Williams has found that the higher price paid per bushel delivered by rail more than offsets a higher short-haul rail rate, as exemplified by the following example offered by Williams:

Where the delivered price for corn at Milwaukee is \$2.10 per bushel by truck, and \$2.20 per bushel for rail, rail delivery is more attractive by \$0.10 per bushel. When transportation to Milwaukee by truck is \$0.10 per bushel and \$0.15 per bushel for rail, rail is more attractive because it leaves a net profit of \$2.05 for rail and only \$2.00 for truck. Of course, when selling to markets more distant than Milwaukee, the transpor-

tation cost by rail is less than truck, thus providing an even greater spread in net profit between the two modes of transportation.¹¹

In addition, Krause Milling Company, a major purchaser of corn that is processed by this facility and the nearest customer, accepts corn only by rail. As with other bulk commodities, it is most advantageous for Williams to utilize the 100-ton jumbo hopper cars, which are ordered through the Milwaukee Road agent.

Williams Drying & Storage is enthusiastic about the advantages of shipping by rail for its business and indicates that more than 95 percent of corn shipments made by Williams would be transported by rail if an adequate level of rail service were available. However, Williams believes that the current rail service is not adequate for this type of business. Difficulties encountered include problems securing an adequate supply of covered hopper cars and excessive in-transit time for shipments.

The car supply problem is not unique to this area or to the Milwaukee Road as every railroad experiences increased demands for certain types of cars during certain times of the year. Since Williams Drying & Storage has a peak shipping period common to the entire Midwest grain industry, the operation shares the chronic nationwide seasonal shortage of covered hopper cars. Some cars that have been ordered are not received within a "reasonable" amount of time; that is, within approximately 10 days. On numerous occasions, empty hoppers are received two to four weeks after the designated delivery date. This has caused contractual agreements with corn purchasers to be broken, and attendant penalties to be incurred by Williams. On other occasions, inquiry was made to the local agent as to the availability of cars. When told that there would be difficulties in arranging for the delivery of such, the cars were not ordered at all. On at least one occasion during 1978, the unavailability of cars forced this facility to shut down operations because the storage bins were filled to capacity. This caused delays and additional expenses for the farmers who usually ship through Williams Siding since the harvesting operation had to be temporarily halted.

Other difficulties have involved delays in getting empty cars delivered to Williams Siding once they have been assigned. Some of these delays have been the result of severe winter weather conditions, which have caused cancellation of service and temporary embargoes of the Brookfield to Milton Junction branch line. Other delays are caused by apparent miscommunication within the railroad organization, with cars destined for Williams Siding being misrouted, delayed at intermediate stations between Milwaukee and Williams Siding, or lost.

When freight cars were not available during 1977 and 1978, truck transportation was contracted for to fulfill contracts with purchasers. This resulted in a loss to Williams and prevented corn from being sold to Krause Milling, which, as already noted, accepts only rail shipments. On some occasions, covered hoppers that had been ordered have been canceled since delivery by the dates specified in the contracts would have been impossible.

The number of outbound carloads shipped by Williams Drying & Storage appears to have been stable since 1976 (see Table 21) except for 1977, which was a poor crop year due to drought conditions. During the 1976-1977 season, however, 50-ton-capacity boxcars were replaced with 100-ton jumbo hoppers (see Figures 30 and 31). Therefore, even with the depressed conditions of 1977, actual tonnage shipped by rail has steadily increased. For the economic reasons discussed above, rail shipment of almost all corn processed is desirable. As stated above, according to Williams, if sufficient cars were available and could be delivered within 10 days of ordering, more than 95 percent of all corn would be transported by rail. The traffic forecasts for 1979 through 1981 are based on such assumed conditions.

If railroad service to this siding becomes unavailable, Williams Drying & Storage would probably attempt to continue to operate with all outbound corn transported by motor carrier at a higher cost because of the investment in its present facility. Under such conditions, it must be assumed that some farmers who now utilize this facility would consider taking their product to the drying and storage facility at Wales which has railroad access, thus reducing Williams' revenues.

Waukesha Industrial Lumber, Inc.

One of three lumber distributors located on the Waukesha to Milton Junction line, Waukesha

¹¹ *David C. Williams, Verified Statement of Protest, Interstate Commerce Commission Docket No. AB-7 (Sub-No. 59F), January 4, 1979, p. 2.*

Figure 30

TYPICAL 50-TON BOXCAR

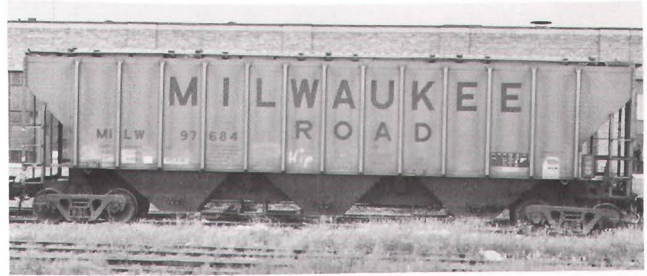


Formerly the chief means of moving grain by rail, the boxcar in this capacity has been almost entirely replaced in the United States by the 100-ton jumbo hopper car. To haul grain, plywood sheets are placed over three-fourths of the door openings and grain is poured into the car over the top of the plywood sheeting.

Source: SEWRPC.

Figure 31

TYPICAL 100-TON JUMBO HOPPER FOR GRAIN LOADING



Except during peak grain-moving periods, the 100-ton covered hopper has become the universal means for grain movement. In addition to offering easy loading and unloading, such freight cars afford shippers a more advantageous rate because of the large tonnage that can be transported in a single carload.

Source: SEWRPC.

Table 21

WILLIAMS DRYING & STORAGE
CARLOADINGS: 1971-1981

Year	Outbound Carloads	Tons ^b
1975	28	1,400
1976	33	1,650
1977	23	2,300
1978	33	3,300
1979 ^a	50	5,000
1980 ^a	50	5,000
1981 ^a	50	5,000

^aProjection.

^bEstimate.

Source: Williams Drying & Storage.

Industrial Lumber, Inc., has no retail sales, selling only wholesale to industry. Material such as crating lumber is distributed principally by company-owned trucks to customers in the southern half of Wisconsin as well as in northern Illinois. Located two miles west of Waukesha for over 19 years, this concern employs 24 full-time employees (see Figure 32). Information concerning annual sales volume and annual payroll is not available. Local property taxes paid in 1978 totaled \$1,746.

Carload shipments of lumber are received from numerous origins in western Canada, Ontario, and Pacific Coast states. Open flatcars and double-door boxcars of between 50 and 60 tons net capacity are used predominantly, with extra large open flatcars that can carry 72-ton loads also sometimes used. Smaller quantities of lumber and timbers are received by truck from several Upper Midwest and Great Plains states. The number of inbound carloads is expected to continue to increase steadily due to normal sales growth as well as a planned expansion of the lumberyard sometime within the next three years (see Table 22).

Although Waukesha Industrial Lumber is located on the part of the line included in the pending abandonment application, the Milwaukee Road has indicated to the firm its intention to continue serving this facility should abandonment be approved. The railroad has indicated to Waukesha Industrial Lumber that the segment of trackage between Milepost 20.5 and the Waukesha Industrial Lumber siding was included in the application only so that the railroad will be able to reclassify it from mainline status to side track status. Since the number of carloadings appears to be more than adequate to justify operation of two and one-half miles of track, and because the traffic to the siding is long-haul in nature, there is no reason to discount the railroad's stated intention.

Figure 32

WAUKESHA INDUSTRIAL LUMBER, INC.



Waukesha Industrial Lumber is located approximately two miles west of the proposed easterly limit of abandonment. During 1978, 160 carloads were delivered to Waukesha Industrial Lumber's siding, making the firm a very significant shipper. The Milwaukee Road, however, has indicated that it will continue to serve this business regardless of the decision concerning the abandonment application.

Source: SEWRPC.

Table 22

WAUKESHA INDUSTRIAL LUMBER, INC.
CARLOADINGS: 1975-1981

Year	Inbound Carloads	Tons ^b
1975	120	6,600
1976	130	7,150
1977	140	8,540
1978	160	9,760
1979 ^a	160 plus	9,760 plus
1980 ^a	160 plus	9,760 plus
1981 ^a	190	11,590

^aProjection.

^bEstimate.

Source: Waukesha Industrial Lumber, Inc.

Triebold Implement Company

Triebold Implement is one of three concerns that is not now shipping or receiving freight via the railroad but that has used the line on occasion since 1975. This business has been located just south of Whitewater for six years, and is a dealer in agricultural machinery—ranging from combines and tractors to smaller implements and parts. The company sells to an area within an approximate 100-mile radius. Like Triebold's other location in

Watertown, this one has no railroad siding. Twelve people are employed full time at the Whitewater location, which has an average annual sales of \$400,000. Information concerning the annual payroll is not available. Local property taxes in 1978 totaled \$2,518.

Until 1978, the company received some large machinery by rail from Pennsylvania, Iowa, Illinois, and Nebraska on open flatcars (see Figure 33 and Table 23). The equipment was unloaded at the Milwaukee Road's ramp near the Whitewater station. No loads that would qualify as overweight or overwidth on highways were handled. According to Triebold, all incoming shipments now arrive by common carrier motor truck because of poor service by the railroad. To facilitate truck shipments, a new truck unloading ramp has recently been installed at Triebold's facility.

Rail service difficulties experienced by Triebold included excessive periods of time required to settle damage claims, deterioration of the unloading ramp to an unusable condition with no repairs being made by the railroad, and little or no contact from railroad sales people. In contrast, the motor carrier currently used routinely sends a representative to discuss service problems. In view of past difficulties with rail service compared with the current satisfactory service by truck direct to the sales room, the investment in a truck unloading ramp, and a negligible difference between truck and rail rates, future rail use is not anticipated. Triebold indicated that before it would consider receiving even some shipments by rail, a significant improvement in the quality of rail service would have to be demonstrated.

Figure 33

TRIEBOLD IMPLEMENT COMPANY



Until 1978, Triebold Implement received shipments of agricultural machinery by railroad. Such machinery and implements were shipped on open flatcars as illustrated in this view, looking northwest about one and one-half miles east of the City of Whitewater.
Photo Courtesy of Otto P. Dobnick.

Table 23

**TRIEBOLD IMPLEMENT COMPANY
CARLOADINGS: 1975-1978**

Year	Inbound Carloads	Tons ^a
1975	6	72
1976	5	60
1977	2	24
1978	--	--

^a Estimate.

Source: Chicago, Milwaukee, St. Paul & Pacific Railroad Company.

First Mississippi

A subsidiary of First Mississippi, Inc., headquartered in Jackson, Mississippi, the First Mississippi manufacturing plant in Fort Madison, Iowa manufactures and markets fertilizer products to a 13-state area of the Midwest. In 1976, 10 carloads of fertilizer were shipped from the manufacturing plant to a customer in Whitewater on a special one-time basis (see Table 24). No other information concerning this shipper is presently available. As demand for this commodity depends entirely on customer requests or the efforts of the salesman responsible for this area, future shipments by this concern cannot be anticipated or predicted.

Robert Hood Farm

The Robert Hood farm, located near North Prairie, is engaged in dairy farming and the operation of a corn drying facility capable of storing 30,000 bushels. Local property taxes in 1978 totaled \$2,561. Up to and including 1975, the Hood farm shipped corn by rail, loading boxcars with an auger in North Prairie. Rail-delivered corn earns five to nine cents more per bushel than truck-delivered corn.

In 1975 five carloads of corn were shipped, a decline in railroad usage from previous years. In 1976 contracts for rail-delivered corn were refused because of the railroad's first abandonment attempt through North Prairie. Corn was shipped by rail through Dousman and Mukwonago, but because of the distance it would have to travel in farm wagons, it was found to be less expensive to truck the corn direct from the farm to markets in Milwaukee and Chicago.

Since 1976, this concern has apparently delivered no shipments by rail. Therefore, rail shipments

Table 24

**FIRST MISSISSIPPI, INC.
CARLOADINGS: 1975-1978**

Year	Inbound Carloads	Tons ^a
1975	--	--
1976	10	750
1977	--	--
1978	--	--

^a Estimate.

Source: Chicago, Milwaukee, St. Paul & Pacific Railroad Company.

from the Robert Hood farm are not anticipated within the foreseeable future.

PRESENT FREIGHT SERVICE AND ITS REQUIREMENTS

A total of 267 carloads were shipped and received from points on the Waukesha to Milton Junction line during 1978. Utilizing estimated tonnage figures derived from average net weights per railroad car, it was determined that a total of 23,470 tons of materials were shipped and received over the line in 1978. Products and raw materials handled over this line are predominantly agribusiness-related (see Table 25); fertilizer, fertilizer ingredients, and other agricultural and farming supplies account for more than 82 percent of all tonnage. Corn and other grains contribute about 14 percent, with forest products and building materials accounting for the remainder of all tonnage. In terms of shippers, the four largest receive potash and phosphate for the blending of fertilizers and ship corn that is grown in the area. Since total tonnage transported over this line is quite dependent on the status of farming activities in the area, it is not surprising to find cyclical fluctuations in fertilizer and grain-related shipments over the past four years (see Table 26). Some shippers reported drought conditions during 1977, resulting in poor crops and a depressed market for fertilizer during 1978. These occurrences have a direct effect on the amount of rail shipments over this line and are reflected in the annual traffic movement statistics.

In terms of shipper satisfaction, level of service requirements regarding this line are oriented toward four considerations: 1) frequency of service, 2) delays in car movement, 3) resolution of

damage claims, and 4) the supply of empty cars for outbound shipments. Frequency of service is currently twice a week, on Tuesdays and Thursdays. All nine of the current on-line shippers indicate this schedule to be acceptable so long as it is adhered to. Interruptions in the normal schedule have occurred because of winter weather embargoes and other conditions. Delays in individual car movement have also occurred because of misroutings and inefficient switching at intermediate junctions and yards. The effects of not receiving inbound loads when expected are inconvenienced and sometimes halted shipper operations, disrupted customer plans, and, in some cases,

lost business. Two of the four largest shippers report having experienced such delays in car movement and their attendant negative effects on business.

Three of the current shippers would like to move outbound shipments of grain and fertilizer by rail. All three of these shippers have experienced difficulty in obtaining an adequate supply of cars, particularly jumbo covered hopper cars. This is a significant problem since it severely affects the operations and therefore profitability of these three shippers. The demand for jumbo hopper cars is not a problem unique to this particular line or area, and is not easily met because of the limited supply during annual peak periods of grain movement, indicating a need for more such equipment. Finally, resolution of damage claims does not appear to be a significant aspect of this line's service since the types of commodities shipped over the line are not subject to extensive damage.

The freight service needs of present on-line shippers are completely dominated by the movement of bulk and low-value commodities. Inbound commodities include potash, phosphate, and other miscellaneous fertilizer ingredients, prebagged manufactured fertilizer, feed and feed ingredients, roll paper, and plywood and other lumber. Outbound commodities include blended fertilizers, predominantly in bulk but some prebagged, and corn. All of these goods can be physically transported by truck as well as by rail. However, seven

Table 25

COMMODITY GROUP TONNAGES FOR 1978

Commodity Group	Tonnage ^a	Percent of Total
Fertilizer, Fertilizer Ingredients, and Other Agri-business Supplies	19,320	82.3
Corn and Other Grains	3,300	14.1
Forest Products and Other Building Materials	850	3.6
Miscellaneous	--	--
Total	23,470	100.0

^a Estimate.

Source: SEWRPC.

Table 26

ANNUAL TRAFFIC MOVEMENT, WAUKESHA TO MILTON JUNCTION LINE: 1975-1978

Shipper	1975		1976		1977		1978	
	Carloads	Tons ^a	Carloads	Tons ^a	Carloads	Tons ^a	Carloads	Tons ^a
Kaiser Agricultural Chemicals	190	14,390	199	15,867	156	13,178	122	11,145
Home Lumber Company	5	212	2	85	4	170	4 ^a	170
Sturgis Newport Business Forms	18	720	12	480	8	320	8	320
Badgerland Co-op	27	1,946	39	2,990	46	4,025	46	4,025
Jefferson County Farmco Cooperative	48	3,504	51	3,933	42	3,433	45	3,950
Richard Gumz Farm	5	500	5	500	2	200	2	200
Brittingham & Hixon Lumber Company	8	360	11	495	10	450	8	360
Williams Drying & Storage	28	1,400	33	1,650	23	2,300	33	3,300
Triebold Implement, Inc.	6	72	5	60	2	24	--	--
First Mississippi	--	--	10	750	--	--	--	--
Robert Hood Farm	5	250	--	--	--	--	--	--
Total	340	22,714	367	26,119	293	23,544	268	23,470

^a Estimate.

Source: SEWRPC.

out of eight of the current shippers have indicated that an economic advantage is gained by either receiving or shipping certain goods via rail. The advantages are in the form of lower freight rates, ease and economy in unloading or loading, and price advantages for using rail instead of truck. Only one of the shippers, a major one, indicates a complete dependence on railroad service, that operation being of such a nature that economics would probably prevent continued operation if rail service were unavailable. However, in order for all of the current shippers to retain their current economic viability in the face of competition, low-cost bulk transportation direct to the individual facilities is required.

FUTURE FREIGHT TRAFFIC AND REQUIREMENTS

Forecasting the future demand for movement of goods by railroad requires two steps: 1) forecasting changes in the amount of traffic shipped by current users of rail service in the corridor, and 2) forecasting traffic to be shipped by rail by new shippers.

Most, if not all, of the current and potential operations surveyed are of such a size that they do not utilize quantitative future market forecasting techniques. Hence, sales predictions by those shippers are based on a combination of past history and experience, knowledge of current and probable future local conditions, and an intuitive understanding of probable changes in business conditions involving the shipper. The forecasts contained herein are believed to constitute a reasonably accurate, although not precise, representation of probable near-term future traffic demands on the railroad branchline segment between Waukesha and Milton Junction. Forecasting demand on this particular line much more than three to five years into the future would be both quite difficult and uncertain. Because carloads have been a common means for estimating rail traffic on a small or local scale, they are used here as the primary traffic indicator. Because actual tonnage moved per carload can differ significantly, total tonnage for each shipper is also approximated based on average tonnage per railroad car.

Three businesses in the area that do not currently ship over the rail line but that have expressed a definite interest in shipping by rail as part of their normal operations are: the Sandra Corporation, a manufacturing firm newly located in North

Prairie; Union Forest Products, an established sawmilling operation in Lima Center; and the Hawthorn Melody Farms Dairy of Whitewater. All three firms are discussed below as they relate to the study.

Sandra Corporation

At present, the Sandra Corporation does not ship or receive freight by railroad. The firm has been located in North Prairie for only one year and is still in the process of starting up operations. The firm is engaged in the manufacture of polystyrene foam insulation for home, industrial, and commercial application as well as polystyrene shapes and forms. Average annual employment is expected to be eight people, with an annual payroll of \$100,000. Local property taxes paid in 1978 totaled \$1,500. Average annual sales are projected to approximate \$1.2 million in 1979 and \$2 million in 1980. The 7.5-acre site in North Prairie was selected because of its central location to the area of finished product distribution and the availability of railroad service (see Figure 34). This facility has two private sidings capable of storing up to 12 cars. A capital investment of \$400,000 has already been made in site improvements and machinery. During 1979 an additional 20,000 square feet is to be added to the existing building, and additional processing equipment is to be installed.

Operations as planned will see crude perlite, a volcanic granular ore, shipped in 100-ton closed hopper cars from Colorado. Because of its density of 65 pounds per cubic foot, raw perlite ore can be shipped economically only by rail. For example, according to Sandra Corporation, the shipping rate for perlite ore is \$1,800 per 100 tons by rail vs. \$12,000 per 100 tons by motor carrier.¹² This material is to be expanded at the North Prairie plant in a furnace at 1,700°F to a density of seven pounds per cubic foot. It will then be cut and formed and shipped to customers in eastern and midwestern market areas. Fifty-foot boxcars with 18-ton loads will be used for outbound rail shipments destined for Minneapolis, Omaha, and points on the East Coast. It should be pointed out that

¹² *These rates are given for illustrative purposes only. In actuality, this commodity would probably not be shipped long distances entirely by motor carrier, but would be unloaded from railroad cars as close to the destination as possible and trucked the remaining distance.*

Figure 34

SANDRA CORPORATION



At present, the Sandra Corporation's transportation needs are met entirely by motor trucks, either contract carrier or company-owned vehicles. A viable future for this potential shipper, however, appears to be dependent upon the availability of railroad freight service for both inbound and outbound shipments. Located in the Village of North Prairie, Sandra Corporation occupies the former Pet Milk dairy processing facility. Note the Waukesha to Milton Junction main line in the foreground.

Source: SEWRPC.

some potential customers of Sandra Corporation will only accept shipments by rail. Inbound and outbound railroad carloads are projected to steadily increase over the next three years (see Table 27). Extensive inbound and outbound truck shipments are also anticipated.

Should railroad service to North Prairie be discontinued, the Sandra Corporation would, because of the nature of the raw materials and products involved, undoubtedly suffer a severe business loss. Company activities as well as expansion plans would be scaled down or curtailed. In addition, it is likely that the facility at North Prairie would be closed, resulting in a loss of employment as well as the initial investment in this operation.

Union Forest Products

Union Forest Products is a lumber sales and processing facility located at Lima Center approximately 500 feet from the railroad line. Principally engaged in sawmilling, the operation currently produces and sells firewood, pallets, some landscape ties, and other lumber. Average employment at present is two to three people, and the local

Table 27

SANDRA CORPORATION CARLOADINGS: 1978-1981

Year	Inbound		Outbound		Total	
	Carloads	Tons ^b	Carloads	Tons ^b	Carloads	Tons ^b
1978	--	--	--	--	--	--
1979 ^a	25	2,500	40	720	65	3,220
1980 ^a	75	7,500	60	1,080	135	8,580
1981 ^a	100	10,000	100	1,800	200	11,800

^aProjection.

^bEstimate.

Source: Sandra Corporation.

property tax paid in 1978 was \$400. Although average annual sales are presently between \$80,000 and \$100,000, the company says it is growing at a rapid pace and has expansion plans for this location.

Union Forest Products moved from Evansville, Rock County, Wisconsin approximately five years ago. While not currently using railroad service, the present location was chosen because of its proximity to railroad service, necessary for the planned expansion into railroad tie production. Expansion into the tie market has been under consideration for approximately three years, but has been postponed because of the uncertainty of available rail service.

According to Union, ties would be loaded on the team track in Lima Center and shipped out in gondolas and flatcars to customers that will probably only accept shipments by rail. Including some firewood shipments, two to three outbound carloads can be expected per week (see Table 28). Transferring the ties from truck to railroad cars at a nearby railhead is not considered practical because of the equipment necessary as well as cost and time involved. Inbound logs and lumber would continue to arrive by truck from selected points in Wisconsin and Iowa.

Since the potential customers for railroad ties are expected to accept only rail shipments, a permanent discontinuance of service to Lima Center would exclude Union Forest Products from the opportunity of entering this market. The \$20,000 investment in sawmill machinery and equipment for tie

Table 28

**UNION FOREST PRODUCTS
CARLOADINGS: 1978-1981**

Year	Outbound Carloads	Tons ^b
1978	--	--
1979 ^a	32	1,280
1980 ^a	104	4,160
1981 ^a	130	5,200

^aProjection.

^bEstimate.

Source: Union Forest Products.

production, in addition to the almost \$100,000 current total investment, would have to be put to some use in some other operation or be sold. Consideration has been given to relocation near a main highway and railroad and adequate electrical utilities, but such a move may not be economically possible.

Hawthorn Melody Farms Dairy of Wisconsin

Hawthorn Melody maintains a plant in Whitewater for the processing of dairy products and the distribution of the products throughout southeastern Wisconsin. At the present time, rail service is not used and, in fact, parts of the spur from the plant to the main line have been dismantled. Recent developments, however, have led to consideration of receiving certain items by rail.

Construction is near completion on a new plastic milk bottle processing facility at the Whitewater plant (see Figure 35). Consideration has thus been given to having resin shipped to the plant by rail. Hawthorn Melody anticipates that each railroad car would represent a \$2,000 savings in shipping costs over the same amount delivered by truck. When operation of the plastic bottle facility is underway, 15 carloads of resin could be processed during the first year, increasing to 30 carloads per year at the end of two years of operation. Because of the availability of certain forms of energy, consideration has also been given to the utilization of rail service for inbound shipments of fuel oil or coal.

Hawthorn Melody has declined to invest in rebuilding the spur necessary to receive any

incoming rail shipments until the question of future rail service is resolved. Since the new bottle facility is near completion, incoming resin will presumably arrive by motor carrier for at least the immediate future. Furthermore, since the spur to the Milwaukee Road has been taken out of service, a new building has been erected very near to the spur's former alignment, making it questionable whether reconstruction would provide proper clearance.¹³ There is, therefore, no assurance that Hawthorn Melody would utilize the railroad for the delivery of certain materials, at least within the foreseeable future.

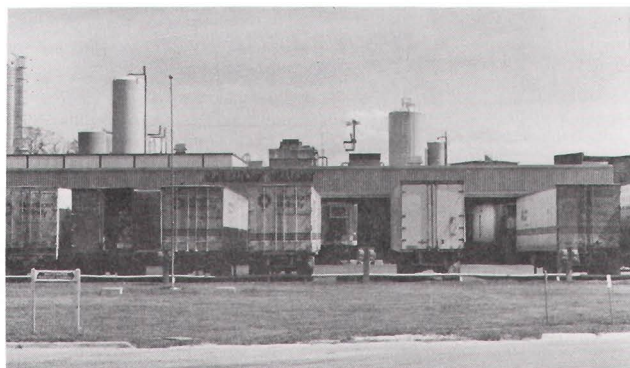
Traffic Projections—Current Shippers

Based on the commodities that are handled on the Waukesha to Milton Junction line, current shippers can be divided into three classes: 1) shippers receiving forest products, 2) shippers shipping

¹³ In addition, reactivation of this spur would necessitate the rebuilding of two grade crossings and the purchase of some property as well as rebuilding trackage, a project that has been estimated to cost approximately \$85,000.

Figure 35

**HAWTHORN MELLODY
FARMS DAIRY OF WISCONSIN**



The Hawthorn Melody plant is located approximately one-quarter mile south of the railroad right-of-way on the east side of the City of Whitewater. Because of construction of a new plastic milk bottle processing facility at this location, reactivation of the railroad spur to the plant and subsequent use of the railroad has been considered. Such plans, however, appear to have been indefinitely postponed.

Source: SEWRPC.

corn, and 3) shippers receiving fertilizer and fertilizer ingredients. Of the three shippers receiving forest products, two may be expected to continue to receive carloads at a relatively constant rate over the next three years, while a third is anticipating a gradual increase, in part due to company expansion. In absolute tonnage, these shippers represent a significant but small proportion of the total tonnage anticipated.

Agri-business-related shipments may be expected to continue to constitute the principal base of bulk shipments in the corridor. Projected increases in the shipment of outbound grain play an integral part in two shippers' plans, facility expansion being a reason for the increase in one case. Fertilizer transportation, consisting chiefly of inbound potash and phosphate, is necessary to four shippers. Only one shipper projects an increase in traffic because of facility expansion, while another will be able to increase operations without physical expansion. The two remaining fertilizer shippers anticipate a relatively constant need for transportation service over the next three years.

Overall Traffic Projection

Based on projections of current as well as potential shippers, all of which are contingent on the assumption of continued rail service, both carloads and tonnage may be expected to approximately triple over 1978 traffic by the end of 1981 (see Table 29). Five shippers that were individually discussed above have not been included in this

aggregate forecast. The Robert Hood Farm, Triebold Implement, and First Mississippi are past shippers that will not be using rail service in the foreseeable future. Hawthorn Melody Farms Dairy has expressed interest in utilizing rail in the future, but definite projections cannot be made at this time. Finally, Waukesha Industrial Lumber has not been included within this forecast since the facility will apparently still be served by the Milwaukee Road regardless of the abandonment application outcome. Even though this firm is included within the limits of the proposed abandonment, its inclusion with the remaining shippers on the line would be inappropriate for the purposes of predicting the impacts of discontinued rail service or the costs of continued operation.

Although fertilizer, fertilizer ingredients, and other agri-business supplies will remain predominant for the foreseeable future, the share of total tonnage attributable to this commodity group is expected to decrease (see Table 30). This is because of the anticipated increase in corn, forest product, and miscellaneous shipments. The miscellaneous category consists of perlite ore destined for North Prairie and polystyrene insulation and forms shipped from North Prairie. Less reliance on a single predominant commodity group is certainly desirable for any transportation service. When such a service has a large dependence on a single industry or commodity, depressed economic conditions for that commodity can seriously affect the revenues, and, therefore, transportation needs.

Table 29

ANNUAL TRAFFIC FORECAST: 1979-1981

Shipper	1978		1979		1980		1981	
	Carloads	Tonnage	Carloads	Tonnage	Carloads	Tonnage	Carloads	Tonnage
Williams Drying & Storage	33	3,300	50	5,000	50	5,000	50	5,000
Sandra Corporation	--	--	65	3,220	135	8,580	200	11,800
Brittingham & Hixon Lumber Company	8	360	10	450	12	540	12	540
Jefferson County Farmco Cooperative	45	3,950	47	4,136	47	4,136	48	4,224
Richard Gumz Farm	2	200	4	400	4	400	4	400
Badgerland Co-op	46	4,025	50	4,375	126	11,850	170	16,125
Sturgis Newport Business Forms	8	320	7	280	7	280	7	280
Home Lumber Company	4	170	10	425	12	510	14	595
Kaiser Agricultural Chemicals	122	11,145	160	14,625	228	20,740	286	25,930
Union Forest Products	--	--	32	1,280	104	4,160	130	5,200
Total	268	23,470	435	34,191	725	56,196	921	70,094

Source: Shippers; Chicago, Milwaukee, St. Paul & Pacific Railroad Company; and SEWRPC.

Table 30

PROJECTED TONNAGE BY COMMODITY GROUP: 1979-1981

Commodity Group	1978		1979		1980		1981	
	Tonnage	Percentage	Tonnage	Percentage	Tonnage	Percentage	Tonnage	Percentage
Fertilizer, Fertilizer Ingredients, and Other Agri-business Supplies	19,320	82.3	23,536	68.8	30,526	54.3	36,679	52.3
Corn and Other Grains	3,300	14.1	5,000	14.6	11,600	20.6	15,000	21.4
Forest Products and Other Building Materials	850	3.6	2,435	7.1	5,490	9.8	6,615	9.4
Miscellaneous	--	--	3,220	9.4	8,580	15.3	11,800	16.8
Total	23,470	100.0	34,191	99.9 ^a	56,196	100.0	70,094	99.9 ^a

^a Does not add up to 100.0 because of rounding.

Source: SEWRPC.

The traffic forecasts discussed above assume that some deficiencies identified by the shippers in the current level of rail service will be satisfactorily resolved. Train operation twice a week is currently acceptable. However, some shippers indicated that a Monday-Wednesday-Friday schedule may be more desirable. Railroad cars could be switched more often, allowing a more flexible work schedule as well as a more even distribution of loading and unloading operations throughout the week. Service on Mondays and Fridays would also allow processing of inbound carloads at the beginning of the week and on Saturdays.

Perhaps the most important factor that the forecasts are contingent upon is the assumed prompt availability of empty railroad cars for outbound shipments. Future traffic estimates given by some of the individual shippers are based upon the assumption that jumbo covered hopper cars will be more readily available than they are now. If the scarcity of these cars continues, carloads and tonnage can be expected to be significantly lower. An alternative forecast has been prepared based on the continuing unavailability of empty hopper cars for outbound corn (see Table 31). The difference between this forecast and the previous one is that outbound shipments of corn and blended fertilizer are equal to 1978 shipments, with additional carloads assumed to be transported by motor truck. The effect of shortages of empty railroad cars other than covered grain hoppers is unknown at this time. Other types of cars for outbound shipments will be required by the Sandra Corporation and Union Forest Products,

but since these concerns have had no experience in obtaining cars, information on potential "shortages" is not available.

SUMMARY

This chapter has presented data on the two basic factors that must be considered in planning for the operation of any railway line: the physical condition of the railway line itself, and the traffic that is carried upon it. Specifically, the chapter has presented information on the physical condition of the right-of-way, roadbed, and track and structure of the Waukesha to Milton Junction line, and has discussed the present operational and financial characteristics of the line as a branchline segment of the Milwaukee Road system. The business operations and shipping characteristics of each of the shippers known to currently use the line, or that can be anticipated to use the line, have been detailed, and the aggregate current and probable future traffic and transportation requirements have been discussed.

The railway line proposed by the Milwaukee Road to be abandoned consists of 41 miles of what may be considered a "typical" branch or light-density line right-of-way and trackage. A visual inspection of the line revealed no significant operating restrictions imposed by either the horizontal or vertical right-of-way alignment. The subgrade was determined to be basically sound, although some areas require drainage improvements. However, continued train operation over the track will necessitate new ballast to correct surface and alignment

Table 31

ANNUAL ALTERNATIVE TRAFFIC FORECAST: 1978-1981

Shipper	1978		1979		1980		1981	
	Carloads	Tonnage	Carloads	Tonnage	Carloads	Tonnage	Carloads	Tonnage
Williams Drying & Storage	33	3,300	33	3,300	33	3,300	33	3,300
Sandra Corporation	--	--	65	3,220	135	8,580	200	11,800
Brittingham & Hixon Lumber Company . . .	8	360	10	450	12	540	12	540
Jefferson County Farmco Cooperative	45	3,950	47	4,136	47	4,136	48	4,224
Richard Gumz Farm	2	200	4	400	4	400	4	400
Badgerland Co-op	46	4,025	50	4,375	60	5,250	70	6,125
Sturgis Newport Business Forms	8	320	7	280	7	280	7	280
Home Lumber Company	4	170	10	425	12	510	14	595
Kaiser Agricultural Chemicals	122	11,145	158	14,475	216	19,840	264	24,280
Union Forest Products	--	--	32	1,280	104	4,160	130	5,200
Total	268	23,470	416	32,341	630	46,996	782	56,744

Source: Shippers; Chicago, Milwaukee, St. Paul & Pacific Railroad Company; and SEWRPC.

problems. Inspection of random track segments between Waukesha and Milton Junction indicated that from 45 to 50 percent of the cross ties are in need of replacement. Most rail consists of 33-foot lengths of 75-pound-per-linear-yard rail, rolled between 1899 and 1918. With proper support and no extreme increases in tonnage, the rail should be adequate to carry the foreseeable traffic at reasonable operating speeds. The entire branchline segment has tie plates on all ties as well as rail anchors, the latter requiring adjustment. Overall, the line can still be operated at reasonable speeds and without weight restrictions since the track structure appears to be in compliance with FRA track standards for Class II track. However, continued operation will require major rehabilitation and an increased level of annual maintenance.

Turnouts on the line generally have movable spring frogs, which should eventually be replaced. Out of a total of 105 street, highway, and pedestrian crossings, 13 are equipped with some sort of automatic protection. There are no other signal or communication installations on or along the line. Structures on the line consist of one freight house in Whitewater; 77 miscellaneous culverts, four timber trestles, one steel bridge carrying the railway over watercourses; and three bridges carrying roadways over the railway track. There are no known weight restrictions on any of the railway bridges, and major maintenance does not appear necessary on any of the railway bridges.

Current service is provided on a twice-a-week schedule with a four-man crew and one diesel locomotive. Derailments are relatively few, averaging two a year since 1976. Major operating problems have been encountered by the railroad because of severe winter weather conditions, causing train service to be canceled and the line to be embargoed. Shippers have experienced difficulties in obtaining an adequate number of empty cars for outbound shipments and a consistent quality of service in the movement of individual cars.

Revenues attributable to this branchline segment totaled \$161,708 in 1977 and \$108,760 for the first six months of 1978. Except for 1976, revenues have not fluctuated significantly. Revenue is earned predominantly from the transportation of fertilizer and fertilizer ingredients, but also from the transportation of corn, lumber, and paper. No bridge traffic is handled at present. Major expenses are the result of off-branch costs, incurred by the branch traffic while on the remainder of the Milwaukee Road, and on-branch costs, the major categories of which are related to actual train operation and track/structure maintenance. Expenses for train operation have remained relatively constant in relation to the service provided during each year. However, in order to decrease the avoidable loss, expenditures for maintenance have been reduced well below the amount that is required to properly maintain the line.

The railroad reports a loss attributable to this branchline segment of about \$40,000 in 1975 and 1976 and about \$32,000 in 1977, and a profit of about \$9,000 during the first six months of 1978. Losses have been reduced because of deferred maintenance, a savings in expenses that will have to be compensated for in the future. As currently operated, the line has been shown to be unprofitable in most years.

Fifteen shippers on the railroad line under consideration for abandonment have been analyzed because of their importance to this study. Included are eight businesses that currently use railroad service and are expected to continue doing so, three that no longer ship by railroad, three potential shippers that have expressed a definite interest in utilizing railroad transportation, and one business that will continue to receive service by the Milwaukee Road regardless of the abandonment decision. Ten shippers are expected to utilize railroad service in the future and therefore will be affected by the absence or presence of that service. Together, these represent a total employment of 189¹⁴ full-time people earning an aggregate payroll of \$2,669,000.¹⁵ Sales volume for the 10 operations in 1978 totaled \$20,163,000,¹⁶ and local property taxes paid in 1978 totaled \$42,784.¹⁷

Current traffic demands are oriented toward the movement of bulk and low-value commodities. At present, inbound commodities consist predominantly of potash and phosphate, but also of fertilizer, fertilizer ingredients, lumber, paper, and miscellaneous agricultural supplies. Outbound commodities are fertilizer and corn. In 1978, 267 carloads and an estimated 23,470 tons were handled over the line, both figures indicating a decrease from the freight handled during the

two previous years. Of the total tonnage handled, 96 percent consists of agri-business-related supplies or products. Individual shippers report service problems, the major one being an inadequate supply of 100-ton "jumbo" hopper cars for outbound shipments of corn and fertilizer. This problem of car shortages is not unique to the Region or to the Milwaukee Road. While all except one of the shippers receives some sort of economic advantage from receiving or shipping certain goods by railroad, only one has indicated a complete dependence upon railroad service.

Although traffic has declined between 1975 and 1978, forecasts for 1979 through 1981 foresee a potential increase in traffic to 921 carloads and an estimated 70,094 tons in 1981, or approximately three times the carloads and tonnage handled during 1978. These estimates are based upon the addition of two significant shippers as well as upon the projections of existing shippers. One of the two additional shippers is completely dependent upon the availability of railroad service for the movement of ore and polystyrene, while the other is dependent upon the service for expansion of the existing operation into the railroad tie market. These commodities plus increased corn and forest product shipments will lessen the line's dependence on fertilizer. The forecasts assume the availability of an adequate supply of empty cars for outbound shipments, as well as a level of service above what now exists.

This chapter has also addressed the potential impacts on individual shippers of discontinued railroad service. These impacts will be reiterated in the following chapter in order to estimate the total impacts of abandonment of the Waukesha to Milton Junction line.

¹⁴ *Includes all Badgerland Co-op operations.*

¹⁵ *Includes all Badgerland Co-op operations, but does not include the Richard Gumz Farm and Union Forest Products.*

¹⁶ *Includes all Badgerland Co-op operations, but does not include the Richard Gumz Farm.*

¹⁷ *Includes the two Badgerland Co-op facilities in the Whitewater area, but does not include the Richard Gumz Farm and Williams Drying & Storage.*

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Chapter IV

ABANDONMENT IMPACT

INTRODUCTION

Abandonment of the Milwaukee Road's branch-line segment between Waukesha and Milton Junction, including the dismantling of the fixed plant as well as elimination of railroad freight service, would produce certain impacts along the corridor. The purpose of this chapter is to summarize those impacts in order to ascertain the total probable effect on the area of the discontinuance of railroad service. The impacts are categorized into three groups: economic impacts, other regional impacts, and environmental impacts.

ECONOMIC IMPACTS

Economic impacts are defined herein as those impacts that are quantifiable in dollar terms. Included are additional transportation and handling costs, changes in basic and nonbasic employment and income, changes in potential basic and nonbasic employment and income, and actual and potential property tax changes.

For the purposes of this report, basic employment is defined as the number of employees engaged in an enterprise that generally brings a flow of purchasing power into an area, such as manufacturing and raw material extraction. Classified by Standard Industrial Classification (SIC) codes, basic industries that can be expected to be impacted include the Sandra Corporation, Richard Gumz Farm, Sturgis Newport Business Forms, Kaiser Agricultural Chemicals, and Union Forest Products. For the purposes of this report, the remaining shippers are classified as nonbasic, or "service," industries.

Commission studies have shown that total employment in the seven-county Southeastern Wisconsin Region consists of approximately 41 percent basic employment and 59 percent nonbasic employment. This indicates that for every job in a basic industry within the Region, a total of approximately 2.44 jobs are created throughout the Region including the basic as well as the service industry jobs. Changes in service employment and income can be estimated from changes in basic employment using this ratio.

In order to determine the magnitude of the total economic impact anticipated should abandonment occur, it is necessary to review the individual impacts attributable to each of the current or potential railroad users. Out of the 15 shippers identified in Chapter III of this report, First Mississippi, Triebold Implement, and the Robert Hood Farm are not considered in this chapter since neither current nor future use of the railroad is anticipated by these operations.

Waukesha Industrial Lumber, Inc.

Because service to Waukesha Industrial Lumber by the Milwaukee Road is expected to continue regardless of the abandonment decision, no negative impacts are anticipated. Since the segment of trackage between this location and Waukesha will apparently be reclassified to side track status, similar to trackage serving other industries on the southwest side of Waukesha and operated by the same railroad, frequency of service might actually improve because the Waukesha customers are currently being served up to five days per week.

Williams Drying & Storage

Williams Drying & Storage is not dependent upon rail service for movement of corn but is dependent upon such service for obtaining the best possible price for its corn from buyers. If rail service becomes unavailable, operations may be expected to continue at this location, but the following impacts are expected:

1. Additional transportation costs will be incurred. Based on a price difference of \$0.50 per bushel of corn delivered to Milwaukee, and a forecast of 50 carloads shipped in 1981,¹ transportation cost increases due to loss of rail service will total an estimated \$8,250.

¹Estimated 1981 carloadings and tonnages have been utilized for measuring economic impacts for all shippers.

2. Some farmers can be expected to market their corn through other storage and drying facilities that have rail service available because of a more attractive price. The competitive disadvantage that would be incurred by Williams Drying & Storage because of this, however, cannot be measured in dollar amounts at this time. No changes in basic or service employment or in local tax revenue income are expected at Williams Drying & Storage due to the loss of rail service.

Sandra Corporation

Sandra Corporation's plans for full production and expansion are wholly contingent upon the availability of railroad freight service. Inbound raw materials can be economically shipped only by railroad and some customers will only accept deliveries by rail. If railroad service becomes unavailable, the following impacts are expected:

1. Operations will cease at this location, resulting in a loss of basic employment for six people with a total annual income of \$48,000. An additional 8.64 service jobs supported by the basic jobs are also expected to be lost, with an attendant loss of annual income of \$86,000.
2. Plans for expansion during 1979 would be terminated, resulting in a loss of four potential basic employees with a potential annual income of \$32,000. An additional 5.76 potential service jobs will be lost, with an attendant annual income of \$57,000.
3. Sandra Corporation currently pays \$1,500 in annual property taxes to the Village of North Prairie. While it is likely that some buyer could be found for the property, its value would be greatly decreased as a result of the loss of rail service. The study assumes that 50 percent of the market value of the property, and thus \$750 in annual tax revenue to the Village, would be lost, along with a potential loss of \$700 in future increased tax revenue from curtailed expansion plans.

Brittingham & Hixon Lumber Company (B & H)

Should direct rail service to Eagle be discontinued, inbound lumber currently arriving at B & H by rail will probably be delivered to Mukwonago and trucked the final eight miles. Operations would

not be affected except for the additional handling and attendant inconvenience and costs, estimated by B & H to be approximately \$2,000 per year. No changes in basic or service employment or in local tax revenue are expected at this facility due to loss of rail service.

Jefferson County Farmco Cooperative

Jefferson County Farmco presently has a feed mixing facility located at Palmyra, as well as a fertilizer blending and bagging operation and a store for sales of miscellaneous agricultural supplies. Potash and phosphate are economically shipped to midwestern states only by rail. Should abandonment of railroad service through Palmyra occur, the following impacts are anticipated:

1. Fertilizer would be delivered by rail to Farmco's facility at Jefferson and trucked to customers in and around Palmyra. Additional transportation costs would approximate \$36,000 based on 1978 tonnage moved.
2. The fertilizer bagging operation would be moved to a location where the potash and phosphate can be unloaded directly from hopper cars, probably Jefferson. Employment at the Palmyra facility would be correspondingly reduced by at least one person, with an attendant annual income loss of \$12,500. Since the activity is classified as a service activity, the lost job would be a service job.
3. Movement of the fertilizer bagging operation along with attendant equipment from Palmyra would reduce the municipal tax revenue by approximately \$750 per year.

Richard Gumz Farm

Operations at the Gumz Farm would remain the same except that inbound fertilizer would be trucked to Palmyra from a nearby railhead. An additional transportation cost of about \$3,600 would be incurred as a result of the extra handling involved. No changes in basic or service employment or in local tax revenue are expected at this facility due to the loss of rail service.

Badgerland Co-op

Because Badgerland receives inbound fertilizer ingredients and anticipates shipping corn in "jumbo" hopper cars, unavailability of rail service may be expected to have a significant impact on

operations at the Whitewater facility. The co-op would, nevertheless, still be able to perform all of its current functions. Anticipated impacts include:

1. Inbound fertilizer ingredients would have to be off-loaded at a nearby railroad and transported the remaining distance to the Whitewater blending facility by truck. Based on estimated inbound carloads for 1981, additional costs for the extra handling would approximate \$56,000.
2. Badgerland's outbound corn and soybean shipments would have to be transported totally by truck. Potential earnings from this expanding commercial activity would be reduced since the more favorable prices and rates for rail-delivered corn will not be obtainable. Since the price differential between grain shipped via rail and via truck increases with the distance shipped, expansion of corn and soybean sales into other markets such as the Gulf Coast would be restricted.
3. The additional cost for transportation of inbound potash and phosphate, as well as the inability to obtain more advantageous prices for outbound grain, may be expected to have a significant impact on Badgerland's competitive position, thus causing a reduction in the level of activity. Such a reduction may lead to a reduction in current employment as well as in potential employment that would be hired as a result of expansion. Quantification of such impacts is, however, not possible at this time since the extent of such an effect is indeterminable. Accordingly, no changes in basic or service employment or in local tax revenue were forecast for Badgerland Co-op due to the loss of rail service.

Sturgis Newport Business Forms

Sturgis Newport Business Forms is not dependent upon retention of rail service. Some of the roll paper required is already delivered to Whitewater by truck. If rail deliveries could not be made, the paper currently shipped by rail would be delivered directly to the plant by truck. Such a change cannot be considered a negative impact because the inconvenience and cost of additional cartage between the team track and Sturgis Newport would be eliminated. Therefore, no changes in basic or service employment or in local tax revenue are forecast for the Sturgis Newport plant due to the loss of rail service.

Hawthorn Melody Farms Dairy

Hawthorn Melody has considered receiving inbound shipments of resin and fuel by rail. Because no assurance of actual utilization of the railroad exists at this time, it is possible that all transportation needs will continue to be fulfilled by motor truck transportation. Accordingly, no impacts attributable to discontinuance of the railroad service are forecast.

Home Lumber Company

Home Lumber may be expected to continue to maintain at least the present level of activity should railroad freight service into Whitewater be eliminated. Materials currently received by rail would be trucked from the nearest railhead, resulting in additional transportation costs of approximately \$10,500 as well as some associated inconvenience. No other impacts are anticipated.

Kaiser Agricultural Chemicals

Kaiser's plant at Whitewater is engaged in the manufacture of agricultural fertilizers. Rail freight service is an integral and necessary part of this operation since inbound chemicals can be delivered economically only via rail. If the Waukesha to Milton Junction rail line is abandoned, the economics of transporting potash and phosphate would become prohibitive, probably necessitating the discontinuation of this operation. Such discontinuation would result in the following impacts:

1. Kaiser currently employs 22 people with a total annual income of about \$336,000 at its Whitewater plant. These jobs and an additional 31.68 service jobs and an associated \$237,000 in annual income would be lost.
2. Four potential jobs related to planned expansion of sales would be lost, together with 5.76 potential service jobs. This would result in a loss to the local economy of approximately \$61,000 and \$43,000 per year, respectively.
3. Kaiser currently pays \$19,509 in local property taxes for this plant. At least one-half of this tax revenue would be lost, although this estimate may be conservative since the existing facility is highly specialized.

Union Forest Products

Sawmilling and lumber operations at Union Forest Products, at present, do not utilize rail service. Therefore, current operations may be expected to

be continued at least at the current level if the railroad track through Lima Center is dismantled. Plans for expansion into the railroad cross tie market would have to be abandoned, however, since the potential customer will only accept deliveries by rail. No changes in basic or service employment or in local tax revenues were forecast for this facility due to the loss of rail service.

Aggregate Economic Impacts

Of the eight existing shippers on the line, all but one, Sturgis Newport Business Forms, may be expected to experience inconvenience, additional handling of goods and materials, and some degree of competitive disadvantage attendant to increased transportation costs in the event of the abandonment of the railroad line. Impacts serious enough to cause a loss of employment and/or reduction or discontinuance of operations may be expected by three of the eight existing shippers, as shown in Table 32.

Based on an examination of the impacts of abandonment on all of the existing and potential shippers, a total of 28 basic jobs with an annual aggregate income of \$384,000 and approximately 41 associated nonbasic jobs with an annual aggregate income of \$335,500 would be lost. Furthermore, because the expansion plans of certain shippers would have to be curtailed, a total of 8 potential basic industry jobs representing an

annual aggregate income of \$93,000, along with 12 associated nonbasic jobs representing an annual aggregate income of \$100,000, would be lost. Combining both actual and total employment as well as income, approximately 89 jobs and a total annual income of approximately \$912,500 would be lost as a result of the loss of railroad service.

Local property tax impacts consist of those property taxes that are now paid but that would be lost because of either elimination or reduction in plant facilities by one or more shippers. Aggregate tax revenues totaling approximately \$11,000 would be lost, while another \$700 would not be added because of a curtailment of expansion plans. Based on 1978 total equalized valuation of the jurisdictions involved, the reduction in total property tax generated may be expected to approximate 1.5 percent for the Town of Whitewater, less than 1 percent for the Village of Palmyra, and about 0.5 percent for the Village of North Prairie.

The railroad itself is assessed an ad valorem tax based on the valuation of all operating property within the State of Wisconsin. Because of the methodology utilized to determine this tax, that portion of the tax assignable to an individual line such as the Waukesha to Milton Junction segment cannot be readily localized. Also, because of the railroad's recent bankruptcy, no ad valorem taxes have been paid to the State since the beginning

Table 32

ANTICIPATED ANNUAL ECONOMIC IMPACTS ATTRIBUTABLE TO DISCONTINUANCE OF RAILROAD SERVICE

Shipper ^a	Classification	Number of Basic Jobs Lost	Basic Job Annual Income Lost	Number of Service Jobs Lost ^b	Service Job Annual Income Lost ^c	Number of Potential Basic Jobs Lost	Potential Basic Job Annual Income Lost	Number of Potential Service Jobs Lost	Potential Service Job Annual Income Lost	Local Tax Revenue Lost	Potential Local Tax Revenue Lost	Additional Transportation and Handling Costs
Williams Drying & Storage	Service	--	--	--	--	--	--	--	--	--	--	\$ 8,250 ^d
Sandra Corporation	Basic	6	\$ 48,000	8.64	\$ 86,000	4	\$32,000	5.76	\$ 57,000	\$ 750	\$700	--
Brittingham & Hixon Lumber Company	Service	--	--	--	--	--	--	--	--	--	--	2,000
Jefferson County Farmco Cooperative	Service	--	--	1.00	12,500	--	--	--	--	750	--	36,000
Richard Gumz Farm	Basic	--	--	--	--	--	--	--	--	--	--	3,600
Badgerland Co-op	Service	← Indeterminable →		← Indeterminable →		← Indeterminable →		← Indeterminable →		← Indeterminable →		56,000 ^d
Sturgis Newport Business Forms	Basic	--	--	--	--	--	--	--	--	--	--	--
Home Lumber Company	Service	--	--	--	--	--	--	--	--	--	--	10,500
Kaiser Agricultural Chemicals	Basic	22	336,000	31.68	237,000	4	61,000	5.76	43,000	9,755	--	--
Union Forest Products	Basic	--	--	--	--	← Indeterminable →		← Indeterminable →		← Indeterminable →		--
Total		28	\$384,000	41.32	\$335,500	8	\$93,000	11.52	\$100,000	\$11,255	\$700	\$116,350

^a Shippers classified as "service" industries are assumed not to have a secondary employment impact as do primary, or "basic," industries.

^b Since secondary "service-related" jobs are determined from the primary employment for some of the shippers, and thus represent a theoretical equivalent expressed in nonwhole numbers of jobs, the total "service-related" employment associated with primary employment can be expressed in nonwhole numbers.

^c Income for "service-related" employment is based on weighted average annual incomes for selected Standard Industrial Classification codes during 1978 for individual counties.

^d Based on 1981 projected carload estimates.

Source: Wisconsin Department of Industry, Labor and Human Relations and SEWRPC.

of 1978. Therefore, the tax revenue to the State that is related to this branchline segment may be considered to have been already lost, a result of factors other than the pending abandonment.

Additional transportation and handling costs include those costs attributable to the transferring of goods and materials between railroad cars and trucks, and the cost of moving those goods and materials between the railhead and the shipper's facility. Since it is assumed herein that a discontinuance of railroad service would cause two of the shippers—Sandra Corporation and Kaiser Agricultural Chemicals—to cease operations, additional transportation and handling costs would not be incurred for these operations. Additional transportation and handling costs for the operations that will remain are estimated to total \$116,350, based on information supplied by the firms involved.

OTHER REGIONAL IMPACTS

In addition to economic and environmental impacts, abandonment of the branchline segment between Waukesha and Milton Junction may be expected to have certain miscellaneous impacts on the surrounding communities served. Such impacts include: 1) increased motor truck traffic, possibly resulting in a need for additional highway construction and maintenance expenditures; 2) safety considerations; 3) effects on potential industrial development; and 4) possible effects on surrounding land use. These potential impacts of abandonment are discussed herein. Because these impacts may be expected to have a direct or indirect effect on the area's street and highway system, it is useful, at this time, to briefly describe that system.

Area Highway System

The transportation corridor in which the Waukesha to Milton Junction railway line is located is served by a well-developed network of arterial streets and highways, as shown on Map 2. State Trunk Highway (STH) 59 closely parallels the railroad alignment over its entire distance, linking the same communities as does the railroad except Lima Center and Genesee Depot, both unincorporated. Genesee Depot has access to STH 59 via STH 83, one of several state trunk highways connecting the corridor to adjacent communities. Only Williams Siding and the community of Lima Center are served solely by county trunk highways.

While Waukesha is well served by IH 94, there is no existing freeway service to Whitewater or

to the intermediate communities along the line. The relocation and reconstruction to freeway standards of U. S. Highway (USH) 12 between Elkhorn and Whitewater, providing a connection with existing IH 90 southeast of Madison, is proposed for implementation between the years 1985 and 2000.

Additional Motor Truck Traffic

Goods and materials currently transported by railroad or that are anticipated to be shipped by railroad would have to be shipped or received by motor truck should freight service over the railroad line be discontinued. To ascertain the additional truck traffic that would be generated by such a discontinuance, the estimated tonnage projected to be shipped by railroad in 1981 has been converted into equivalent truckloads and assigned to the most logical highway route to or from each shipper's facility. Each truckload is assumed to be carried on a standard tandem axle tractor-trailer combination with a maximum gross weight of 80,000 pounds, carrying an assumed net tonnage of 52,000 pounds.

Assignment of truck traffic onto the highway system is based upon the shortest highway distance available between the particular facility and the nearest existing railhead over state trunk highways (see Table 33). In some cases, the nearest railhead has been substituted by a particular location that the shipper has specifically indicated would probably be used. Some shippers were assumed to utilize motor truck for the shipment's entire trip.

The data so developed indicate that the additional truck traffic necessary to transport freight currently handled by the railroad line would not significantly add to the daily traffic volumes on any of the highways within the Region. Spreading the potential truck traffic over the number of working days in a year, approximately eight additional one-way truck trips traveling approximately 132 truck-miles per average week-day would be needed to provide freight service in the 41-mile corridor.

The major contributors to the additional traffic are anticipated to be Badgerland Co-op, Williams Drying & Storage, and Jefferson County Farmco. No additional truck traffic attributable to the Sandra Corporation, Kaiser Agricultural Chemicals, or Union Forest Products is anticipated since implementation of expansion plans by these firms would not be likely should railroad service become unavailable.

Table 33

ADDITIONAL TRUCK TRAFFIC ANTICIPATED BECAUSE OF ABANDONMENT BASED ON 1981 PROJECTIONS

Shipper	Tonnage	Highway Routing	Round Trip Distance (miles)	Number of One-Way Annual Truck Trips	Total Annual Truck-Miles	Gross Annual Ton-Miles	Number of Average Weekday Truck Trips ^a
Williams Drying & Storage	5,000	Williams Storage to Milwaukee via GD, D, 83 to IH 94	16.4 ^c	386	3,165	85,313	1.52
Brittingham & Hixon Lumber Company . .	540	Eagle to Mukwonago via NN and 83	15.6	42	328	8,798	0.16
Jefferson County Farmco Cooperative . . .	4,224	Palmyra to Jefferson via 135, 106, and 26	46.6	314 ^b	7,316	193,530	1.24
Richard Gumz Farm	400	Palmyra to Sullivan via 135	24.6	32	394	10,430	0.12
Badgerland Co-op (corn)	10,000	Corn facility to Milwaukee via 59, 12, 20 to 15	44.6 ^c	770	17,171	463,394	3.02
Badgerland Co-op (fertilizer)	6,125	Fertilizer facility to Milton Junction via 59	18.4	472	4,342	117,144	1.86
Sturgis Newport Business Forms	280	Whitewater to IH 90 via 59	43.0 ^c	22	473	12,642	0.08
Home Lumber Company	595	Whitewater to Fort Atkinson via 12	18.8	46	432	11,647	0.18
Total	27,164	--	--	2,084	33,621	902,898	8.18

^aBased on 255 working days per year.

^bBased on a net tonnage of 54,000 pounds.

^cMileage is given to the nearest limited access highway facility.

Source: SEWRPC.

Highway Construction and Maintenance Impacts

Because discontinuance of railroad service will cause an increase in truck traffic on highways in the corridor, corresponding additional wear on roadway pavements may be expected, resulting in additional maintenance costs. As already indicated, however, the additional truck traffic that may be expected throughout the entire 41-mile corridor on a daily basis is minimal. Inasmuch as this traffic may be expected to be distributed over several different highway routes throughout the corridor, the impact on each route or highway segment is considered to be negligible as far as additional construction or maintenance expenses are concerned.

Since all highways that are part of the state trunk systems should have roadway surfaces and bridge structures in such condition that weight restrictions are normally not required, no problems are foreseen that would restrict utilization of trucks loaded to a gross capacity of 80,000 pounds. Only one shipper should be potentially affected by seasonal weight restrictions, that being Williams Drying & Storage, which must use county trunk highways to gain access to the state trunk highway system. A seasonal gross weight limitation of

52,000 pounds is imposed for approximately one month on the county trunk highways serving this facility. Although this restriction is not normally imposed during Williams' peak shipping period, shipments over 52,000 pounds may be transported even over the restricted roads if a permit and bond are provided. There are no other known weight restrictions or bridges encountered on the routes herein cited as the shortest between each shipper and the nearest railhead.

Safety Considerations

Should abandonment of the Waukesha to Milton Junction railway line occur, public safety in the surrounding area may be affected. The potential for grade crossing conflicts between trains and motor vehicles will be eliminated. This would result in a small positive impact since available data indicate that a total of four accidents with a total of \$5,200 in highway vehicle property damage and one injury occurred at crossings that are included under the pending abandonment application over the three-year period from 1975 through 1977.² The elimination of grade crossing

²Data are only available for 1975 through 1977.

conflicts may, however, be offset by the increased potential for accidents between the additional trucks and existing motor vehicle traffic.

Abandonment of the Waukesha to Milton Junction line would also eliminate the potential for train derailments. As already noted, there have been two minor derailments in the period from 1976 through 1978. Derailments of trains carrying hazardous materials are of concern to on-line communities. No such materials are, however, presently transported or expected to be routinely transported over the subject line.

Industrial Development Impacts

A traditional argument in opposition to railroad abandonment is that the industrial development potential of communities will be adversely affected. This reasoning is based on the assumption that railroad facilities are essential if industries are to be attracted to industrial parks and other industrial sites in and near the communities affected.

The industrial development impacts of abandonment with respect to the Sandra Corporation, located in North Prairie, and Union Forest Products, located in Lima Center, are documented earlier in this chapter. The only industrial park located in or near an on-line community is located on the northeast side of the City of Whitewater. The 135-acre park, currently under development and scheduled for completion in 1980, will have sewer, water, and street improvements. The railroad, although nearby, is not adjacent to the park. The construction of a proposed spur into the park did not occur because it was believed the benefits of such a spur would not justify its construction costs. The industrial park is rapidly filling up with light industrial and construction businesses—firms that generally do not require rail service.

However, the Industrial Development Committee of the Whitewater Chamber of Commerce views the availability of railroad freight service as a valuable asset in the community's continuing efforts to promote industrial development in Whitewater. According to the Committee Chairman, two companies have recently indicated an active interest in locating rail-dependent commercial or industrial facilities in or near the City of Whitewater. One concern would manufacture a Styrofoam-like product and would initially employ approximately 75 people. The other would assemble aluminum building components with an unknown initial employment. However, because specific quanti-

tative information related to these potential businesses is unavailable, the effect of rail abandonment cannot be reliably estimated. The Committee Chairman has also indicated that the City is actively considering expansion of the industrial park or development of an additional industrial park, and that the availability of rail service would be an important selling point in attracting industry to the new or expanded industrial development.

In contrast to these local perceptions, the Association of American Railroads (AAR) recently summarized the findings of seven retrospective branchline abandonment studies and concluded that "... branchlines are seldom an important part of community economic activity... other economic factors are more responsible for shaping the future of a local economy than is railroad branchline service."³ In addition, the AAR stated

³*John P. Sammon, A Review of Retrospective Railroad Line Abandonment Studies, Association of American Railroads, Washington, D.C., December 4, 1978, p. 8. Studies that were summarized include: Interstate Commerce Commission, Bureau of Transportation Economics and Statistics, Railroad Abandonment 1920-1943, Washington, D.C., 1945; Boston University Bureau of Business for the U. S. Department of Commerce, Transportation Research, "The Economic Impact of the Discontinuance of the Rutland Railway." Studies on the Economic Impact of Railway Abandonment and Service Discontinuance, Washington, D.C., 1965; Simat, Helliesen and Eichner, Inc., Retrospective Rail Line Abandonment Study, Boston, submitted to the U. S. Department of Transportation, Washington, D.C., 1973; Simat, Helliesen and Eichner, Inc., Additional Retrospective Rail Line Abandonment Studies, Boston, submitted to the U. S. Department of Transportation, Washington, D. C., 1975; Massachusetts Institute of Technology, An Analysis and Evaluation of Past Experience in Rationalizing Railroad Networks, Cambridge, submitted to the U. S. Department of Transportation, Washington, D. C., 1975; Iowa Department of Transportation, An Economic Analysis of Upgrading Rail Branch Lines, Ames, prepared for the Federal Railroad Administration, Washington, D. C., 1976; and "Rationalization of Rail Line Abandonment Policy in the Midwest Under the Railroad Revitalization and Regulatory Reform Act of 1976," Transportation Journal, Fall 1978.*

that, "The present day highway system and the diesel motor truck have effectively eliminated any differential economic advantage that can be conferred by location on a rail line. This pervasive system of highway freight transportation has made shippers relatively indifferent to the availability of rail service."⁴

These conclusions are based on study findings that indicate that many branchline abandonments merely mark the end of a series of unfavorable local events. The shock of abandonment often forces local communities into realizing that long-standing downward general economic trends have to be reversed if the communities are to prosper. Also, shippers often find that the switch to motor truck requires a reorganization of their distribution patterns, which in turn results in a reduction in total operating costs. The necessary additional local trucking services in some cases may also inject more employment and revenue from local purchases into the local economy than did railroad transportation.

In conclusion, it can be stated that, at present, Whitewater's industrial park, and thus the City's industrial base, appears to be expanding in spite of the absence of direct railroad freight service. However, based on recent inquiries by prospective industries, absence of rail service could reduce the future attractiveness of the Whitewater area to certain firms, although data are not available to permit quantification of this effect. With regard to the remaining on-line communities between Waukesha and Milton Junction, findings presented in the AAR summary can only suggest that rail service is not generally mandatory for economic growth unless there are specific instances of active interest by rail-dependent businesses.

Land Use Impacts

Abandonment of the branchline segment between Waukesha and Milton Junction is not expected to significantly alter existing land use patterns in the corridor. Should service be discontinued and the track structure dismantled, the right-of-way will be sold either intact or on a parcel-by-parcel basis presumably to adjoining landowners. The Wisconsin Department of Natural Resources has expressed

⁴John P. Sammon, A Review of Retrospective Railroad Line Abandonment Studies, Association of American Railroads, Washington, D. C., December 4, 1978, p. 9.

interest in acquiring the right-of-way for use as a recreation trail. The Department has indicated that should abandonment be approved, and if the line is not to be retained for the provision of railroad service, the Wisconsin Department of Transportation would be asked to acquire it. The line is attractive for this purpose since it passes through the Southern Unit of Kettle Moraine State Forest and is adjacent to Old World Wisconsin historical site.

Should the right-of-way be disassembled by the sale of individual or blocks of parcels, the line segments between communities may be expected to revert to agricultural uses. Some portions between Eagle and Palmyra can be expected to be added to the Kettle Moraine State Forest since the right-of-way passes directly through the forest. Finally, parcels in and around developed areas may be expected to be used for commercial, industrial, or municipal purposes, depending on the adjacent existing land use.

ENVIRONMENTAL IMPACTS

Diversion of freight from railroad to motor truck for local delivery to businesses that no longer have access to rail service may be expected to have some environmental impacts. Such impacts include effects on energy consumption, air quality, noise levels, water quality, ecological relationships, historical considerations, and aesthetics. For the purpose of a potential environmental impact assessment, the level of railroad service is assumed to consist of train movements required to adequately handle 1981 carloads and attendant tonnage levels.⁵ Service frequency is assumed to be three times per week, each trip interchanging cars at Waukesha. Utilization of one diesel-electric locomotive is also assumed.

Energy Consumption

Abandonment of the railroad can be expected to produce an overall decrease in fuel consumption for transportation services within the corridor. It is estimated that approximately 72,100 gallons of diesel fuel will be required to move the projected tonnage by railroad during 1981. This figure is

⁵Estimated 1981 carloadings and tonnages have been utilized for measuring environmental impacts since these figures represent increased traffic for almost all businesses, and thus greater potential impacts should abandonment occur.

based on a rating of 55 ton-miles per gallon for a railroad branchline train of 30 cars or less, and includes the fuel necessary to return empty cars from the line as well as to move the locomotive.⁶ Should abandonment occur and truck transportation be substituted, approximately 13,900 gallons of diesel fuel per year will be required to move goods and materials from nearby railheads. This figure is based on a rating of 65 ton-miles per gallon for a short-haul diesel truck operating at an average speed of 30 miles per hour.⁷

The savings in diesel fuel attributable to abandonment would be approximately 58,200 gallons, or approximately 81 percent of the total required for branchline railroad operation. This savings may be expected to be realized for several reasons. Foremost, branchline railroad service typically requires continuous operation of a locomotive for several hours to move a relatively small tonnage, making this type of service much more energy intensive per ton-mile than line-haul movement of larger volumes of freight. Also, trucks become slightly more fuel-efficient at the local short-haul level. Finally, if abandonment occurs, shipping requirements may be expected to change, resulting in less overall demand for goods and materials movement in the corridor since some rail-dependent shippers will cease operations, although the energy impact of a resumption of some of these operations at another location is problematical.⁸

Air Quality

Discontinuance of railroad service may be expected to produce a net change in the amount of air

⁶This rating has been determined by the U. S. Department of Transportation, Transportation Systems Center, Cambridge, Massachusetts.

⁷Ibid.

⁸It was suggested by a member of the Technical Coordinating and Advisory Committee that steam locomotive operation be considered to save petroleum-based fuel. Due to the general unavailability of such locomotives in the United States, as well as the additional expertise, inspections, skill, and expense involved in maintenance and operation, utilization of steam locomotives was considered unlikely except under unusual circumstances relating to the capabilities of a particular shortline operator.

pollutants generated. Although the trucks and locomotives assumed to be utilized are diesel-powered, railroads will frequently use a lower grade of fuel, therefore tending to generate more emissions for a given quantity of fuel burned. Transportation equipment represents moving point sources of pollution. Therefore, the occurrence of pollutant concentrations at a specific location is momentary and quickly dissipated over a wide area.

Changes in emissions of hydrocarbons, nitrogen oxides, and carbon monoxide are based on the difference between locomotive fuel consumption and substitute motor truck fuel consumption, both for 1981. It is estimated that abandonment would reduce fuel consumption by 58,232 gallons, resulting in a reduction of approximately 3.1 tons of hydrocarbon emissions, 10.9 tons of nitrogen oxide emissions, and 3.2 tons of carbon monoxide emissions.

In view of the fact that this reduction in emissions is generated over an area that is approximately 40 miles in length and approximately 20 miles in width, and from several moving sources, it may be concluded that only a negligible impact upon air quality would result. In addition, the area involved does not include any known critical air basins—areas where air quality standards are presently exceeded.

Noise Impacts

Elimination of train movements may create a slight positive impact on noise levels in and near concentrations of population. The noise level generated by a typical diesel-electric locomotive at a distance of 50 feet from the locomotive is between 88 and 98 dBA. However, only the change in perceived noise level is of importance. An increase in the volume or frequency of sound may be of little importance in a sparsely populated area. Also, since such railroad activity increases noise levels for only several brief periods during each weekly period, the present impact is of little significance.

As already noted, the anticipated additional motor truck movement that would result from rail service abandonment would average only eight additional trucks per weekday or 132 additional truck-miles per weekday in an area of approximately 40 miles by 20 miles. The noise impacts associated with such a truck traffic increase on existing roadway corridors can only be regarded as negligible. Accordingly, it may be concluded that overall changes in noise levels as a result of railroad abandonment would be of no significance.

Water Quality

Abandonment of railroad service may affect water quality in three principle ways: 1) the potential for chemical pollution would be eliminated; 2) the potential for herbicide runoff would be eliminated; and 3) artificial water impoundment would be eliminated.

Chemical pollution may be caused either by derailments where liquids are spilled from rail cars, or by the drainage and leakage of fuel oils and lubricating fluids at locomotive servicing facilities. There are no servicing facilities on the subject line, and derailments have been minor. The potential for spillage of loads does, however, exist since tank cars of chemicals such as liquid phosphate are occasionally handled by on-line shippers.

The Milwaukee Road has ceased to apply herbicides to control weeds and plant growth on and near the roadbed. When such chemicals are used, subsequent leaching and runoff can adversely affect ground and surface water quality.

Impoundment of surrounding water features can occur because of causeways and other embankments that may interfere with normal water flow, thus affecting marshes and other ecologically sensitive areas. Such situations, however, do not exist to any significant degree along this right-of-way. Indeed, if such impoundments did exist, proposed use of the right-of-way by the Wisconsin Department of Natural Resources for a recreation trail would probably preclude such causeways or fills from being significantly altered.

Based upon the foregoing, it may be concluded that abandonment should not result in any measurable change in water quality conditions.

Ecological Considerations

Typical of most railroad branch lines in rural areas, the right-of-way extending from Waukesha to Milton Junction provides an "ecological corridor," consisting of various forms of flora and fauna that have been allowed to survive in an environment that is largely undisturbed, except for the intermittent passage of trains. The corridor provides a diversity of habitat for certain species not found in the adjacent agricultural lands (see Figure 36).

Abandonment may significantly impact the surrounding vegetation and wildlife if the corridor is not preserved or is converted to other uses. However, as a matter of policy, the Wisconsin

Department of Transportation has indicated that "... railroad companies should not be compelled to continue operation of lines at a loss merely to maintain the natural environments existing in rail corridors ...". It is important to know, however, if the corridor possesses significant characteristics so that action may be taken by the appropriate agency should abandonment occur. Accordingly, the Wisconsin Department of Natural Resources has surveyed this corridor to ascertain the specific plant and animal communities present. The findings of that survey are summarized here.

Between Waukesha and Whitewater, the right-of-way is of minor importance to wildlife. Alternate habitat is sufficiently available for nesting of songbirds and small mammals which presently use the corridor. The Whitewater to Milton Junction segment provides habitat for a wide variety of game and nongame animals. The most notable species are pheasant, rabbits, skunks, racoons, opossums, and songbirds.

Significant plant communities between Waukesha and Whitewater include prairie remnants and prairie-old fields. Prairie remnants in this classification have a rich diversity of prairie species. Prairie-old fields are areas where reinvaded prairie species are common but where alien weeds still account for at least 50 percent of the total vegetation. Here quack grass or brome grass predominate among prairie species such as false boneset (Kuhnia eupatorioides), rigid sunflower (Helianthus), smooth blue aster (Aster laevis), and tickseed (Coreopsis lanceolata). The prairie-old field designation is important because it indicates damaged prairie that has potential to recover or prairie in the process of taking over alien grass areas. The prairie-old field also is an abundant seed source for prairie restoration projects and it supplies the corridor links and buffer zones needed between prairie remnants, without which most prairie animals would be unable to exert their proper effect on the prairie community. The Waukesha County Park and Planning Commission has identified these remnant prairies as extremely important.

The right-of-way between Whitewater and Milton Junction traverses an area of intensive agricultural use, which is for the most part gently rolling. Most of the land in the corridor, depending on the extent of disturbance, reflects the original prairie vegetation. Blue stems and Indian grass are common on the line, as are composites and sedges. Encroachment by woody vegetation is noticeable at various

Figure 36

EXAMPLE OF ECOLOGICAL CORRIDOR ON
WAUKESHA TO MILTON JUNCTION RAILWAY LINE



Because of the railway line's presence, various species of plant life have survived largely undisturbed by the surrounding agricultural activity. The existence of this vegetation produces an "ecological corridor," providing habitat conditions for certain species of wildlife not found in adjacent land uses.

Source: SEWRPC.

locations on the Milton Junction to Whitewater line. The most common species include white oak, dogwood, and sumac. Good examples of a rapidly disappearing resource, the native prairie species can be expected to be lost or destroyed if the land is converted to agriculture.

Should abandonment occur and the right-of-way become a recreation trail, existing plant life may remain, maintaining the "ecological corridor." Certain species of wildlife may or may not remain in this habitat, depending on the extent of disturbances which would, in turn, be a function of the extent of recreation trail utilization. If a recreation trail is not installed on the right-of-way, the majority of the corridor can be expected to revert to adjoining land uses, predominantly farmland. Under this situation, major portions of the right-of-way would be graded level to correspond with surrounding contours, and the "ecological corridor" with its attendant habitat characteristics would be lost.

Historical Impacts

Since the Milwaukee Road line from Waukesha to Milton Junction is part of the first railroad line constructed within the State of Wisconsin, it is indeed of unique historical significance. Constructed in concert with the State's earliest man-made physical development, the line repre-

sents contemporary civil engineering practices of the mid-nineteenth century, as well as standards for railroad route location when the industry was in its infancy.

Because the railroad's alignment corresponds with one of the earliest emerging transportation corridors in the State—Milwaukee to Janesville—the on-line communities contain many existing examples of architecture from the period before 1900. Several structures are listed in the National Register of Historic Places, including:

- Koepsel House in Old World Wisconsin.
- Walter S. Chandler House (1876) in the City of Waukesha.
- Lain-Estburg House (1848) in the City of Waukesha.
- Old Waukesha County Courthouse (1849) in the City of Waukesha.
- Ahira Hinkley House (1860-70) near the Village of Eagle.
- Enterprise Building (1845-48) in the Village of Palmyra.
- Heart Prairie Lutheran Church (1855-57) near the City of Whitewater.
- Goodrich House and Log Cabin (1844) in the City of Milton.

Not included in the National Register, but of locally historic significance, is the former Milwaukee Road depot (1895) in the City of Whitewater and immediately adjacent to the subject line. The ornate structure, representing a classic example of Victorian architecture, is owned by the City of Whitewater and leased to the Whitewater Historical Society for use as a museum (see Figure 37).

The railroad line is also immediately adjacent to the Old World Wisconsin complex near the Village of Eagle, currently under development by the State Historical Society of Wisconsin. The goal of Old World Wisconsin is to present "living" representations of the various ethnic heritages that have inhabited the State in an outdoor theme park setting, utilizing characteristic structures relocated to the Eagle site.

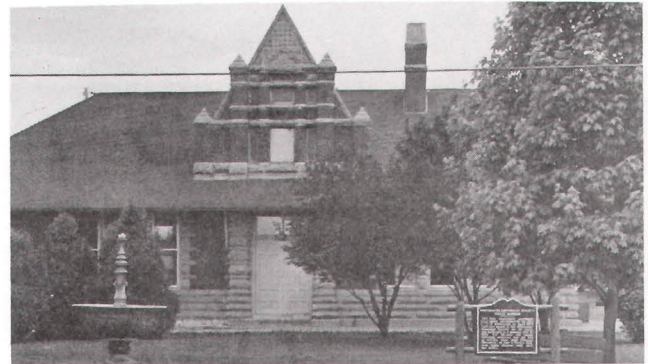
Figure 37

FORMER WHITEWATER PASSENGER DEPOT



The former Whitewater passenger station was sold by the Milwaukee Road to the City of Whitewater in 1973. Built in 1875, the structure is now leased by the City to the Whitewater Historical Society for use as a museum. This view is looking in a westerly direction.

Source: SEWRPC.



This view shows the front, or northwest side, of the depot structure. The historical marker, erected in 1975, states that the building, "the hub of activity" when eight trains stopped daily until the 1940's, was dedicated as a museum on July 21, 1974, and is leased to the Whitewater Historical Society for 99 years.

Source: SEWRPC.

While abandonment would destroy a unique part of Wisconsin engineering heritage, retention of this railroad line solely on historic preservation grounds appears to be impractical. Since the above-mentioned historic sites, with the exception of Old World Wisconsin, are not on or adjacent to the railroad property in question, there are no adverse impacts anticipated.

Aesthetics

Light-density lines such as the Waukesha to Milton Junction line frequently accumulate litter and are overgrown with weeds, resulting in a generally unkept although "natural" appearance. A change in land use to either a recreation trail or to the adjacent land uses may be expected to result in better sanitation and weed control, although whether the latter would produce a more pleasing aesthetic condition is a matter of personal values.

Dismantling Impacts

If permission by the federal Interstate Commerce Commission to abandon is granted, and there is no interest in purchase of the line intact, the Milwaukee Road will most likely contract for the line's dismantling. The Railroad customarily buys back any reusable track and bridge material and the contractor disposes of the remainder as he sees fit. Salvaging operations can be expected

to create minor air quality, noise, and ecological impacts of a localized nature during this period. Because of the short term of such impacts, however, they are not regarded as significant. According to established practice, the contractor would be liable for restoration of grade crossings, proper disposal of nonsalvageable materials, and adherence to other regulations that relate to railroad salvage operations.

Future use of this right-of-way as a recreation trail would necessitate the removal of all railroad track, but all trestles, bridges, and culverts would probably be retained.

SUMMARY

Abandonment of the Milwaukee Road's Waukesha to Milton Junction branchline segment may result in certain impacts of an economic, environmental, and miscellaneous nature.

Economic impacts are difficult to quantify since the service is currently in operation. Hence, some firms were unable to provide information reliable enough to accurately forecast adverse impacts. Nevertheless, for those firms that were able to supply adequate information on which to base such forecasts, it has been determined that a total

of 36 existing and potential basic industry jobs would be lost, together with approximately 53 nonbasic industry jobs. A corresponding total of \$477,000 in existing and potential basic income and \$435,500 in existing and potential nonbasic income per year would be lost. Actual and potential property tax revenues totaling approximately \$12,000 would be lost; no immediate tax impact attributable to the abandonment action would be felt from property taxes contributed by the Milwaukee Road. An estimated additional total transportation cost of \$116,350 would be incurred by the remaining shippers.

Almost all other potential impacts that were examined have been determined to be either non-existent or insignificant. Should abandonment of this line occur, the additional motor truck traffic that would be generated in the corridor would be negligible, resulting in no need for additional highway construction or maintenance. Major safety impacts are also not anticipated because of the minimal increases and decreases expected in truck

and train frequency, respectively. Rail freight service does not appear to be mandatory for continued development of the corridor's industrial base except possibly in the City of Whitewater area. Based upon the recent interest of two firms that require railroad sidings, Whitewater's industrial development could be adversely affected by a loss of rail service. However, the extent of such an effect is not quantifiable at this time. Existing land use patterns in the area surrounding the railway line are not expected to be altered should abandonment occur.

While most environmental aspects that were considered have been determined to be insignificant, one positive impact would be incurred because of abandonment—a net savings of approximately 58,200 gallons of diesel fuel annually. Changes in air and water quality, noise, wildlife, and vegetation would be negligible or are unknown. at this time. Temporary negative impacts may be incurred because of dismantling activities, but these would be of a relatively short duration.

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Chapter V

ALTERNATIVE PLANS

INTRODUCTION

One of the basic purposes of any planning effort is to identify the practicable alternative means of resolving the problem being addressed, to evaluate those alternatives, and to recommend the most appropriate alternative for adoption and implementation. The problem to be addressed in this report has been defined in previous chapters as the identification of the best means for fulfilling the unmet freight transportation needs likely to be created by the abandonment of the Milwaukee Road branchline segment between Waukesha and Milton Junction.

Identification of all reasonable and practical alternative plans is important to ensure adequate consideration of all potential public and private actions that may be appropriate. In such identification, economy dictates that the alternatives to be considered be confined to those that are reasonably attainable within the available financial resources. Alternatives that do not meet this criterion are unrealistic in terms of providing the needed transportation service regardless of the mode involved.

The purpose of this chapter is to identify and describe all practicable alternatives for providing needed freight service in the Waukesha to Milton Junction corridor. Alternatives are evaluated based upon the extent to which each alternative meets the freight transportation service objective and standards set forth in this report on both a comparative and absolute basis.

ALTERNATIVE IDENTIFICATION

A range of alternatives capable of meeting the current and latent freight transportation needs of the Waukesha to Milton Junction corridor were identified in the planning study by the staff with the assistance of the Advisory Committee. These alternatives are:

1. Do nothing—This alternative assumes that the present abandonment effort by the Milwaukee Road concerning the Waukesha

to Milton Junction railway line will be permitted to run its course, with the attendant impacts occurring after rail service is terminated.

2. Subsidization of existing service—Under this alternative, the current level of railroad service would continue to be provided by the Milwaukee Road over all or part of the railroad line between Waukesha and Milton Junction. Operating deficits would be reimbursed to the Milwaukee Road from either public or private funding sources.
3. Continued operation as a shortline railroad—Under this alternative, the railroad freight service would continue to be provided by a shortline railroad operator. The short line would be operated under one of several possible physical, operational, financial, and organizational configurations, and possibly would require a public subsidy.
4. Motor carrier substitution—Under this alternative, it is assumed that the subject railroad service would be unavailable, and arrangements would be made for motor truck transportation of all goods and materials that would ordinarily have been transported by railroad. For most shippers, this will require the establishment of coordinated trans-shipment facilities at designated railheads.
5. Operation by another existing trunk line railroad—Under this alternative, operation of the branchline segment from Waukesha to the Whitewater area would be assumed by another railroad that physically connects with the subject line.
6. Plant facility relocation—Under this alternative, public financial assistance would be provided to assist in the relocation of businesses to a more suitable location upon abandonment of the railway line.

Certain factors should be addressed prior to a description and evaluation of each alternative. It should be recognized that the alternative calling for operation of a shortline railroad is complex and can be formulated in a variety of configurations. Therefore, it is useful to first address, in a generic fashion, the various possible shortline applications, and second, to determine the optimal shortline configuration for evaluation against the remaining alternatives.

SHORTLINE RAILROAD APPLICATION

Common carrier railroads in the United States are officially designated into three classes by the federal Interstate Commerce Commission (ICC), those categories being determined by annual gross revenues. The reader should be careful to distinguish between these ICC common carrier classes and the Federal Railroad Administration track classes referenced elsewhere in this report. Class I railroads are defined by the ICC as railroads earning more than \$50 million in gross revenues per year and include about 60 major trunk lines and switching and terminal railroads. The remaining common carrier railroads in the United States are designated either Class II or Class III, and consist of approximately 300 individual companies, the actual number varying from year to year depending on the creation of new companies, bankruptcies, and suspended operations. Class II railroads have annual gross revenues of between \$10 million and \$50 million, and Class III railroads are those with annual gross revenues of less than \$10 million. Class III rail carriers are those usually referred to as "shortline railroads" or just "short lines." There is no precise definition for this type of railroad, but a shortline railroad is generally under 100 miles in length and of a line-haul feeder character as opposed to a switching and terminal company.

Short lines generally act as localized feeders that connect one or more communities and/or industries with the national railroad network. When the economy depended to a much greater extent on rail transportation than it does at present, shortline railroads were constructed to connect locations that were either bypassed by other railroads or that grew significantly after construction of a nearby railroad. Some short lines were eventually purchased by the main connecting railroad, but many others have continued to exist up to the present as independent operations. Although the number of these operations has decreased coincident with the general decline in

railroad mileage since the 1920's, this trend has reversed since 1972 as a result of current railroad industry problems. The creation of the Consolidated Rail Corporation (Conrail) and its subsequent assumption of freight service from 24 northeastern railroads on April 1, 1976, as well as the acceleration of branchline abandonment programs, particularly by midwestern railroads, has encouraged the institution of shortline railroad operation over individual segments of light-density trackage found to be unprofitable by larger rail carriers.

Advantages of Shortline Operation

The rationale for shortline operation is that the economics of operation available to smaller localized operations, but not to major railroads, provide for a greater possibility of a financially viable railroad. Advantages of operating a light-density branch line as a short line include:

1. Costs of labor may be less since prevailing local wage rates can be paid instead of nationally negotiated wage rates, and smaller crews can be utilized.
2. Employees may perform a variety of tasks as the need requires, since shortline railroad employment is generally not bound by industry labor agreements. Hence, fewer total as well as fewer operating employees may be required.
3. High-quality employees and more cooperative employee attitudes may exist because of the closer working relationship between all employees stemming from the small total employment, as well as from the varied responsibilities of the employees.
4. Short lines presumably have the incentive and ability to provide service closely tailored to individual shipper requirements.
5. Localized operation and management promotes better customer contact and relations.
6. Such operations minimize the administrative costs and other effects of a large corporate bureaucracy.
7. Less complicated accounting and reporting is required of short lines by the Interstate Commerce Commission.

8. Economic benefits accrue to the local area including, but not limited to, local purchase of some supplies and funds deposited in local banks.

The primary cost advantage that contributes to shortline viability is the substantial reduction in labor costs that is possible in comparison to the labor costs that a major railroad would incur operating the same line. Wage rates can be lower, particularly in rural areas, and trains can often be operated with train crews of fewer than four persons. More flexible use can also be made of the same labor, since the entire organization is comparatively small, and each individual employee realizes the importance of his or her work. Service advantages of a shortline railroad are also important. The potential for more personalized service may make the shippers more inclined to utilize rail service in cases where the rates between truck and rail are nearly identical. Local shippers may also realize that the traffic they provide will determine the short line's ability to survive financially.

Disadvantages of Shortline Operation

It must be recognized that shortline railroad operation also has inherent disadvantages that include:

1. Employees must be able to perform many tasks, and therefore may not be able to become highly specialized and "efficient" in certain areas. Major railroads are able to maintain specialized labor crews and acquire expensive machinery for jobs such as track rehabilitation, crossing signal maintenance, clearing derailments, and major bridge repair. A short line would most likely have to hire an outside contractor or nearby railroad to handle such jobs, incurring greater costs than if the job were done by force account.
2. The inability to hire full-time qualified management may hinder the maintenance of adequate rate divisions, division adjustments, and car supply. This inability is a result of short lines not being able to offer salaries to management competitive with those offered by larger railroads.
3. Under branchline operations typical of a major railroad, a locomotive that is used on a branch line can be used in other services when not on that line, such as the locomotive that works the Waukesha

to Milton Junction line is currently used by the Milwaukee Road. On a short line with normal train service only on specific days of the week, the locomotive may remain idle throughout the remainder of the week.

4. During periods of depressed traffic on a line that otherwise may be financially viable, major railroads would be able to internally cross subsidize the line; that is, cover losses incurred on the line from profits on other lines. A short line is not able to do this.
5. A short line is unable to obtain larger quantity purchase discounts for fuel and other materials. Also, mechanical repairs on locomotives and cars require expensive equipment and parts inventories. Thus, the short line is required either to invest in equipment and inventory, which may be relatively cost-ineffective, or to have such repairs performed on the outside, which may be expensive in terms of both cost and down time.
6. Shortline railroads are particularly dependent on Class I railroads for car supply. This plus the fact that virtually all shortline freight moves over at least one Class I railroad means that service offered by a short line can be no better than that provided by the Class I connection.

In summary, it should be remembered that the railroad industry is fixed plant and equipment intensive. Profitable operation on a large scale is only realized with heavy traffic densities which offset the large capital requirements of routine operation. The disadvantages cited above are caused by the short line's inability to achieve the economies of scale in its operations possible on the major railroads.

Other Sources of Shortline Revenue

Since most shortline railroads are in actuality small businesses and therefore very sensitive to small changes in revenue, operators tend to explore all avenues for developing income. Other considerations besides originating and terminating rail traffic include demurrage, property and building rental, equipment rental, interest income, transloading revenues, freight car repair, freight car storage, and bridge traffic. As already noted, the

current branchline physical configuration implies a potential for bridge traffic. Even though the line does not presently carry any bridge traffic, most current shortline operators view bridge traffic as a valid source of additional revenue.¹ Development of bridge traffic would require an aggressive sales effort to provide traffic that could utilize the Waukesha to Milton Junction line as a portion of the "shortline route."²

An additional revenue-producing service frequently suggested is the operation of a tourist passenger train. Such a service is not recommended for a freight-oriented shortline railroad without an exhaustive market potential study. Start-up costs for such an operation are substantial because of the specialized facilities and equipment necessary, including the recognized need for a steam locomotive for a successful attraction. Similarly, operating costs are also high because of specialized maintenance requirements, and required insurance coverage.

Recent Shortline Experiences

Since 1972 approximately 40 new shortline railroads have been formed in the United States in response to the current light-density line situation. Several of these operations are discussed briefly below to illustrate the varying degree of success that has been encountered.

1. East Camden & Highland Railroad Company (EACH)—In August 1972, the EACH assumed operation of 42 miles of trackage formerly owned by the St. Louis Southwestern Railway in Southwestern Arkansas. The short line serves an industrial park created from a former naval ordinance depot, one of the shippers in the industrial park being a large B. F. Goodrich chemical plant. Capitalized at \$303,000, the EACH showed a loss for the first calendar year of \$73,900, but recovered the start-up costs

¹ According to a presentation by Mr. Craig Burroughs, President of Trans-Action, Inc., at Wisconsin Railroad Conference, March 3-4, 1978, Madison, Wisconsin.

² "Shortline route" as used in this context is an industry term meaning the shortest railroad distance between two points for rate-making purposes. The term is not to be confused with a shortline railroad.

during the first six months of the second year, and is now returning a profit. Customers claim that the current service is much more reliable because the operation is locally based. The EACH operates a relatively short mainline run of about six miles.³

2. Great Plains Railway Company (GPR)—In June 1974, the GPR began operations over 86 miles of former Chicago & North Western Railway branch line in Nebraska. The intent of the short line was to operate the line with nonunion labor and utilize second-hand track parts and ties to reduce expenses. The 15 on-line grain elevators served would realize 10 to 20 cents more per bushel for corn, wheat, and sorghum when shipped by rail than when shipped by truck. The railway was capitalized at approximately \$250,000, the funding coming from area farmers, the federal Small Business Administration, and a private Nebraska corporation. Actual operations proved to be difficult, however. The track, constructed in 1887 and too light for modern loads, was in poor condition, resulting in multiple derailments. Plowing snow from the line proved difficult and expensive. When grain prices declined, causing farmers to refuse to sell grain, traffic and revenues declined precipitously. These factors caused expenses to exceed revenues by about three to one. In April 1975, the Great Plains Railway discontinued operations.⁴

3. Hillsdale County Railway Company, Inc. (HCRC)—The Hillsdale County Railway began operation on April 1, 1976, the day Conrail assumed operations. The railway serves a total of approximately 60 shippers along the 55-mile line in southern Michigan and northeastern Indiana. The railway's traffic density is unusually high for light-density lines—an average of 117.7 carloads

³ "The Big Rush Into Short Line Railroads," *Business Week*, October 20, 1973, pp. 104-105.

⁴ "The Big Rush Into Short Line Railroads," *Business Week*, October 20, 1973, pp. 104-105, and "Tiny Railroad Flagged by Hard Times," *The Milwaukee Journal*, May 11, 1975.

per mile in the 1976-1977 fiscal year on that portion of the railroad within the State of Michigan. Traffic is diversified, and commodities hauled include fertilizer, metals, lumber, flour, building materials, household goods, grain, and feed. Local investors contributed \$220,000 to begin operations and the State of Michigan provided extensive assistance. The State is leasing the trackage and right-of-way from the Penn Central Transportation Company's trustee and making it available to the HCRC at no charge. In addition, the State is providing about \$1 million over a five-year period for track rehabilitation. Originally, the railroad had projected a profit after taxes by 1980.

Since operation of the HCRC was initiated, the State of Michigan has provided subsidies of \$469,890 in 1976-1977 and \$363,382 in 1977-1978, and subsidies are projected to total \$578,617 in 1978-1979. Traffic based on the number of carloads handled has declined 11 percent from 1977 to 1978 because of the inability to secure empty cars from Conrail, the loss of a major shipper, and the low quality of service provided by Conrail, the short line's only railroad connection. Of all of the railroad continuation projects that the State of Michigan is involved in, the Hillsdale County Railroad requires the lowest subsidy per car.⁵

4. Michigan Northern Railway Company, Inc. (MIGN)—Another short line created in 1976 out of light-density lines not retained by Conrail is the 246-mile Michigan Northern, which extends from Grand Rapids to the Straits of Mackinac. Primary products that either originate or terminate on the line are lime, lumber, and oil-related products. Eighty percent of the 1977 carloads originated at four points on the line.

The MIGN was leased by the State from the Penn Central trustees. Only one applicant sought the management contract, and

began operations with \$115,000, utilized for locomotives and initial working capital, acquired from private sources. Annual originating and terminating carloads totaled 1,844 in 1976, 1,726 in 1977, and 649 in the first six months of 1978. Bridge traffic, however, increased from 568 carloads in 1977 to 2,706 carloads during the first seven months of 1978. The significant increase in bridge traffic is a direct result of a MIGN "flag out"⁶ of a 5 percent rate increase, pursued in order to attract traffic and reduce the required subsidy. The flag out had the desired effect of obtaining additional traffic—in this case, mostly western lumber—but prompted several major carriers to attempt a cancellation of joint routings with the MIGN. The short line appealed to the Interstate Commerce Commission and received a favorable decision.

The recent increase in bridge traffic has, however, increased the annual subsidy necessary from \$1,419,000 in 1976-1977 and \$1,949,000 in 1977-1978 to an estimated \$3,499,000 in 1978-1979. Because of the substantial operating subsidy currently required, as well as the current management and financial situation, the State of Michigan extended the management contract only on a limited-term basis while a long-term recommendation is developed.⁷

⁶ A "flag out" is a refusal on the part of an individual railroad to raise its rates to conform with a general rate increase. In such an instance, any long-haul carload that travels over a railroad that has flagged out must be charged the old rate for its entire haul. The MIGN took this action to stem the loss of traffic apparently caused by recent rate increases. The sales personnel then marketed the lower rates caused by the flag out to West Coast timber companies, which experienced a 5 percent savings in total transportation costs for those carloads that moved via the Michigan Northern.

⁷ Rush Loving, Jr., "Michigan's Wacky Ride on the Little Railroad that Couldn't," *Fortune*, October 23, 1978, pp. 42-44, and Michigan Department of State Highways and Transportation, *Michigan Railroad Plan Annual Update, August 1978, Preliminary Draft*.

⁵ "Make Way for the Hillsdale County Railway," *Business Week*, May 17, 1976, and Michigan Department of State Highways and Transportation, *Michigan Railroad Plan Annual Update, August 1978, Preliminary Draft*.

5. Brillion & Forest Junction Railroad Company (BFJR)—To date, the first and only railroad service continuation project within the State of Wisconsin involves the Brillion & Forest Junction Railroad. Approximately seven miles in length, this short line began operation in June 1978 over a segment of a longer Chicago & North Western branch line approved for abandonment by the ICC. During 1976, while operated by the North Western, the entire branch line handled 288 carloads, with 198 carloads originating or terminating on that portion being operated by the new short line.

Prior to abandonment approval, a private corporation was established by three major on-line shippers for purchase of the seven-mile segment, with operation contracted out to an independent operator. Rail service continuation funding was approved by the State for an annual operating subsidy, projected as \$25,950 for the 1979 fiscal year and \$30,650 for the 1980 fiscal year, for accelerated maintenance on a portion of the main line, and for substitute service assistance consisting of a bulk commodity loader-unloader and team track facility. The purpose of these facilities is to provide rail access as close as possible to shippers on the branch line that had lost direct railroad access.

It has been projected that revenues from increased traffic will make the short line self-sustaining by 1982. Although the railroad has been in operation for less than one year, making actual experience difficult to assess, it appears that carloadings for the first year will not show an increase.⁸

MOST VIABLE SHORTLINE ARRANGEMENT

Identification of the most appropriate shortline arrangement for evaluation against the other principal alternatives considered is important since a wide range of such configurations is possible. Specific areas of concern that relate to the best arrangement are addressed below and include different operational, physical, organizational, and

financial variations. Based on these concerns, a suitable shortline arrangement is set forth together with projected annual revenues, expenses, and initial capitalization requirements.

Best Operational Arrangement

The proposed short line can follow one of three basic operational arrangements: 1) it can be operated as a private carrier; 2) it can be operated as a common carrier switching and terminal line; or 3) it can be operated as a common carrier line haul railroad.

A private carrier, frequently referred to as an industrial railroad, is usually operated by a private company strictly for its own use in moving freight cars between company sidings and an interchange point. Such an operation is generally carried on as part of the operation of the parent firm rather than as a separate legal entity. Advantages include no common carrier obligations, no involvement with rate-making activities, and equal consideration with other shippers for car supply during periods of freight car shortages.

Income for this type of carrier is derived from switching allowances paid by the connecting railroad. An allowance is based upon the cost saving to the connecting carrier resulting from the pickup or delivery of freight cars at a more centrally located interchange track or yard instead of at a remote siding or facility. The exact amount of the allowance is determined by the connecting railroad, which performs a "time and motion" study of what out-of-pocket expenses are saved by elimination of the movement performed by the private carrier. Since capital and fixed costs are not included in such a study, total costs of a private carrier for the movement are rarely covered by a switching allowance.

Private operations are primarily employed at large industrial complexes with exacting or continual switching demands. Although such service could conceivably be initiated by a cooperative group of shippers, it is likely that the ICC would interpret a private carrier that delivers and collects freight cars for more than a few individual shippers as performing a common carrier function. In order to acquire proper recognition of private carrier status from the ICC, such an operation may have to be organized solely by an individual shipper so far as purchasing track and other major items is involved.

⁸ *Wisconsin Department of Transportation, Wisconsin Railroad Plan, December 1978.*

Common carrier shortline railroads, which include the remaining two operational arrangements, are as extensively regulated as major truck line railroads.⁹ Besides being subject to safety regulations, as are all rail carriers, common carrier short lines are controlled by regulations that govern entry into and exit from the general railroad system and by regulations over rate setting, rate adjustments and other pricing techniques, and related matters. Such economic regulation is conducted by the Interstate Commerce Commission in the interest of ensuring that the shipping public receives adequate service at a fair price. This means that a potential common carrier short line is governed by the process by which rates are established, charged, and published. Hence, participation in rate bureau or association activities and support of the prices that are collectively agreed upon by the carriers is mandatory. Also, permission must be obtained by common carriers, generally from the Interstate Commerce Commission, in order to initiate and terminate certain or all operations.

Switching and terminal railroads are common carriers, but are reimbursed for the movement of cars in much the same way as private railroads are—by billing the connecting railroad for each car handled. Although these roads cannot participate in rate divisions, they must publish the switching charge in a tariff which must be on file with the Interstate Commerce Commission and/or the appropriate state regulatory agency. An advantage of this type of operation is that the connecting railroad is responsible for billing shippers, making demurrage charges, and preparing shipping documents along with assuming the costs associated with each of these rate activities. As with a private operation, a disadvantage of the switching charge is that it may only cover the out-of-pocket expenses, determined by negotiations with the trunk line carriers. Switching and terminal railroads generally function at complex gateway points and provide services for the connecting trunk lines. In fact, switching and terminal lines are often jointly owned by the connecting railroads.

A shortline railroad operated as a common carrier line haul railroad may be reimbursed for the

movement of cars in one of two ways—either by participating in a percentage of the total rate charged for each carload, known as a “division,” or by billing a switching charge for each carload handled. Both methods are dependent upon mutually negotiated agreements with the connecting trunk line carriers, which, in turn, should be related to what it would cost the connecting carrier to perform the same service.

Negotiated agreements for ascertaining rate divisions consider a set of factors unique to each situation. Throughout Wisconsin, divisions are generally based on the mileage that each carrier participates in as a proportion of the entire haul. A minimum percentage is usually specified for the originating and terminating carriers regardless of mileage since these carriers incur additional expenses in physical movement and in paperwork. A general rule of thumb used by short line operators is that a reasonable division to ensure long-run profitability should be a minimum of 15 to 20 percent of the total origin to destination revenue. Over the last several decades, however, some trunk lines have changed their viewpoint. Whereas trunk lines formerly regarded short lines as possessing feeder value, they now claim that short lines receive an unfair division of revenue relative to their contribution to the total transportation service provided. Accordingly, the large carriers have become less generous in agreeing on rate divisions for newly formed shortline railroads. Based on the limited number of experiences to date, it appears that a newly formed shortline railroad in the State of Wisconsin may expect a division of from a minimum of approximately 12 percent of the connecting carrier’s revenue for the haul only to a specified gateway, to a maximum of approximately 30 percent of the revenue for the entire haul. It should be recognized that both values are extremes and the actual division agreement must be negotiated between the short line and the trunk line carrier.

Shortline railroads may also apply local rates and arbitraries. A local rate is a separate rate that applies to that portion of the haul from the origin or destination to the nearest trunk line carrier.¹⁰

⁹ *The remaining discussion addressing alternative operational configurations is paraphrased largely from Handbook for Preservation of Local Railroad Service by Dr. Edwin P. Patton and Dr. C. John Langley, Jr., Springfield, Virginia, National Technical Information Service, January 1977, pp. 15-52.*

¹⁰ *The Municipality of East Troy Wisconsin Railroad (METWRR), a nearby seven-mile-long municipally owned railroad, receives revenue from two principal sources: the fixed switching fee established by the Soo Line Railroad Company (Footnote continued on following page)*

The local rate is added to the long-haul rate that applies for the remainder of the distance, which invariably results in two rates whose sum is higher than a single through rate. An arbitrary is a charge that is added to the regular rate to increase revenues. Such action is usually prompted by insufficient volume of traffic or low rate divisions. Since shippers served by short lines are commonly located within the same rate base area as is the trunk line interchange, application of a local rate, or of an arbitrary, implies additional transportation charges, which the creation and operation of the short line is presumably attempting to prevent. Such additional charges also work to create a penalty that can be avoided by new shippers by locating on the trunk line in the same area. Therefore, these surcharges should be avoided if at all possible.

Based on the foregoing, it appears that the best operational arrangement for a proposed independent shortline railroad is operation as a common carrier with participation in the division of rates with other carriers involved in the haul. Rate divisions are generally capable of generating more revenue than are switching charges. Also, divisions will result in automatically increased revenues when general rate increases are approved, an important consideration given the current inflationary trends. The primary advantage of operating as a switching line is that extensive expertise and administrative capability in applying rates and administering traffic matters is not mandatory. It appears, however, that this factor is more than offset by the increased revenue-generating ability of reasonably negotiated rate divisions.

Best Physical Configuration

A shortline railroad on the Waukesha to Milton Junction corridor could be operated under one of

(Footnote 10 continued)

and the local rate established by the Village of East Troy for car movement on the METWRR. In addition to the switching fee and local rate, subsidies from the Village and shippers have been necessary during recent years to assist operating and locomotive expenses. For a more detailed explanation of this railroad's operational and financial characteristics, refer to SEWRPC Community Assistance Planning Report No. 20, A Rail Transportation Service Plan for the East Troy Area. Owned and operated by the Village of East Troy since 1939, this railroad has effectively served its primary purpose of sustaining the economic base of the Village.

three practical physical configurations: 1) operation between Waukesha and the Whitewater area; 2) operation between Whitewater and Milton Junction; and 3) operation over the entire line between Waukesha and Milton Junction. Two levels of traffic and resultant forecasts of initial costs, annual expenses, and annual revenues are presented for each of the three configurations: one representing initial anticipated conditions and one representing relatively optimistic short-range future conditions. Because exact revenues and expenses are difficult to forecast for a business not yet in operation, the two levels of traffic may be interpreted as representing a minimum and maximum limit for each financial factor concerned. It must be recognized that although traffic forecasts indicate what may happen in the future, at the initiation of operations a new carrier will have only the traffic available at that time, and thus the short line's fiscal condition will probably be largely dependent on present traffic until such time as forecast traffic increases actually occur.

Annual revenues for each of the configurations were estimated from revenues attributable to each shipper which, in turn, were based upon rates currently in effect for each specific commodity and origin-destination link. Appropriate percentages were then applied to each revenue figure to estimate the division of revenue applicable to the short line. Total annual costs consist of two major categories: annual operating expenses and annual nonoperating expenses. It should be noted that the issue of possible rehabilitation of the branchline track is discussed separately in the conclusion of Chapter VI and in Appendix D. The operating expenses estimated herein are derived from the operating expense data of 102 shortline carriers showing 1974 gross revenues of less than \$1 million. These data have been analyzed utilizing multiple regression analysis, stratified according to annual tonnage, annual locomotive unit-miles, territory of operation, and other factors, and updated to 1978 dollars. Hence, it is possible to estimate certain operating costs for a specific shortline configuration according to the proposed short line's appropriate characteristics.¹¹ The maintenance of way and

¹¹ *This process is set forth in Handbook for Preservation of Local Railroad Service by Dr. Edwin P. Patton and Dr. C. John Langley, Jr. The handbook includes appropriate tables that allow an estimation of each operating expense.*

structures cost item for each configuration has been estimated according to an analysis which assumes an initial level of rehabilitation, which is documented in detail in Appendix D. Annual nonoperating costs consist of four items which relate to ongoing expenses independent of actual train operation: 1) tax accruals, 2) freight car hire, 3) joint facility rents, and 4) fixed charges.

For ready comparison, forecast annual expenses and revenues for each physical configuration alternative are presented in detail in Tables 34, 35, and 36, and a summary of the three configurations is presented in Table 37.

The first physical configuration considered consists of operation between Waukesha and the Whitewater area. This would require acquisition of

track and right-of-way from approximately Milepost 23.0 to Milepost 54.0 (see Map 3), a distance of about 31 miles. Operation several miles west of the City of Whitewater would be necessary in order to serve the Kaiser Agricultural Chemicals and Badgerland Co-op facilities, both significant railroad users. In an easterly direction from Whitewater, trackage would be required only to Milepost 23.0, since the Milwaukee Road apparently intends to retain the trackage and service as far as the Waukesha Industrial Lumber facility. Approximately six miles of trackage rights through the City of Waukesha would be required to effect a connection with the Chicago & North Western and Soo Line Railroads as well as the Milwaukee Road. Thus, the mainline mileage to be operated totals about 37 miles. Service would be provided to all current shippers.

Table 34

**ANNUAL REVENUE AND EXPENSE
FORECAST—WAUKESHA TO WHITEWATER
AREA SHORTLINE CONFIGURATION**

Cost Item	Expenses	
	Minimum Traffic	Maximum Traffic
Operating Expense Items		
Maintenance of Way and Structures . . .	\$209,000	\$209,000
Maintenance of Equipment	50,000	53,000
Traffic	19,000	21,000
Transportation	79,000	110,000
General	49,000	50,000
Subtotal	\$406,000	\$443,000
Nonoperating Expense Items		
Tax Accruals	\$ 12,000	\$ 14,000
Freight Car Hire	15,000	33,000
Joint Facility Rents	11,000	11,000
Fixed Charges	60,000	60,000
Subtotal	\$ 98,000	\$118,000
Total	\$504,000	\$561,000
Operating Revenues ^a	\$115,000	\$318,000
Net Profit (deficit)	\$398,000	\$243,000

^a Operating revenues are detailed in Appendix E.

Source: SEWRPC.

Table 35

**ANNUAL REVENUE AND EXPENSE
FORECAST—WHITEWATER AREA TO
MILTON JUNCTION SHORELINE CONFIGURATION**

Cost Item	Expenses	
	Minimum Traffic	Maximum Traffic
Operating Expense Items		
Maintenance of Way and Structures . .	\$ 87,000	\$ 87,000
Maintenance of Equipment	18,000	31,000
Traffic	6,000	6,000
Transportation	39,000	50,000
General	49,000	50,000
Subtotal	\$199,000	\$224,000
Nonoperating Expense Items		
Tax Accruals	\$ 9,000	\$ 10,000
Freight Car Hire	10,000	25,000
Joint Facility Rents	1,000 ^a	1,000 ^a
Fixed Charges	46,000	46,000
Subtotal	\$ 64,000	\$ 80,000
Total	\$263,000	\$304,000
Operating Revenues ^b	\$ 45,000	\$122,000
Net Profit (deficit)	\$218,000	\$182,000

^a Joint facility rents receivable.

^b Operating revenues are detailed in Appendix F.

Source: SEWRPC.

Table 36

**ANNUAL REVENUE AND EXPENSE
FORECAST—WAUKESHA TO MILTON JUNCTION
SHORTLINE CONFIGURATION**

Cost Item	Expenses	
	Minimum Traffic	Maximum Traffic
Operating Expense Items		
Maintenance of Way and Structures . . .	\$262,000	\$262,000
Maintenance of Equipment	50,000	53,000
Traffic	19,000	21,000
Transportation	93,000	130,000
General	49,000	50,000
Subtotal	\$473,000	\$516,000
Nonoperating Expense Items		
Tax Accruals	\$ 13,000	\$ 16,000
Freight Car Hire	15,000	38,000
Joint Facility Rents	11,000	11,000
Fixed Charges	60,000	60,000
Subtotal	\$ 99,000	\$125,000
Total	\$572,000	\$641,000
Operating Revenues^a	\$115,000	\$354,000
Net Profit (deficit)	\$457,000	\$287,000

^a Operating revenues are detailed in Appendix E.

Source: SEWRPC.

For this configuration, the traffic forecasts range between 268 and 791 carloads per year,¹² and the forecast annual tonnage ranges from 23,470 to 64,894, resulting in a forecast annual operating revenue of from \$115,000 to \$318,000 per year, as indicated in Table 34. These figures in turn indicate a range of from 7.24 to 21.38 carloads per mile per year, or an approximate average revenue per mile per year of from \$3,000 to \$8,600. As indicated in Table 34, the annual operating expenses are forecast to range between \$504,000 and \$561,000, which would result in an annual deficit between \$389,000 and \$243,000, which translates into approximately 23 percent and 57 percent, respectively, of operating expenses covered by operating revenues.

¹² For this as well as succeeding pairs of statistics utilized in describing each physical configuration, the first figure always refers to the existing 1978, or minimum, value, and the second refers to the projected 1981, or maximum, value.

Table 37

**ANNUAL REVENUE AND EXPENSE UNDER ALL
THREE ALTERNATIVE PHYSICAL CONFIGURATIONS**

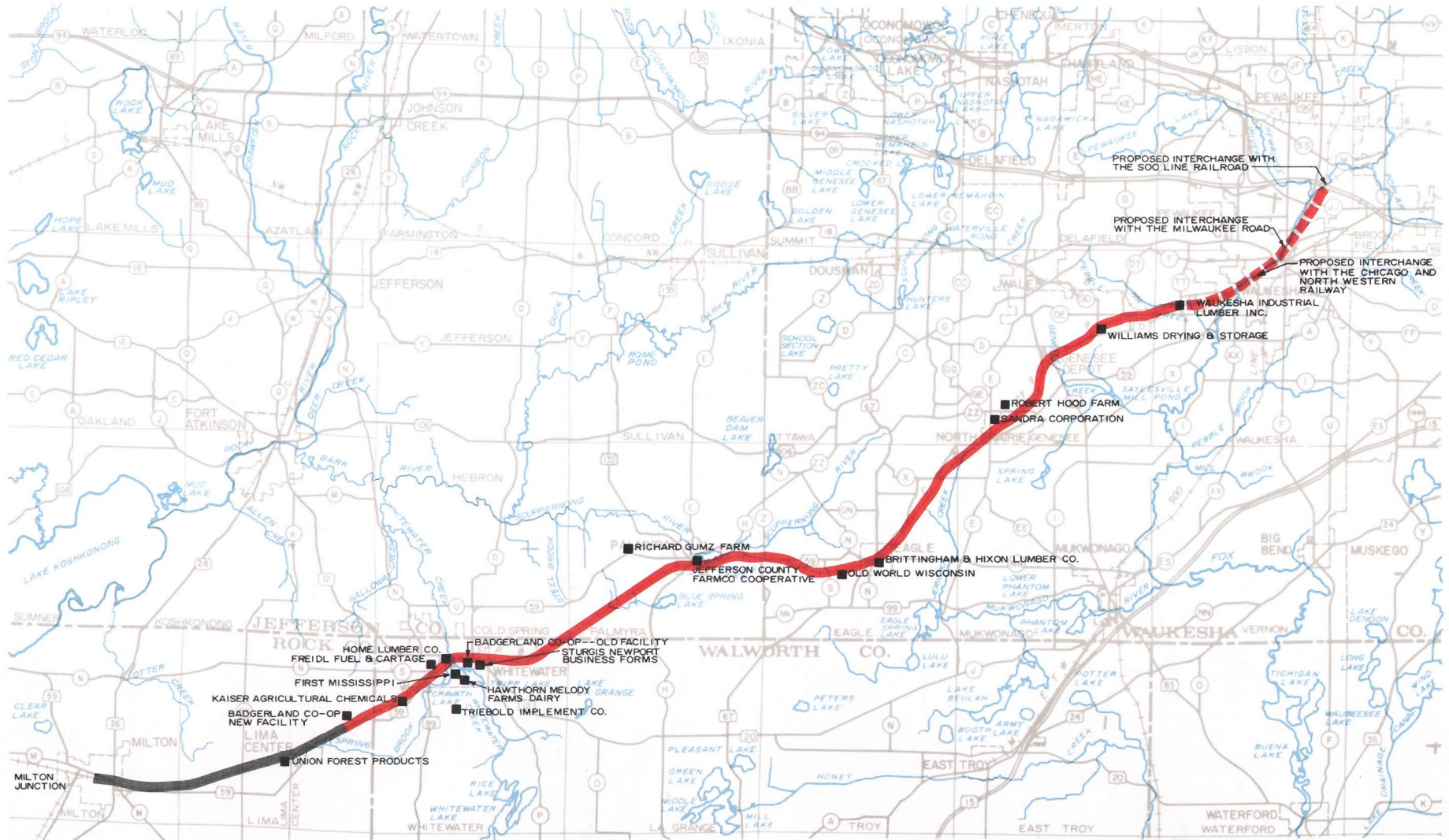
Physical Configuration	Cost Data	
	Minimum Traffic	Maximum Traffic
Waukesha to Whitewater Area		
Expenses	\$504,000	\$561,000
Revenues	115,000	318,000
Deficit	389,000	243,000
Whitewater to Milton Junction		
Expenses	\$263,000	\$304,000
Revenues	45,000	122,000
Deficit	218,000	182,000
Waukesha to Milton Junction		
Expenses	\$572,000	\$641,000
Revenues	115,000	354,000
Deficit	457,000	287,000

Source: SEWRPC.

The second physical configuration considered consists of operation between Whitewater and Milton Junction, which would involve the acquisition of track and right-of-way from approximately Milepost 48.5 to Milepost 61.5 (see Map 4). The total mainline mileage to be operated approximates 13 miles, with all traffic being interchanged solely with the Milwaukee Road at Milton Junction. Service would be provided to about half of the current shippers. This segment of track, however, accounts for approximately 67 percent of the 1978 carloads handled and is projected to account for about 65 percent of the projected 1981 carloads, including those resulting from new shippers.

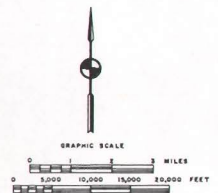
For this configuration, the traffic forecasts range between 180 and 607 carloads per year and forecast annual tonnage ranges from 15,660 to 48,130, resulting in a forecast annual operating revenue of from \$45,000 to \$122,000 per year, as indicated in Table 35. Smaller rate divisions were utilized in the computation of anticipated revenues for this configuration because a connection could be made with only one trunk line railroad. The forecast traffic corresponds to a range in traffic of from 13.85 to 46.69 carloads per mile per year. The resulting range of average operating revenue

WAUKESHA TO WHITEWATER AREA SHORTLINE RAILROAD CONFIGURATION

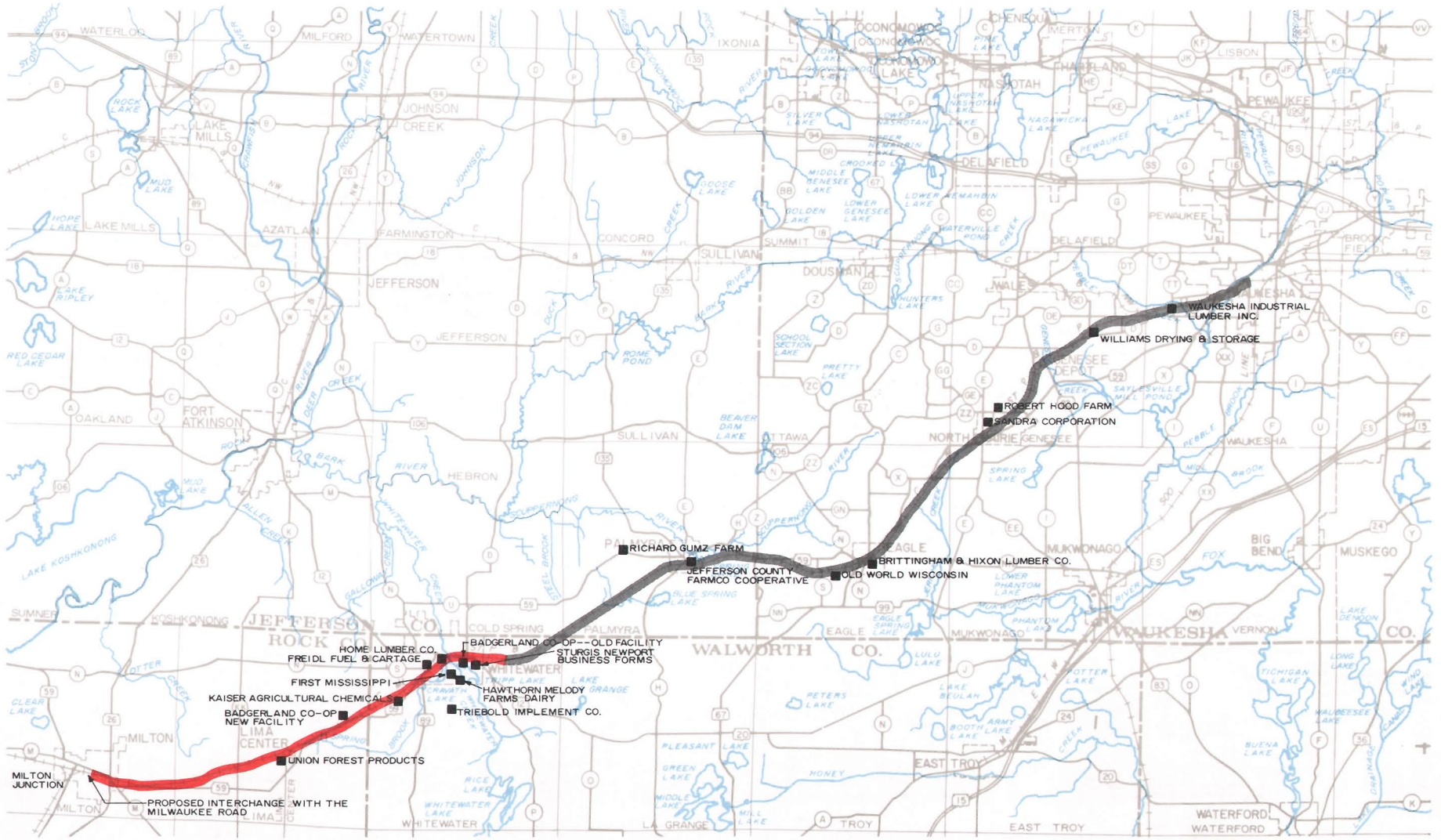


LEGEND

- WAUKESHA-WHITEWATER AREA SHORT LINE RAILROAD
- TRACKAGE RIGHTS TO BE ACQUIRED BY SHORT LINE RAILROAD
- REMAINING WAUKESHA-MILTON JUNCTION TRACKAGE NOT TO BE OPERATED AS A SHORT LINE RAILROAD

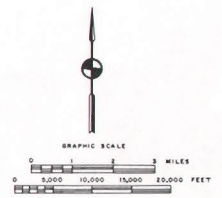


WHITewater AREA TO MILTON JUNCTION SHORTLINE RAILROAD CONFIGURATION



LEGEND

- █ WHITewater—MILTON JUNCTION AREA SHORT LINE RAILROAD
- █ REMAINING WHITewater—WAUKESHA TRACAGE NOT TO BE OPERATED AS A SHORT LINE RAILROAD



per mile per year is from \$3,400 to \$9,400. As indicated in Table 35, the annual operating expenses are forecast to range between \$263,000 and \$304,000, which would result in an annual deficit of between \$218,000 and \$182,000, which translates into approximately 17 percent and 40 percent, respectively, of operating expenses covered by operating revenues.

The third physical configuration considered consists of operation over the entire line between Waukesha and Milton Junction, which would involve the acquisition of track and right-of-way from approximately Milepost 23.0 to Milepost 61.5 (see Map 5). As in the first physical configuration, approximately six miles of trackage rights would be required through the City of Waukesha to achieve a connection with more than one trunk line railroad, creating a total mainline mileage of about 45 miles. Service would be provided to all current and potential shippers.

For this configuration, the traffic forecasts range between 268 and 921 carloads per year and forecast annual tonnage ranges from 23,470 to 70,094, resulting in a forecast annual operating revenue of from \$115,000 to \$354,000 per year as indicated in Table 36. These figures in turn indicate an annual forecast traffic of from 5.96 to 20.47 carloads per mile, or an approximate average operating revenue per mile per year of from \$2,600 to \$7,900. As indicated in Table 36, annual operating expenses are forecast to range between \$572,000 and \$641,000, which would result in an annual deficit of between \$457,000 and \$287,000, which translates into approximately 20 percent and 55 percent, respectively, of operating expenses covered by operating revenues.

Each of the three physical configurations considered has certain inherent advantages and disadvantages. It appears that both the Waukesha to Whitewater area configuration and the Waukesha to Milton Junction configuration could recover a significantly larger proportion of operating expenses in both the short term (1978) and the long term (1981) than could the Whitewater to Milton Junction configuration. This is attributed to the larger rate divisions assumed to be available because of connections with more than one trunk line railroad. The same two configurations, however, suffer from long mainline operation, thus generating significantly fewer carloads per mile and revenues per mile than the Whitewater to Milton Junction operation. A higher quality of

service in terms of interchange pickup and delivery as well as car supply could be anticipated from connecting carriers for the potential short line interchanging cars at Waukesha, since connecting carriers would then include one main line, one secondary line, and one branch line. A short line that has no recourse but to interchange traffic at one minor location—such as at Milton Junction—may suffer from connecting carrier service problems since this location is not even a secondary station or terminal. Also, the long-term availability of connecting rail service at Milton Junction, given the current status of both the line and the railroad, is uncertain. The Whitewater to Milton Junction configuration further suffers in that it would not provide service to two significant existing shippers—Williams Drying & Storage and Jefferson County Farmco Cooperative—and one significant potential shipper located between Waukesha and Whitewater.

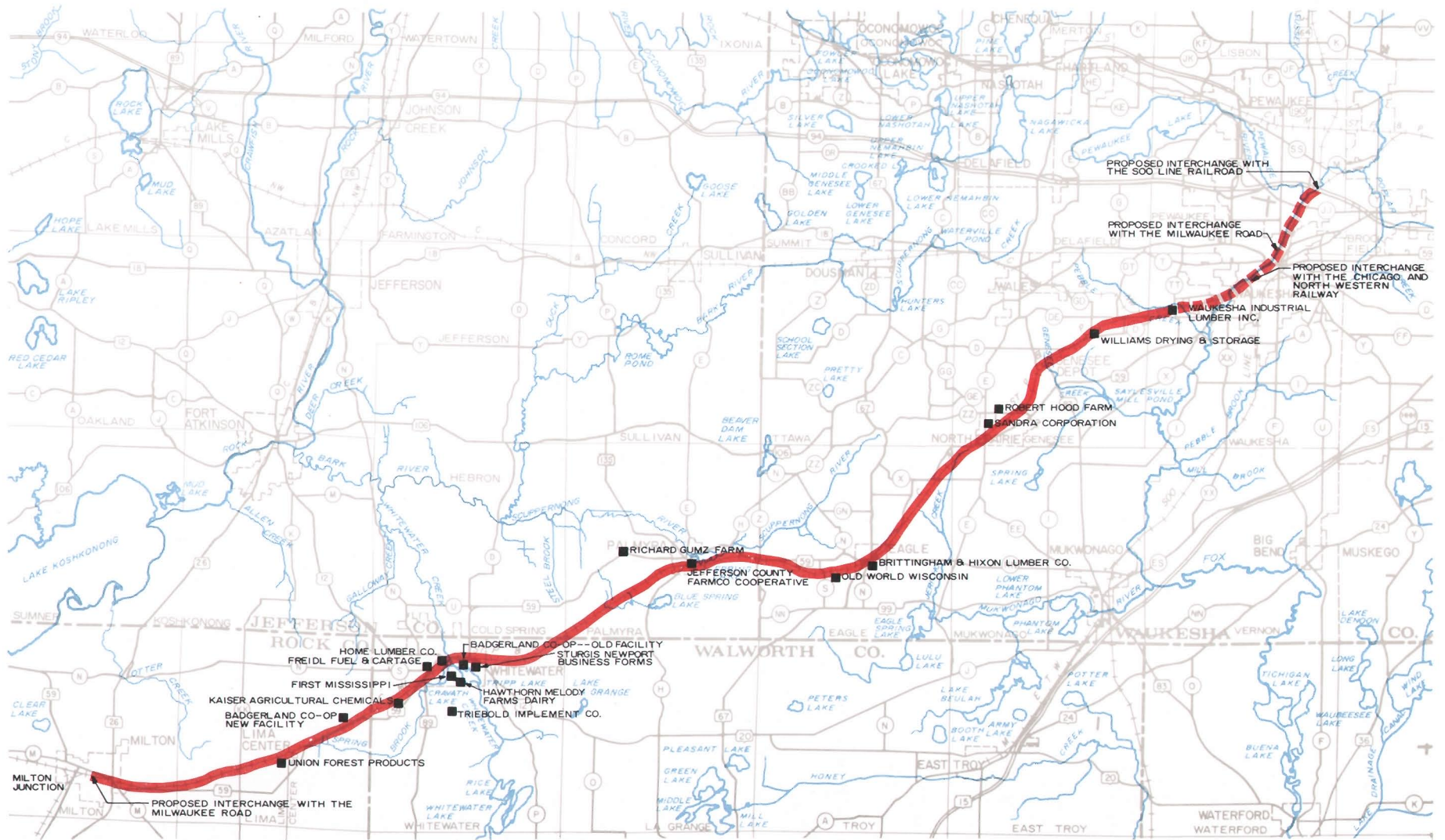
The Waukesha to Milton Junction configuration is the only one that retains the potential for bridge traffic development. It must be recognized, however, that securing such traffic would probably involve an intensive sales effort, and such an option for further developing revenues appears to be a highly speculative consideration.

Based upon the foregoing, it appears that the Waukesha to Milton Junction option is the best configuration should the shortline alternative be selected for implementation. This scheme allows for all current and potential shippers to be served, appears to be one of two configurations that is best able to recover the greatest proportion of operating expenses in the long run (1981), and would probably be able to obtain the most favorable rate divisions. Also, it possesses the ability to handle bridge traffic and to provide less circuitous routes for some traffic through Milton Junction. Until such time that bridge traffic and carloadings at Lima Center are sufficiently developed, track rehabilitation west of Badgerland Co-op may be postponed and most track maintenance on the segment deferred, thus reducing annual operating expenses. If traffic does not materialize, the segment of track between Milepost 54.0 and Milton Junction can then be reevaluated for abandonment.

Best Organizational Configuration

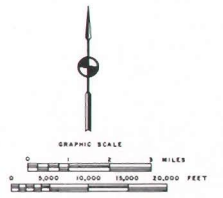
In the context of this plan, the term organizational configuration refers to the type of organization, public or private, that would provide the most

WAUKESHA TO MILTON JUNCTION SHORTLINE RAILROAD CONFIGURATION



LEGEND

- WAUKESHA-MILTON JUNCTION AREA SHORT LINE RAILROAD
- TRACKAGE RIGHTS TO BE ACQUIRED BY SHORT LINE RAILROAD



appropriate owner and operator of the particular railroad under consideration, and to whether that entity should directly operate the trains or contract for such operation.

Ownership of the railroad right-of-way and trackage may be the responsibility of the private sector, such as an independent operator or an assembled group of shippers, or of the public sector, such as a municipality or transit commission. The State of Wisconsin has a policy of acquiring railroad property to make it available to an organization that would assume maintenance responsibilities in lieu of a monetary lease payment. For several reasons, it would be expedient for the State to acquire the right-of-way in this manner. First, the Wisconsin Department of Transportation has the first right of refusal to acquire abandoned railroad property in the State. Second, the Department has already indicated an interest in acquisition of the Waukesha to Milton Junction line. And finally, the line represents a contiguous corridor of unquestioned recreation and possibly transportation value.

The State of Wisconsin's Rail Preservation Grant Program provides for grants of up to 80 percent of the funds necessary for acquisition of track and attendant improvements of abandoned rail lines, the land being acquired directly by the State. This track and improvement acquisition could be carried out through private means. However, financing the purchase price would be more difficult and expensive for private applicants than for nonprivate applicants because the state program is available only to nonprivate applicants. Other important advantages of public ownership include exemption from paying federal and state income taxes and local property taxes and the ability to cover deficits with tax revenues, especially during prolonged economic recessions, if continued operation of the service is considered essential. In this respect, a complete private operation would assume a greater risk of abandonment should the operation continue to be unprofitable.

The organization responsible for railroad service preservation in this corridor could be either the City of Whitewater, because of the concentration of shippers located in the vicinity of that City and because the City has already demonstrated an interest in continuing the railroad service, or a four-county rail transit commission. Advantages of municipal operation by the City of Whitewater include the ability of the City to utilize city

personnel for some railroad administrative and maintenance tasks and its ability to issue tax-free bonds.

Creation of a four-county rail transit commission and subsequent funding would require the specific authorization of the member county boards. Because the proposed shortline railroad would serve more than one community and would indeed be of a subregional nature, and because portions of four counties—Waukesha, Walworth, Jefferson, and Rock—would benefit from its implementation, the rail transit commission would appear to be the more appropriate approach, at least in the long term.

Either the City or a rail transit commission, once created, may elect to directly operate the railroad or to contract that task to a selected shortline operator. Direct operation may entail occasional inefficiencies and delays sometimes associated with governmental undertakings, especially if creation of a new entity, such as a transit commission, is required. However, if deficits must be covered, the complications associated with providing a subsidy to a private or contract operator are avoided with direct operation. A qualified private operator, on the other hand, would possess the specialized knowledge of tariffs and other traffic matters, engineering, and management that is required to successfully operate a railroad. No municipal government by itself can be expected to possess this expertise, and thus actual operation by contract appears desirable. In view of the foregoing, the best organizational configuration would appear to be to contract operation initially through the City of Whitewater with the operation ultimately passed to a four-county transit commission, which would also contract for operation.

Best Financial Arrangement

The optimal financial arrangement refers to a determination of the sources of financing for both the initial acquisition of the line and such subsidies that may be required should operating deficits occur. Two considerations must be recognized within the fiscal arrangements. First, based on the preliminary annual budget information presented above for the best physical configuration—Waukesha to Milton Junction—an annual deficit may be expected, even under a combination of the most optimistic projections—that is, maximum carloadings and a very favorable rate division. Since the 1981 traffic projections include any probable major increases in activity and thus include reason-

able anticipated rail traffic volume increases for the foreseeable future, a Waukesha to Milton Junction shortline railroad may be expected to operate over the long term at an annual loss. Secondly, it is apparent that implementation and operation of such a freight transportation service will serve a limited number of businesses/shippers, and that quantifiable as well as unquantifiable benefits will principally be enjoyed by the immediate surrounding area. Therefore, it is appropriate that the beneficiaries of such service should contribute toward the implementation costs as well as any operating loss that may be incurred.

Should a shortline railroad be the recommended alternative, the initial capital requirements for rail freight operation could be provided in the following manner:

- Right-of-way acquisition by the State of Wisconsin with lease to a local public operating agency utilizing property upkeep in lieu of lease payments. The local agency would, in turn, pass on the maintenance responsibility to the selected shortline railroad operator.
- Railroad track and attendant property improvement acquisition would be the responsibility of the City and ultimately the rail transit commission, since constitutional limitations prohibit the State from becoming directly involved in railroad operation. Up to 80 percent of the necessary funds for acquisition of track may be provided under the State's Rail Preservation Grant Program. Twenty percent of the cost must originate from local sources. It is recommended that benefiting local shippers establish a nonprofit corporation to underwrite the required local share. Since the short line is expected to operate at a deficit, payment from the operator for use of the track should be in the form of provision of service to shippers and responsibility for maintenance, liability, and taxes.
- As documented in Chapter III, current and future freight service requirements dictate an increased need for covered jumbo hoppers for the shipment of corn and blended fertilizer. To provide a long-term solution to this car supply problem, it is suggested that the three shippers that require such rolling stock—Williams

Drying & Storage, Badgerland Co-op, and Kaiser Agricultural Chemicals—purchase these freight cars independently. Coupled with the existing supply of empty hopper cars from the general railroad system, such purchased cars should alleviate most of the problem.

- Other items necessary to begin operations include a shop facility, office facility, locomotive, service cars, maintenance of way equipment and tools, shop equipment and tools, administrative equipment and materials, execution of legal contracts and agreements, and a specified amount of liquid assets necessary for initial cash flow prior to receiving the first revenues. Acquisition of these items can be undertaken best by the selected shortline operator, financed by the nonprofit corporation.

Based on the revenues and expenses estimated for the best shortline configuration as set forth herein, it is projected that an operating deficit will be incurred during the first four years of operation. Since most shippers appear to agree that any major increases in car movements due to rail service improvements as well as to increases in business activity will occur within this time frame, only nominal additional increases in traffic may be expected following the initial start-up period. Therefore, although the operating loss can be expected to be reduced from \$457,000 to \$287,000 during the first four years, assuming that service and car supply inadequacies are corrected and that traffic responds accordingly, an annual loss of approximately \$290,000 can be expected to be sustained for an indefinite period. In such a situation of implied operating subsidy, the most equitable means of subsidization is to assess those that benefit from the perpetuation of the service. It is suggested that the required subsidy be provided by all of the shippers that use the railroad, based on the number of freight cars moved annually for each shipper. Subsidization can be expected to be mandatory until such time that revenues can be increased by the location of additional on-line shippers, bridge traffic, income from car hire, or other activities.

Best Overall Shortline Arrangement

Summarizing the foregoing discussion, the best operational arrangement for a potential shortline railroad appears to be a common carrier with participation in a rate division with other railroads.

The best physical configuration appears to include retention of the entire line from Waukesha to Milton Junction, with trackage rights through Waukesha for interchange with more than one carrier. The best organizational configuration appears to be a rail transit commission formed by Waukesha, Walworth, Jefferson, and Rock Counties. However, because of significant problems anticipated in forming such a commission, the City of Whitewater should, in the interim, be the responsible public agency for the shortline railroad, transferring responsibility to a four-county commission at some time in the future. The transit commission or, in the interim, the City, would contract with a single shortline operator for the direct operation of the service. The local share of track acquisition, start-up costs, equipment requirements, and operating deficits, which are to be expected in the long term, should be subsidized by a nonprofit corporation comprised of those concerns that benefit from the service; that is, the individual shippers.

Should creation of a shortline railroad be undertaken, the following additional points will also have to be carefully addressed:

- A rail transit commission should ultimately be formed with adequate funding capabilities.
- In the interim, a preliminary application to the Wisconsin Department of Transportation (WisDOT) should be prepared by the City of Whitewater as early as possible in order to reserve state funding for the grant to acquire the trackage and other improved property. The City should also begin, as soon as possible, to locate a qualified operator.
- In order to provide for the start-up funding, a nonprofit corporation of shippers should be established and preliminary negotiations should be undertaken between the City and the corporation.
- Detailed legal contracts and agreements will have to be drawn and may have a direct bearing on the short line's economic future. Therefore, retention of competent legal counsel is important. Such counsel should be well versed in railroad accounting procedures and transportation law.

- Because the short line would be involved in the interstate movement of freight, it must be issued a Certificate of Public Convenience and Necessity by the Interstate Commerce Commission in order to be legally reorganized as a common carrier. The prospective operator must prove that such service constitutes a public necessity, and that the operator will be able to adequately provide that service.
- It would appear to be advantageous for all concerned for negotiations with the Milwaukee Road for rate divisions and trackage rights through Waukesha to occur simultaneously with negotiations for the purchase of property and trackage. At the time of negotiations for the division, agreements between the short line and connecting railroad should also be reached concerning the amount of per diem reclaim, switching arrangements at interchanges, and the method of settlement. There are two methods of settlement: "junction settlement" and "interline settlement." Under a junction settlement, the short line pays to, or is paid by, only the connecting carrier, usually on a weekly frequency. Under an interline settlement, the short line will settle with each carrier that is involved with a specific haul, usually on a monthly frequency. The advantage of a junction settlement is that less administrative effort is required. Interline settlement appears to be advantageous only when there is a large volume of traffic collected on inbound freight and prepaid on outbound freight. In this situation, the short line, since it is the collecting carrier, may be able to hold some revenues for up to 30 days, realizing some short-term investment income. Most existing traffic on the subject railroad line is inbound with freight charges prepaid, making junction settlement more advantageous than interline settlement. If a shortline railroad is created, freight charges for all new traffic should be prepaid on outbound shipments, and collected on inbound shipments.

This section has detailed the "best," or most appropriate, operational, physical, organizational, and financial arrangement for a shortline rail-

road alternative. These conclusions are germane to the understanding of such an alternative since the nature of shortline railroad possibilities presents such a large and complex array of potential configurations.

INDIVIDUAL ALTERNATIVE PLAN DESCRIPTION

As set forth in the beginning of this chapter, six principal alternatives are to be given consideration. They include:

1. Do nothing;
2. Subsidization of existing service;
3. Continued operation as a shortline railroad;
4. Motor carrier substitution;
5. Operation by another existing trunk line railroad; and
6. Plant facility relocation.

Each of these alternatives is evaluated below. Advantages and disadvantages are outlined along with initial costs and projected operating revenues and expenses.

Alternative 1—Do Nothing

This alternative assumes that the present abandonment effort by the Milwaukee Road will continue and be successful. Given the financial characteristics of the Waukesha to Milton Junction line as presented in the railroad's abandonment application and subsequent supporting documents, as well as the railroad company's current financial status, permission for abandonment will most likely be granted by the federal Interstate Commerce Commission. The most direct impact, of course, will be cessation of railroad freight service to the communities of Genesee Depot, North Prairie, Eagle, Palmyra, Whitewater, and Lima Center, followed by the subsequent dismantling and removal of most, if not all, of the railroad track and structures.

Certain impacts of an economic, environmental, and miscellaneous nature must also be anticipated, as documented in Chapter IV of this report. Economic impacts include the anticipated loss of 36 existing and potential basic industry jobs, together with approximately 53 nonbasic industry

jobs. A corresponding loss of \$477,000 in existing and potential basic income, and of \$435,500 in existing and potential nonbasic income, may be expected per year. Actual and potential property tax revenues totaling approximately \$12,000 would be lost. Finally, an estimated additional total transportation cost of \$116,350 may be expected to be incurred by the remaining shippers, according to their responses.

Almost all other potential impacts that may be expected to generate some concern have been determined to be of either a nonexistent or insignificant nature. This includes negligible additional motor truck traffic resulting from a modal shift, possible but minimal safety considerations, and slight or no resulting changes in land use patterns. Future industrial development in or near the City of Whitewater that would be contingent upon direct railroad access may be discouraged. This adverse impact, however, is not currently quantifiable. One positive environmental impact may be expected to be realized—net savings in diesel fuel consumption. Changes in air and water quality, noise, wildlife, and vegetation have been determined to be negligible.

The disadvantages of this alternative are obvious. Most businesses now receiving railroad freight service will be forced to adjust their operations, resulting in inconvenience and additional transportation costs. In total, the aggregate economic "cost" or loss to the corridor should abandonment occur may be expected to approximate \$1,041,000 annually. The advantages of this alternative include the facts that the communities or counties within the corridor would bear no cost for continuation of service, and local government would not be obligated or committed to funding or project implementation.

Alternative 2—Subsidization of Existing Service

This alternative assumes that the current level of railroad freight service would continue to be provided by the Milwaukee Road over the entire line between Waukesha and Milton Junction at a frequency of twice a week. As part of the abandonment process, the Milwaukee Road has furnished a financial statement for a projected subsidy operation (see Table 38).

According to the Milwaukee Road, revenues attributable to the Waukesha to Milton Junction line approximated \$163,000 for the projected subsidy year, which has been assumed to be the

Table 38

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC RAILROAD COMPANY
MILTON JUNCTION TO WAUKESHA REVENUE AND COST DATA FOR THE BASE YEAR
JULY 1, 1977 THROUGH JUNE 30, 1978 AND PROJECTED SUBSIDY YEAR

Revenue and Cost Items	Base Year Operations Revenues and Costs	Projected Subsidy Year Operations Revenues and Costs ^a
Sources of Revenue		
Freight originated and/or terminated on branch	\$147,314	\$155,716
Bridge traffic	--	--
Demurrage	110	110
Other	6,842	6,842
Total	\$154,266	\$162,668
Avoidable Costs		
Off-branch costs	\$ 69,230	\$ 73,179
On-branch costs		
Maintenance of way and structures	13,604	221,514 ^b
Maintenance of equipment	9,110	9,671
Traffic	--	--
Transportation	55,554	62,518
Miscellaneous general	--	--
Miscellaneous operations	--	--
Fringe benefits	11,159	40,816
Taxes	1,046	1,106
Rent income	--	--
Rent costs	8,075	8,640
Bridge traffic rerouting	--	--
Contingencies	--	24,921
Subtotal	\$ 98,548	\$369,186
Total	\$167,778	\$442,365
Subsidization Costs		
Rehabilitation	--	--
Administrative costs (subsidy year only)	--	\$ 1,627
Casualty reserve account	--	-- ^c
Return on Value		
Valuation of property		
Working capital	\$ 3,960	\$ 15,075
Income tax benefits	--	--
Net liquidation value	564,000	564,000
Subtotal	\$567,960	\$579,075
Rate of return (percent)	16.68	16.68
Total return on value (valuation of property times rate of return)	\$ 94,736	\$ 96,590
Avoidable loss from operations (sources of revenue minus avoidable costs)	\$ 13,512	\$279,697
Estimated subsidy (sources of revenue minus avoidable costs, subsidization costs, and return on value)	\$108,248	\$377,914 ^d

^a For the purpose of calculating an "estimated subsidy payment," the subsidy year was assumed to be calendar year 1979.

^b Includes depreciation.

^c The subsidizer shall be required to obtain insurance for an amount equal to Chicago, Milwaukee, St. Paul & Pacific's excess liability (\$2,000,000) holding the Railroad harmless from any loss, damage, destruction, injury, or death resulting from operation of this line, and must pay its proportionate share of the Railroad's system insurance costs.

^d Plus rehabilitation costs if any, and casualty reserve costs.

Source: Chicago, Milwaukee, St. Paul & Pacific Railroad Company Abandonment Application AB-7 (Sub-No. 59F) and Initial Verified Statement of Applicant.

calendar year of 1979. Avoidable costs for the same period approximated \$442,000. Including administrative costs and total return on value of about \$97,000, the first-year subsidy is estimated to approximate \$378,000. This figure includes essential maintenance costs, but no major track rehabilitation costs.

Since the Wisconsin Department of Transportation's most recent update of the Wisconsin Railroad Plan indicates that continued operation of the entire railroad line is not cost-effective, subsidy funds under the Railroad Revitalization and Regulatory Reform Act (4R Act) would not be available for continued operation of the entire line. All monies would have to be raised at the local level, including the four counties that are involved, on-line communities, and on-line shippers .

The Wisconsin Railroad Plan does indicate, however, that the most cost-effective rail continuation option would be to subsidize service only between the Whitewater area and Milton Junction on a once per week schedule. Since this option possesses the most advantageous benefit-cost ratio—as determined by WisDOT analysis—federal 4R Act funding would be available for a limited number of years. Revenue and cost data for a proposed subsidy operation between the Whitewater area and Milton Junction have also been developed by the Milwaukee Road (see Table 39). According to this information, sources of revenue total approximately \$126,000 for the 1979 subsidy year, with avoidable costs approximating \$223,000. Including administrative costs and total return on value of about \$34,000, the first-year subsidy for operation between Whitewater and Milton Junction can be expected to total approximately \$131,000. As with the subsidy estimate for the entire line, essential maintenance is included in this total, but not track rehabilitation.

An advantage to operation of the Whitewater to Milton Junction segment is that the subsidy is roughly one-third of that required for continuation of the entire line. The disadvantages, however, are that a greater proportion of the subsidy payment would be earmarked for maintenance of way, since that segment is in poorer condition than is the remainder of the line, and the needs of the entire corridor would not be met, since service to Palmyra, Eagle, North Prairie, and Williams Siding would be eliminated.

Regardless of which of the above two options is selected as more advantageous, subsidization has

inherent advantages and disadvantages that must be recognized. One of the advantages of a subsidy operation is that local concerns, either public or private, do not have to become involved in actual railroad operations. Also, the larger freight car pool of a major railroad is available under subsidization. The major disadvantage of subsidization is that the existing carrier is reimbursed for all costs plus a percentage of what the property and property improvements are valued at. Hence, the carrier is covering all expenses, and realizing what may be considered a "profit." This would provide for little, if any, incentive for reducing the subsidy through service improvements, marketing efforts, or development of other revenue sources. Because of this, it must be assumed that this estimated annual subsidy payment would be required by the Milwaukee Road over the long term under this alternative if service were to be maintained.

Funding of up to 80 percent of subsidy payments is available through the Local Rail Assistance Act of 1978—an amendment to the 4R Act—during the first and second years of subsidized operation. During the third year, 70 percent of the subsidy is eligible for federal funding. After three years, all subsidy payments have to originate from local sources. Should subsidy payments cease, it should be remembered that the service could be halted by the railroad immediately, since a railroad line may be subsidized with 4R funds only upon Interstate Commerce Commission approval of abandonment.

Alternative 3—Continued Operation as a Shortline Railroad

Under this alternative, railroad freight service would be continued over the entire line between Waukesha and Milton Junction, with trackage rights through the City of Waukesha for interchange with the Milwaukee Road, Chicago & North Western, and Soo Line Railroads. The short line would be operated as a common carrier, and revenues would be generated from rate divisions with the other railroads involved in the haul. The public agency responsible for initial implementation and operation would be the City of Whitewater, with a four-county rail transit commission being the ultimate goal. The City and later the commission would contract with an independent shortline operator for actual train operation.

Assuming that an increase in traffic is contingent upon a higher level of service that could only be offered once a new operator assumes operation of the line, the first year's traffic characteristics would

Table 39

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC RAILROAD COMPANY
MILTON JUNCTION TO WHITEWATER REVENUE AND COST DATA FOR THE BASE YEAR
JULY 1, 1977 THROUGH JUNE 30, 1978 AND PROJECTED SUBSIDY YEAR

Revenue and Cost Items	Base Year Operations Revenues and Costs	Projected Subsidy Year Operations Revenues and Costs ^a
Sources of Revenue		
Freight originated and/or terminated on branch	\$107,101	\$121,294
Bridge traffic	--	--
Demurrage	100	100
Other	4,895	4,895
Total	\$112,096	\$126,289
Avoidable Costs		
Off-branch costs	\$ 51,624	\$ 58,465
On-branch costs		
Maintenance of way and structures	408	68,597 ^b
Maintenance of equipment	3,189	3,320
Traffic	--	--
Transportation	56,541	62,789
Miscellaneous general	--	--
Miscellaneous operations	--	--
Fringe benefits	7,094	18,069
Taxes	760	804
Rent income	--	--
Rent costs	3,400	3,638
Bridge traffic rerouting	--	--
Contingencies	--	7,725
Subtotal	\$ 71,392	\$164,942
Total	\$123,016	\$223,407
Subsidization Costs		
Rehabilitation	--	--
Administrative costs (subsidy year only)	--	\$ 1,263 ^c
Casualty reserve account	--	-- ^c
Total subsidization costs	--	\$ 1,263^d
Return on Value		
Valuation of property		
Working capital	\$ 2,880	\$ 6,735
Income tax benefits	--	--
Net liquidation value	301,600	301,600
Subtotal	\$304,480	\$308,335
Rate of return (percent)	10.6	10.6
Total return on value (valuation of property times rate of return)	\$ 32,275	\$ 32,684
Avoidable loss from operation (sources of revenue minus avoidable costs)	\$ 10,920	\$ 97,118
Estimated subsidy (sources of revenue minus avoidable costs, subsidization costs, and return on value)	\$ 43,195	\$131,065 ^d

^a For the purpose of calculating an "estimated subsidy payment," the subsidy year was assumed to be calendar year 1979.

^b Includes depreciation.

^c The subsidizer shall be required to obtain insurance for an amount equal to Chicago, Milwaukee, St. Paul & Pacific's excess liability (\$2,000,000) holding the Railroad harmless from any loss, damage, destruction, injury, or death resulting from operation of this line, and must pay its proportionate share of the Railroad's system insurance costs.

^d Plus rehabilitation costs if any, and casualty reserve costs.

Source: Estimated Subsidy Payment Study; Chicago, Milwaukee, St. Paul & Pacific Railroad Company Abandonment Application AB-7 (Sub-No. 59F); and Exhibit 8(1)(a).

not be expected to differ significantly from the traffic level of 1978. Accordingly, a brief summary of estimated revenues and expenses is presented in Table 40 to illustrate the possible increase of each. These increases are based upon information provided by current and potential shippers.

The first year revenues of approximately \$115,000 are sufficient to cover about 20 percent of total annual expenses, estimated to approximate \$572,000. These estimates are based upon the present level of service and existing traffic. Fourth-year revenues are estimated to total approximately \$354,000 and can be expected to cover about 55 percent of total annual expenses, estimated to approximate \$641,000. Calculations based on these financial projections indicate that the subsidy requirement would be \$457,000 for the initial year of operation, \$406,000 for the second year, \$342,000 for the third year, and \$287,000 for the fourth year.

As indicated previously, revenues and expenses beyond this four-year period are difficult to

project, given current information. Therefore, it is assumed that future traffic levels would remain at about the fourth year level over the long term. Future additional revenues would have to come either from sources other than freight car movement, from an increase in traffic attributable to further expansion of current shipper activity, or from the location of new on-line shippers. All of these factors are difficult to forecast. Since a deficit is implied over the long term, a long-term need for an operating subsidy would appear to exist. Based on the necessary subsidy that would be financed by a per-car surcharge, or an "arbitrary," the additional local charge would be approximately \$1,700 per car during the initial year of shortline railroad operation, approximately \$930 per car during the second year, approximately \$470 per car during the third year, and approximately \$310 during the fourth year, and presumably would continue at that level in the following years. It should be recognized by the shippers that if total carloadings for any given year are less than those projected, the surcharge per car will increase, while a greater amount of traffic will lessen the required surcharge.

Table 40

SHORTLINE REVENUES AND EXPENSES DURING FIRST FOUR YEARS OF OPERATION

Cost Item	Revenues and Expenses			
	First Year	Second Year	Third Year	Fourth Year
Operating Expense Item				
Maintenance of Way and Structures	\$262,000	\$262,000	\$262,000	\$262,000
Maintenance of Equipment	50,000	50,000	53,000	53,000
Traffic	19,000	19,000	21,000	21,000
Transportation	93,000	93,000	130,000	130,000
General	49,000	49,000	50,000	50,000
Subtotal	\$473,000	\$473,000	\$516,000	\$516,000
Nonoperating Expense Item				
Tax Accruals	\$ 13,000	\$ 14,000	\$ 15,000	\$ 16,000
Freight Car Hire	15,000	24,000	30,000	38,000
Joint Facility Rents	11,000	11,000	11,000	11,000
Fixed Charges	60,000	60,000	60,000	60,000
Subtotal	\$ 99,000	\$109,000	\$116,000	\$125,000
Total	\$572,000	\$582,000	\$632,000	\$641,000
Total Revenues	\$115,000	\$176,000	\$290,000	\$354,000
Subsidy Requirement	\$457,000	\$406,000	\$342,000	\$287,000
Percentage of Annual Expenses Covered by Annual Revenues	20	30	46	55

Source: SEWRPC.

In addition to annual expenses and revenues, consideration must be given to the necessary initial start-up costs. It should be noted that the "fixed charges" in Table 40 include those acquisition and start-up costs that would ordinarily be financed by the shortline operator, or "private sector" (see Table 41). Including the interest payments necessary to secure capital for these expenditures, the total private sector share of start-up costs is \$1.2 million, or approximately \$60,000 per year on a 20-year annualized basis. Costs that are assumed to be borne by the public sector total \$1,131,000, or approximately \$57,000 per year on an annualized basis. The combination of these two elements brings the total amount of necessary start-up capital to about \$2,339,000, or \$117,000 per year on a 20-year basis.

Table 41

**INITIAL CAPITAL REQUIREMENTS
FOR SHORTLINE RAILROAD STARTUP**

Cost Item	Cost
Public Sector	
Right-of-Way Property	\$ 228,000
Improved Property.	206,000
Track Rehabilitation.	697,000
Subtotal	\$1,131,000
Private Sector	
Shop Building	55,000
Office Facility	16,000
Locomotive.	75,000
Service Cars.	10,000
Maintenance of Way	
Equipment and Tools	55,000
Shop Equipment and Tools.	5,000
Administrative Equipment and Materials	5,000
Legal and Executory	
Contracts and Agreements.	30,000
Initial Cash-on-Hand.	200,000
Subtotal	\$ 451,000
Interest on Loan	757,000
Subtotal	\$1,208,000
Total	\$2,339,000
Total Annualized Cost	\$ 117,000

Source: SEWRPC.

Alternative 4—Motor Carrier Substitution

Should railroad freight service become unavailable in the Waukesha to Milton Junction corridor, provision could be made for motor truck transportation of all goods and materials that would have been ordinarily transported by railroad. This alternative plan differs from Alternative 1—do nothing—in that a coordinated and cooperative effort would be made to substitute motor carrier transportation for direct rail service between all current shippers and a nearby existing railroad line. To facilitate trans-shipment of fertilizer ingredients between modes, a bulk unloading facility would be installed at Milton Junction (see Figure 38). Such a facility would be utilized by Kaiser Agricultural Chemicals, Badgerland Co-op, and the Richard Gumz farm, with scheduling of facility use being a coordinated responsibility of those shippers directly involved. The facility would include the bulk unloader itself, a pit below the siding, an access road for trucks, a car-puller for specific car-spotting adjustments, and a utility hookup. This plan assumes that the Jefferson County Farmco Cooperative would receive potash and phosphate at the Jefferson, Wisconsin facility, blending the ingredients there before trucking fertilizer to the Palmyra area.

Figure 38

BULK UNLOADING FACILITY



A bulk unloading facility would be required at both Milton Junction and Wales under the motor carrier substitution alternative. This facility is located at the eastern end of the Brillion & Forest Junction railroad in east-central Wisconsin. The view looks east toward the City of Brillion and shows the necessary components for such an installation, including the unloading device, access road, a pit beneath the railroad track, some track improvements, and a utility hookup.

Source: SEWRPC.

Forest and wood products that now move by railroad into Home Lumber Company and out of Union Forest Products would also be transloaded at Milton Junction, presumably at a facility located adjacent to the bulk unloader. Necessary physical improvements at this facility would be minimal, consisting only of access road installation and the lease of a fork-lift truck. Lumber destined for Brittingham & Hixon (B & H) Lumber Company in Eagle would be off-loaded at the B & H siding in Mukwonago and trucked the remaining distance. Sturgis Newport Business Forms has indicated that cessation of railroad freight service would result in all roll paper being delivered by truck.

Transloading facilities for the Sandra Corporation would be located in the Village of Wales. Physical improvements would include the installation of a pit, bulk unloader, loading dock, and fork-lift truck. Use of an existing siding for this facility, as well as the facilities at Milton Junction, is assumed.

Corn is shipped primarily into the Milwaukee area at present. Transloading of corn from trucks to covered hopper cars is considered impractical under this plan because of the short trip distance involved as well as the difference in rates between the modes.¹³

With the exception of corn, however, the materials and products shipped on the Waukesha to Milton Junction line are long-haul in nature. Therefore, there is little, if any, difference between railroad freight rates to a nearby railhead, such as Milton Junction or Wales, and rates to the actual destination on the line. Hence, the costs of transloading commodities from railroad freight cars to trucks plus the cost of trucking each commodity the remaining distance to the individual customer must be considered additional costs over and above the existing railroad rate. To compare these costs with other alternative plans, the annual expenses of motor truck substitute service for

each facility have been developed for the initial year (1978 traffic levels) plus the three projected years of substantial traffic increases (see Table 42).

The cost of motor truck substitute service is approximately \$186,000 during the first year, \$266,000 during the second year, \$384,000 during the third year, and \$463,000 during the fourth year. Included in these estimates are trucking charges based on a per-ton rate, labor involved in the transloading between modes, a factor for spillage where bulk commodities are involved, and the cost of capital improvements at the transfer facilities, amortized over a 20-year period. Costs estimated for the Milton Junction bulk unloading facility also include the difference between truck and rail rates for outbound fertilizer compounds attributable to Kaiser Agricultural Chemicals. It is assumed that this product is shipped the entire distance by truck, since the small number of carloads, even under the most optimistic projection, does not appear to warrant investment in additional bulk loading equipment at Milton Junction.

Additional use of the highway system occurs under this alternative. It has been estimated that 6,000 one-way truck trips would be added to the corridor's highway network, representing approximately 81,000 truck-miles and 2,175,000 gross ton-miles (see Table 43). That segment of highway which would bear the greatest concentration of additional trucks is STH 59 between Lima Center Road and Milton Junction. Approximately 3,000 additional one-way truck trips would be made on this segment per year, or about 12 additional trips per weekday. This is not expected to significantly affect either the structural condition of the highway, air quality, or ambient noise level. Only one highway segment throughout the entire corridor would require improvement—Lima Center Road between Lima Center and STH 59, a distance of about 0.6 mile. This improvement would consist of replacing the existing Class B Town Road, now restricted to 60 percent of normal maximum gross tonnage, with a road capable of carrying the projected truckloadings. The cost of such an improvement is estimated to be \$125,000 in 1978 dollars.

Consideration must also be given to the necessary initial start-up costs for this alternative. It should be noted that the "fixed charges" listed in Table 42 include those acquisition and start-up costs that would normally be financed by the

¹³ Freight rates for the movement of corn between Williams Siding and Milwaukee are approximately 18 cents per bushel via rail and 10 cents per bushel via truck. Between Whitewater and Milwaukee, the rates are approximately 18 cents per bushel via rail and 14 cents per bushel via truck. None of these rates include inspection fees.

Table 42

MOTOR CARRIER SUBSTITUTION EXPENSES DURING FIRST FOUR YEARS OF OPERATION

Cost Item	Expenses			
	First Year	Second Year	Third Year	Fourth Year
Milton Junction Bulk Unloading Facility				
Trucking Cost	\$ 74,800	\$ 94,400	\$126,800	\$154,600
Labor Cost	59,100	74,600	99,600	120,800
Facility Maintenance ^a	3,100	3,100	3,100	3,100
Fixed Charges ^b	6,600	6,600	6,600	6,600
Subtotal	\$143,600	\$178,700	\$236,100	\$285,100
Milton Junction Team Track Facility				
Trucking Cost	\$ 800	\$ 8,500	\$ 23,400	\$ 29,000
Labor Cost	100	1,100	3,100	3,500
Facility Maintenance ^a	2,100	2,100	2,100	2,100
Fixed Charges ^b	2,000	2,000	2,000	2,000
Subtotal	\$ 5,000	\$ 13,700	\$ 30,600	\$ 36,600
Wales Bulk Unloading Facility				
Trucking Cost	\$ --	\$ 12,900	\$ 34,300	\$ 47,200
Labor Cost	--	11,100	31,600	42,700
Facility Maintenance ^a	--	2,700	2,700	2,700
Fixed Charges ^b	--	7,700	7,700	7,700
Subtotal	\$ --	\$ 34,400	\$ 76,300	\$100,300
Facility Nonusers				
Trucking Cost	\$ 21,200	\$ 22,500	\$ 22,800	\$ 23,300
Labor Cost	16,000	16,800	16,900	17,200
Subtotal	\$ 37,200	\$ 39,300	\$ 39,700	\$ 40,500
Total	\$185,800	\$266,100	\$382,700	\$462,500

^a Includes annual property lease payment.

^b Includes interest payment for capital expenditure loan.

Source: SEWRPC.

shippers, or “private sector” (see Table 44). Including the interest payments necessary to secure capital for these expenditures, the total private sector share of start-up costs is \$318,000, or approximately \$16,000 per year on a 20-year annualized basis. Costs that are assumed to be borne by the public sector total \$125,000, or approximately \$6,000 per year on an annualized basis. The combination of these two elements brings the total capital requirement for project start-up to about \$443,000, or \$22,000 per year on a 20-year annualized basis.

The 4R Act, as well as certain State of Wisconsin Rail Assistance funding mechanisms, provides for the possibility of making available 80 percent of

initial capital start-up requirements on a one-time basis. If such a grant were utilized, total interest on loan (see Table 44) would be reduced to \$40,000, thus making the grant total start-up costs equal to \$288,000, or about \$14,000 annually over 20 years.

There appears to be only one major advantage to this alternative—a continuation of each of the businesses’ present level of activity. There are, on the other hand, several serious disadvantages. The total cost of trucking these commodities to and from a specified railhead is significant. Since these costs essentially represent an addition to the existing railroad rates, the increased transportation costs will most likely have to be passed

Table 43

ADDITIONAL TRUCK TRAFFIC ANTICIPATED UNDER ALTERNATIVE 4 BASED ON 1981 PROJECTIONS

Shipper	Tonnage	Highway Routing	Round Trip Distance (miles)	Number of One-Way Annual Truck Trips	Total Annual Truck-Miles	Gross Annual Ton-Miles	Number of Average Weekday Truck Trips ^a
Williams Drying & Storage	5,000	Williams Siding to Milwaukee via GD, D, 83 to IH 94	16.4 ^b	386	3,165	85,455	1.52
Sandra Corporation	11,800	North Prairie to Wales via 59 and 83	15.0	908	6,810	183,870	3.56
Brittingham & Hixon Lumber Company	540	Eagle to Mukwonago via NN and 83	15.6	42	328	8,856	0.16
Jefferson County Farmco Cooperative	4,224	Palmyra to Jefferson via 135, 106, and 26	46.6	326	7,596	205,092	1.28
Richard Gumz Farm	400	Palmyra to Milton Junction via 59	50.0	32	800	21,600	0.12
Badgerland Co-op	16,125	New facility to Milton Junction via 59 and to Milwaukee via 59, 12, 20 to 15	20.4/46.0 ^b	1,242	22,527	608,229	4.87
Sturgis Newport Business Forms	280	Whitewater to IH 90 via 59	43.0 ^b	22	473	12,771	0.08
Home Lumber Company	595	Whitewater to Milton Junction via 59	28.4	46	653	17,631	0.18
Kaiser Agricultural Chemicals	25,930	Whitewater to Milton Junction via 59 and to IH 90 via 59 and 26	26.0/38.4 ^b	1,996	27,022	729,594	7.83
Union Forest Products	13,000	Lima Center to Milton Junction via Lima Center Road and 59, and to IH 90 via 59	16.2/28.6 ^b	1,000	11,200	302,400	3.92
Total	77,894	--	--	6,000	80,574	2,175,498	23.52

^aBased on 255 working days per year.

^bMileage is given to nearest limited access highway facility.

Source: SEWRPC.

on to customers, thus placing these businesses in a less competitive sales position. In addition to the visible costs cited herein, there may be hidden inconvenience costs caused by scheduling difficulties since this alternative is more elaborate, thus creating a greater chance for logistical problems to arise. Given the sustained inconvenience and competitive disadvantages that this alternative implies, it should be regarded as a short-term plan designed to lessen the impact of sudden railroad service discontinuance.

The 4R Act, as well as certain State of Wisconsin Rail Assistance funding mechanisms, provides for the possibility of subsidizing and assisting the initiation of substitute service projects. The likelihood of obtaining operating subsidies for nonrail freight transportation, however, is small, since the State has indicated a definite reluctance to participate in such projects. The State's reasoning is that there will usually be shippers located elsewhere in the State that have either previously lost railroad service or never had railroad service, and that are already paying the same motor carrier rates as the firms that now stand to lose railroad service would pay. Obviously, an equity

problem would exist if complaints concerning preferential treatment of select private businesses were received.

Alternative 5—Operation by Another Existing Trunk Line Railroad

Under this alternative, operation of the railroad line from Waukesha to the Whitewater area would be assumed by one of the other two major railroads serving the Region. If the Chicago & North Western Transportation Company (C&NW) assumed operations, a connection could be constructed west of Waukesha Industrial Lumber—near Milepost 23.0—where the subject railroad line is adjacent to the C&NW, or where the C&NW and Milwaukee Road physically cross on the west side of the City of Waukesha near the switch to the Waukesha Industrial Park. If the Soo Line Railroad Company assumed operations, trackage rights would probably be acquired over the Milwaukee Road from the existing interchange north of Waukesha to Milepost 23.0.

There are two advantages under this alternative. First, both the C&NW and the Soo Line are, to varying degrees, currently in better financial condi-

Table 44

INITIAL CAPITAL REQUIREMENTS FOR
MOTOR CARRIER SUBSTITUTION START-UP

Cost Item	Costs
Public Sector Highway Improvements	\$125,000
Private Sector	
Bulk Unloading Equipment	\$ 80,000
Access Road Installation	4,000
Car-Mover	7,000
Loading Dock	5,000
Fork-Lift Trucks	23,000
Subtotal	\$119,000
Interest on Loan	\$199,000 ^a
Subtotal	\$318,000
Total	\$443,000 ^b
Total Annualized Cost	\$ 22,000 ^c

^a Interest on loan will total \$40,000 if public funding grant for 80 percent of total start-up cost is used.

^b Start-up costs will total \$284,000 if 80 percent grant is used.

^c Annualized costs will total \$14,000 if 80 percent grant is used.

Source: SEWRPC.

tion than the Milwaukee Road. Consequently, the quality of service and the car supply situation should improve. Second, single carrier service into Milwaukee and to the Chicago and Minneapolis-St. Paul gateways would be preserved, presumably allowing a higher level of service.

There are also two distinct disadvantages under this alternative. First, the Milwaukee Road has apparently demonstrated that profitable operation of the Waukesha to Milton Junction is not possible under accepted Class I railroad operating and accounting practices. Since the C&NW and Soo Line employ accounting techniques similar to those of the Milwaukee Road, a deficit operation may also be expected if one of these carriers were to operate the line. Operation by either carrier would thus necessitate an annual subsidy approximately equal to that calculated by the Milwaukee Road plus, in the case of the Soo Line, the additional expenses required to either obtain trackage rights or, in the case of the C&NW, construct

a physical connection. There would be little incentive to promote increases in traffic through marketing and sales efforts since the subsidies would include a return on investment for the operating carrier. Secondly, based on the two carriers' history of attempting to eliminate unprofitable services, it is doubtful whether either railroad would be inclined to become involved in acquisition of a branch line that has little traffic and profit potential under Class I railroad operating and accounting practices. Since neither of these two railroads is the current operator of the line, neither could be legally compelled to operate it under a subsidy agreement.

It is felt that the two disadvantages cited above provide sufficient reason to eliminate this alternative from further consideration.

Alternative 6—Plant Facility Relocation

This alternative is included because it is a recurring suggestion for mitigating the adverse impacts of railroad abandonment and receiving financial assistance under the 4R Act. Such assistance would be utilized to relocate all or a portion of specific impacted facilities to a more suitable location that will continue to have railroad service available.

The advantage of this alternative plan is that the affected shipper would be able to remain at the same or reach a higher level of activity with all of the advantages and cost efficiencies attributable to location directly on a railroad siding. Some inconvenience and a temporary loss of business may be experienced during the transition period. If public assistance were utilized, the company could be expected to remain in the immediate vicinity, therefore avoiding severe negative effects on the existing employment structure.

This alternative, however, possesses serious disadvantages. First of all, moving a plant facility is an expensive and complex action. Second, a difficult decision would have to be made as to whether one, several, or all of the facilities that use the railroad line should be relocated. Third, the size and construction of most plant facilities would prohibit intact physical movement of individual buildings and assemblies, and would instead require new construction at the new site and abandonment of the old facility or conversion to another, presumably less suitable, use, implying a costly proposition. It is doubtful whether the private firms located along the Waukesha to Milton Junction

line, either with or without assistance from the public sector, would be able or willing to finance the costs involved. In addition, since the relocated facility or plant can be expected to have the most up-to-date physical improvements as well as production methods, each firm would be receiving advantages that would not be accrued under other alternatives. This situation would create an equity problem as to what portion of the relocation costs should be provided from the public sector. Finally, WisDOT has indicated that relocation of all shippers is not feasible, and certain questions pertaining to when the public interest would be served by such assistance and what such assistance should consist of must be resolved. Therefore, WisDOT intends to pursue a very conservative approach to implementation of relocation projects.

This alternative can be expected to be extremely capital-intensive and complicated. Also, the question of direct public assistance to private for-profit businesses raises many equity questions. Based on these considerations, this alternative may be discarded from consideration.

SUMMARY

This chapter identifies and describes all practical alternative plans to the proposed discontinuance of railroad freight service between Waukesha and Milton Junction. The following six alternatives are identified:

1. Do nothing—The Milwaukee Road would be permitted to abandon the subject railway line with attendant impacts following termination of rail freight service.
2. Subsidization of existing service—The Milwaukee Road would continue the current level of service, with operating losses being subsidized from either public or private funding sources.
3. Operation as a shortline railroad—Railway freight service would continue to be provided by a shortline railroad operator.
4. Motor carrier substitution—A coordinated effort would provide for motor truck transportation between all current or potential identified shippers and select transloading facilities located at nearby railheads.
5. Operation by another existing trunk line railroad—Another connecting rail carrier would assume operation of the Waukesha to Whitewater area branchline segment.
6. Plant facility relocation—All or a portion of the businesses currently utilizing the subject railroad line would be relocated to a more suitable location.

Under the “do nothing” alternative the present abandonment effort by the Milwaukee Road would run its course to a successful conclusion, the direct effect being cessation of rail freight service to the on-line communities of Genesee Depot, North Prairie, Eagle, Palmyra, Whitewater, and Lima Center. Various impacts of an economic nature could be anticipated, including a loss of 36 existing and potential basic industry jobs, together with approximately 53 nonbasic service industry jobs. A total of \$477,000 in existing and potential basic income and \$435,500 in existing and potential nonbasic income per year could be expected to be lost under this alternative. Actual and potential property tax revenues totaling approximately \$12,000 could be expected to be lost, and the estimated total transportation cost of the remaining shippers would be increased by \$116,350, according to those shippers. Together, these quantifiable impacts represent an aggregate economic “cost” of approximately \$1,041,000 annually. With the exception of some negative but unmeasurable effects on the attractiveness of the Whitewater area to potential rail-dependent customers, all other impacts of an environmental or miscellaneous nature are anticipated to be either non-existent or insignificant.

The second alternative assumes that the current level of service provided by the Milwaukee Road over the entire line between Waukesha and Milton Junction would continue by the same carrier under an agreement whereby an annual subsidy would be provided to cover the operating losses. According to revenue and expense projections developed by the Milwaukee Road, the first year’s subsidy, including administrative costs plus total return on value, would total approximately \$378,000. An optional projected first-year subsidy of approximately \$131,000 has also been developed by the Railroad for continued operation between Whitewater and Milton Junction only. The latter option has been indicated by the Wisconsin Railroad Plan as being the most cost-effective, thus allowing

4R Act funding of subsidy operation only for this segment. Subsidized operation of the entire line would require local contribution of all monies. Although this alternative would not require direct local involvement in actual railroad operation, such a subsidy project provides for all carrier expenses to be covered plus a return on investment, thus creating little incentive for attempting a reduction in the subsidy. Therefore, the indicated level of subsidy may be assumed to be long-term in nature.

The third alternative, implementation of a short-line railroad, has recently become popular as an approach to the problem of loss of branchline rail freight service. Because shortline railroads are generally able to effect economies not available to larger, trunk line railroads, rail service may be able to be operated on a break-even or profitable basis by a short line in situations where a major railroad can only sustain a loss. The primary advantage of a short line is a reduction in labor costs. Other advantages inherent in this type of operation may include a more cooperative employee attitude because of the smaller organization involved, the ability to closely tailor the service to individual shipper needs, localized customer contact, minimization of large corporate administrative and overhead costs and other complexities, less complicated ICC accounting and reporting requirements, and miscellaneous economic benefits to the local area from the locally based operation.

There are also inherent disadvantages to shortline railroad operation, including: the inability of individual employees to specialize in certain areas, making the hiring of outside contractors necessary for specialized or major tasks; the possible inability to attract qualified full-time management; inefficient utilization of locomotives when less than daily train service is offered; possible financial difficulties during economically depressed periods; the inability to secure large quantity discounts for the purchase of fuel and other supplies; and the dependence on Class I connecting carriers for car supply and adequate service.

Since a short line is very sensitive to relatively minor changes in operating revenues, it is important for a shortline operator to secure sources of income other than originating and terminating railroad traffic. Such sources include, but are not limited to, demurrage, property and building rental, interest income, freight car repair and storage, and bridge traffic.

Recent shortline railroad experiences exhibit a variety of configurations as well as varying degrees of success. Somewhat successful short line railroads such as the East Camden & Highland in Arkansas and the Hillsdale County in Michigan and Indiana appear to possess either a short mainline haul or a high traffic density relative to other typical branch lines. Short lines that appear to be unsuccessful or that have failed possess lengthy mainline runs and rely predominantly on either one commodity or sparsely scattered customers. The Brillion & Forest Junction represents the State of Wisconsin's only recent involvement in shortline railroad creation. Besides accelerated track maintenance, the project includes a bulk unloading and team track facility. Because of its very recent formulation, actual experience is difficult to assess at this time.

The best operational arrangement for a short line in the Whitewater to Milton Junction corridor appears to be operating as a common carrier with participation with connecting railroads in the division of revenues. The best physical configuration would include retention of the entire line between Waukesha and Milton Junction, with trackage rights through Waukesha for interchange with other rail carriers in the area. The best organizational configuration would be a multi-county rail transit commission, with initial interim operation by the City of Whitewater. The transit commission or the City would contract with a single shortline operator for direct operation of the service.

Utilizing what must be regarded as a very favorable rate division agreement, as well as optimistic carload and tonnage projections, revenue and expense forecasts indicate a need for a subsidy of approximately \$457,000, \$406,000, \$342,000, and \$287,000 for the first through fourth years of shortline operation, respectively, with little further reduction in required subsidy indicated for the fifth and subsequent years. It is anticipated that a continuing subsidy, based upon the fourth year requirement, would be required over the long term. To compensate for this deficit, an additional local per-car surcharge would have to be levied, amounting to approximately \$1,700, \$930, \$470, and \$310 during the first through fourth and subsequent years of operation, respectively. The aggregate start-up capital requirement for this plan is approximately \$2,339,000, or \$117,000 per year over 20 years.

Under the fourth alternative, motor truck cartage would be substituted for rail transportation of goods and materials between all existing and potential shippers and nearby railheads on a coordinated basis. Transloading facilities for bulk commodities would be installed at Milton Junction for Kaiser Agricultural Chemicals, Badgerland Co-op, and the Richard Gumz farm, and at Wales for the Sandra Corporation. Transloading facilities for forest products destined for Home Lumber Company and Union Forest Products would also be located at Milton Junction. This alternative assumes that Brittingham & Hixon Lumber Company and Jefferson County Farmco Cooperative would have materials trucked from their other existing facilities. Because of the way in which railroad rates are structured, these transloading and trucking costs present an additional expense over and above the long-haul rail rate, which would not significantly change. The estimated annual cost of this alternative is \$186,000 during the first year, \$266,000 during the second year, \$384,000 during the third year, and \$463,000 during the fourth year. In addition, an estimated 6,000 one-way truck trips, or approximately 84,000 truck-miles, would be added to the corridor's highway network under this alternative. The additional traffic is not expected to significantly affect either the structural condition of existing roadways or air and noise quality. The only highway system improvement determined to be necessary under this plan consists of rebuilding about 0.6 mile of county roadway near Lima Center to handle fully loaded trucks with no weight restrictions. This improvement would cost approximately \$125,000. The aggregate capital expenditure requirement for this plan is estimated to be \$443,000, or \$22,000 per year over 20 years, if financed by the shippers. Because of the nature of costs under this alterna-

tive, it should be regarded as a short-term approach. Also, because of equity problems, continuing public assistance may be difficult to obtain.

The advantages of the fifth alternative, subsidized operation between Waukesha and the Whitewater area by another trunk line railroad, appear to be significantly outweighed by two disadvantages. First, another carrier would require at least the same subsidy as would the Milwaukee Road, since all Class I railroad accounting practices are similar. Second, current trends concerning elimination of unprofitable services by major carriers seem to indicate a general reluctance to become involved with more of the same types of lines. Given the low probability of compelling a different operator to assume this service, it is felt that further consideration of this alternative is not warranted.

The sixth alternative, plant facility relocation, represents a very capital-intensive plan. Because of the implied cost, reaching a decision would be very difficult as to whether part or all of one, several, or all businesses that now use, or will use, the subject railroad line should be relocated. Again, an equity problem would be created as to what assistance should be provided from the public sector for individual private concerns. Because of the inherent complexities, as well as the public assistance question, this alternative appears to be impractical.

This chapter has identified and described practical alternatives to abandonment of railroad freight service in the Waukesha to Milton Junction corridor. These alternatives can now be evaluated in Chapter VI in order to identify the best course of action.

Chapter VI

ALTERNATIVE PLAN EVALUATION AND RECOMMENDATION

Alternative plan evaluation is one of the most critical tasks to be undertaken in any planning effort. It is under this task that the various alternative plans are synthesized on the basis of analyses of the inventory findings, with the most appropriate plan being identified for adoption and implementation. In this study, this evaluation was accomplished by an analysis of the extent to which each alternative considered achieves the freight service objective set forth in Chapter II of this report. Achievement of the plan objective was, in turn, measured by how well each plan met each of the supporting freight transportation service standards, also set forth in Chapter II of this report. The objective is limited to a single statement. There are 14 supporting standards that may be divided into four groups: 1) those standards relating to quality of service; 2) those standards relating to economic development; 3) those standards relating to cost of service; and 4) those standards relating to other issues such as accident costs, energy utilization, and environmental impact, among others.

The purpose of this chapter is to measure each alternative plan's performance with respect to the standards in order to ascertain which plan best meets the objective. The four alternative freight service plans to be evaluated are Alternative 1—do nothing; Alternative 2—subsidization of existing service; Alternative 3—shortline railroad operation; and Alternative 4—motor carrier substitution. The ability of each of the plans to meet each standard is summarized in Table 45.

QUALITY OF SERVICE STANDARDS

Four of the 14 freight transportation service standards may be grouped together under the concept of "service quality." Inclusion of these standards is based upon the understanding that shippers must have access to a transportation service that is convenient, reliable, and frequent enough to reasonably meet current and probable future needs if their businesses are to function in an efficient, profitable, and competitive manner.

The first standard addresses a need for a minimum service frequency of twice during each Monday through Friday work week. The subsidization of the existing service and creation of a shortline railroad both meet this standard, as does motor carrier substitution since the movement of trucks and trailers is on a demand basis. The "do nothing" alternative, of course, does not fulfill this requirement.

The second standard addresses a need for minimization of total in-transit time for shipments. This standard can be met for the three operational alternatives insofar as that portion of the trip that is within the Waukesha to Milton Junction corridor is concerned. Because most goods and materials under discussion are long-haul in nature, the larger proportion of each trip is the responsibility of other carriers, and thus cannot be directly affected by any of the alternative plans. This standard is not applicable to the "do nothing" alternative.

The third standard addresses the need for prompt pickup and delivery within 48 hours following adequate notice from the shipper to the carrier. The motor carrier alternative meets this standard because of the inherent demand responsive nature of the service. A shortline railroad may also be assumed to meet this standard. This standard would not be met under the "do nothing" alternative, or under the subsidy arrangement with the existing carrier alternative. The latter alternative assumes the continuation of the existing service schedule, with no train service available from Friday through Monday, inclusive.

The last standard under the category of "service quality" denotes a need for flexibility in plan design and operation so as to readily facilitate changing accommodations to demand, technology, and policy. To the extent that technical modifications and improvements are feasible for railroad and motor freight modes, this standard could be met for all alternatives except the first, since the standard does not apply to the "do nothing" plan.

Table 45

**ABILITY OF ALTERNATIVE RAIL SERVICE PLANS TO MEET
FREIGHT TRANSPORTATION SERVICE STANDARDS BASED ON REVENUES AND
EXPENSES INCURRED DURING FOURTH YEAR OF PLAN IMPLEMENTATION**

Freight Transportation Service Standards	Alternative Plan 1— Do Nothing	Alternative Plan 2— Subsidize Existing Service	Alternative Plan 3— Shortline Railroad	Alternative Plan 4— Motor Carrier Substitution
Quality of Service Standards				
1. Minimum Frequency of Service	Not Met	Met	Met	Met
2. Minimize In-Transit Time	Not Applicable	Could Be Met	Could Be Met	Could Be Met
3. Adequate Pickup and Delivery	Not Met	Not Met	Met	Met
4. Operational and Design Flexibility	Not Applicable	Could Be Met	Could Be Met	Could Be Met
Economic Development Standards				
5. Maintain Private Sector Employment	Not Met	Met	Met	Met
6. Orderly Withdrawal of Service	Could Be Met	Not Applicable	Not Applicable	Met
Cost of Service Standards^a				
7. Minimize Capital and Operating Costs	(1) \$116,000	(3) \$540,000	(4) \$ 698,000	(2) \$468,000
8. (a) Minimize Investment	(1) 0	(1) 0	(3) 2,339,000	(2) 443,000
(b) Minimize Subsidy Requirements	(1) 0	(3) 377,000	(2) 344,000	(4) 468,000
(c) Costs Not to Exceed Benefits (ratio)	Not Applicable	(2) 3.54	(1) 4.06	(3) 2.63
9. Minimize Transportation Costs to Shippers	(1) 116,000	(3) 0 - 377,000	(2) 0 - 287,000	(4) 462,000
Other Standards				
10. Public Policy Conformance	See Text	See Text	See Text	See Text
11. Utilization of Inherent Modal Advantages	Not Met	Met	Met	Not Met
12. Minimize Accident Potential	Met	Met	Met	Met
13. Minimize Energy Utilization	Met	Not Met	Not Met	Met
14. Minimize Adverse Environmental Impacts	Met	Met	Met	Met

^a Number given in parentheses for these standards refers to the rank order of each alternative plan, which evolves directly from the comparison of annualized alternative plan costs in Table 46.

Source: SEWRPC.

ECONOMIC DEVELOPMENT STANDARDS

Two of the 14 freight transportation service standards may be grouped together under the concept of "economic development." Inclusion of these standards is based upon the tenet that competitive transportation is essential if the economic base of an area is to be maintained and expanded. Services that support this principle should be preserved while those not necessary should be allowed to be discontinued with a minimum of economic disruption to the area.

Standard No. 5 states that freight transportation service should be made available in such a manner as to make possible the preservation and expansion of existing private sector employment. Alternative 1, "do nothing" implies a loss of railroad

freight service, which, in turn, would create a loss of existing and potential employment in the Region. The three remaining alternative plans seek to maintain the existing level of goods and materials moving in and out of the corridor via railroad, and therefore, the existing employment base.

Standard No. 6 addresses the need for an orderly withdrawal of existing service and the provision of alternate service if necessary upon determination that the existing freight service is not required. This standard is not applicable for the two rail service continuation alternatives since the service would be preserved. Motor carrier substitution is, in fact, an alternate service proposal, and therefore meets this standard. Orderly withdrawal of the existing service under the first alternative of "do nothing" is difficult to define. The regulatory aban-

donment process, in which all common carrier railroads must participate, represents an "orderly withdrawal." Businesses, however, may not reduce or eliminate certain operations in an "orderly manner" since they can be expected to operate at existing levels until a decision by the Interstate Commerce Commission is released. Therefore, attainment of this standard is uncertain and is regarded as being not met under the "do nothing" alternative.

COST OF SERVICE STANDARDS

Three of the 14 freight transportation service standards may be grouped together under the concept of "cost of service." These standards are based upon the need to recognize, in assessing the alternative plans, the limited public and private financial resources that are available. Because of this, the costs involved in implementing, maintaining, upgrading, or otherwise changing current

and future transportation services should be minimized. As discussed in Chapter II of this report, the basis for the provision of freight transportation services is purely of an economic nature. It is, therefore, reasonable to emphasize standards which relate to cost of service. It should also be noted that these standards are of a comparative nature and are relevant only when examined together, while the other standards are absolute and can be employed regardless of how many alternative plans are being examined. Each alternative plan evaluated under the "cost of service" standards is assigned a number corresponding to its rank order among the remaining alternative plans, which is determined by the relative achievement by each plan of each individual "cost of service" standard. The rank order determinations evolve directly from the comparison of annualized alternative plan costs (see Table 46), which reflect the fourth and presumably fifth and subsequent years of plan operation.

Table 46

COMPARISON OF ANNUALIZED COST OF FREIGHT TRANSPORTATION ALTERNATIVE PLANS

Cost Element	Alternative Plan 1— Do Nothing	Alternative Plan 2— Subsidize Existing Service	Alternative Plan 3— Shortline Railroad	Alternative Plan 4— Motor Carrier Substitution
Start-Up Costs	\$ 0	\$ 0	\$117,000	\$ 22,000 ^a
Rank Order	1	1	4	3
Operating Expenses ^a	116,000	540,000 ^b	581,000 ^d	446,000
Rank Order	1	3	4	2
Total Annual Costs	116,000	540,000	698,000	468,000 ^f
Rank Order	1	3	4	2
Operating Revenues	0	163,000	354,000	0
Rank Order	3	2	1	3
Total Annual Costs Less Revenues Earned	116,000	377,000	344,000	468,000 ^f
Rank Order	1	3	2	4
Benefit/Cost Ratio ^c	Not	3.54	4.06	2.63 ^g
Rank Order	Applicable	2	1	3

^a Based upon fourth year of plan operation.

^b Includes subsidization costs plus return on value of property.

^c Benefits estimated to be \$925,000.

^d Less fixed charges, which are reflected under start-up costs.

^e \$14,000 if public funding grant for 80 percent of total start-up cost is used.

^f \$460,000 if 80 percent grant is used.

^g 2.69 if 80 percent grant is used.

Source: SEWRPC.

The seventh standard states that the sum of transportation capital and operating costs in the corridor should be minimized. Capital costs for each alternative plan are defined as the total start-up costs from public and private sectors, annualized over a 20-year period. Operating costs are defined as the total annual operating expenses for each plan. The "do nothing" alternative has no capital costs and an implied "operating expense" of about \$116,000 annually in increased transportation costs over the existing transportation costs incurred by those shippers that would remain in business following railroad service abandonment. This amount is based upon estimates furnished by the present shippers. Subsidizing the existing service also would not involve any capital cost, since the service would be a continuation of the service that currently exists. Total annual costs for subsidized service have been estimated by the Milwaukee Road to be \$540,000. This figure includes corporate subsidization costs plus a return on the value of property and invested capital. The total annualized cost of a proposed shortline railroad has been estimated to be \$698,000 in the fourth and following years. This total includes approximately \$117,000 for the annual share of start-up costs. The motor carrier substitution alternative represents an annualized cost of approximately \$468,000 during the fourth and following years of plan operation. About \$22,000 of this figure represents the annual start-up cost share. The "do nothing" alternative has the lowest cost, and thus most closely adheres to this standard and therefore ranks first under this criterion, followed by the motor carrier substitution plan, the subsidization of existing service plan, and finally, as the most expensive plan to operate, the shortline railroad alternative plan.

The eighth standard maintains that investment and subsidies should be minimized and that direct costs shall not exceed direct benefits. Investment is defined as the initial capital requirements necessary for implementation of the desired plan. Both Alternative 1, "do nothing," and Alternative 2, subsidization of the existing service, require no initial investment, and thus rank first among the alternatives. However, Alternative 3, continued operation as a shortline railroad, and Alternative 4, motor carrier substitution, require an initial investment of approximately \$2,339,000 and \$443,000, respectively, from a combination of public and private sources. Therefore, these alternatives rank third and second, respectively.

The second part of this standard addresses operating subsidies (see Table 46). Obviously, no subsidy is required under the "do nothing" alternative plan. Both alternative plans that involve continued railroad freight service are able to earn operating revenues that can be used to offset the operating expenses. For subsidization of the existing service by the Milwaukee Road, annual revenues of about \$163,000 would reduce the total annual cost to about \$377,000, which, in turn, represents the subsidy requirement for the fourth and subsequent years of operation. Shortline railroad operation during the fourth and subsequent years has been projected to earn about \$354,000, reducing the total annual cost to about \$344,000. This amount represents the total subsidy requirement from both public and private sources. Motor carrier substitution is strictly an additional transportation cost, thereby eliminating any possibility for the plan itself to generate revenues. This alternative's total annualized cost and subsidy requirement is estimated to be \$468,000. Therefore, the rank order of the alternative plans is: "do nothing," 1; continued operation as a shortline railroad, 2; subsidization of existing service, 3; and motor carrier substitution, 4.

The third part of this standard states that direct costs shall not exceed direct benefits. Adherence to this criterion is judged by the ability of each alternative plan to generate an incremental benefit/cost (b/c) ratio of greater than one. If the b/c ratio is indeed greater than 1.00, the difference in annual total quantifiable benefits between the plan being evaluated and the lowest cost, or "do nothing," alternative exceeds the difference in costs. Development of the b/c ratio for each alternative plan is performed by dividing the difference in net benefits by the total cost.

Benefits are defined herein as consisting of primary and secondary industry income, both actual and potential, as well as property tax revenue that would not be lost under implementation of one of the operational plans. Costs are defined herein as consisting of the total annual costs attributable to both the public and private sectors, less any revenues that may be generated by each alternative plan.

As demonstrated by the b/c ratios presented in Table 46, the shortline alternative yields a b/c ratio of 4.06, the subsidization of the existing railroad freight service alternative, a ratio of 3.54, and the motor carrier alternative, a ratio of 2.63.

The ninth standard, the last one under the "cost of service" category, states that transportation costs to current and potential shippers should be minimized so that the most advantageous market position may be achieved. According to individual shipper responses, an additional transportation expense of approximately \$116,000 would be incurred annually in the corridor by shippers that remain in business under the "do nothing" alternative. Additional annual transportation costs to individual shippers in the corridor may vary between nothing and \$377,000 under Alternative 2, nothing and \$287,000 under Alternative 3; and nothing and \$462,000 under Alternative 4, during the first four years of plan operation, depending on the amount of subsidy contributed from public sources. While initial local, state, or federal subsidy assistance is possible, the users who directly benefit from any freight service continuation will, in all probability have to, and rightly should, bear such deficits that may occur over the long term. Therefore, the long-term subsidy requirement that is assumed from fourth-year financial projections is utilized for the comparison of alternative plans.

OTHER STANDARDS

The final five freight transportation service standards may be grouped together under an "other" category. Inclusion of these standards is based upon the understanding that federal, state, and regional transportation policies and goals mandate a commitment to the development and assistance of transportation systems and services that promote efficient and economical freight movement, modal integration, public safety, energy efficiency, environmental enhancement, and the viability of private enterprise to the greatest extent possible.

The tenth standard recognizes the need for conformance with federal, state, regional, and local transportation policy and plans so that appropriate funding guidelines and requirements are met should such funding be critical to plan implementation. The Wisconsin Railroad Plan enunciates the State's policies on railroad freight service, and presents preliminary conclusions regarding the future of light-density lines in Wisconsin, including the Waukesha-Milton Junction line. Federal policy, generally developed on a less detailed scale, is transmitted through the state policies on rail planning matters. It should be recognized that state and federal policy on rail freight transportation is based upon generalized goals and objectives that

are reflected in concept by the specific standards set forth in Chapter II of this report. Therefore, the degree to which each alternative plan meets this particular standard is measurable only by examining the degree to which each alternative plan meets all of the standards set forth herein.

The eleventh standard indicates the importance of coordination and/or substitution of modes, employing each mode's inherent advantages to provide the most economical and efficient service possible. Since the shipment of fertilizer, fertilizer ingredients, forest products, and other relatively low-value goods and materials over long land distances is generally the most efficient by railroad, Alternatives 2 and 3 meet this standard. Alternatives 1 and 4 require transloading and trucking of some or all shipments currently handled by rail to and from locations within the Waukesha to Milton Junction corridor. Because of these inefficiencies, plus the fact that the best mode is not being utilized for the entire haul, Alternatives 1 and 4 do not meet Standard No. 11.

Standard No. 12 indicates a need for employing transportation services that minimize the potential for accidents and hazardous situations. Based upon the discussion of safety impacts in Chapter IV of this report, no alternative plan appears to offer any significant difference in safety to the public and to property. Also, it must be assumed that implementation of any plan would include appropriate safeguards against personal injury or property damage in compliance with all applicable safety rules and regulations, whether mandated by law or common sense. Thus, this standard is met by all alternatives.

Standard No. 13 states that the amount of energy utilized should be minimized. The discussion of energy consumption in Chapter IV has illustrated the energy efficiency of rail and truck modes within the subject corridor. Since truck transportation is more fuel-efficient than a local freight train in this type of service, the "do nothing" and motor carrier substitution alternatives, both of which involve some degree of truck substitution, meet this standard, while the two rail service continuation alternatives do not.

The fourteenth and last standard seeks to minimize adverse impacts to the physical environment. Chapter IV has documented the fact that freight service changes, as discussed in this report, are not likely to adversely affect ambient noise levels,

air or water quality, or ecological systems. All four alternatives, therefore, meet this standard.

CONCLUSION

The best alternative plan is determined by selecting that plan which best adheres to the stated plan objective, that being:

To insure the provision of adequate, economical, and equitable freight transportation service to current and potential shippers at the lowest possible cost.

As indicated earlier, two types of standards apply to this study effort, those being absolute and comparative.

Absolute standards represent a means of measuring the ability of each alternative plan to meet certain qualitative and nonquantifiable standards. Ten of the 14 freight transportation service standards are of this nature, with attainment of each measured in an absolute fashion (see Table 47). Considering those standards only, Alternatives 3 and 4 best meet the largest number of standards—6 and 7, respectively. Both alternatives could conditionally meet two other standards, and both alternatives do not meet one standard. Both alternatives appear equal when considering what may be considered critical standards; that is, those that relate to service frequency and maintaining private sector employment.

Four of the 14 standards are comparative in nature and must be examined in concert with each other during evaluation. Within the range of “cost

of service” standards are considerations for the minimization of capital and operating costs and the minimization of investment. While each of these is important, both are subservient to the importance of those standards that relate directly to the potential profitability of each of the plans. Indeed, larger investment and operating costs are not considered a disadvantage if the resultant operation is the most beneficial to the community and is affordable. The accompanying evaluation (see Tables 46 and 47) demonstrates that the shortline railroad alternative is the operational plan that best satisfies the requirements for minimizing subsidy requirements as well as transportation costs to shippers.¹

Alternative 3, continued operation as a shortline railroad, generates the highest benefit/cost ratio in addition to ranking first in adherence to the absolute freight service standards. This alternative provides adequate service to existing and potential shippers, maintains the private sector employment within the corridor, and requires the smallest annual operating subsidy of all three freight service continuation plans. Therefore, it can be concluded that this alternative plan best adheres to the plan objective by providing adequate and equitable freight transportation service to current and potential shippers in the Waukesha to Milton Junction corridor at the lowest possible cost.

¹Alternative 1, “do nothing,” ranks above the shortline alternative but is not an operational plan.

Table 47

NUMBER OF STANDARDS SATISFIED BY EACH ALTERNATIVE FREIGHT TRANSPORTATION SERVICE PLAN

Alternative	Standards Met	Standards Could be Met	Standards Not Met	Standards Not Applicable	Rank ^a Order
Plan 1—Do Nothing	3	1	4	2	3
Plan 2—Subsidize Existing Service . . .	5	2	2	1	2
Plan 3—Shortline Railroad	6	2	1	1	1
Plan 4—Motor Carrier Substitution . . .	7	2	1	--	1

^a See text for an explanation of the rank order of each alternative plan.

Source: SEWRPC.

RECOMMENDATION

Prior to recommendation of any physical improvement plan, impartial judgment must be exercised in determining the probability of such a plan being successfully implemented. Chapter V of this report has demonstrated the need for an operating subsidy over the long term in the event that a shortline railroad is the most desirable alternative plan.

Such a subsidy will most likely have to originate from the shippers for two reasons. First, it is generally the goal of subsidization funding from the public sector to restore a line to profitability within two or three years, after which time a subsidy will no longer be required. This policy of only temporarily subsidizing light-density lines until they are able to cover expenses would appear to exclude the Waukesha to Milton Junction line from public operating assistance.

Second, even if an operating subsidy were to be procured, the Local Rail Assistance Act of 1978 authorizes partial funding only through the first three years. Since, at the time of this writing, there are no other federal funding sources for rail freight service operating subsidies, the projected long-term deficit will have to be satisfied by local sources since the State of Wisconsin has no similar operating assistance program. Because the potential project would have a positive effect only on a select group of private businesses and would benefit only a narrow area of each of the four affected counties, and because of the potential magnitude of each county's or municipality's share, public assistance at the local government level is not anticipated. This leaves the burden of financially supporting a deficit operation with the on-line shippers.

If the subsidy requirements become the responsibility of the shippers that utilize the service, the per-car surcharge as estimated in Chapter V can be expected to represent a significant transportation cost increase to each shipper. During the initial year of shortline operation, the surcharge would be approximately \$1,700 per car; during the second year, approximately \$930 per car; during the third year, approximately \$470 per car; and during the fourth and subsequent years, approximately \$310 per car.² Again, it must be stressed that these

surcharge estimates are based upon the negotiation of a favorable revenue division and attainment of the carloading forecasts. Therefore, if a shortline railroad were to be implemented, there is a good possibility that actual experience could result in a greater annual deficit than has been forecast within this study. Based on the total shipping charges of individual carloads, which range from \$225 per car to \$3,032 per car, the surcharges represent an increase in the total carload rate ranging from about 56 percent to 756 percent in the initial year, 31 percent to 413 percent in the second year, 16 percent to 209 percent in the third year, and 10 percent to 138 percent in the fourth and subsequent years.

It is reasonable to assume that most or all shippers would have difficulty in absorbing such increases during the first and second years of shortline operation. Additional transportation costs for each shipper such as these would create competitive handicaps and may eventually result in economic impacts similar to those discussed in Chapter IV of this report. With the prospect of at least some of the forecast traffic being diverted because of the per-car surcharge, the remaining traffic would have to bear a greater per-car surcharge to compensate for the same deficit.

Based on the development and selection of the best alternative plan and a review of that plan's revenue and expense characteristics, it appears that there is little, if any, probability of successful shortline railroad operation on the Waukesha to Milton Junction line insofar as realizing a break-even, or profitable, status. Because the line appears to have little chance of realizing a profit within the foreseeable future while other potential branchline projects within the State of Wisconsin competing for the same limited funds may, the use of public financial assistance for an operating subsidy or other nonrecoverable investments concerning this railroad line cannot be recommended. Subsequently, on the basis of projected revenues and expenses as set forth in Chapter V of this report, as well as the probability for financial success of such a project, implementation and operation of a shortline railroad also cannot be recommended as the most desirable and practicable alternative. It follows then, that the only plan that is realistic at the present time from a public financial resource viewpoint is Alternative 1, "do nothing."

Nevertheless, the railroad right-of-way itself between Waukesha and Milton Junction possesses an intrinsic quality as a continuous corridor of

²These surcharges do not include the annualized cost of public sector investment.

land, and represents a unique resource which should be preserved for long-term public use either as a transportation corridor or as a recreation trail. In fact, as already noted, the Wisconsin Department of Natural Resources has expressed interest in acquiring the right-of-way for such a use. Therefore, it is recommended that the Wisconsin Department of Transportation exercise its statutory authority to purchase the land should the Milwaukee Road receive permission to abandon service.

However, it should be recognized that other sources of revenue in addition to the movement of railroad freight cars exist for a shortline railroad operation, even though they may be of a highly speculative nature and, therefore, difficult to estimate. Realizing this, private sector ingenuity should not be underestimated, as a private entrepreneur may desire to assume the risk of a shortline railroad operation in order to attempt to make a profit. Even though this report demonstrates that there is little chance of a profitable operation over the long run, based upon the best available data concerning future revenues and expenses, it appears reasonable to provide a private entrepreneur with that opportunity as long as the public sector can be held harmless, and is able to recover any investment.

IMPLEMENTATION

If a private individual or concern does desire to attempt profitable shortline operation, implementation should proceed along those steps outlined in Chapter V under the best shortline railroad configuration. Right-of-way should be purchased by the State of Wisconsin in any event, as recommended above. Trackage and other property improvements can be purchased by either the City of Whitewater or a multicounty rail transit commission through assistance from the State of Wisconsin Rail Preservation Grant Program. Funding through this program covers a maximum of 80 percent of the total purchase price. The rationale for use of this program where other public assistance does not appear to be justified, given the probability of shortline success, is that the improved property should be able to be purchased from the railroad at or near scrap value. Should railroad operation be terminated under this type of arrangement, the trackage and other improved property can probably be sold at scrap value for approximately the price that was paid, assuming the prices for the varying types of scrap

remain the same. Because scrap values do fluctuate, it should be recognized that there is a certain amount of risk involved in such an initiative.

It should be clear that if a railroad seeks to abandon a branch line, the assembled physical plant of that branch line, exclusive of real estate, apparently has no value to the railroad beyond the price for which it could be sold for salvage. However, it must be recognized that there has been no actual court experience in setting a value on such improvements in the State of Wisconsin. Furthermore, during recent negotiations concerning similar situations within the State, railroad companies have asserted that the railroad track "in place" has some intrinsic value as an assembled physical operating plant over and above the net scrap value. Thus, any public initiative to acquire the physical improvements may result in a court decision awarding the railroad company considerably more than net salvage value, and thus could represent a risk of public funds.

Should a private operator desire to initiate operations, the City of Whitewater or rail transit commission should stipulate certain conditions so that the public sector is able to maintain a position of noninvestment, except for the purchase of property. Those conditions should include:

- A lease deposit to be initially paid by the operator to the City or transit commission equal to the 20 percent local share necessary for purchase of the improved property. Although this amount will be determined by negotiations with the Milwaukee Road, the total net scrap value of the railroad line between Waukesha and Milton Junction has been estimated by the Wisconsin Department of Transportation to be \$205,950. Therefore, the local share would total at least \$41,190. The operator could raise part or all of this amount through a combination or association of on-line shippers, which would result in the additional benefit of encouraging continued railroad utilization.
- An annual rental fee paid by the operator to the City or transit commission equal to a nominal charge to cover the administrative costs that may be incurred. In exchange for use of the property and trackage, the agreement should clearly define the operator's responsibility for main-

tenance and upkeep of the property including, but not limited to, grade crossings, sanitation, and fence repair.

- It should be recognized that the individual businesses located along this railroad line are being asked to make investment decisions based upon the continuation of rail freight service in the corridor. Therefore, it may be desirable for the agreement between the City or transit commission and the operator to stipulate a provision for continued operation over a defined period of time, although once the operator has been granted a Certificate of Public Convenience and Necessity, service cannot legally be terminated without participation in the formal abandonment process.
- The shortline operator should be responsible for acquisition of all necessary equipment, machinery, tools, supplies, and personnel; negotiations with the Milwaukee Road for rate divisions and settlement; maintenance of the fixed plant as well as equipment; and the necessary normal operations. Funds for initial capital requirements may be raised through sale of stocks in a corporation. Sale of stock to shippers would create an incentive for continued railroad utilization. Reluctance on the part of current and potential shippers to become involved in the implementation of a shortline railroad should raise a concern as to the shippers' sincerity concerning their commitment to shipping goods and materials by railroad in the future.

If an interested operator is willing to guarantee continued operations for a period of at least four years, then it is recommended that application be made for use of available state and federal sources of funding for implementation of the recommended initial track rehabilitation program. Should the operator be willing to guarantee continued railroad freight service for a longer period of time, then an initial track rehabilitation program on the order of that proposed by the Commission's consultant would be justified and should be sought.

The implementation suggestions would represent a combined effort aimed at long-term preservation of railroad freight service through a private shortline operator. Although this study effort has con-

cluded that long-term operation of a shortline would be unprofitable, it should be recognized that some attraction, unmeasurable within the bounds of this study, may exist for a private entrepreneur to attempt profitable operation of such a shortline railroad. In view of the choices open to the City of Whitewater or a rail transit commission, such an opportunity, upon presenting itself, should be seized so long as the municipality or commission can limit its legal and fiscal involvement in the manner discussed above. Should such a shortline railroad operator be successful in narrowing the difference between operating revenues and operating expenses to a relatively small percentage of the deficit anticipated earlier in this report, then a public subsidy from local, state, or federal sources, or a combination thereof would be warranted.

Conversely, the absence of such an interested private concern, or an inability to conclude a satisfactory lease negotiation with such a party, would only reinforce the study conclusion concerning the unprofitability of the shortline alternative. In this case, the only reasonable action is to endorse Alternative 1, "do nothing," by not implementing any action that may change the current course of events. It is hoped that government, business, industry, and interested citizen groups, all who may be affected by the events discussed within this planning report, will take an active interest in the data and recommendations set forth herein.

SUMMARY

Selection of the best alternative freight service plan for the Waukesha to Milton Junction corridor is based upon how well each alternative plan adheres to the plan objective, which in turn is measured by how well the set of freight service standards are met by each plan. In addition, a crucial consideration is the annual long-term cost of each of the plans to the public and private sectors.

Four alternative plans have been evaluated in this chapter. The first alternative is the "do nothing" alternative. The remaining three viable alternatives propose freight service continuation in the form of subsidization of the existing service by the Milwaukee Road, creation and operation of a shortline railroad, and motor carrier substitution. Based upon information generated by this study effort, including development of projected revenues and expenses for each of the alternative plans and an

assessment of the ability of each alternative to meet the freight service standards as set forth in Chapter II, Alternative 3, which proposes short-line railroad operation, appears to be the most desirable. This alternative involves a total annual operating cost of approximately \$698,000; an annual subsidy requirement of approximately \$287,000, or about \$310 per carload handled,³ and a positive benefit/cost ratio of 4.06, based upon adverse economic impacts that would be avoided under implementation of this plan. These figures relate to the fourth year of plan operation, and thus indicate the long-term annual financial commitments required.

It appears that the significant annual operating subsidy that has been demonstrated to be necessary for continued operation would have to be financed, at least over the long term, by the on-line shippers that directly benefit from retention of service. In view of this, the shippers cannot be expected to incur such additional transportation costs without also incurring at least the same competitive handicaps which would result from abandonment of the railroad freight service. Therefore, with little probability of successful shortline railroad operation, it appears that the only alternative that is realistic at the present time from a public financial resource viewpoint is Alternative Plan 1, "do nothing."

Although this study effort demonstrates that there exists little, if any, chance of profitable shortline railroad operation over the long term on the Waukesha to Milton Junction line, it should be recog-

nized that an individual or concern from the private sector may still desire to attempt profitable operation over the line. If such an opportunity arises, the City of Whitewater or a multicounty rail transit commission may wish to render assistance in property acquisition so long as public involvement is generally limited to recoverable investment, although some level of public subsidy may be warranted, depending on the success of a short-line operation. If such an operator is willing to guarantee continued operations for a period of at least four years, then it is recommended that application be made for use of available state and federal sources of funding for implementation of the recommended initial track rehabilitation program. Should the operator be willing to guarantee continued railroad freight service for a longer period of time, then an initial track rehabilitation program on the order of that proposed by the Commission's consultant would be justified and should be sought. Some type of financial commitment on behalf of the shippers that would benefit would be desirable on the part of the shortline operator. Such involvement would tend to encourage future utilization of the rail freight service.

Regardless of whether railroad operations in this corridor continue or not, it is recommended that the Wisconsin Department of Transportation purchase the right-of-way utilizing its right of first refusal for purchase of abandoned rail corridors. A unique resource would then be preserved for long-term public use either as a transportation corridor or as a recreation trail.

³*This subsidy and surcharge does not include the annualized cost of public sector investment.*

Chapter VII

WAUKESHA TO MILTON JUNCTION ABANDONMENT EPILOGUE

In order to assure uniformity of data, a nominal date for this study of January 1, 1979, was established at the beginning of the study. Information and data relevant to the period preceding this date were accepted for review and analysis within the study while information and data succeeding this date were not included. During the period of time between the cut-off date and June 30, 1979, certain events have transpired which are directly relevant to this study, and, therefore, worthy of inclusion as an epilogue.

As of July 1, 1979, twice-weekly freight train service between Waukesha and the Whitewater area was still being operated by the Milwaukee Road. During the first four months of 1979, some operational difficulties were encountered on the railroad line. Because of severe winter weather conditions, coupled with the Milwaukee Road's financial inability to immediately clear snow from all portions of the system, most of the railroad line was embargoed during portions of January and February. Train operation was halted on two separate occasions for a total period of approximately six weeks.

Near the end of March, a major derailment occurred about one mile east of Genesee Depot. Four freight cars left the track, of which two had

to be pushed aside and retrieved at a later date (see Figure 39). Almost two weeks elapsed before the track was repaired and service restored west of Genesee Depot. The derailment was attributed to the roadbed becoming soft and giving way beneath the train. No injuries were reported.

Of prevailing interest to those concerned with the findings and recommendations of this study is the federal Interstate Commerce Commission's initial decision to grant the pending abandonment application for discontinuance of service between Waukesha and Milton Junction. Since the text of this initial decision was not available for review as of July 1, 1979, the rationale for the decision is presently unknown and the decision itself is pending appeal by the Wisconsin Department of Transportation.

Prior to public release of the initial decision, the Wisconsin Department of Transportation and the City of Whitewater, as the apparent primary channels of support for rail freight service continuation in the corridor, began to initiate action toward acquisition of the trackage and other property improvements as well as to solicit proposals from potential shortline railroad operators. At the time of this writing, these tasks are underway.

Figure 39

DERAILMENT ON WAUKESHA TO MILTON JUNCTION LINE: MARCH 29, 1979



The March derailment of the Brookfield to Whitewater freight train appeared to have been caused by the roadbed becoming soft—presumably because of spring thaw conditions—and giving way beneath the train. The locomotive and first two freight cars were stranded for nearly two weeks at Genesee Depot until the track was repaired. The third and fourth cars, containing potash and phosphate, were moved aside and rerailed at a later date. This view looks southwest from Brookhill Road in Waukesha County.

Source: Earl Schneider, Courtesy Waukesha Freeman.



On Thursday, March 29, 1979, four cars of the westbound Brookfield to Whitewater freight train derailed about one mile east of Genesee Depot. No one was injured and none of the derailed cars appeared to break open. This view looks southwest.

Source: Earl Schneider, Courtesy Waukesha Freeman.

Chapter VIII

SUMMARY

In 1974 the Chicago, Milwaukee, St. Paul & Pacific Railroad Company (the Milwaukee Road) petitioned the federal Interstate Commerce Commission for permission to abandon its branchline segment from Waukesha through Genesee Depot, North Prairie, Eagle, and Palmyra to Whitewater, a distance of about 26 miles. Although a part of the first railway constructed in the State of Wisconsin, this line's function throughout most of its life was to provide local transportation to the immediate area, and freight service only since 1951. Although this initial petition was denied, a subsequent petition was filed in 1978 seeking authority to abandon service on a longer segment. Approved in 1979, but under appeal by the Wisconsin Department of Transportation, this segment includes not only the trackage included under the 1974 request, but also the segment from Whitewater through Lima Center to Milton Junction. The Milwaukee Road justified its application for abandonment on the basis of low traffic volumes, which resulted in significant operating losses. Given these losses, the carrier's marginal financial condition, and the need for major track rehabilitation, the railroad believed that it was justified in asking to be relieved from the burden of continued operation of this branchline segment.

In light of the potential impacts such an abandonment may have on the physical, social, and economic development of the area served, the City of Whitewater requested the Southeastern Wisconsin Regional Planning Commission to undertake a study to determine those impacts and to investigate alternative courses of action to minimize those impacts. The study was funded by the Commission itself and by a planning grant from the Wisconsin Department of Transportation. The purpose of the Whitewater area railroad freight service planning effort was to determine the best means for the continuation of freight transportation services to the Whitewater area for goods that are currently moved, or that may be expected to be moved, via the existing Waukesha to Milton Junction railway line, and to accordingly make appropriate recommendations to those federal, state, and local governmental units that are concerned with the negative impacts of abandonment and that possess the legal and financial capability to take action to alleviate those impacts.

A single railway freight service objective has been set forth under the study, that being:

To insure the provision of adequate, economical, and equitable freight transportation service to current and potential shippers at the lowest possible cost.

Four supporting principles provide the foundation for the objective and assert its validity. Each of the principles, in turn, is supported by a group of freight transportation service standards, which serve to link the objective to alternative courses of action. Together, the 14 standards presented provide a means for evaluating the ability of each alternative plan considered to meet the stated objective, and for selecting that plan which appears to be most appropriate.

Data were collected under the study on the two basic factors that must be considered in planning for the operation of any railway line: the physical condition of the railway line itself, and the traffic that is carried upon it. Specifically, the data presented relate to the physical condition of the right-of-way, roadbed, and track and structures; to the present operational and financial characteristics of the line as a branchline segment of the Milwaukee Road system; to the business operations and shipping characteristics of each of the shippers known to currently use or that can be anticipated to use the service; and to the aggregate current and probable future traffic and transportation requirements.

The railway line from Waukesha to Milton Junction consists of 41 miles of what may be considered "typical" branch, or light-density, line right-of-way and trackage. No significant operating restrictions are imposed by either the horizontal or vertical right-of-way alignment. The subgrade is basically sound, although some segments require drainage improvements. The continued efficient operation of trains over the track will necessitate new ballast to correct surface and alignment problems. Inspection of random track segments between Waukesha and Milton Junction indicated that from 45 to 50 percent of the cross ties are in need of replacement. Most rail on the line consists of 33-foot lengths of 75-pound-per-linear-yard rail,

rolled between 1899 and 1918. With proper support and no extreme increases in tonnage, the rail should be adequate to carry the foreseeable traffic at reasonable operating speeds up to 25 miles per hour (mph). The entire branchline segment has tie plates on all ties as well as rail anchors. However, the rail anchors require adjustment. Overall, the line can still be operated at reasonable speeds and without weight restrictions since the track structure appears to be in compliance with Federal Railroad Administration (FRA) track standards for Class II track. However, continued operation will require major rehabilitation or a greatly increased level of annual maintenance.

Turnouts generally have movable spring frogs, a type that should eventually be replaced for safety reasons. Out of a total of 105 street, highway, and pedestrian crossings, 13 are equipped with some sort of automatic protection. There are no other signal or communication installations on or along the line. Structures consist of one freight house in Whitewater; 77 culverts, four timber trestles, and one steel bridge carrying the railway over watercourses; and three bridges carrying roadways over the railroad track. There are no known weight restrictions on any of the railway bridges, and major maintenance does not appear necessary on any of the railway bridges.

Current service is provided by the Milwaukee Road on a twice-a-week schedule with a four-man crew and one diesel locomotive. Derailments are relatively few, considering the deferred maintenance of the line, averaging two a year since 1976. Major operating problems have been encountered by the railroad because of severe winter weather conditions in recent years, causing train service to be canceled and the line to be embargoed for significant periods of time. Shippers have experienced difficulties in obtaining an adequate number of empty cars for outbound shipments, and a consistent quality of service in the movement of individual cars.

Revenues attributable to this branchline segment totaled \$161,708 in 1977, and \$108,760 for the first six months of 1978. Except for 1976, revenues have not fluctuated significantly. Revenue is earned predominantly from the transportation of fertilizer and fertilizer ingredients, but the line also transports corn, lumber, and paper. No bridge traffic is handled at present. The Milwaukee Road has incurred major costs in maintaining service on

this branch. These costs are primarily related to actual train operation and track/structure maintenance. Expenses for train operation have remained relatively constant in relation to the service provided during each year. However, in order to decrease the avoidable loss, expenditures for maintenance have been reduced to \$314 per mile per year in 1978,¹ well below the \$4,879 per year estimated to be required to properly maintain the line.²

The railroad reports a loss attributable to this branchline segment of about \$40,000 in 1975 and 1976, and about \$32,000 in 1977, and a profit of about \$9,000 during the first six months of 1978. Losses have been reduced because of deferred maintenance, a savings in expenses that will have to be compensated for in the future. As currently operated, the line has been shown to be unprofitable in most years.

Fifteen shippers on the railway line under consideration for abandonment were contacted under the study to determine present and future freight service requirements. Included were eight businesses that currently use railroad service and that may be expected to continue doing so, three that once used the line but that no longer ship by railroad, three potential shippers that have expressed a definite interest in utilizing railroad transportation, and one business that apparently will continue to receive service by the Milwaukee Road regardless of the abandonment decision. Ten of the 15 shippers are expected to utilize railroad service in the future and therefore will be affected by the proposed abandonment. Together, these 10 shippers employ a total of 189 full-time people earning an aggregate payroll of \$2,669,000 per year. Total sales volume for the 10 operations in 1978 was \$20,163,000, and local property tax paid in 1978 totaled \$42,784.

Current traffic demands are oriented toward the movement of bulk and low-value commodities. At present, inbound commodities consist predominantly of potash and phosphate, but also include preblended fertilizer, fertilizer ingredients, lumber, paper, and miscellaneous agricultural supplies. Outbound commodities are fertilizer and corn. In

¹Based on the first six months.

²Based on projected subsidy year expenses furnished by the Milwaukee Road.

1978, 267 carloads and an estimated 23,470 tons were handled over the line, both figures indicating a decrease from the freight handled during the two previous years. Of the total tonnage handled, 96 percent consists of agri-business-related supplies or products. Individual shippers report service problems, the major one being an inadequate supply of 100-ton "jumbo" hopper cars for outbound shipments of corn and fertilizer. This problem of car shortages is not unique to the Region or to the Milwaukee Road. While all except one of the existing shippers accrue an economic advantage from receiving or shipping certain goods by railroad, only one, Kaiser Agricultural Chemicals in Whitewater, has indicated a complete dependence upon railroad service.

Although traffic declined between 1975 and 1978, forecasts for the three-year period 1979 through 1981 foresee a potential increase in traffic to 921 carloads and an estimated 70,094 tons per year by 1981, or approximately three times the carloads and tonnage that was handled during 1978. These estimates are based upon the addition of two significant shippers as well as upon projections of increased use by existing shippers. One of the two additional shippers, Sandra Corporation in North Prairie, would be completely dependent upon the availability of railroad service for the movement of ore and polystyrene, while the other, Union Forest Products of Lima Center, would be dependent upon rail service for expansion of the existing operation into the railroad tie market. These commodities plus increased corn and forest product shipments would lessen the line's dependence on fertilizer traffic. The forecasts assume the availability of an adequate supply of empty cars for outbound shipments, as well as a level of service above what now exists.

Abandonment of the Milwaukee Road's Waukesha to Milton Junction branchline segment would have certain impacts of an economic, environmental, and miscellaneous nature. Based upon the shipper survey, it was determined that a total of 28 existing and 8 potential basic industry jobs would be lost, together with approximately 41 existing and 12 potential nonbasic industry jobs. A corresponding total of \$384,000 in existing and \$93,000 in potential basic income, and \$335,500 in existing and \$100,000 in potential nonbasic income, would be lost per year. In addition, about \$11,300 in existing and \$700 in potential property tax revenues would be lost annually, although no immediate tax impact

attributable to the abandonment action would be felt from property taxes paid by the Milwaukee Road since the railroad has not paid since the beginning of 1978. Finally, an estimated additional transportation cost of \$116,350 would be incurred by the remaining shippers.

Almost all other potential impacts that were examined have been determined to be either nonexistent or insignificant. Should abandonment of this line occur, the additional motor truck traffic that would be generated in the corridor would be negligible, resulting in no need for additional highway construction or maintenance. Major safety impacts are also not anticipated because of the minimal increases and decreases expected in truck and train frequency, respectively. Rail freight service does not appear to be mandatory for continued development of the corridor's industrial base except possibly in the City of Whitewater area. Based upon the recent interest of two firms that would require railroad sidings, Whitewater's industrial development could be adversely affected by a loss of rail service. However, the extent of such an effect is not quantifiable at this time. Existing land use patterns in the area surrounding the railway line are not expected to be significantly altered should abandonment occur.

While most environmental aspects that were considered have been determined to be insignificant, one positive impact would be incurred because of abandonment—a net savings of approximately 58,200 gallons of diesel fuel annually. This savings would be the result of trucks utilizing only 13,900 gallons of such fuel per year where railway traffic required 72,000 gallons of such fuel. Changes in air and water quality, noise, wildlife, and vegetation would be negligible or are unknown. Temporary negative impacts may be incurred because of dismantling activities, but these would be of a comparatively short duration.

Six alternative plan responses to the discontinuance of railway freight service between Waukesha and Milton Junction were identified in this report. The alternatives represent all known practical plans and include:

1. Do nothing—The Milwaukee Road would abandon the subject railway line with attendant impacts following termination of rail freight service.

2. Subsidization of existing service—The Milwaukee Road would continue the current level of rail freight service on the line, with operating losses being subsidized from either public or private funding sources.
3. Operation as a shortline railroad—Railway freight service would continue to be provided by a shortline railroad operator.
4. Motor carrier substitution—A coordinated effort would provide for motor truck transportation between all current or potential identified shippers and select transloading facilities located at nearby railheads.
5. Operation by another existing trunk line railroad—Another connecting rail carrier would assume operation of the Waukesha to Whitewater area branchline segment.
6. Plant facility relocation—All or a portion of the businesses currently utilizing the subject railway line would be relocated to a more suitable location.

Under the “do nothing” alternative the Milwaukee Road would abandon the line, the direct effect being cessation of rail freight service to the on-line communities of Genesee Depot, North Prairie, Eagle, Palmyra, Whitewater, and Lima Center. Various impacts of an economic nature could be anticipated, including, as previously mentioned, a loss of 36 existing and potential basic industry jobs, together with approximately 53 existing and potential nonbasic industry jobs. A total of \$477,000 in existing and potential annual basic income, and \$435,500 in existing and potential nonbasic income per year could be expected to be lost under this alternative. Actual and potential property tax revenues totaling approximately \$12,000 annually could be expected to be lost, and the estimated total transportation cost of the remaining shippers could be expected to be increased by \$116,350, according to those shippers. Together, these quantifiable impacts represent an aggregate economic “cost” of approximately \$1,041,000 annually. With the exception of some negative but unmeasurable effects on the attractiveness of the Whitewater area to potential rail-dependent customers, all other impacts of an environmental or miscellaneous nature are anticipated to be either nonexistent or insignificant.

The second alternative assumes that the current level of service provided by the Milwaukee Road over the entire line between Waukesha and Milton Junction would continue by the same carrier under an agreement whereby an annual subsidy would be provided to cover the operating losses. According to revenue and expense projections developed by the Milwaukee Road, the first year’s subsidy, including administrative costs plus total return on investment, would total approximately \$378,000. An optional projected first-year subsidy of approximately \$131,000 has also been developed by the Railroad for continued operation between Whitewater and Milton Junction only. The latter option has been indicated by the Wisconsin Railroad Plan as being the most cost-effective, thus allowing federal Railroad Revitalization and Regulatory Reform Act (4R Act) short-term funding of subsidy operation only for this segment. Subsidized operation of the entire line would require local contribution of all monies. Although this alternative would not require direct local involvement in actual railroad operation, such a subsidy project provides for all carrier expenses to be covered plus a return on investment, thus creating little incentive for attempting to reduce the subsidy. Therefore, the indicated level of subsidy may be assumed to be long-term in nature.

The third alternative, implementation of a shortline railroad, has recently become popular as an approach to the problem of loss of branchline rail freight service. Because shortline railroads are generally able to effect economies not available to larger, trunk line railroads, rail service may be able to be operated on a break-even or profitable basis by a short line in situations where a major railroad can only sustain a loss. The primary advantage of a short line is a reduction in labor costs. Other advantages inherent to this type of operation may include a more cooperative employee attitude because of the smaller organization involved, the ability to closely tailor service to individual shipper needs, localized customer contact, minimization of large corporate administrative and overhead costs and other complexities, less complicated accounting and reporting requirements, and miscellaneous economic benefits to the local area from the locally based operation.

There are also inherent disadvantages to shortline railroad operation, including: the inability of individual employees to specialize in certain areas, making the hiring of outside contractors

necessary for specialized or major tasks; the possible inability to attract qualified full-time management; inefficient utilization of locomotives when less than daily train service is offered; possible financial difficulties during economically depressed periods; the inability to secure large quantity discounts for the purchase of fuel and other supplies; and the dependence on Class I connecting carriers for car supply and adequate service.

Since a short line is very sensitive to relatively minor changes in operating revenues, it is important for a shortline operator to secure sources of income other than originating and terminating railroad traffic. Such sources include, but are not limited to, demurrage, property and building rental, interest income, freight car repair and storage, and bridge traffic.

Recent shortline railroad experiences exhibit a variety of configurations as well as varying degrees of success. Somewhat successful shortline railroads such as the East Camden & Highland in Arkansas and the Hillsdale County in Michigan and Indiana appear to possess either a short mainline haul or a high traffic density relative to other typical branch lines. Short lines that appear to be unsuccessful or that have failed possess lengthy mainline runs and rely predominantly on either one commodity or sparsely scattered customers. The Brillion & Forest Junction represents the State of Wisconsin's only recent involvement in shortline railroad creation. Besides accelerated track maintenance, the project includes construction of a bulk unloading and team track facility. Because of its very recent formulation, actual experience is difficult to assess at this time.

From among the options available, the best operational arrangement for a short line in the Whitewater to Milton Junction corridor appears to be operation as a common carrier with participation with connecting railroads in the division of revenues. The best physical configuration would include retention of the entire line between Waukesha and Milton Junction, with trackage rights through Waukesha for interchange with other rail carriers in the area. The best organizational configuration would be a multicounty rail transit commission, with initial interim operation by the City of Whitewater. The transit commission or the City would contract with a single shortline operator for direct operation of the service.

Utilizing what must be regarded as a very favorable rate division agreement, as well as optimistic carload and tonnage projections, revenue and expense forecasts indicate a need for a subsidy of approximately \$457,000, \$406,000, \$342,000, and \$287,000 for the first through fourth years of shortline operation, respectively, with little further reduction in required subsidy indicated for subsequent years. It is anticipated that a continuing subsidy, based upon the fourth year requirement, would be required over the long term. To compensate for this deficit, an additional local per-car surcharge would have to be levied, amounting to approximately \$1,700, \$930, \$470, and \$310 per car during the first through fourth and subsequent years of operation, respectively. The aggregate start-up capital requirement for this plan is approximately \$2,339,000, or \$117,000 per year over 20 years.

Under the fourth alternative, motor truck cartage would be substituted for rail transportation of goods and materials between all existing and potential shippers and nearby railheads on a coordinated basis. Transloading facilities for bulk commodities would be installed at Milton Junction for Kaiser Agricultural Chemicals, Badgerland Co-op, and the Richard Gumz farm, and at Wales for the Sandra Corporation. Transloading facilities for forest products would also be installed at Milton Junction for use by Home Lumber Company and Union Forest Products. This alternative assumes that Brittingham & Hixon Lumber Company and Jefferson County Farmco Cooperative would have materials trucked from their other existing facilities. Because of the way in which railroad rates are structured, these transloading and trucking costs present an additional expense over and above the long-haul rail rate, which would not significantly change. The estimated annual cost of this alternative is \$186,000 during the first year, \$266,000 during the second year, \$384,000 during the third year, and \$463,000 during the fourth year. In addition, an estimated 6,000 one-way truck-trips, or approximately 81,000 truck-miles, would be added to the corridor's highway network under this alternative. The additional truck traffic is not expected to significantly affect either the structural condition of existing roadways or air and noise quality. The only highway system improvement determined to be necessary under this plan consists of rebuilding about 0.6 mile of county roadway near Lima Center to handle fully loaded trucks with no weight restrictions. This improvement would cost approximately \$125,000.

The aggregate capital expenditure requirement for this plan is estimated to be \$443,000, or \$22,000 per year over 20 years if financed by the shippers. Because of the nature of the costs under this alternative, it should be regarded as a short-term approach. Also, because of equity considerations, continuing public assistance may be difficult to obtain.

The advantages of the fifth alternative, subsidized operation between Waukesha and the Whitewater area by another truck line railroad, appear to be significantly outweighed by two disadvantages. First, another carrier would require at least the same subsidy as would the Milwaukee Road, since all Class I railroad accounting practices are similar. Second, current trends concerning elimination of unprofitable services by major carriers seem to indicate a general reluctance to become involved with more of the same types of lines. Given the low probability of compelling a different operator to assume this service, it is believed that further consideration of this alternative is not warranted.

The sixth alternative, plant facility relocation, represents a very capital-intensive plan. Because of the implied cost, reaching a decision would be very difficult as to whether part or all of one, several, or all businesses that now use, or will use, the subject railroad line should be relocated. Again, an equity problem would be created as to what assistance should be provided from the public sector for the benefit of individual private concerns. Because of the inherent complexities, as well as the public assistance question, this alternative appears to be impractical.

Selection of the best alternative freight service plan for the Waukesha to Milton Junction corridor is based upon how well each alternative plan meets the plan objective, measured in terms of the related freight service standards. In addition, a crucial consideration is the annual long-term cost of each of the plans to the public and private sectors.

Four alternative plans were thus considered to have enough promise to be evaluated—the “do nothing” alternative and the alternatives which propose freight service continuation in the form of subsidization of the existing service by the Milwaukee Road, creation and operation of a shortline railroad, and motor carrier substitution. Based upon projected revenues and expenses for each of the alternative plans and an assessment of the ability

of each alternative to meet the freight service standards as set forth in Chapter II, Alternative 3, which proposes shortline railroad operation, appears to be the most desirable. This alternative involves a total long-term annual operating cost of approximately \$698,000; a total long-term annual operating subsidy requirement of approximately \$287,000, or about \$310 per carload handled; an initial investment of \$1,354,000 for track rehabilitation, plant, and equipment (not including interest and right-of-way property acquisition costs); and a positive benefit/cost ratio of 4.06, based upon adverse economic impacts of abandonment that would be avoided under implementation of this plan. These figures relate to the fourth year of plan operation, and thus indicate the long-term annual financial commitments required.

It appears that the significant annual operating subsidy that would be necessary for continued operation would have to be financed, at least over the long term, by the on-line shippers that directly benefit from retention of service. In view of this, the shippers cannot be expected to incur such additional transportation costs without also incurring at least the same competitive handicaps that would result from abandonment of the railroad freight service. Therefore, it appears that Alternative Plan 1, “do nothing,” is the most realistic at the present time from a public financial resource viewpoint.

Although this study demonstrates that there exists little probability of profitable shortline railroad operation over the long term on the Waukesha to Milton Junction line, it should be recognized that an individual or concern from the private sector may still desire to attempt profitable operation over the line. If such an opportunity arises, the City of Whitewater or a multicounty rail transit commission may wish to render assistance in property acquisition so long as public involvement is generally limited to recoverable investment, although some level of public subsidy may be warranted, depending on the success of a shortline operation. If such an operator is willing to guarantee continued operations for a period of at least four years, then it is recommended that application be made for use of available state and federal sources of funding for implementation of the recommended initial track rehabilitation program. Should the operator be willing to guarantee continued railroad freight service for a longer period of time, then an initial track

rehabilitation program on the order of that proposed by the Commission's consultant would be justified and should be sought. Some type of financial commitment on behalf of the shippers that would benefit would be desirable on the part of the shortline operator. Such involvement would tend to encourage future utilization of the rail freight service.

Regardless of whether railroad operations in this corridor continue or not, it is recommended that the Wisconsin Department of Transportation purchase the right-of-way utilizing its right of first refusal for purchase of abandoned rail corridors. A unique resource would then be preserved for long-term public use either as a transportation corridor or as a recreation trail.

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APPENDICES

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Appendix A

TECHNICAL COORDINATING AND ADVISORY COMMITTEE ON
RAIL SERVICE PLANNING IN THE WHITEWATER AREA

Anthony F. Balestrieri Consulting Engineer, Elkhorn; Commissioner,
Chairman Southeastern Wisconsin Regional Planning Commission
Kurt W. Bauer Executive Director, Southeastern
Secretary Wisconsin Regional Planning Commission
John A. Carre Manager, Mid-West Region
Warehouse and Transportation Services,
Kaiser Aluminum & Chemical Sales, Inc.
Richard B. Eager County Board Chairman, Rock County
William A. Heimlich Planning Supervisor, District 2,
Division of Transportation Facilities,
Wisconsin Department of Transportation
Paul C. Heitmann Director, Division of Rail Assistance,
Wisconsin Department of Transportation
Norman B. Marzahl General Manager, Badgerland Co-op
Lloyd G. Owens County Board Chairman, Waukesha County
Stuart M. Rich Professor, Department of Economics,
University of Wisconsin-Whitewater
Quinn C. Smet City Manager, City of Whitewater
Peter J. Thomsen Manager, Jefferson County Farmco Cooperative
Milton R. Voss County Board Chairman, Walworth County
John A. Zerbel President, John A. Zerbel & Company

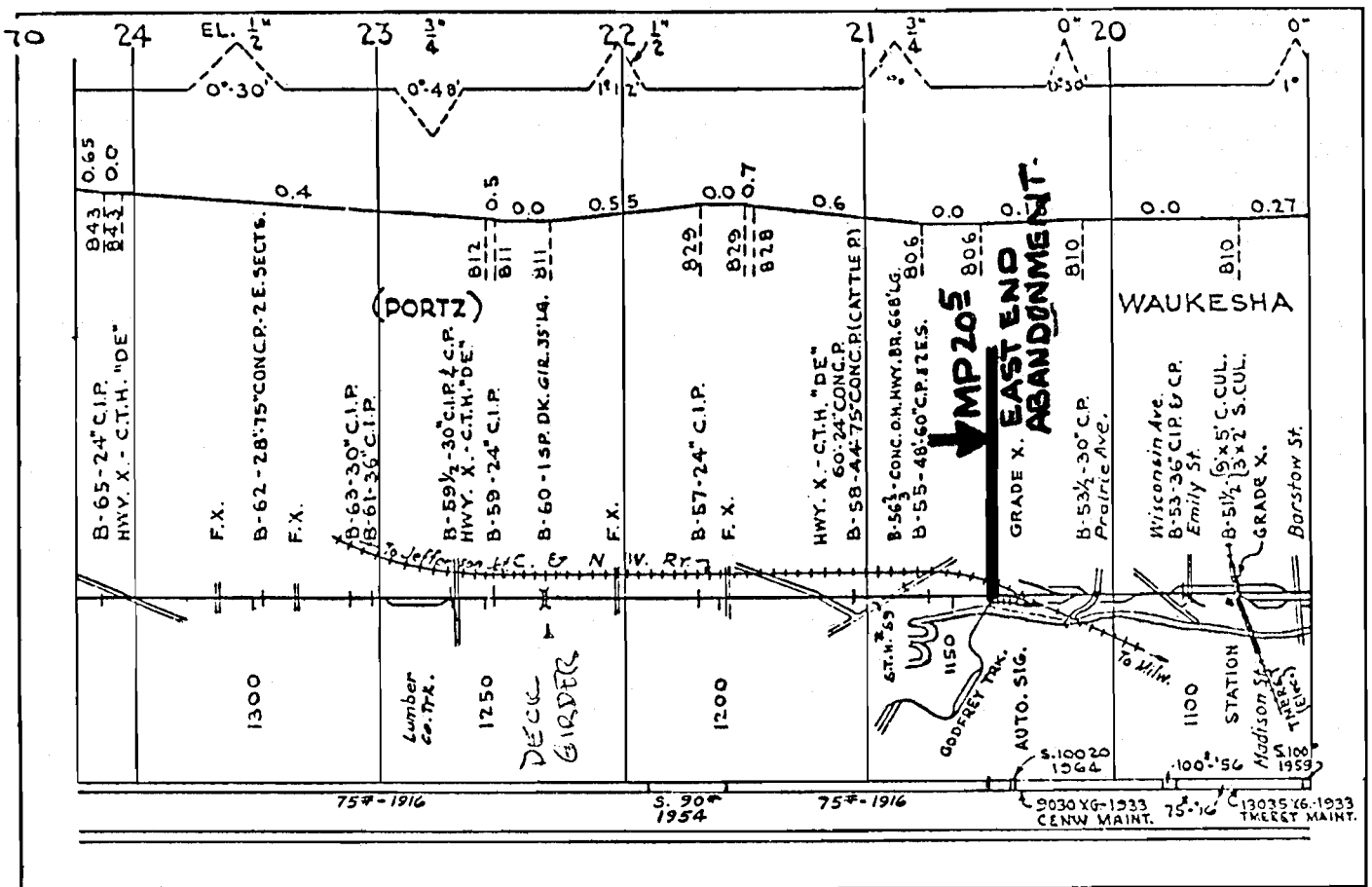
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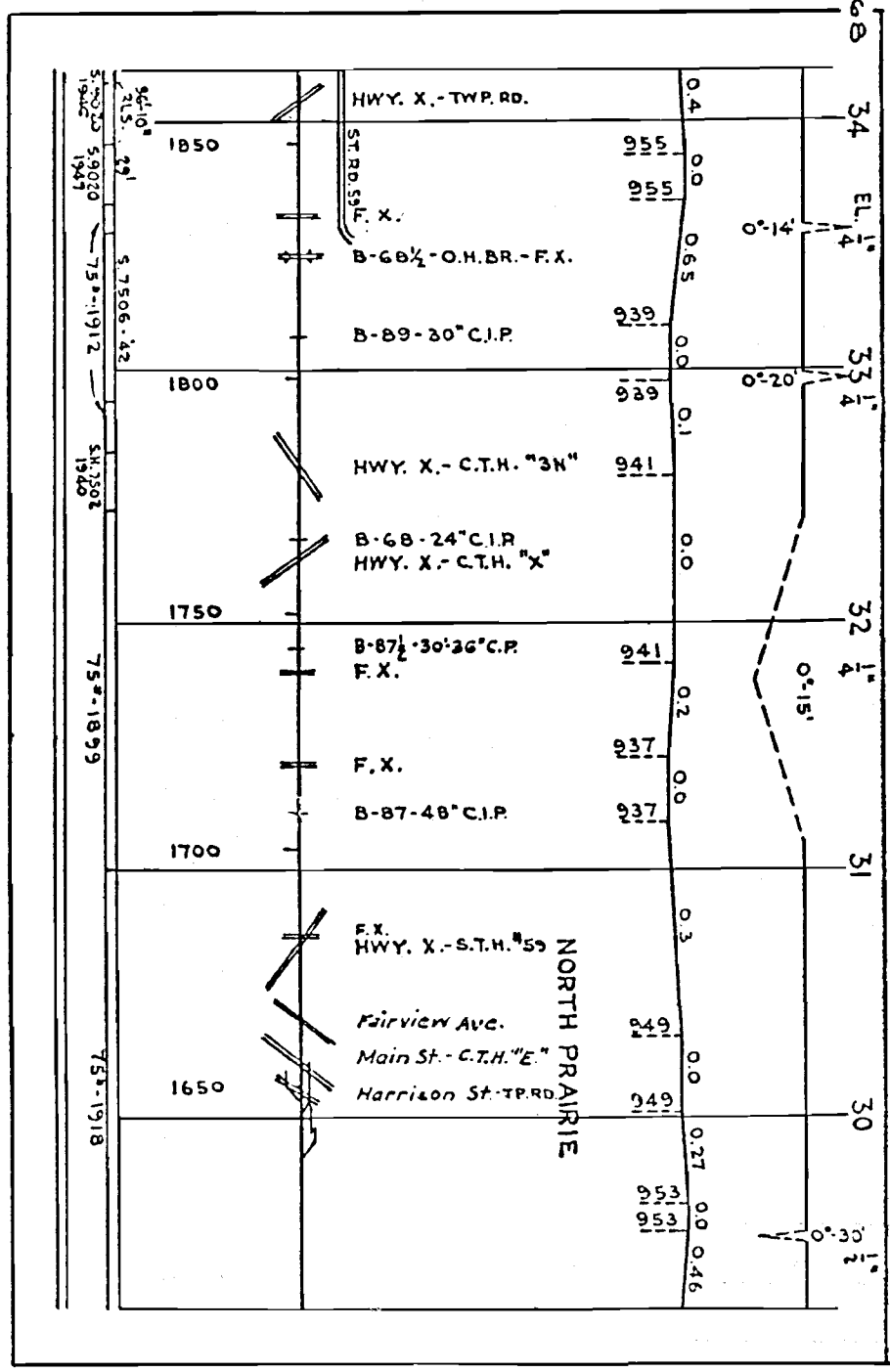
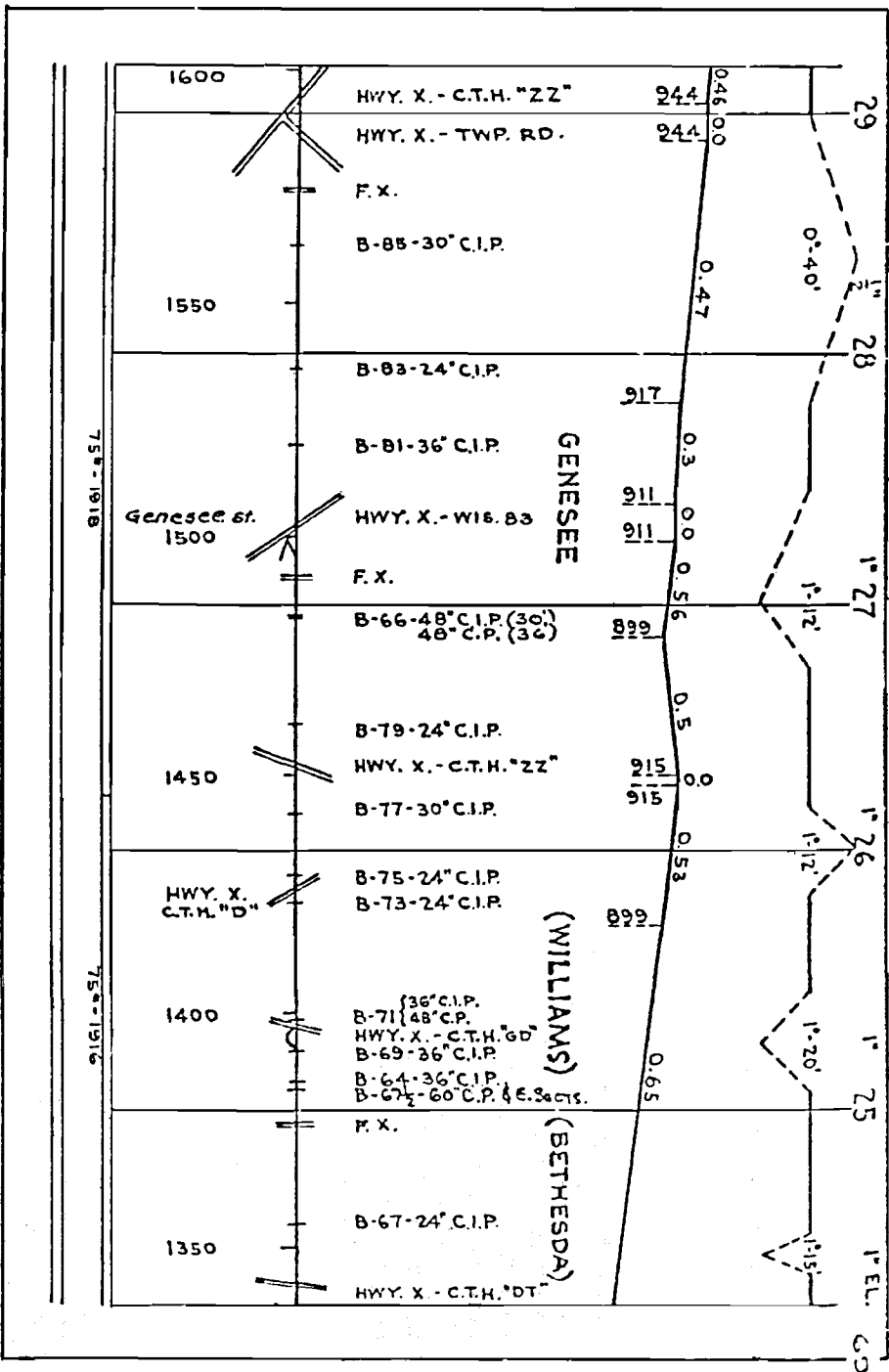
Appendix B

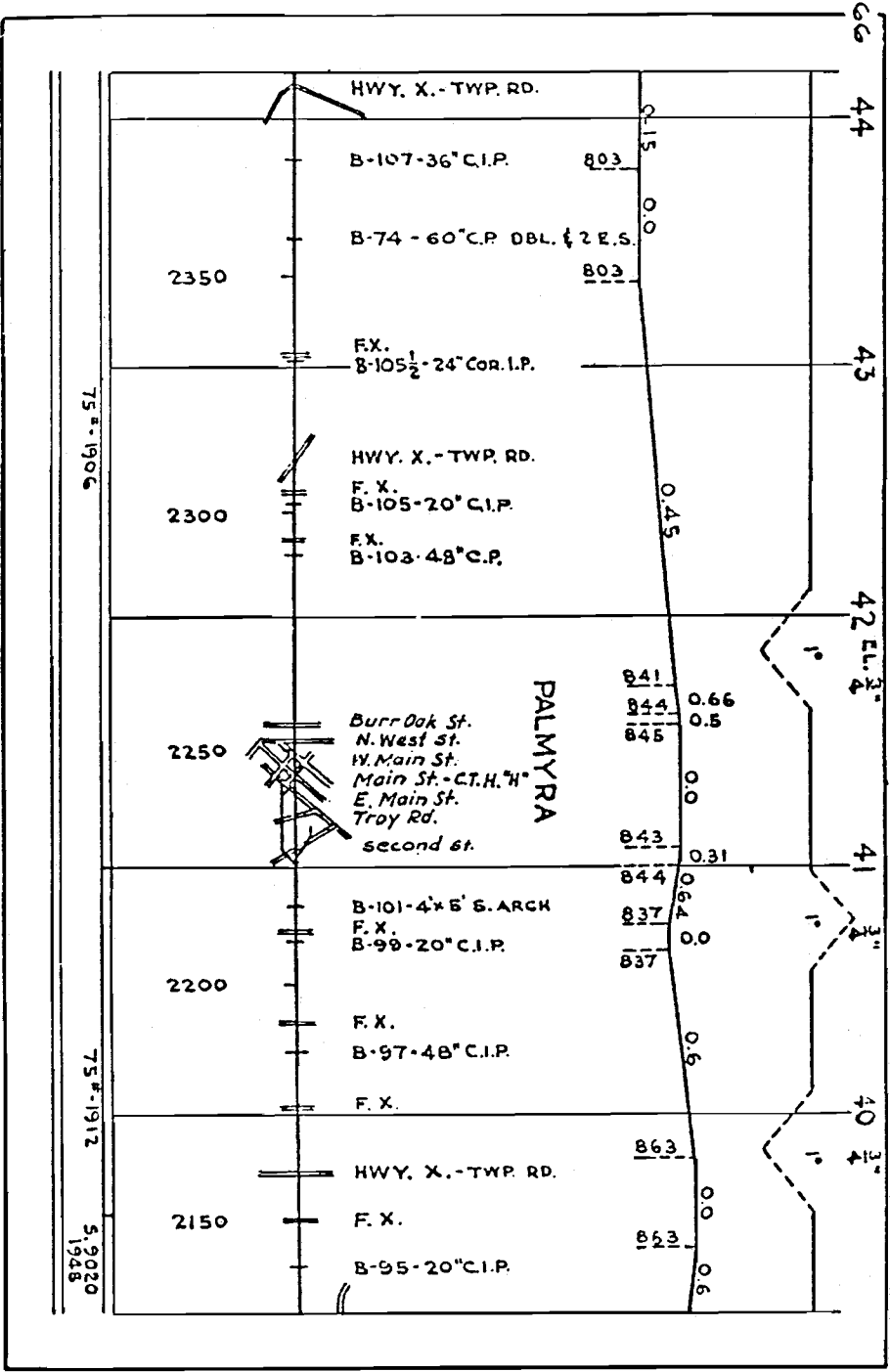
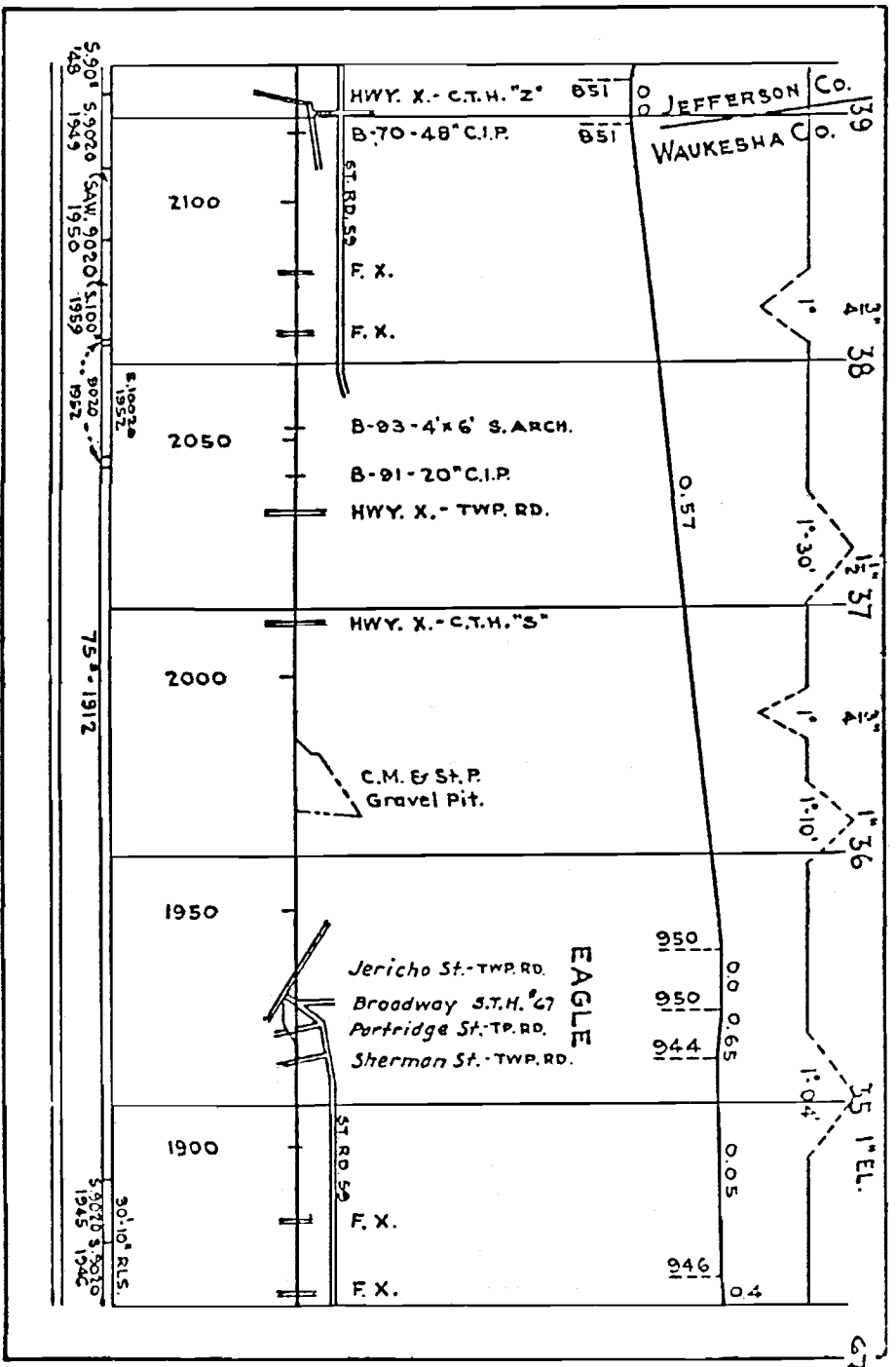
ENGINEERING DIAGRAM OF TRACKAGE BETWEEN WAUKESHA AND MILTON JUNCTION

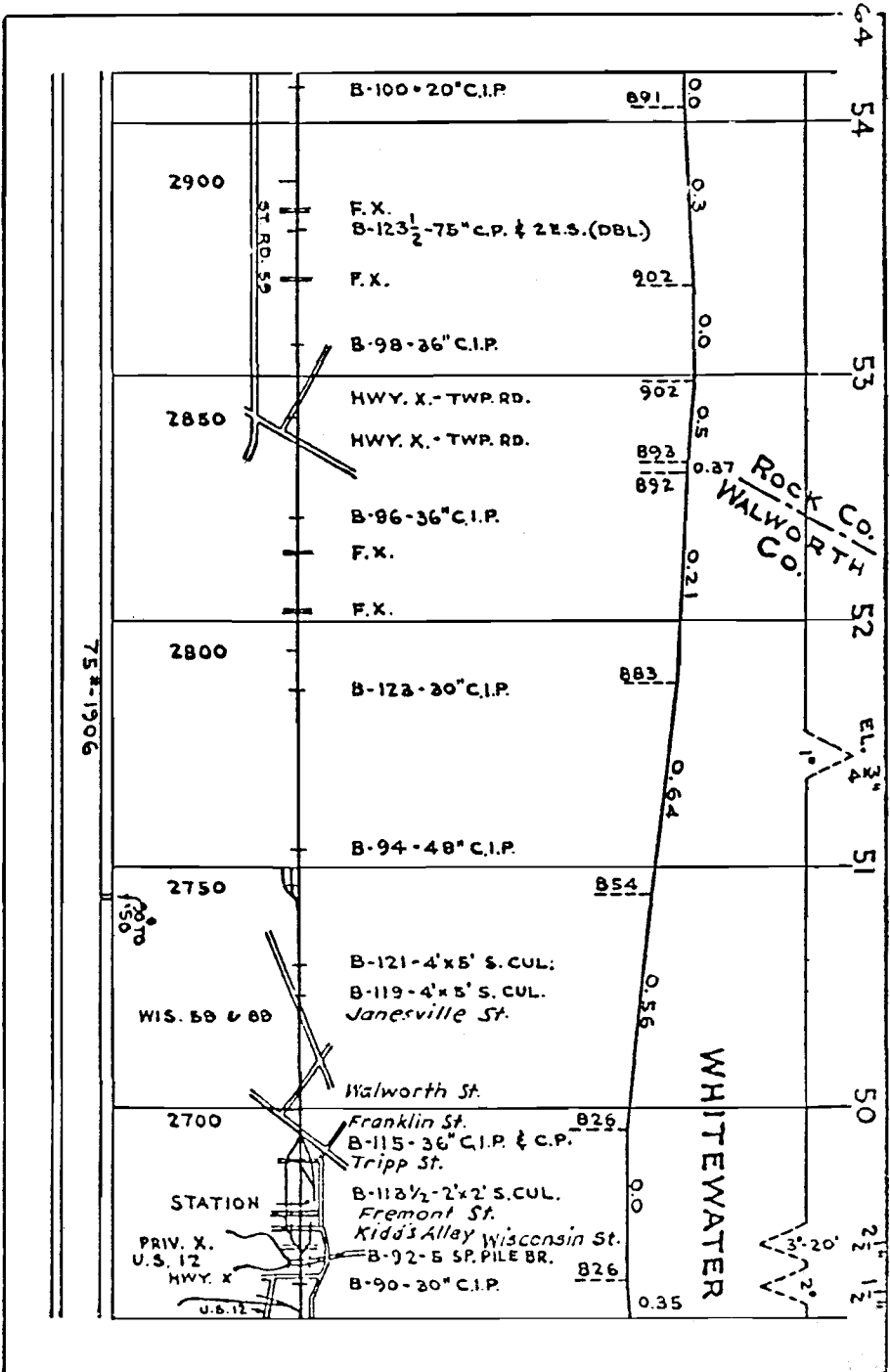
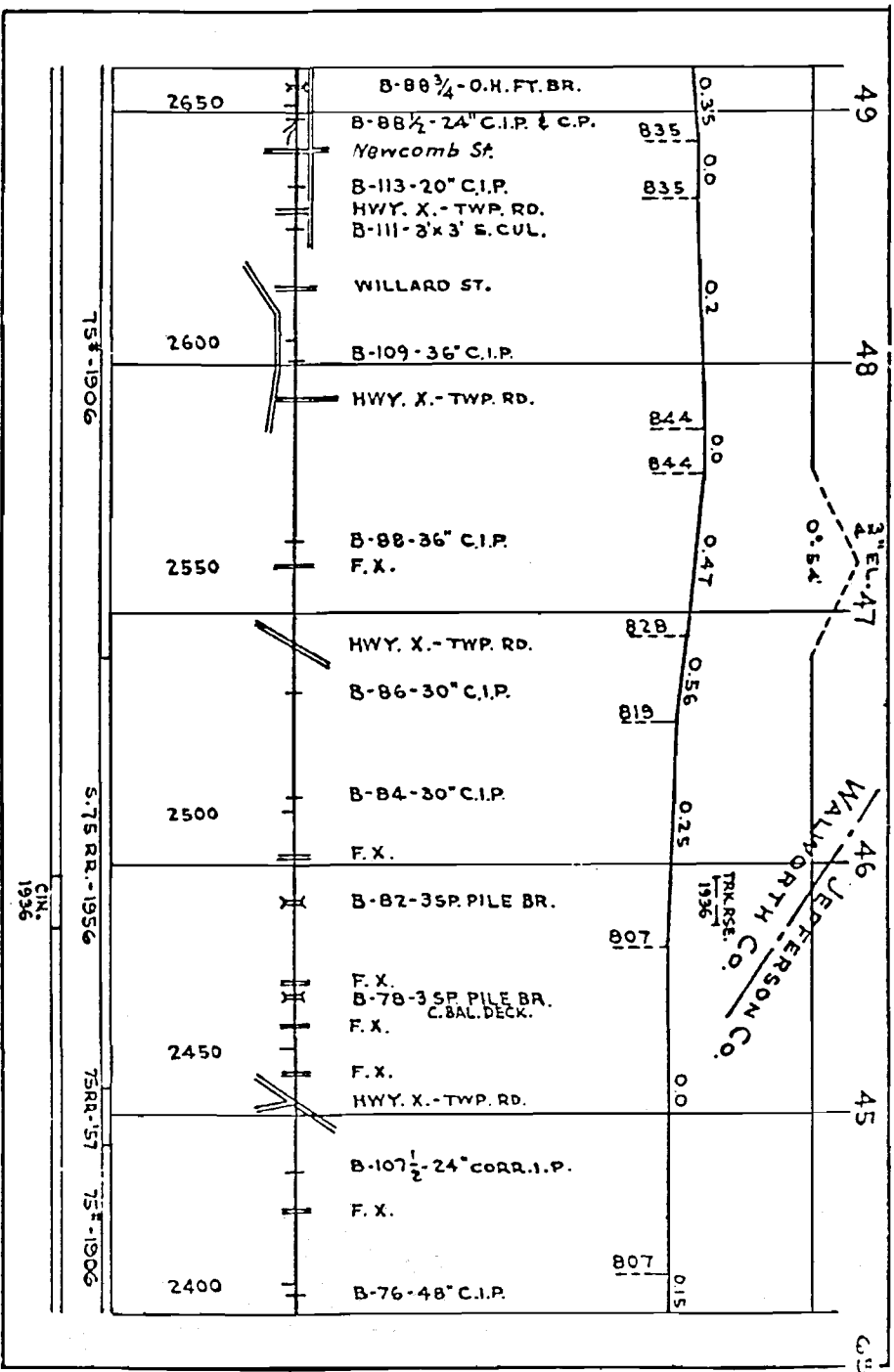
In addition to the inspection, review, and analysis of the existing track structure and right-of-way condition between Waukesha and Milton Junction, an engineering diagram of the subject railroad line between Mileposts 20 and 62 was obtained from the Milwaukee Road. Such diagrams are maintained by the Milwaukee Road for the entire system and provide definitive data on the radii of curvature, the percent of grade, and the location

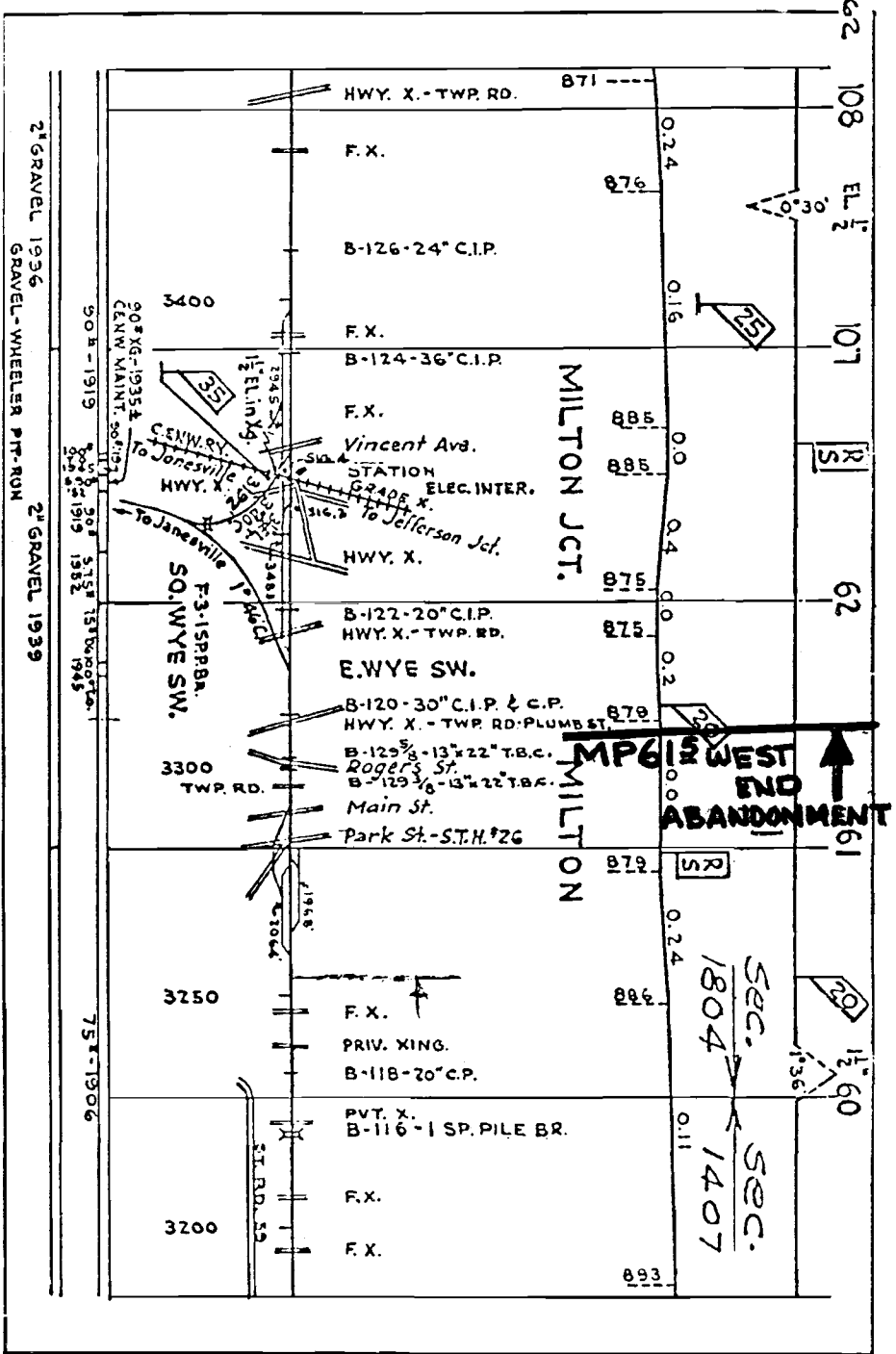
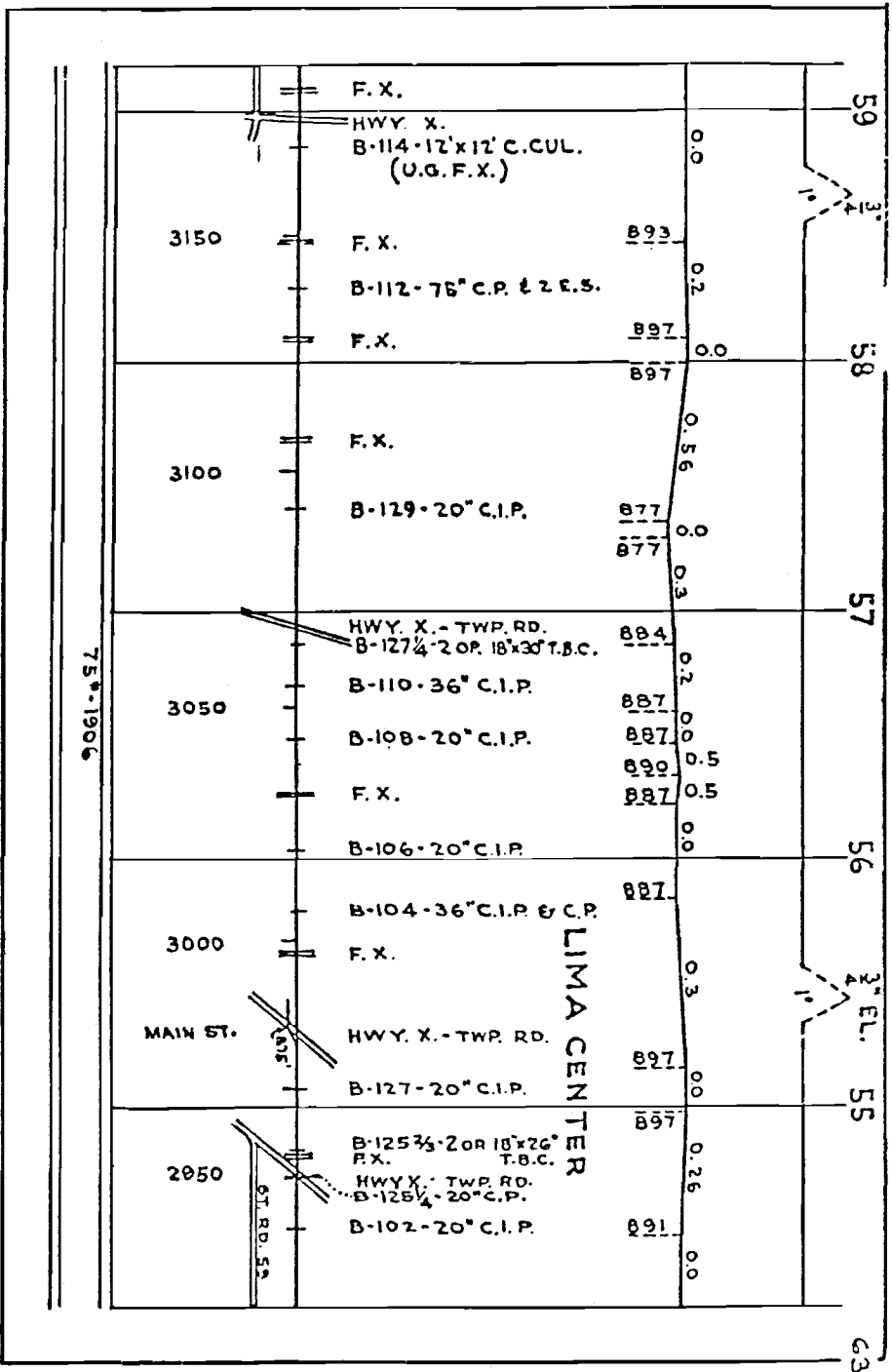
of crossings, bridges and culverts, turnouts, the section of rail, type of ballast, and signalization details. Since these diagrams are updated only periodically, they may not show recent changes. Therefore the information shown on these diagrams may not always coincide with similar information documented in the text of Chapter III of this report.











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Appendix C

WHITEWATER AREA RAIL SERVICE PLAN SHIPPER SURVEY FORM

SEWRPC Rev. 2/15/79

WHITEWATER AREA RAIL SERVICE PLAN

SHIPPER SURVEY FORM

I. IDENTIFICATION

- 1. Name of Company:
2. Address:
3. Owner/Manager (Contact Person):
4. Phone Number:
5. What is the nature of your business?
6. To how large of a market area do you distribute your finished product?
7. a. Does your business have other locations within a 50 mile radius?
b. If yes, where?
8. a. Is your business a subsidiary or division of a larger company?
b. If yes, what Company?
9. What is your average annual sales volume at this location?
10. What is your average annual employment?
11. What is your average annual payroll?
12. What is your annual property tax?
13. How long have you been at the present location?
14. a. Has the past year reflected a typical year for your operation?
b. If no, how is it different?

COMMENTS:

(Use additional sheets as necessary)

II. RAIL SHIPMENTS

A. CARLOADS RECEIVED

- 1. What products or materials do you currently receive by rail?

- 2. Where do these carloads originate?
a. routing
b. routing
c. routing
3. What is the rail tariff?
a.
b.
c.
4. a. What types of freight cars do these needs require?
b. What is your source of freight cars?
5. How many carloads have you received:
a. during 1975:
b. during 1976:
c. during 1977:
d. during 1978:
6. a. Have you considered having these shipments transported by truck?
b. If yes, by what type of carrier?
c. If no, why not?
7. What would be the difference in tariffs between rail and truck?
a.
b.
c.
8. a. Is it feasible for your shipments to be trucked from another nearby rail facility?
b. If yes, where?
c. If no, why not?
9. Assuming the availability of at least the present level of rail service, how many carloads do you anticipate receiving:
a. during 1979:
b. during 1980:
c. during 1981:
d. On what factors do you base this estimate?

COMMENTS:

(Use additional sheets as necessary)

- b. If yes, what type of carrier? _____
 - c. If no, why not? _____
7. What would be the difference in tariffs between rail and truck?
- a. _____
 - b. _____
 - c. _____
8. a. Is it feasible for your shipments to be trucked to another nearby rail facility? Yes ___ No ___
- b. If yes, where? _____
 - c. If no, why not? _____
9. Assuming the availability of at least the present level of rail service, how many carloads do you anticipate shipping:
- a. during 1979: _____
 - b. during 1980: _____
 - c. during 1981: _____
 - d. On what factors do you base this estimate? _____

COMMENTS: _____

(Use additional sheets as necessary)

B. CARLOADS SHIPPED

- 1. What products or materials do you currently ship by rail?

- 2. What are the destinations of these carloads:
 - a. _____
routing _____
 - b. _____
routing _____
 - c. _____
routing _____
- 3. What is the rail tariff?
 - a. _____
 - b. _____
 - c. _____
- 4. a. What types of freight cars do these needs require? _____
- b. What is your source of freight cars? _____
- 5. How many carloads have you shipped:
 - a. during 1975: _____
 - b. during 1976: _____
 - c. during 1977: _____
 - d. during 1978 to date: _____
- 6. a. Have you considered having these shipments transported by truck? Yes ___ No ___

III. TRUCK SHIPMENTS

The following questions refer to the transportation of raw materials and products that are part of your manufacturing, processing, or sales function. Not to be included are shipments related to facility maintenance and construction, or local delivery and pickup.

A. TRUCKLOADS RECEIVED

- 1. What products or materials do you currently receive by truck? _____
- 2. Where do these shipments originate?
 - a. _____
 - b. _____
 - c. _____
- 3. What is the truck tariff?
 - a. _____
 - b. _____
 - c. _____
- 4. What is the nature of the trucking service you use?
 - common carrier ___; company _____
 - company owned ___; how many trucks? _____
 - contract carrier ___; company _____
- 5. How many truckloads have you received:
 - a. during 1975: _____
 - b. during 1976: _____
 - c. during 1977: _____
 - d. during 1978: _____
- 6. a. Have you considered receiving these goods by rail instead of truck? Yes ___ No ___
- b. Reason for decision: _____
- 7. How many truckloads do you anticipate receiving:
 - a. during 1979: _____
 - b. during 1980: _____
 - c. during 1981: _____

COMMENTS: _____

(Use additional sheets as necessary)

B. TRUCKLOADS SHIPPED

- 1. What products or materials do you currently ship by truck?

- 2. What are the destinations of these shipments?
 - a. _____
 - b. _____
 - c. _____
- 3. What is the truck tariff?
 - a. _____
 - b. _____
 - c. _____
- 4. What is the nature of the trucking service you use?
 - common carrier ___; company _____
 - company owned ___; how many trucks? _____
 - contract carrier ___; company _____

5. How many truckloads have you shipped:
- a. during 1975: _____
 - b. during 1976: _____
 - c. during 1977: _____
 - d. during 1978 to date: _____
6. Have you considered shipping these goods by rail instead of truck? Yes ___ No ___
7. How many truckloads do you anticipate shipping:
- a. during 1979: _____
 - b. during 1980: _____
 - c. during 1981: _____

COMMENTS: _____

(Use additional sheets as necessary)

IV. QUALITY OF RAIL SERVICE

1. Do you have a private siding at your facility? Yes ___ No ___
 2. Do you use a team track? Yes ___ No ___
 3. How many freight cars can be stored on your siding? _____
 4. a. Have you ever had trouble obtaining enough freight cars of the types you require? Yes ___ No ___
 - b. If yes, when? _____
 - c. If yes, what car types? _____
 - d. If yes, what was done with the goods that were to be shipped? _____
 - e. If yes, to what did the railroad attribute the inability to provide cars? _____
5. How frequently is service available to you? _____
6. a. Have you ever experienced interruptions in the regular service pattern? Yes ___ No ___
 - b. If yes, when? _____
 - c. If yes, what was done with the goods that were to be shipped? _____
7. a. Are you satisfied with the current service? Yes ___ No ___
 - b. Why or why not? _____
 - c. If no, what do you consider satisfactory service? _____
 - d. If service were improved, would you increase shipments? Yes ___ No ___
 - If yes, how much? _____
8. Is competition between modes a significant advantage for you? Yes ___ No ___
 9. Is competition between carriers a significant advantage for you? Yes ___ No ___

10. a. Does the quality of rail service affect your method of doing business, your business process, or your choice of freight transportation mode? Yes ___ No ___
 - b. If so, please discuss: _____
11. a. Have you ever overstated your freight car needs? Yes ___ No ___
 - b. If yes, why? _____

COMMENTS: _____

(Use additional sheets as necessary)

V. FUTURE EXPANSION PLANS

1. a. Do you have plans for expansion at this location? Yes ___ No ___
- b. If yes, when? _____
- c. If yes, to what extent? _____
2. Will expansion result in an increase in employment? Yes ___ No ___
- a. If yes, how many jobs will be added? _____
3. a. Will expansion result in increased use of the railroad service? Yes ___ No ___
- b. If yes, by how many carloads annually? _____
4. a. Will expansion result in increased use of truck transportation? Yes ___ No ___
- b. If yes, by how many truckloads annually? _____

COMMENTS: _____

(Use additional sheets as necessary)

VI. ABANDONMENT IMPACT

If rail service to your facility is discontinued:

1. Will you completely close the facility? Yes ___ No ___
2. a. Will you relocate part or all of the facility? Yes ___ No ___
- b. How much? _____
- c. Where? _____
3. a. Will you discontinue some or all of the operations? Yes ___ No ___
- b. How much? _____
4. a. Will you move some or all of the operations to another location? Yes ___ No ___
- b. How much? _____
- c. Where? _____
- d. Is this an existing facility? Yes ___ No ___
5. a. Will your annual employment change? Yes ___ No ___
- b. How much? _____
6. a. Will your annual payroll change? Yes ___ No ___
- b. If yes, by how much? _____

7. a. If you continue operations at the present location, will you truck shipments to and from a nearby rail facility?

Yes ___ No ___

b. Will this increase your transportation costs?

Yes ___ No ___

c. If yes, by how much? _____

COMMENTS: _____

(Use additional sheets as necessary)

VII. CONTINUED RAIL SERVICE

1. Would you support the concept of converting the line to a shortline operation? Yes ___ No ___

2. Would you be willing to financially support continued rail service in the form of:

a. a share of the lines' operating deficit Yes ___ No ___

b. a per car surcharge Yes ___ No ___

c. purchasing shares of a for-profit transportation corporation or cooperative Yes ___ No ___

d. interest free loans for rehabilitation Yes ___ No ___

e. annual prepayment of shipping charges based on guarantee of minimum shipments Yes ___ No ___

COMMENTS: _____

(Use additional sheets as necessary)

Appendix D

TRACK REHABILITATION COSTS—WAUKESHA TO MILTON JUNCTION

The current condition of the track structure and roadbed on the Waukesha to Milton Junction line was established in Chapter III as being only fair, a result of a history of deferred maintenance on the line. If one or more of the alternatives is to provide for continued railroad freight transportation service utilizing the existing physical plant, then it is necessary to ascertain what rehabilitation and subsequent maintenance effort may be required.

Three different rehabilitation cost estimates have been prepared for the railroad line between Waukesha and Milton Junction. The first cost estimate was developed by the Milwaukee Road as part of its abandonment application. The second cost estimate was prepared by the Wisconsin Department of Transportation as protestant in the subject abandonment action, and is described in "Protestant's Verified Statements Under Modified Procedure, Motions to Make More Definite and Certain, and Motions to Strike." The Department's cost estimate presents estimated costs of rehabilitation for three different classes of track safety standards. The third and last cost estimate has been developed by Howard Needles Tammen & Bergendoff, an engineering consultant firm retained by the Southeastern Wisconsin Regional Planning Commission specifically to evaluate the existing physical condition of the line and recommend a rehabilitation program. Because all of the rehabilitation proposals differ, it is useful to first describe each and then to compare their advantages and disadvantages.

MILWAUKEE ROAD TRACK REHABILITATION ESTIMATES

As applicant in the pending abandonment process, the Milwaukee Road has included a rehabilitation cost estimate in its initial abandonment application, dated March 30, 1978, as well as a revised cost estimate in the "Initial Verified Statements of Applicant," dated November 17, 1978. The first cost estimate totaled \$8,894,507, or \$216,939 per mile for the 41-mile segment of trackage (all cost figures shown are in 1978 dollars). The revised estimate totaled \$8,364,469, or \$204,011 per mile, also based upon the 41-mile segment of track (see Table D-1).

Several differences between the two cost estimates are evident, the combined effect of which results in a total difference of approximately 6 percent in the two estimates. This difference is not considered significant. In the revised estimate, the price for ballast material and labor was raised, the labor rate for rail replacement was significantly raised, and the cost per installed cross tie was raised. The quantity of cross ties to be installed per mile was, however, reduced.

The Milwaukee Road's proposed rehabilitation effort calls for several principal work items. The largest is the replacement of all existing rail on the main line with 100-pound continuous welded rail (CWR). Cross tie replacement for this project is proposed to total 1,200 ties per mile, or 37 percent replacement rate. Ballast is to be spread over the entire line with attendant tamping, aligning, and surfacing. The estimate also provides for all steel and ties in 24 turnouts to be replaced and grade crossings to be renewed. An offset for salvageable material was figured into the cost.

The applicant asserts that this substantial rehabilitation is necessary if the railroad line is to consistently handle 263,000-pound loaded freight cars at train speeds of 25 miles per hour. Such upgrading would require only minimum routine maintenance over the long run. Although it is not known to what extent the Milwaukee Road currently utilizes CWR on secondary and branch trackage, the installation of CWR on such trackage is a currently acceptable railroad engineering practice employed by many major railroads when lengthy stretches of existing rail must be relaid. This estimate is based upon up-to-date unit costs employed by the railroad for all maintenance costing purposes.

WISCONSIN DEPARTMENT OF TRANSPORTATION TRACK REHABILITATION ESTIMATES

As a participant in the abandonment process for this line, the Wisconsin Department of Transportation (WisDOT) has prepared three rehabilitation cost estimates, each one relating to a specific track safety standard as prescribed by the Federal Rail-

Table D-1

THE MILWAUKEE ROAD TRACK REHABILITATION PROPOSAL AND ESTIMATE

Item	Quantity	Cost of Material	Cost of Labor	Total Cost
Cross Ties	49,200	\$ 639,600	\$ 418,200	\$1,057,800
Spikes	4,280 kegs	222,560	--	222,560
Tie Plates	262,400	978,844	--	978,844
Ballast	87,674 cubic yards (62,624 tons)	376,998	--	376,998
Apply Ballast	Item	--	929,729	929,729
Turnouts	24	63,202	72,000	135,202
Switch Tie Sets	24	28,960	31,450	60,410
Welded Joints (shop)	12,792	--	369,983	369,983
Welded Joints (field)	328	--	17,778	17,778
Rail Anchors	344,400	309,960	--	309,960
Relay Rail	7,216 tons (432,960 linear feet)	1,443,200	574,000	2,017,200
Repair Grade Crossings	2,578 feet	167,799	21,269	189,068
Storage	Item	--	--	181,102
Purchasing	Item	--	--	5,123
Transportation	Item	--	--	63,623
Equipment, Repairs, and Fuel	Item	--	--	145,550
Labor Additives	Item	--	757,260	757,260
Risk Insurance	Item	--	--	194,432
Subtotal	--	\$4,308,924	\$3,703,698	\$8,012,622
Contingencies	--	\$ 501,428	\$ 299,834	\$ 801,262
Less Salvage	--	449,415	--	449,415
Total	--	\$4,360,937	\$4,003,532	\$8,364,469

Source: The Chicago, Milwaukee, St. Paul & Pacific Railroad Company.

road Administration (FRA). Based on rehabilitation necessary to comply with Class I standards, the total cost was estimated at \$501,529, or \$12,232 per mile. Based on rehabilitation necessary to comply with Class II standards, the total cost was estimated at \$696,577, or \$16,990 per mile. Finally, based on rehabilitation necessary to replace and repair all defective track materials and geometry, the total cost was estimated at \$1,967,668, or \$47,992 per mile. The cost for each estimate is a function of the quantities of cross ties, ballast, and replacement rail called for, as shown in Table D-2.

The principal work item under all three rehabilitation schemes is cross tie replacement. Under the FRA Class I rehabilitation cost estimate, 286 ties would be replaced per mile, a 9 percent replacement rate. The Class II estimate would replace 406 ties per mile, a 12 percent replacement rate. The replacement of all defective ties was estimated to require 1,420 ties per mile, a 44 percent replacement rate. Required rail replacement is minimal,

with only defective lengths being replaced. The amount of ballast required is related to the quantity of ties to be replaced. Under the WisDOT cost estimates, ballast is to be placed only where individual ties are replaced. All three estimates also provide for brush cutting, weed spraying, angle bar and joint renewal, and minor repairs at 25 turnouts and grade crossings.

The WisDOT cost estimates are based primarily upon costs recently developed by a private contractor for the proposed rehabilitation of another branch line within the State. Costs for ballast "in place" were developed from estimates prepared for a double-track mainline grade separation project in Waukesha County.

Southeastern Wisconsin Regional Planning
Commission Track Rehabilitation Estimate

The engineering consultant retained by the Commission recommends rehabilitation to Class II or better standards should the alternative of continued railroad operation over the existing

Table D-2

WISCONSIN DEPARTMENT OF TRANSPORTATION TRACK REHABILITATION PROPOSALS AND ESTIMATE

Item	To Minimum Class I Standards		To Minimum Class II Standards		To Correct All Defects	
	Quantity	Cost	Quantity	Cost	Quantity	Cost
Install Cross Ties	11,723	\$269,629	16,652	\$382,996	58,216	\$1,338,968
Tie Plugs	460 bundles	2,843	660 bundles	4,079	2,310 bundles	14,276
Apply Ballast	4,689 tons (3,349 cubic yards)	51,579	6,661 tons (4,758 cubic yards)	73,271	23,286 tons (16,633 cubic yards)	256,146
Repair Turnouts.	25	4,500	25	4,500	25	4,500
Switch Ties	22.12 thousand board feet	18,249	42.13 thousand board feet	34,757	80.00 thousand board feet	66,000
Angle Bars	58 pair	1,404	164 pair	3,969	974 pair	23,571
Rework Joints.	1,154	5,770	1,640	8,200	5,733	28,665
Relay Rail	1,910 linear feet (28.65 tons)	14,325	5,410 linear feet (81.15 tons)	40,575	9,975 linear feet (149.62 tons)	74,812
Clean Ditches	35 miles	52,500	35 miles	52,500	35 miles	52,500
Clear Weeds and Brush . . .	--	18,135	--	18,135	--	18,135
Clean Tracks	40 miles	44,000	40 miles	44,000	40 miles	44,000
Gauge and Align Tracks . .	2 miles	11,000	4 miles	22,000	7 miles	38,500
Repair Grade Crossings. . .	--	7,595	--	7,595	--	7,595
Total	--	501,529	--	696,577	--	1,967,668

Source: Wisconsin Department of Transportation.

trackage be recommended. Rehabilitation to a standard above minimum Class II is desirable for three reasons. First, the probability of derailments occurring is reduced, resulting in a greater margin of safety and thus decreasing the operational difficulties and emergency expenses over the long run. Second, running times of trains can be decreased, allowing for variable costs such as labor and fuel to be minimized over the long run. Finally, financial assistance from public sources is currently available for major initial rehabilitation projects, but not for ongoing maintenance programs. The total cost of the recommended rehabilitation is estimated at \$3,901,834, or \$85,943 per mile for 41.0 miles of main line and approximately 4.4 miles of auxiliary track (see Table D-3).

Major items in the estimate are cross tie replacement at a rate of 1,250 ties per mile, a 39 percent replacement rate, the application of ballast over all of the 45.4 miles of trackage, and the reconstruction of the grade crossing at USH 12 in the City of Whitewater. Replacement of rail would be minimal, amounting to approximately one mile of defective sections. It is believed that the existing rail should be adequate if proper support is provided by ties, ballast, and angle bars unless an extreme increase in locomotive weight or

a demand for many additional high-tonnage cars develops. Provision is also made for rehabilitation of 21 turnouts, including approximately half of all switch ties; selective grade crossing renewal; brush and weed cutting; and some minor bridge and culvert repair work.

Upgrading of the trackage in line with this recommendation would accommodate substantially increased tonnage and carloadings and result in a good Class II or better railroad track structure.

Comparison of Rehabilitation Estimates

Major differences exist in the various cost estimates developed for rehabilitation of the railroad line between Waukesha and Milton Junction. These differences are summarized in Table D-4. For comparative purposes, all estimates were evaluated for the entire 41-mile length, although the final recommended plan is not bound to this geographic configuration. The identified differences are:

1. The Milwaukee Road and the Commission consultant cost estimates both provide for a rehabilitation that would require minimal subsequent maintenance following completion of the initial rehabilitation project. Two out of three WisDOT estimates provide for minimum efforts to comply with a specific set of track safety standards,

Table D-3

**SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION
TRACK REHABILITATION PROPOSAL AND ESTIMATE**

Item	Quantity	Cost of Material	Cost of Labor	Total Cost
Cross Ties	55,250	\$ 828,750	\$ 663,000	\$1,491,750
Spikes	695 kegs	48,650	--	48,650
Tie Plates	51,000	9,500	--	9,500
Crushed Limestone Ballast	97,610 cubic yards	439,245	--	439,245
Apply Ballast	Item	--	1,390,943	1,390,943
Work Train Service	Item	--	--	195,220
Rehabilitate Turnouts	21	25,200	16,800	42,000
Switch Ties	40 thousand board feet	13,200	10,000	23,200
Angle Bars	1,600 pairs	5,909	16,000	21,909
Reset Anchors	85,000	--	21,250	21,250
Relay Rail	66 tons (5,280 linear feet)	16,500	8,300	24,800
Clean Ditches	16.8 miles	--	25,200	25,200
Clear Weeds and Brush	Item	--	6,000	6,000
Bridge and Culvert Work	Item	2,450	3,800	6,250
Roadway Sign Work	Item	--	500	500
Warning Signal Work	Item	--	2,500	2,500
Repair Public Crossings	59	76,965	19,500	96,465
Repair Private Crossings	42	4,705	6,450	11,155
USH 12 Crossing	Item	19,882	25,415	45,297
Total	--	\$1,490,956	\$2,410,878	\$3,901,834

Source: Howard Needles Tammen & Bergendoff and SEWRPC.

Table D-4

SUMMARY OF TRACK REHABILITATION ESTIMATES—WAUKESHA TO MILTON JUNCTION

Source of Estimate	Estimates							
	Cross Ties			Rail Replacement (miles)	Weight of Rail (second hand)	Ballast Installation Cost	Total Cost	Average Cost per Mile
	Replacement Rate (percent)	Quantity per Mile	Cost per Installation					
The Milwaukee Road . .	36.9	1,200	\$21.50	41	100	\$1,306,727	\$8,364,469	\$204,011
SEWRPC (HNTB)	38.5	1,250	27.00	1	75	2,025,408	3,901,834	85,943
WisDOT—Class I	8.8	286	23.00	0.36	90	51,579	501,528	12,232
WisDOT—Class II	12.5	406	23.00	1.02	90	73,271	696,577	16,990
WisDOT—All Defects . .	43.7	1,420	23.00	1.89	90	256,146	1,967,668	47,991

Source: The Chicago, Milwaukee, St. Paul & Pacific Railroad Company; the Wisconsin Department of Transportation; and Howard Needles Tammen & Bergendoff and SEWRPC.

implying a more intensive continuing maintenance program.

2. The Milwaukee Road indicates a need for complete replacement of all rail, while all other estimates provide only for replacement of defective lengths of rail.
3. Ballast renewal with attendant track aligning and surfacing would be provided for the entire mainline track according to Milwaukee Road and Commission consultant estimates. All three WisDOT estimates provide for only spot ballasting under and around the individual cross ties that are to be replaced. Since this procedure would make proper alignment and surfacing difficult, it is questionable whether this method of ballast application would properly support the track structure or provide adequate drainage.
4. Only the Commission consultant's proposal considers the pending reconstruction of the USH 12 grade crossing in Whitewater.
5. Only the Commission consultant's proposal accounts for rehabilitation of auxiliary trackage.

The five track rehabilitation proposals reviewed represent a range of options—from low initial capital investment and high continuing maintenance costs, as represented by the WisDOT Class I proposal, to high initial capital investment and low continuing maintenance costs, as represented by the Milwaukee Road proposal. The remaining two WisDOT proposals and the Regional Planning Commission consultant's proposal fall in between these two extremes. A low level of capital investment in an initial rehabilitation will necessitate more intensive ongoing maintenance, resulting in higher annual maintenance expenses. In addition, operating expenses for items such as labor and fuel will increase because of the additional time needed for a train to travel over a lower class of track. A high level of initial capital investment, correspondingly, contributes to lower annual maintenance and operating expenses. In addition, initial major rehabilitation will lessen the chance of accidents and derailments, which, although they are random and unpredictable, are very costly to rectify once they have occurred. Estimated annual expenditures for maintenance based on a 20-year period following rehabilitation have been developed

for each of the proposals (see Table D-5). These estimates clearly illustrate the trade-off between initial rehabilitation investment and ongoing maintenance expenses.

Based on a review of the major differences between the selection of rehabilitation proposals, the Commission consultant's recommendation appears to offer the best opportunity for the economical long-term operation of the railroad, should that primary alternative be found to be desirable. The Commission consultant's proposal appears to strike the best balance between immediate capital and continuing operating costs, providing the lowest total cost per mainline mile (see Table D-5). However, as detailed in Chapter VI of this report, the prospects of operating the subject line on a break-even basis, even with relatively optimistic estimates of future freight revenues, are not good. Therefore, it must be concluded that the line does not warrant a substantial initial investment of public funds for track rehabilitation until it has proven itself to be a long-term viable operation. While the Commission consultant has identified the best rehabilitation program from a long-term point of view since it results in the lowest combination of annual capital and operating costs, the possibility of operating the line even close to a break-even basis is so uncertain, even if the track rehabilitation costs are not considered, that a major infusion of public funding on the magnitude of the Commission consultant's recommendation is not prudent at the present time. Instead, the more modest rehabilitation program, based on the WisDOT Class II cost estimate, is initially recommended.

Track rehabilitation assistance may be funded by the Railroad Revitalization and Regulatory Reform Act of 1976 (4R Act), or by a new state program. For the fiscal year 1980, the federal and state share will be 80 percent. The remaining 20 percent must come from local sources.

The Commission consultant also recommended an annual maintenance program consistent with the rehabilitation effort reflected in his project cost estimate. A significantly lower initial rehabilitation effort will require an increased annual maintenance program. Therefore, the annual maintenance originally recommended has been increased (see Table D-6). It must be recognized that the total annual cost of rehabilitation and maintenance is higher under this recommended program, but it is believed that this is more than outweighed by avoiding a major investment in a line over which

continued operation is uncertain. If at some future point in time it is demonstrated under changed circumstances that the line can be successfully operated on a long-term basis, then it is recommended that a track rehabilitation program similar

to that reflected in the Commission consultant's cost estimate be pursued, as suitably modified to reflect any upgrading or deterioration in physical condition as a result of intervening train operation, and any associated continuing maintenance.

Table D-5

LONG-TERM COST OF TRACK REHABILITATION AND MAINTENANCE PROPOSALS

Rehabilitation and Maintenance Item	Expenditures				
	The Milwaukee Road	SEWRPC (HNTB)	WisDOT-- To Class I	WisDOT-- To Class II	WisDOT-- To Correct All Defects
Annual Maintenance Program					
Material	\$ 16,406	\$ 26,712	\$ 87,738	\$ 79,902	\$ 39,521
Labor	61,050	71,500	173,800	170,800	147,800
Subtotal	\$ 77,456	\$ 98,212	\$ 261,538	\$ 250,702	\$ 187,321
10 Percent Contingencies	\$ 7,746	\$ 9,821	\$ 26,154	\$ 25,070	\$ 18,732
Total	\$ 85,202	\$ 108,033	\$ 287,692	\$ 275,772	\$ 206,053
Annual Maintenance Expense per Mainline Mile	\$ 2,078	\$ 2,635	\$ 7,017	\$ 6,726	\$ 5,026
Total Long-Term Upgrading					
Initial Rehabilitation	\$ 8,364,469	\$3,901,834	\$ 501,528	\$ 696,577	\$1,967,668
20-Year Cost of Maintenance.	1,704,040	2,160,660	5,753,840	5,515,440	4,121,060
Capital Investment					
Small Tools and Supplies.	10,000	10,000	20,000	20,000	10,000
Major Tools	--	--	2,000	2,000	--
Truck With Hy-Rail and Boom	70,000	70,000	70,000	70,000	70,000
Air Compressor	--	--	10,000	10,000	--
Pushcarts (2).	2,000	2,000	2,000	2,000	2,000
Small Tool Replacement.	4,000	4,000	6,000	6,000	4,000
Subtotal	\$ 86,000	\$ 86,000	\$ 110,000	\$ 110,000	\$ 86,000
Total	\$10,154,509	\$6,148,494	\$6,365,368	\$6,322,017	\$6,174,727
Long-Term Cost per Mainline Mile.	\$ 247,671	\$ 149,963	\$ 155,253	\$ 154,196	\$ 150,603
Long-Term Cost per Mainline Mile per Year.	\$ 12,384	\$ 7,498	\$ 7,763	\$ 7,710	\$ 7,530

Source: Howard Needles Tammen & Bergendoff and SEWRPC.

Table D-6

INITIAL AND REVISED ANNUAL TRACK REHABILITATION BUDGET

Maintenance Item	Annual Maintenance Cost Under Recommended SEWRPC Rehabilitation		Annual Maintenance Cost Under Recommended WisDOT Class II Rehabilitation	
	Quantity	Cost	Quantity	Cost
Material				
Replacement Rail	19.8 tons (1,697 linear feet)	\$ 4,950	19.5 tons (1,300 linear feet)	\$ 4,875
Angle Bars	40 pairs	624	40 pairs	624
Bolts, Nuts, Washers	160 sets	108	160 sets	108
Cross Ties	1,075	16,125	2,660	39,900
Tie Plates	750	1,480	740	1,460
Spikes	14 kegs	1,050	62 kegs	4,650
Crushed Limestone Ballast	--	--	4,880	21,960
Switch Parts	Item	250	Item	250
Crossing Material	--	--	Item	3,750
Bituminous Concrete	5 tons	125	5 tons	125
Bridge Material	--	--	Item	200
Miscellaneous Supplies	Item	2,000	Item	2,000
Subtotal	--	\$ 26,712	--	\$ 79,902
Labor				
Foreman	1	\$ 30,000	1	\$ 30,000
Full-Time Laborers	1	22,000	1	22,000
Part-Time Laborers	0.5	11,000		27,000
Grade Crossing Repair	--	--	Item	3,750
Ballast Application	--	--		69,540
Work Train Service	--	--		9,760
Weed Spraying	Item	3,000	Item	3,000
Brush Control	Item	1,500	Item	1,500
Bridge and Culvert Work	--	--	Item	250
Sign Maintenance	Item	1,500	Item	1,500
Outside Maintenance Services	Item	2,500	Item	2,500
Subtotal	--	\$ 71,500	--	\$170,800
Total	--	\$ 98,212	--	\$250,702
10 Percent Contingencies	--	9,821	--	25,070
Total	--	\$108,033	--	\$275,772
Annual Maintenance Expense per Mainline Mile	--	\$ 2,635	--	\$ 6,726

Source: Howard Needles Tammen & Bergendoff and SEWRPC.

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Appendix E

ANTICIPATED SHORTLINE REVENUES BY SHIPPER ASSUMING INTERCHANGE AT WAUKESHA WITH CHICAGO & NORTH WESTERN, MILWAUKEE ROAD, AND SOO LINE RAILROADS

Shipper	1978		1981	
	Division (percent)	Revenue	Division (percent)	Revenue
Williams Drying & Storage	26	\$ 5,234	26	\$ 7,930
Sandra Corporation	--	--	20	70,232
Brittingham & Hixon Lumber Company . .	20	4,421	20	6,631
Jefferson Company Farmco Cooperative . .	20	17,370	20	18,528
Richard Gumz Farm	20	1,201	20	2,402
Badgerland Co-op	20	25,193	20	38,331
Badgerland Co-op	--	--	60	36,600
Sturgis Newport Business Forms	20	3,086	20	2,682
Home Lumber Company	20	2,030	20	6,988
Kaiser Agricultural Chemicals	20	56,142	20	127,403
Kaiser Agricultural Chemicals	24	54	24	162
Union Forest Products	--	--	20	33,440
Union Forest Products	--	--	39	2,496
Total	--	\$114,731	--	\$353,825

Source: SEWRPC.

Appendix F

ANTICIPATED SHORTLINE REVENUES BY SHIPPER ASSUMING INTERCHANGE AT MILTON JUNCTION WITH MILWAUKEE ROAD ONLY

Shipper	1978		1981	
	Division (percent)	Revenue	Division (percent)	Revenue
Badgerland Co-op	10	\$12,596	10	\$ 19,166
Badgerland Co-op	--	--	20	12,200
Sturgis Newport Business Forms	10	1,543	10	1,341
Home Lumber Company	10	1,015	10	3,494
Kaiser Agricultural Chemicals	10	26,774	10	60,123
Kaiser Agricultural Chemicals	20	2,595	20	7,157
Kaiser Agricultural Chemicals	24	54	24	162
Union Forest Products	--	--	10	16,720
Union Forest Products	--	--	20	1,280
Total	--	\$44,577	--	\$121,643

Source: SEWRPC.