ASSESSMENT OF THE FINANCIAL SELFSUSTAINABILITY OF THE SORE LINES WEST PROPOSAL

The Consulting Center, Inc., USA
July 2, 1979

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EXECUTIVE SUMMARY

The Consulting Center's assessment of the financial selfsustainability and need for external financial assistance of a proposal to acquire, rehabilitate and operate the Chicago, Milwaukee, St. Paul and Pacific Railroad Company's lines from Minneapolis, Minn. to the Pacific Northwest, is contained in this report. This subject proposal is titled, S.O.R.E., Lines West Proposal, 1979.

SORE proposes to establish a new company to acquire and operate the assets of the Milwaukee Railroad west of St. Paul, including the necessary cars, locomotives and supplies. The lines to be acquired include 1784.7 route miles of main line, 595 miles of secondary lines and 2038 miles of branch lines. These assets are to be acquired by assuming a percentage of the Milwaukee's existing debt. The common stock of the new company would be purchased by employees of the railroad and possibly some shippers. SORE's turnaround strategy is to immediately offer more trains per day than are currently operating on the western lines, augment its equipment fleet to win back traffic lost as a result of equipment shortages, and rehabilitate the line to reduce transit time and win back time-sensitive traffic lost to competitors.

The Consulting Center's analysis consisted of examining a broad range of issues and technical subjects. These included the revenue projections, equipment acquisition plans, the

rehabilitation plan, the assumed state of the economy, the bases for expenses, expectation for productivity improvements, the method for acquiring initial assets, adequacy of financing interim losses and the effect future inflation might have on SORE's projections.

As a result of its analysis the Consulting Center has concluded that SORE's projections must be adjusted in a number of respects. The more significant adjustments which need to be made are because SORE's expenses are judged too optimistic; SORE's initial method of acquiring assets was judged infeasible; and SORE's ability to acquire the Milwaukee Land Company was determined to be highly unlikely. Only modest adjustments were made to revenues since SORE's revenue expectations, while ambitious, were accepted.

As a result, it is the opinion of the Consulting Center that the SORE proposal, as presently constituted, cannot initially and never will achieve selfsustainability. To pursue the SORE proposal as constituted will likely require a minimum of $1.092 billion in federal support consisting of $370 million in federal loans or loan guarantees, $638 million in federally guaranteed securities that are redeemable ten years from issuance and assuming no prior interim payments of either interest or principal, and $84 million in branch line rehabilitation grants.

In order to achieve selfsustainability SORE would have to significantly reduce operating expenses, essentially through innovative work rule changes, avoid paying for the initial assets assumed from the Milwaukee, perhaps by foregoing all labor claims to the Milwaukee estate in exchange for the assets,

and receive federal financial support of about $286 million for the required main and branch line rehabilitation programs as well as an initial loan to finance the employee stock ownership plan.

REASON FOR THE STUDY

The Chicago, Milwaukee St. Paul and Pacific Railroad Company filed a voluntary petition for reorganization, under Section 77 of the Federal Bankruptcy Act, in December 1977. The order was approved and in February 1978 Mr. Stanley E.G. Hillman began serving as Trustee of the railroad.

Since that time, the Trustee and others have been trying to determine whether or not the railroad could be reorganized *in toto* or as a smaller system. In an April 23 submission to the reorganization court Mr. Hillman reported his conclusion that the railroad could not be reorganized in its present configuration and asked the court for permission to embargo freight services over 7400 route miles so that the railroad could concentrate its resources on a 2400 mile subcore[1] that stands "some chance of becoming a self-supporting system."[2] Under the Trustee's plan, the 7400 miles not included in the system would be sold to other railroads or otherwise liquidated to help meet claims against the estate.

The prospect that service will be abandoned and the rail infrastructure possibly dismantled on lines outside the subcore

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(1) The 2400 mile subcore which the Trustee hopes to reorgnize consists primarily of the Milwaukee's main lines between Louisville, Chicago, Duluth, Green Bay and Madison, certain feeder lines and a portion of the transcontinental line from Minneapolis, St. Paul to Miles City, Montana. This system was designated as the "Miles City Subcore" in an analysis by Booz Allen & Hamilton for the Trustee.

(2) *Traffic World*, April 30, 1979, p. 15

is a grim one to employees associated with these lines and to shippers for whom alternative service is not readily available. Facing termination of their jobs and feeling that "the importance of preserving service on the Milwaukee's western lines" in particular has "not received a fair hearing from either management or the Trustee,"[1] a number of Milwaukee employees grouped together in September of 1978 to analyze the potential viability of the Western Lines and to determine whether there was any alternative to the Trustee's intended abandonment of transcontinental service. Named SORE (Save Our Railroad Employment) the group is an unincorporated association whose members are all either present, retired, or recently furloughed employees of the Milwaukee Railroad.

Based upon a viability study undertaken for SORE, SORE believes that the "Milwaukee's Western Lines can be operated profitably by a properly-managed private company."[2] The manner by which the Milwaukee's transcontinental line and associated operations west of St. Paul, Minnesota, would be acquired and operated is presented by SORE in an April 28, 1979, Lines West Proposal.

As mentioned earlier, the bulk of the lines included in the SORE proposal would have been under a traffic embargo if the court had agreed to the Milwaukee Trustee's request.

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(1) Supplemental Affidavit of J. Fred Simpson in Support of (1) SORE's Motion For Leave To Intervene, and (2) SORE's Motion for an Order for Special Notice on Certain Matters; In the Matter of Chicago, Milwaukee, St. Paul & Pacific Railroad Co., Reorganization Proceedings, in the U.S. District Court for the Northern District of Illinois Eastern Div., p.10

(2) SORE Lines West Proposal, p.1

By various joint resolutions, the U.S. Congress sought to postpone the embargo for 45 to 60 days so that the SORE proposal, as well as other alternative actions to an embargo, could be studied. Although the court denied the Trustee's request on June 1, 1979, embargo at a later date remains a real possibility. For this reason and because Federal financial assistance is inherent to the SORE proposal, Congress and the Department of Transportation were interested in obtaining an independent assessment of the SORE proposal.

Toward this end the Department of Transportation retained the Consulting Center, Inc. to undertake an assessment of the financial selfsustainability of the SORE lines West Proposal. The report which follows contains the results of this assessment.

OBJECTIVES OF THE STUDY

The overall objective of the study was "to assess the financial selfsustainability and need for external financial assistance if the SORE Lines West Proposal were to be implemented." In particular, the Consulting Center was asked to:

- Analyze the SORE assumptions and projections to assess their reasonableness.
- Make independent assumptions and projections of the SORE system.
- Compare the independent assumptions and projections to those made by SORE.
- Assess SORE's ability to achieve financial self-sustainability.
- Make an independent assessment of the requirements for SORE to become financially self-sustaining.

PROJECT STAFF

The Alexandria, Virginia, branch of the Consulting Center, Inc. performed all of the work on this project with members of its own staff. The Alexandria Office is comprised of senior staff with significant railroad experience - both within the industry and within governmental agencies dealing with railroads. Collectively, we have conducted analyses of railroad operations, evaluated alternative rail investments, designed a financial forecasting model for the rail industry, evaluated loan applications, and been instrumental in developing regulatory reform proposals and other government policies affecting the rail industry. Appendix B of this report highlights qualifications of those individuals who worked on this assignment.

DATA RESOURCES

In the course of our study we utilized data regarding rail performance readily available to the firm; reviewed various documents supplied to us by DOT and SORE staff; discussed aspects of the proposal with the staff of SORE for purposes of clarification; consulted with DOT officials regarding the degree to which and under what circumstances SORE could receive federal financial assistance under existing programs; consulted with T.K. Dyer to clarify points pertaining to rehabilitation estimates for the Milwaukee railroad; and discussed the prospects of additional traffic for SORE's proposed system with several shipping executives. A list of the documents supplied to us by SORE and DOT as well as other publicly available reports used during the course of our analysis is contained in Appendix A.

SUMMARY OF THE SORE PROPOSAL

SORE proposes to establish a new company to acquire and operate the assets of the Milwaukee west of St. Paul, including necessary cars, locomotives and supplies. The lines to be acquired include 1784.7 route miles of main line trackage, 595 miles of secondary main line, and 2038 miles of branch line. No mention is made of miles of rail yards, sidings and passing track. Exhibit I portrays a map of the system. SORE also proposes to acquire the Milwaukee Land Co., "a wholly-owned subsidiary of the railroad with extensive timber and approximately 150,000 acres of land in Washington, Idaho and Montana."

Acquisition of Assets

SORE proposes to acquire these assets by assuming a percentage of the Milwaukee's existing debt. The net liquidation value of the assets SORE wishes to acquire is $370.5 million and represents 44% of the net liquidation value of the Milwaukee's total assets.(1) SORE thus proposes to assume $152 million or 44% of the Milwaukee's existing debt.

Ownership of Company

As presently constituted, SORE envisions that the new company's common stock would be purchased by employees of the railroad although SORE staff indicated verbally that

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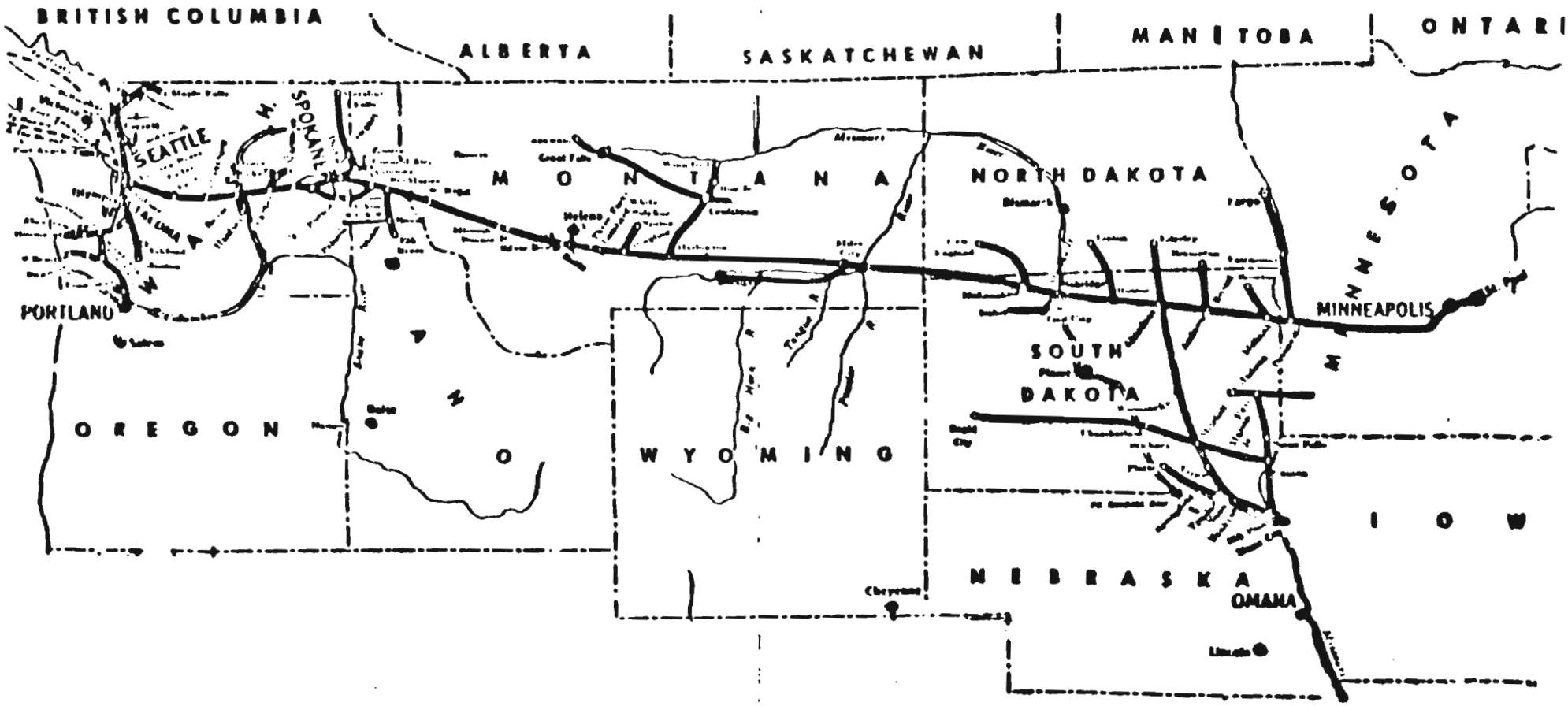
(1) Based upon a valuation study prepared for the Milwaukee Trustee by the firm of Ford, Bacon and Davis.



S.O.R.E.

Lines West Proposal

EXHIBIT 1

they hope key shippers will also contribute start up money and share in the ownership of the company. The initial equity contribution would be approximately $32 million[1] an amount based on SORE's estimate of the new company's start up expenses and need for working capital.

As described in the SORE proposal, employee acquisition of stock would be accomplished in the following manner:

> "The federal government, through the Economic Development Administration or a similar agency, would guarantee a loan of $32 million to an ESOP[2] Trust which would, in turn, use the money to purchase all of the common stock of the new company. The new company would make annual tax deductible payments to the trust with which the trust would repay the loan. As the loan is repaid, the shares of stock would be credited to the accounts of individual employees. The ESOP loan would be repaid by company contributions over 15 years."

Turnaround Strategy

At the present time, traffic carried by the lines included in the Lines West Proposal is not sufficient to enable the new company to be profitable. Present traffic levels are lower than they might be, however, for two reasons. First, shippers who are time sensitive or whose commodities could be

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(1) The Consulting Center changed the ESOP loan figure to $36 million in its analysis of fixed charges to correct an error made by SORE in preparing the first year's Sources and Applications of Funds statement.

(2) Employee Stock Ownership Plan.

easily damaged, have stopped using the Milwaukee's western lines because service on the line has been cut by the Trustee and the effects of past deferred maintenance have substantially lengthened the time needed for a train to traverse the line[1] and have precipitated an increasing number of derailments and claims due to loss and damage. Second, many shippers have been forced to use other railroads or other modes of transportation because the Milwaukee's equipment fleet is insufficient to handle all the traffic offered it.

SORE's turnaround strategy, therefore, is to immediately offer more trains per day than are currently operating on the western lines, augment its equipment fleet to gradually win back traffic lost as a result of equipment shortages, and rehabilitate the line to reduce transit time and win back time-sensitive traffic lost to competitors. These measures would also enable the western lines to obtain its share of growth forecast for the area. The economy in the area of the country served by the western lines is growing more rapidly than the U.S. economy as a whole and traffic forecasts for railroads serving this region show greater growth than the railroad industry as a whole.

SORE intends to tackle the equipment availability problem by assuming as much equipment from the Milwaukee as possible, by improving the utilization of equipment (by running more

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(1) According to testimony given by Paul F. Cruikshank, Jr., Milwaukee's V.P. of Operations, 10 mph is the maximum possible speed on 162 miles of track between Chicago & Tacoma and transit time between Tacoma & St. Paul is 137 hours. Subtracting yard and stoppage time, actual transit time was estimated by SORE at 110 hours.

frequent train service and by running trains more quickly as the track is rehabilitated) and by acquiring additional equipment as volume grows. SORE's rehabilitation program is thus as critical to this equipment plan as it is to improving service and transit times so that traffic levels can be increased. With this turnaround strategy, SORE believes the new company can begin turning a profit by the third year of operations and make increasing profits thereafter. SORE's projected income statements are reproduced in Exhibits 2, 3 and 4.

Rehabilitation Program

To correct the effects of past deferred maintenance SORE intends to increase maintenance of way expenses on all lines to "normalized" levels and to undertake a five year rehabilitation program of its main and secondary main line tracks. The program concentrates primarily on replacing ties and ballast (new and heavier rail is to be installed on only 140 miles of track although an additional 121 miles are to be improved by cascading used rail.) This program is expected to cost $118 million (1977 dollars) and SORE contemplates obtaining the necessary funds for rehabilitation from the federal government under Title V of the Rail Revitalization and Regulatory Reform Act of 1976 (the 4R Act.)

Interim Losses

As mentioned earlier, SORE's analysis indicates that the new company could begin turning a profit in its fourth year of operations. In the interim, the SORE proposal

Exhibit 2

SORE Exhibit

PRO FORMA STATEMENT OF INCOME
YEARS 1 - 5 & 10

(Amounts Stated in Thousands)

	Years 1	2	3	4	5	10
Net Revenue from Railway Operations	(19600)	(8600)	2450	13475	24500	45219
Fixed Charges	(1695)	(6608)	(7955)	(10417)	(9912)	(8397)
Income Before Taxes	(21295)	(15208)	(5515)	3058	14588	36822
Subsidiary Earnings	4000	4000	4000	4000	4000	6000
Net Income (Loss) Before Taxes	(17295)	(11208)	(1515)	7058	18588	42822

Source: SORE Lines West Proposal, p.8

Exhibit 3

SORE Exhibit

FORECAST OF NET REVENUE FROM RAILWAY OPERATIONS
(Amounts Stated in Thousands)

YEAR 1

OPERATING REVENUES

Gross Freight Revenue	$143,000
Less Adjustments and Absoptions	6,900
Net Freight Revenue	136,100
Switching	1,900
All Other	3,000
TOTAL OPERATING REVENUES	$141,000

OPERATING EXPENSES, TAXES AND RENTS

Executive Departmental Budgets	$ 600
Law Including Claims	7,200
Administration	3,300
Marketing	2,900
Finance	10,500
Operations	600
General Manager	81,000
System Engineering	3,600
Mechanical	9,300
Transportation	38,500
Taxes Other Than Payroll	2,400
Retirement Charges	200
Depreciation Charges	1,500
TOTAL EXPENSES, TAXES AND RENTS	$160,600
NET REVENUE (LOSS) FROM RAILWAY OPERATIONS	$(19,600)

Source: SORE Lines West Proposal, Appendix A - Page 11

Exhibit 4

SORE Exhibit

FORECAST OF NET REVENUE FROM RAILWAY OPERATIONS
(Amounts Stated in Thousands)

YEAR 5

OPERATING REVENUES

Gross Freight Revenue	$244,900
Less Adjustments and Absorptions	11,800
Net Freight Revenue	233,100
Switching	2,200
All Other	4,500
TOTAL OPERATING REVENUES	$239,800

OPERATING EXPENSES, TAXES AND RENTS

Executive Departmental Budgets	$ 800
Law Including Claims	6,200
Administration	4,000
Marketing	3,100
Finance	10,500
Operations	600
General Manager	105,400
Engineering	7,400
Mechanical	25,800
Transportation	47,100
Taxes Other Than Payroll	2,200
Retirement Charges	200
Depreciation Charges	2,000
TOTAL EXPENSES, TAXES AND RENTS	$215,300
NET REVENUE RAILWAY OPERATIONS	$ 24,500

Source: SORE Lines West Proposal Appendix A - Page 12

indicates that it will finance its initial losses and debt servicing requirements with an Emergency Rail Services Act (ERSA) loan of $20.2 million and with earnings from the Milwaukee Land Company. Annual financial contributions from the land company are estimated to be $4 million for the first five years of operation and $6 million thereafter. In oral conversations, however, SORE representatives indicated they understood the new company would not be eligible for funding under the Emergency Rail Services Act because only railroads in bankruptcy are eligible for financial assistance under that Act. As a substitute, SORE is hopeful that support for initial losses can be obtained from shippers, in exchange for partial ownership of the company, and perhaps from several state governments as well. For purposes of this report, however, the Consulting Center assumed interim losses would be financed by debt. The potential sources of that debt and the ability of SORE to obtain it will be discussed later in this report.

Summary of Federal Participation under the SORE Proposal

The SORE proposal readily admits that it can succeed only with federal financial assistance. To recapitulate, SORE hopes the government will make available:

(1) Approximately $118 million in Title V funds for its rehabilitation program....SORE hopes to obtain these funds at available low interest

rates and under available deferred payment schedules.[1]

(2) A loan guarantee of $32.1 million to the employees of the railroad in order to establish the necessary employee owned trust to acquire the stock ownership of the new railroad.

(3) Possibly a loan (Emergency Rail Services Act or federally guaranteed loan of some sort) to cover SORE's estimated first two year operating cash shortfall of $20.2 million.

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(1) Under existing regulations, Title V funds for rehabilitation of deteriorated facilities can be obtained which carry 2-3% rates of interest with delayed payment and which defer principal repayments until the eleventh year after borrowing.

ASSESSMENT OF SORE PROPOSAL

The western lines SORE proposes to acquire and operate as an independent entity are currently part of the Milwaukee Railroad which has been operating under Section 77 bankruptcy proceedings since January, 1978. As in the case of the Northeastern railroads which went bankrupt in the early seventies, the cause of the Milwaukee's failure was not related to its debt structure but to more fundamental problems: the Milwaukee's revenues were insufficient to cover its operating expenses. The Milwaukee's problems are similar to those of other marginal and bankrupt railroads operating in the Midwestern region of the country: average density levels are much lower than the industry as a whole and the traffic carried by these weaker roads appears insufficient to justify the level of investment needed to rehabilitate and maintain their plants on an individual basis.

It is for this reason that the Milwaukee Trustee has determined that the Railroad's resources must be concentrated upon a smaller, less redundant system if the railroad is to be reorganized. The Trustee's strategy is to select a contiguous core of lines whose average revenue densities are higher than $38,000/mile[1]. As stated in a May 1979 Booz Allen report to the Trustee, the rationale for this

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(1) Represents 1977 System Freight Revenues, less overhead traffic divided by miles of road operated.

cutoff figure was as follows:

> "Since the system as a whole had not been profitable with an average revenue density of $38,000/mile, the initial definition of the CORE used that figure as a minimum revenue density and as the starting point to define the CORE."(1)

According to SORE, the 1977 gross freight revenue attributable to the lines comprising the SORE proposal amounted to $143 million (after subtracting $35 million for lines East division.) Without adjusting for overhead traffic, these revenues equate to an average revenue per mile of roughly $32,000 based on a total route mileage of 4417.

These figures suggest, and are confirmed by the SORE analysis itself, that the western lines cannot be operated profitably unless traffic densities are substantially increased. As previously described, SORE's hopes of increasing traffic levels do not revolve around efforts to consolidate traffic by dropping redundant lines; they depend instead upon the conviction that traffic on these lines could be vastly increased by offering faster, more frequent and more reliable service and by attracting a reasonable share of projected growth for the area.

Thrust of Consulting Center's Analysis

In assessing SORE's proposal, therefore, the Consulting

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(1) The Milwaukee Road Strategic Planning Studies, May 1979 Prepared by Booz Allen & Hamilton Transportation Consulting Division, p.III-2.

Center was particularly interested in answering the following sorts of questions:

On what assumptions were SORE's projected revenues based? How much and in what years did SORE expect to win back revenues lost due to equipment shortages? Is SORE's equipment acquisition plan adequate to meet these goals? How much and in what years did SORE expect to win back time-sensitive traffic? Is SORE's rehabilitation plan adequate to meet these goals? What rates did SORE assume in projecting future growth? How do these compare with forecasts for the industry as a whole and for the western region in particular? On what assumptions were SORE's expenses based? Did expenses adequately reflect more frequent train service? What improvements in expenses, if any, were assumed over time?

In addition to questions pertaining to operating projections, the Consulting Center also evaluated SORE's assumptions with regard to the initial acquisition of assets from the Milwaukee, the adequacy of start up costs, the adequacy and availability of funds to finance interim losses, the adequacy of net income to cover fixed charges, the adequacy of SORE's projected capital structure, the adequacy of the normalized maintenance program and the effect future inflation might have on SORE's projections.

To analyze SORE's assumptions and to answer these questions, the Consulting Center relied primarily on SORE's April 28, 1979 proposal, on work papers underlying the proposal provided to us by SORE, and on conversations with SORE staff, although a

number of other sources listed in Appendix A were used for comparison purposes or to provide points of reference.

Because of the short time span within which the SORE proposal was put together, SORE was able to provide annual pro forma projections to revenues and expenses only for year 1 and year 5 of its operations. Also, due to lack of data, SORE was unable to present projected expenses in a format that lends comparison to other railroads. SORE expenses are listed by categories related to the Milwaukee Railroad's system of responsibility accounting rather than by general ICC accounts. To adequately assess SORE's proposal, therefore, the Consulting Center regrouped and re-stated SORE's expenses in an ICC account format and in making its independent forecast, developed annual estimates of revenues and expenses for years 1-6. These adjustments of necessity required some degree of interpolation which may have resulted in small swings in individual accounts or in the intervening years between the first and fifth year, but the interpolation in no way affects our overall conclusion.

The Consulting Center would like to acknowledge the cooperation and helpfulness exhibited to us by the SORE staff. To the extent of SORE's ability, our questions were answered and except for a few items, work papers and verbal answers enabled us to develop our restatement of SORE expenses.

Overall Conclusion

As a result of its analysis the Consulting Center has concluded that SORE's projections must be adjusted in a number

of respects. The adjustments, and our rationale for making them are discussed in detail in the following pages. To briefly summarize the more significant adjustments: SORE's expenses were judged too optimistic; SORE's initial method of acquiring assets was judged infeasible; and SORE's ability to acquire the Milwaukee Land Company was determined to be highly unlikely.

As a result, it is the opinion of the Consulting Center that the SORE proposal, as presently constituted cannot initially and never will achieve selfsustainability. Although long term revenue potential in the area served by the Milwaukee's western lines is relatively promising, the cost of acquiring and rehabilitating the lines to provide proper service, the cost of financing interim losses and annual cash shortfalls, and the cost of acquiring enough rolling stock to carry the traffic, overwhelm the earnings that could be generated from operating the transcontinental line as a separate railroad.

SORE's Assumptions with Regard to Acquisition of Assets

SORE proposes to acquire the rights of way and railroad property thereon of the transcontinental line from Minneapolis/St. Paul to the Pacific N.W. and associated lines as shown on the map reproduced as Exhibit 1. In addition, SORE proposes to acquire the Milwaukee Motor Transportation Company, shares in certain of the Milwaukee's investments in switching and terminal companies, full ownership of the Milwaukee Land Company, 44% of the Milwaukee's rolling stock and other equipment, and a portion of the Milwaukee's inventory of materials and supplies. SORE's list of these assets,

and their respective liquidation values according to a study done for the Milwaukee Trustee by Ford, Bacon & Davis, is reproduced herein as Exhibit 5.

SORE's liquidation value of real property is based on the sum of acreage values by state which can be attributed to the western lines. The liquidation value of roadway property is based on a pro rata share by mileage of the total liquidation value for the Milwaukee's roadway property. The remaining assets, except for the Milwaukee Land Co., are estimated at 44% of Milwaukee totals, on the assumption that the Western lines constitute approximately 44% of the Milwaukee's total rail system. The total liquidation value of these assets, as defined by the firm of Ford, Bacon & Davis amounts to $370 million.

SORE proposes to acquire these assets from the Milwaukee by assuming a pro rata share of the Milwaukee's existing debt. Since the liquidation value of the assets SORE wishes to acquire represent 44% of the liquidation value ($832 million) of all of the Milwaukee's assets, SORE proposes to assume 44% of the Milwaukee's debt. SORE estimates that it will assume approximately $152 million of a mixture of bonds, debentures, and unsecured debt. SORE intends to resume repayment of the interest and principal of the assumed bond and debenture debt according to existing terms of each class of debt. A non-cumulative 6% preferred stock would be issued to the balance of unsecured debt assumed by the new company and SORE estimates it can begin paying dividends on this stock by the fourth or

Exhibit 5

LIQUIDATION VALUE OF ASSETS TO BE ACQUIRED

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I.	REAL PROPERTY OF RAILROAD:		
	Idaho	4029 acres	$2,075
	Minnesota	1768	5,000
	Montana	26745	6,080
	North Dakota	7218	1,500
	South Dakota	30941	7,650
	Washington	17504	43,057
		88205	$65,362
II.	ROADWAY PROPERTY:		
	Track		$112,752
	Signals & Communications		1,188
			$113,940
III.	MILWAUKEE MOTOR TRANSPORTATION COMPANY:		
	Liquidation Value $1,330	44%	$585
IV.	OTHER INVESTMENTS:		
	Longview Switching Company		$ 11
	Delta Alaska Terminal, Ltd.		1
	Minneapolis Eastern Ry. Co. 40%		10
	Minnesota Transfer Ry. Co. 40%		114
	Trailer Train		247
			$383
V.	MILWAUKEE LAND COMPANY:		$110,203
VI.	OWNED EQUIPMENT:		
	Freight Train Cars	44%	$50,568
	Locomotives	44%	13,050
	Work Equipment	44%	3,673
	Motor Vehicles, Shop & Power Plant Machinery	40%	981
			$68,272
VII.	INVENTORY (Materials & Supplies):		$11,717
	TOTAL ASSETS		$370,462

Source: SORE Lines West Proposal, p.5

fifth year of operations.

Consulting Centers Assessment & Adjustments to SORE's Asset Acquisition Assumptions

- Assets to be Acquired - In the opinion of the Consulting Center, there are a number of problems with SORE's list of assets to be acquired and with the values assigned to them. These are discussed in turn below.

  (1) Rail Assets to be Acquired Overlap Assets Included in the Milwaukee Trustee's Subcore.

  In an April 1979 report to its reorganization court, Trustee Hillman identified a 2400 mile subcore as being the system he felt the railroad should attempt to reorganize. This subcore was termed the Miles City Subcore in the Milwaukee's May 1979 Strategic Planning Studies Report. As can be seen in the map of that Subcore, Exhibit 6, the Trustee's system overlaps the proposed SORE proposal from Minneapolis/St. Paul to Miles City, Montana.

  When asked about the overlap, SORE staff responded that Trustee Hillman had indicated a willingness to drop the Minneapolis to Miles City extension from his Subcore if the SORE proposal were implemented. For purposes of this report, therefore, the Consulting Center has assumed that the overlap would not exist. Since Mr. Hillman has subsequently resigned as Trustee, and the State

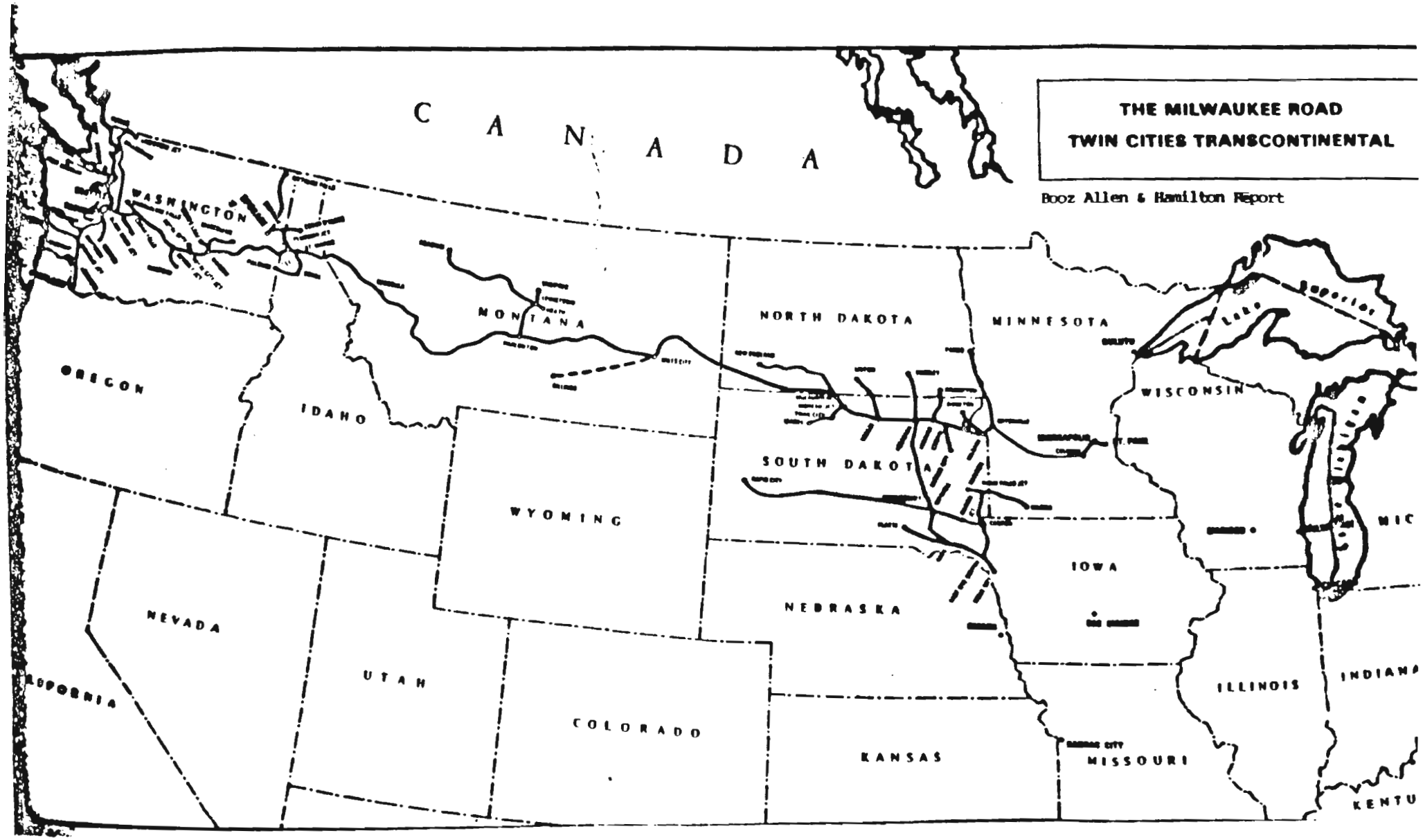
THE MILWAUKEE ROAD
TWIN CITIES TRANSCONTINENTAL
Booz Allen & Hamilton Report
CANADA
WASHINGTON
OREGON
IDAHO
MONTANA
WYOMING
NEVADA
UTAH
COLORADO
NEBRASKA
KANSAS
NORTH DAKOTA
SOUTH DAKOTA
MINNESOTA
IOWA
MISSOURI
WISCONSIN
ILLINOIS
INDIANA
KENTU
MIC

EXHIBIT 6

of South Dakota is negotiating with FRA to obtain rehabilitation funds for sections of this line, however, the new Trustee and the South Dakota government will probably wish to have a say in the ultimate designation of this line segment.

(2) Equipment Assets to be Acquired Overlap Assets to be Included in the Milwaukee Trustee's Subcore.

The SORE proposal indicates that it wishes to acquire 44% of the Milwaukee's rolling stock and other equipment. Since the Milwaukee presently owns about 24,000 cars[1], one can presume that SORE hopes to acquire about 10,000 cars. According to the Milwaukee's Strategic Planning Studies, however, the Trustee will need 17,000 cars to meet present equipment shortages and provide for long term growth[2]. The Consulting Center has assumed the Trustee would have first rights to this equipment and has therefore adjusted SORE's equipment expenses to reflect SORE's need to acquire additional equipment. The adjustments made are examined in the discussion of net rents.

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(1) Excluding Trailer Train Cars and cars over 40 years old.

(2) Based on Exhibit VI-4, Freight Car Summary, Milwaukee Strategic Planning Studies. This total represents the freight car requirements of the Trustee's subcore excluding the Miles City extension.

(3) SORE's proposed acquisition of the Milwaukee Land Co. is unacceptable.

SORE proposes to acquire the Milwaukee Land Co. a wholly owned subsidiary of the Milwaukee, in addition to the rail assets needed to operate the western lines as a separate railroad. SORE's desire to acquire the Land Company stems from two factors. First, the Land Company owns properties SORE considers essential to its long run viability. According to SORE, "These properties include the proposed Fife Yard site for the new western terminus at Tacoma, the Washington, Idaho and Montana Railroad, and industrial lands which have potential for feeding substantial traffic over the lines of the new company." Second, SORE hopes to use some of the land company's earnings from timber harvesting to help cover debt servicing requirements in SORE's early years and to help cushion future declines in income due to economic slowdowns.

In the opinion of the Consulting Center, neither the Milwaukee Trustee nor the reorganization court will permit the SORE group to acquire the Milwaukee Land Co., particularly for an amount considerably less than its full net liquidation value. The firm of Ford, Bacon and Davis estimated that the net liquidation value of the land company

is $110 million. Yet SORE proposes to acquire this company plus an additional $260 million worth of assets by assuming only $152 million worth of debt. Creditors, possibly including the U.S. government which has issued loans to the Milwaukee for rehabilitation projects, will seek to block any such transfer because the Milwaukee Land Co. is one of the Milwaukee Railroad's most valuable and most liquid of assets. Indeed, if the Penn Central case can be looked to for comparison, the Milwaukee Land Co. may become the framework around which liquidation of assets not included in the subcore or SORE are managed. The only way SORE could acquire the Milwaukee Land Co. would be to provide the estate with cash or equivalent securities equal to the value of the company. Since the Land Company is presently being operated as a profitable going concern, the value of the company should be based on going concern value, not liquidation value. The firm of Day & Zimmerman, in an assessment of the Milwaukee's Estimated Liquidation Value, commissioned by FRA, concluded that the Land Company is "potentially more valuable as a going concern."(1) According to an assessment of a

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(1) Assessment of the Estimated Liquidation Value of the Chicago, Milwaukee, St. Paul & Pacific Railroad, March 2, 1979, prepared by Day & Zimmerman.

Milwaukee's Section 505 Loan Application, the Land Company's average annual pre tax income over the 1972-1976 period was $8.6 million.[1] A five year projection developed by the Land Company indicated the future will be more promising; net income is expected to average $10.8 million over the 1979-1983 period.[2]

For these reasons, and because any objective assessment of the future selfsustainability of the western lines must be based upon the potential earning power of those lines alone, the Consulting Center has assumed that the Land Company would not be among the assets acquired by SORE. Instead, we have assumed that an agreement could be reached among SORE, the Milwaukee Land Co., the Milwaukee Trustee and the reorganization court to allow SORE to acquire the needed yard site at Fife and controlling interest in the Washington, Idaho and Montana Railroad. We have accepted SORE's valuation estimate of rail assets to be acquired to include the purchase of these special assets.

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(1) Analysis of Milwaukee's Interim Corridor Project, 505 Loan Application. prepared by James Hanscom for FRA, July, 1977.

(2) Milwaukee Land Co. forecast prepared by A.L. Nance for R.V. Nugent, Jr., V.P. Finance of the Milwaukee, June 13, 1978.

(4) Minor Problems with Other Assets

A similar problem may exist with respect to SORE's intention to acquire the Milwaukee Motor Transportation Co. That company is also a going concern and its going concern value may be higher than its net liquidation value. According to a report done for FRA[1], trucking earnings contributed $1.7 million in pretax income to the Milwaukee in 1976. As described by Ford, Bacon & Davis 94% of the net liquidation value of $1.3 million represents equipment (net of obligations.) Ford, Bacon & Davis did not attribute much value to the operating certificates held by the trucking company but these are often among a motor carrier's more valuable assets[2]. The amount involved is relatively small, however, so the Consulting Center ignored the asset in summing the value of rail assets to be acquired by SORE.

Additional problems may exist with SORE's intention to acquire percentages of the Milwaukee's investments in various terminal and switching companies. Since the Milwaukee does not have a controlling interest in any of these companies, it is unclear to what extent SORE would benefit from acquiring minority shares in these companies. Moreover,

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(1) P.3, Analysis of the Chicago, Milwaukee, St. Paul & Pacific Company's Intermin Corridor Project, 505 Loan Application, by James Hanscom

(2) Unless entry provisions in the trucking industry are substantially eased.

the values listed by SORE for these shares are based on book values and may not relate to selling values. Since the values are so insignificant, the Consulting Center has ignored them in the analysis.

- Method of Acquisition

In the opinion of the Consulting Center, SORE's proposal to acquire $370 million worth of assets by assuming $152 million worth of debt will not be accepted by the Milwukee Trustee, the Milwaukee's reorganization court, or the Milwaukee's creditors. Although a similar technique was followed in the case of employees' acquisition of the Chicago & Northwestern railroad, the circumstances of that acquisition were entirely different. First, the debt assumed by the employees of the Chicago & Northwestern amounted to approximately $405 million and the book value of the assets assumed amounted to approximately $440 million[1]. Second, the Chicago & Northwestern transaction involved a going concern railroad and was based on an arm's length negotiation between the acquirers, and the railroad's holding company. Creditors presumably approved the transaction because their status with respect to existing lines and future repayment remained unchanged.

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(1) Aggregate debt assumed from Moody's Transportation Manual. Book value figure is from balance sheet total as of December 31, 1972, also according to Moody's Transportation Manual.

The SORE proposal does not offer so close an exchange of debt for assets, nor involve transferring a going concern from one owner to another at an arm's length agreement. Moreover, creditors have more alternatives open to them in the Milwaukee situation than they did in the case of the Chicago Northwestern because the Milwaukee railroad is currently operating under Section 77 bankruptcy proceedings and the Trustee has already determined that the railroad cannot be reorganized as presently constituted. Since Section 77 requires the Trustee and the court to balance interest of creditors, employees, shippers and the general public, creditors may not be able to block any Trustee proposed reorganization. On the other hand, if such a reorganization cannot be accomplished without federal financial assistance, creditors may be able to argue that the venture is not a true reorganization and that they will agree to it only if the government guarantees the value of securities given them.

Regardless of the outcome of the Trustee's plan, creditors will most certainly argue that any assets not needed by the Trustee should be liquidated. This liquidation in no way precludes selling these remaining assets to other railroads or to a group such as SORE, but in our opinion, it means that buyers will have to pay at least net liquidation value for the assets. Furthermore, the means of payment will have to be cash or some form of security which promises repayment of net liquidation value, adjusted for the time value of money at some future date. More than likely, these securities would have to be

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guaranteed by the Federal Government.

The Consulting Center's opinions on these points are necessarily speculative but we believe them to be the most consistent with precedent. It should be emphasized however, that these conclusions depend upon legal interpretations of law and precedent and that they should be submitted to legal authorities for verification.

- Revised Assumptions with Respect to Assets

To summarize, the Consulting Center assumed that SORE would acquire the following assets at the following values:

I.	Real Property		
	88205 acres	$65,362,000	(unchanged)
II.	Roadway Property		
	Track	$112,752,000	
	Signals & Communications	1,118,000	
		$113,940,000	(unchanged)
III.	Equipment	55,000,000 (1)	
IV.	Inventory (Materials & Supplies)	11,717,000	(unchanged)
	TOTAL:	$246,019,000	

Secondly, the Consulting Center assumed that SORE would have to obtain a Federally guaranteed loan for this amount or issue securities guaranteed by the Federal Government to the Milwaukee estate which are

(1) Assumes SORE could only acquire 30% of Milwaukee owned freight cars and that acquisition price of the equipment would be net liquidation value not excluding outstanding obligations.

redeemable at some future date for this amount, adjusted for the time value of money. If the securities were redeemable in year 10, for example, the amount issued would have to equal $638.1 million assuming the money could earn 10.0% annually, if otherwise invested.

SORE's Assumptions with Regard to Rehabilitation and Maintenance of Way.

The SORE proposal includes a five year program for rehabilitation of the system's main lines. In SORE's words, "the program has been designed to allow rational upgrading of the plant without the excessive cost which would incur if it were attempted to repair the results of twenty years deferred maintenance in one year." The rehabiliation program is expected to bring the system's main lines up to Class IV standards (60 mile per hour time table speed.) At these speeds, train service should be competitive with other railroads serving the transcontinental route particularly since the Milwaukee's line is reputed to be "the shortest route between Puget Sound and the Midwest as well as the least grade and curvature."

As previously mentioned, rehabilitation of the western main line is critical to SORE's potential success. Without it, SORE cannot hope to offer frequent, reliable service necessary to retain and augment present traffic levels nor to win back time-sensitive traffic. Moreover, without it, SORE cannot achieve planned improvements in equipment utilization

(shorter average car cycle days) inherent to its equipment acquisition program. In analyzing SORE's rehabilitation program, therefore, the Consulting Center sought to determine whether SORE's rehabilitation program was adequate to accomplish the desired improvements to the system.

- Summary of the Rehabilitation Program

SORE's rehabilitation program is spread over five years and is designed to rehabilitate the most seriously deteriorated sections of the system's main and secondary main lines. Most of the programmed work calls for replacement of cross ties and ballast although the plan includes installation of new 132 pound rail over 140 miles and the installation of 115 pound second-hand rail over 121 miles. In constant 1977 dollars, the annual amounts to be expended are:

	Cost	No. Miles Improved[1]
Year 1	$12.3 million	170
Year 2	$25.9 million	280
Year 3	$28.2 million	282
Year 4	$27.2 million	272
Year 5	$24.4 million	274
TOTAL:	$118.0 million	1,278

Average Cost per Mile Improved = $92,000

In addition to the rehabilitation program, SORE's expense

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(1) Based on interpolation of SORE's detailed rehabilitation plan.

projections include annual maintenance of way expenses at normalized levels for the first five years. Normalized levels were calculated by SORE as follows:

	Cost/Mile	No. Route Miles	Cost
Mainlines	$10,000	1,785	$17.7 million
Secondary Mainlines	6,500	595	3.8 million
Branch Lines	3,500	2,038	7.1 million
Total:		4,418	$28.6 million[1]

In addition, SORE included $3.6 million (growing to $7.2 million in year 5) of system programmed maintenance in its expense projections.[2] According to the SORE proposal, this total maintenance of way budget will hold or gradually improve territories not immediately scheduled for major rehabilitation.

The SORE proposal does not provide for the rehabilitation of branch lines because SORE believes the branch lines can continue to be operated if maintained at normalized levels until funding becomes available for their rehabilitation. According to the proposal and conversations with staff, SORE intends to rely upon State and shipper assisted programs to provide funds for branch line rehabilitation.

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(1) This amount was confirmed by SORE's work papers and is included in the General Manager Account in SORE's expense projections.

(2) This amount is included in the Engineer's account in SORE's expense projections.

- Adequacy of Rehabilitation Program

To assess the adequacy of SORE's rehabilitation program, the Consulting Center examined several other estimates for comparison. First was the Milwaukee Railroad's Interim Corridor Rehabilitation Project which was approved and funded by the FRA. As presented in a "Recommendation Package Memorandum"[1] on that application, the Milwaukee's rehabilitation program on that corridor consisted of the following:

	# Route Miles	Total Cost	Cost/Mile
1. Section from Milwaukee Wisconsin to the Minn. St. Line	194[2]	$14.2 million	$73,000
2. Section from Minn. St. Line to Newport, Minn.	119.5	$ 8.2 million	$68,600

According to descriptions of those projects, the bulk of these funds were to be expended on resurfacing and replacing cross ties; very little (a total of 25 track miles) installation of new rail was included in the two projects.

The Consulting Center also reviewed the rehabilitation estimate made by T.K. Dyer in conjunction with Booz Allen & Hamilton's report, The Milwaukee Road Strategic Planning Studies. For the Twin Cities Transcontinental alternative (which as noted earlier is virtually the same system as the SORE Lines West proposal), Dyer estimated the following

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(1) Recommendation Package: Milwaukee Road, Section 505 and Section 511 Projects Docket Nos. RFA 505-76-1 and RFA 511-76-2, Memorandum from RFA-10 to RFA-1, July 31, 1978.

(2) Based on mile post data.

rehabilitation program.[1]

Total Rehabilitation	Net Rehabilitation
Requirement to bring track to competitive levels at the end of 1977	Minimum requirement in excess of ten year normalized maintenance
$258 million	$130 million

There are several important differences between the Dyer estimates and SORE's. First, the Dyer estimate includes rehabilitation of branch lines as well as main and secondary lines. Second, the Dyer estimate was designed to rehabilitate the main line track to Class IV standards from Minneapolis to Miles City, Montana, but only to Class III standards from Miles City to the Pacific Northwest. Third, Dyer's net rehabilitation estimate, which is the one which should be used assuming annual maintenance of way expenses are at normalized levels, was based on a rehabilitation program spread over ten years. If branch line rehabilitation is removed from the Dyer estimate, Dyer's gross rehabilitation program equates to a cost of $59,000 per mile.[2]

Based upon these comparisons, the Consulting Center believes that SORE's rehabilitation program <u>for its system main lines</u>, is adequate to accomplish the intended improvements. This conclusion was buttressed by a

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(1) From Exhibit VI-7, <u>Milwaukee Road Strategic Planning Studies</u>

(2) Based on figures in Appendix L(3), <u>Milwaukee Road Strategic Planning Studies</u>.

telephone conversation with T.K. Dyer. Mr. Dyer stated that he did not doubt that SORE's rehabilitation program was adequate to raise its system main lines to Class IV standards. On the other hand, SORE's intention to undertake this program within five years may be somewhat ambitious, but we have assumed the work can be accomplished within that timeframe.

- Effect of Inflation on Rehabilitation Estimate

SORE's rehabilitation estimate was based on 1977 prices. Yet the rehabilitation program will be spread over the first five years and will most certainly cost more than planned in current dollars. To estimate the current dollar cost of the rehabilitation program, the Consulting Center multiplied the 1977 annual dollar estimates by the Chase Econometric's June 1979 Long Term Forecast of the Wholesale Price Index for Industrial Commodities as shown in Exhibit 7. According to these calculations, SORE's rehabilitation program will total 166 million current dollars.

- Adequacy of MOW Expenses

SORE's first year maintenance of way expenses total $32.2 million net of depreciation. Allocating $0.7 million of SORE's total estimated retirements and depreciation, the Consulting Center adjusted this number to $32.9 million. This maintenance of way estimate equates to 23% of SORE's first year revenues. By contrast, the ratio of maintenance of way expenses to revenues developed by Booz Allen for its Twin Cities Transcontinental

system was 27.3%.

SORE's maintenance of way budget was developed on the basis of system route miles. These mileage figures do not include yards and passing tracks. When questioned about the need for budgeting maintenance of way expenses for these tracks, SORE staff responded that it felt its budget could cover these expenses since the normalized maintenance budgeted for lines to be rehabilitated could be allocated to yards and sidings. In the opinion of the Consulting Center, however, the normalized estimates cannot be manipulated in this manner because they are based on average costs per mile. As a consequence, and because comparisons indicate that SORE's MOW budget may be somewhat on the low side to start with, the Consulting Center added an annual $4.0 million to SORE's maintenance of way budget.

The derivation of the $4.0 million adjustment was as follows:

According to data contained in the Booz Allen report, yards, sidings and passing tracks represent 29% of the Milwaukee's track mileage for main, secondary and branch lines. Since there are fewer yards in the western lines (but passing tracks exist every 4 miles on the transcontinental line according to SORE staff) we assumed these tracks represented only 20% of the western lines total system. We therefore added an additional 883.5 miles to SORE's total route mileage of 4,417.7 miles. Using a maintenance cost of $4,500 per mile for these tracks,

Exhibit 7

EFFECT OF INFLATION ON SORE's REHABILITATION PROGRAM

SORE's ANNUAL REHABILITATION PROGRAM

	1977 dollars	Inflation Factor (1)	Current $ (2)
Year 1	$12.3 mill.	1.22	15.0 mill.
Year 2	25.9 mill.	1.30	33.7 mill.
Year 3	28.2 mill.	1.38	38.9 mill.
Year 4	27.2 mill.	1.47	40.0 mill.
Year 5	24.4 mill.	1.57	38.3 mill.
TOTAL:	$118.0 mill.		$165.9 mill.

(1) Based upon Chase Econometric's June, 1979 Long Term Forecast of the Wholesale Price Index for Industrial Commodities as shown Below:

				Cumulative Increase
1978	=	7.3		
1979	=	8.1	=	1.15
1980	=	6.7	=	1.22
1981	=	6.6	=	1.30
1982	=	6.8	=	1.38
1983	=	6.9	=	1.47
1984	=	6.9	=	1.57

(2) Assuming SORE's Year 1 is 1980.

as recommended by T.K. Dyer, we determined that SORE should increase its maintenance of way budget by 4.0 million annually. The adjusted MOW budget represents 26% of SORE's revenues in its first year.

- Adequacy of Rehabilitation Assumption for Branch Lines

As mentioned earlier, SORE did not budget any rehabilitation funds for branch lines. Instead, the proposal mentions that SORE will seek such financing from shippers and state and local governments. To determine the likely extent of such financing needs, the Consulting Center made the following calculation. According to Appendix L(3) of the Booz Allen report, gross rehabilitation expenses for the Milwaukee's total branch lines amounts to $173.2 million. Dyer advised us that the net rehabilitation expense for branch lines would be $86.6 million if annual maintenance on these branch lines were held at normalized levels. According to SORE, branch lines on the western lines total 2038 miles or 68% of the Milwaukee's total branch lines. Based on this percentage, rehabilitation of SORE's branch lines would cost approximately $60 million although since SORE's normalized MOW budget of $3500 per mile for branch lines may be somewhat low, a more conservative estimate of the net rehabilitation cost of SORE's branch lines might be $70 million[1]

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(1) Even this figure is probably too low since SORE staff reported that the Milwaukee estimated in an abandonment proceeding it would cost $48 million to rehabilitate only the Rapid City Line.

Based on existing branch line subsidy programs, the Consulting Center has assumed that the cost of rehabilitating these branch lines would come entirely from shippers or state and local governments in the form of grants, not loans. Using the same annualized breakdown proportions of the main line rehabilitation program for the required branch line program the Consulting Center estimates a branch line rehabilitation program of $84 million, inflated.

Consulting Center's Assessment and Adjustments to SORE's Projected Revenues

SORE's revenue projections for the first five years of operations are presented in Exhibit 8. These figures were obtained from a SORE work paper and were based on the following assumptions:

(1) That based on the Milwaukee's revenue flow map 1977 revenues attributable to the western lines were $166 million.

(2) That $35 million of that base should be subtracted to reflect lines east divisions.

(3) That all annual revenues would grow at 3% due to growth in the general economy.

(4) That, based upon a traffic survey done by the Milwaukee and talks with shippers, SORE could recapture traffic lost because of equipment shortages by increasing its ownership (or rentals) of equipment. SORE assumed recapture of equipment sensitive traffic would yield $12 million in revenues in year 1; $15 million in year 2; $13 million in year 3; and $10 million in year 4.

Exhibit 8

SORE's REVENUE PROJECTIONS

Year 1	
Lines West Revenues by Line Segment	$166 million
Less Revenues Attributable to Lines East Division	35 million
Total Base Revenue	$131 million
Additional Revenues Available if Equipment Availability is Improved	12 million
TOTAL:	$143 million
Year 2	
Year 1 Revenues plus 3% growth	$147.3 million
Additional Revenues Available if Equipment Availability is Improved	15.0 million
TOTAL:	$162.3 million
Year 3	
Year 2 Revenues plus 3% growth	$167.2 million
Additional Revenues Available if Equipment Availability is Improved	13.0 million
Additional Revenues from Recapturing Time-Sensitive Traffic	6.0 million
TOTAL:	$186.2 million
Year 4	
Year 3 Revenues plus 3% growth	$191.6 million
Additional Revenues Available if Equipment Availability is Improved	10.0 million
Additional Revenues From Recapturing Time-Sensitive Traffic	10.0 million
TOTAL:	$211.6 million
Year 5	
Year 4 Revenues Plus 3% Growth	$217.9 million
Additional Revenues from Recapturing Time-Sensitive Traffic	10.0 million
Additional Coal Revenues	10.0 million
TOTAL:	$244.9 million

SOURCE: SORE work paper, 2/1/79

(5) That, based upon the same information, SORE could recapture time-sensitive traffic if it could improve transit time and service reliability by increasing the frequency of train service and by rehabilitating the track.

Each of these assumptions will be discussed below.

- Base Revenues Attributable to the Western Lines

SORE's $131 million estimate of the revenues attributable to the western lines is substantially below those made in two other studies reviewed by the Consulting Center. Booz Allen & Hamilton's estimate of revenues attributable to the Milwaukee's western lines in 1977 was $168.8 million.(1) The firm of Reebie Associates estimated that 1977 revenues attributable to the western lines amounted to $189.6 million in a recent preliminary draft report to the Federal Railroad Administration. The Reebie Assoc.'s analysis, however, was based on route miles of 4,265; the Booz Allen estimate was based on a 4500 mile system, virtually the same in size as the SORE proposal.

To reconcile the difference, the Consulting Center attempted to determine whether or not the additional revenues contained in these two studies were related to volume or to assumptions with regard to on-line divisions.

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(1) Exhibit VI-1, 1977 level statistics, the Milwaukee Road Strategic Planning Studies, May 1979, Prepared by Booz Allen & Hamilton Transportation Consulting Division.

We therefore compared each study's assumptions with regard to 1977 levels in carloads. According to work papers, and conversation with staff, SORE assumed that its first year's total carloads would amount to 200,750. 1977 revenue carloads for the Twin Cities Transcontinental system were listed by Booz Allen as 270,000. Reebie Associates' carload figure was 257,495. On the basis of these carload comparisons the Consulting Center determined the differences were related to volume rather than to discrepancies regarding the allocation of division revenues. As a result, if any adjustment was to be made to SORE's base revenue, a similar adjustment would have to be made to SORE's base operating expenses.

The Consulting Center decided not to make any adjustments to SORE's first year revenues for two reasons. First, SORE's estimates were based on 1977 traffic levels. Since that time, traffic levels on the western lines have dropped drastically (traffic is down 70% according to SORE staff) because the Trustee has cut train service on these lines to one train per day in order to save cash and has diverted equipment from the west to the midwest to meet shortages there. Hence, the SORE system may have difficulty reaching its own estimate of 1977 traffic levels in year 1, much less higher ones. Second, SORE staff assumed the new company could recapture in year 1 $12 million of revenues lost due to equipment shortages in addition to its base revenues. While SORE may be overly optimistic with regard

to the speed with which it can reverse current trends, the Consulting Center decided to accede to SORE's initial revenue estimate.

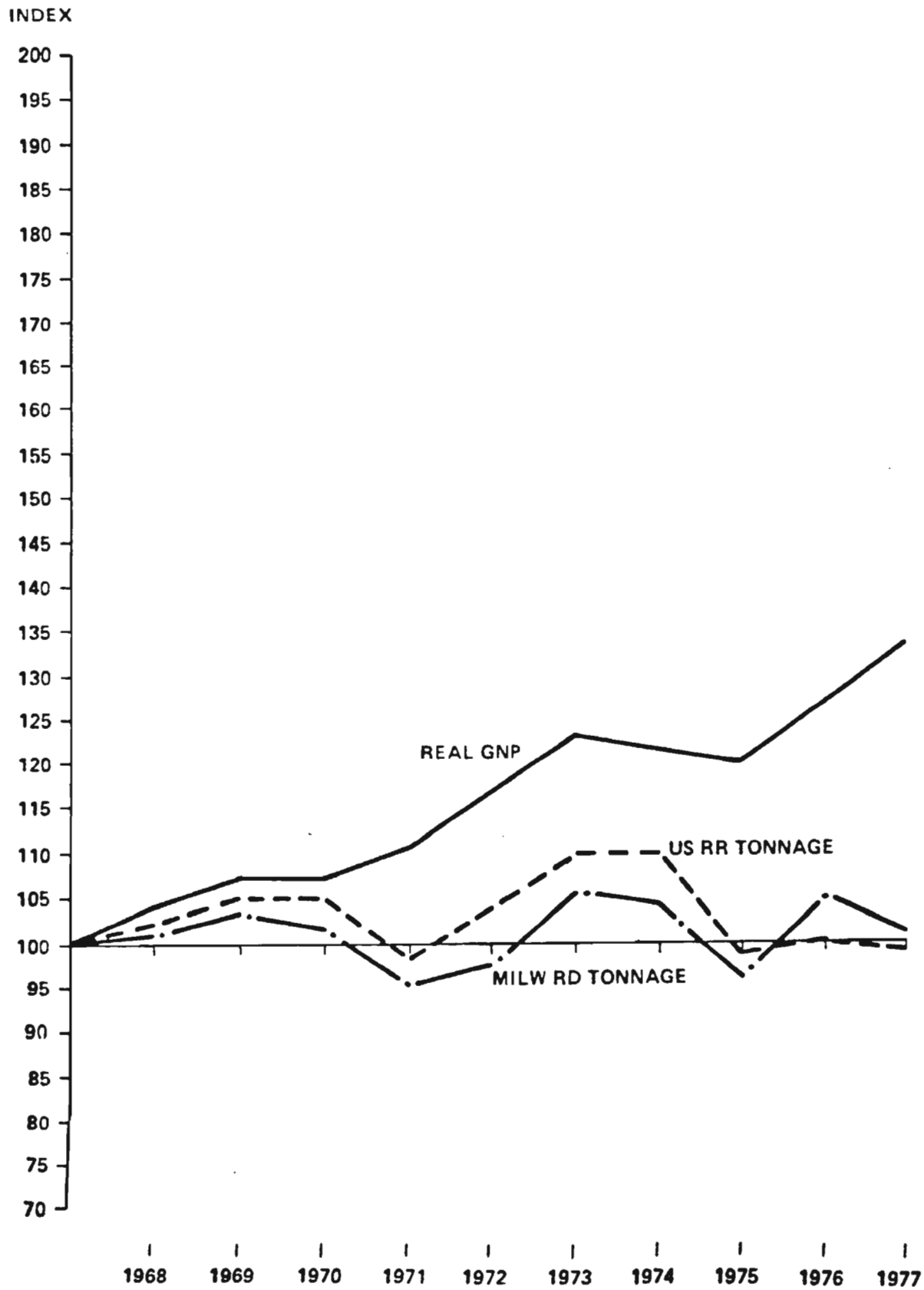
- Assessment of SORE's 3% Annual Rate of Growth

In the opinion of the Consulting Center, SORE's use of a 3% annual rate of growth factor is too optimistic for the following reasons: it ignores cyclical downturns in the economy; it assumes all commodities carried by the new company will grow at the same rate; and it is higher than justified based on current forecasts of the economy's long term macro outlook.

As shown in Exhibit 9, historic trends reveal that tonnage on the Milwaukee Railroad and the U.S. rail industry as a whole, has grown more slowly than the GNP. Yet, as shown in Exhibit 10, the Milwaukee's coal traffic, except in the last few years which may reflect the Milwaukee's financial difficulties, has been growing faster than non-coal traffic and faster than the GNP. To better assess the potential growth of revenues on the Western lines, therefore, the Consulting Center first broke down SORE's revenues into coal and all other. This adjustment was made using SORE's estimates of coal carloads and revenues per carload. The Consulting Center then applied separate rates of growth for these two groupings to develop pro forma revenues for SORE's initial six years of operations. The rates of growth used in our analysis were developed by the Consulting Center in conjunction with another assignment and were tied to Chase Econometric's December

Gross Tonnage
Vs.
Real GNP

Exhibit 9



Source: The Milwaukee Road Strategic Planning Studies, May 1979, Prepared by Booz Allen & Hamilton, Exhibit [illegible]

1978 long term economic forecast.[1] The Consulting Center's complete set of projections are contained in Appendix C of this report.

The annual growth in revenues used by the Consulting Center to adjust SORE's revenues were:

($ millions)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Coal	0	.88	.91	.95	1.0	1.76
All other commodities	0	(2.44)	2.51	2.8	3.15	3.89

Over the six year period these numbers equate to all average annual growth rates for coal of 4.22% and for all other commodities of 1.85%.

- Assessment of SORE's Revenue Gains Due to Recapture of Traffic Lost as a Result of Equipment Shortages

SORE based its equipment-related revenue additions

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(1) This Chase economic scenario includes a high probability of a recession or period of slow growth in 1979 and in 1980. Fundamental to the prospect of a downturn is Chase's assumption that the dollar will deteriorate further in international markets, that OPEC will implement a 15% oil price increase and that the federal government will gradually achieve a balanced budget by 1986. As it turns out, the assumption with regard to OPEC may have been exceedingly optimistic. The following gloomy forecast appeard in Hobart Rowen's column in the June 21, 1979 Washington Post:

"According to word passed to administration officials in Paris last week by a leading cartel producer (not S.Arabia), the price might be pushed to $20 to $21 a barrel next week in Geneva. That would be a whopping 20% over the June 1 weighted avg. price of $17.22, including surcharges, and 57% higher than the 13.34 official OPEC benchmark price at the end of 1978. Anything close to that range would be a staggering burden for the rest of the world, already punchy from a roaring inflation.

It would boost inflation here and in the industrial world by about 1-1.5% within a year or so, (assuming no further real price increases) and slow economic growth by the same 1.0-1.5 points, Carter administration officials estimate. It would just about assure a worldwide recession."

on a study developed by the Milwaukee's traffic department during 1978. Since the study was discounted by some Milwaukee officials, the Consulting Center requested a copy of the study and checked with some of the shipping executives who would indeed influence some of the additional business identified in the study in an effort to evaluate its conclusions. Since the shippers with whom we spoke were anxious to see the Milwaukee western lines remain in operation, they asserted that they would indeed give the Milwaukee more traffic if equipment shortages were met and service made reliable. These remarks reflect good intentions but do not necessarily underpin the additional revenue levels assumed by SORE. Considering the principal competing railroads from whom the western lines would have to win back this traffic (the Union Pacific... operating in conjunction with the Chicago Northwestern, and the Burlington Northern) one could question the reasonableness of SORE's assumptions. Nonetheless, the Consulting Center was impressed by the SORE staff's familiarity with shippers and potential markets in the west and with its plans to try to go after short hauls up and down the west coast, automobile traffic from Japan, the increasing import-export traffic due to the substitution of the American land bridge for the Panama Canal, and efforts to increase traffic originating in the Minneapolis area by developing new relationships with other rail carriers in the Midwest.

SORE did not increase revenues to reflect these possibilities. For this reason and in the interest of giving SORE every reasonable benefit of the doubt, the Consulting Center accepted SORE's assumptions regarding the extent to which revenues could be augmented by increasing its equipment fleet.

- Assessment of SORE's Assumptions with Regard to Time-Sensitive Traffic

SORE assumed that it could recapture time-sensitive traffic by improving frequency and reliability and by increasing transit speeds. As discussed earlier, the rehabilitation program is critical to any improvement in transit times. SORE assumed that it could begin recapturing this traffic as early as year 3. In the opinion of the Consulting Center, SORE's assumption that the rehabilitation program will have yielded enough benefits by that time to recapture time-sensitive traffic is too optimistic. We feel this is particularly true because SORE's projections are already optimistic with respect to the speed with which traffic levels will return to 1977 levels and with respect to the ease with which equipment-sensitive traffic can be recaptured. As a result, we have adjusted SORE's revenues by assuming that all additional time-sensitive traffic would be delayed by one year.

- Revised Revenue Forecast

The Consulting Center's revisions to SORE's revenues are summarized in Exhibit 11. Despite our adjustments, it is our opinion that this revenue forecast is still an

Exhibit 11

CONSULTING CENTER'S ADJUSTMENTS TO SORE's REVENUES

($ millions)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Base Year - Coal	20.8	20.8	21.68	22.6	23.6	41.6
Base Year - All Other	110.2	122.2	134.8	150.3	169.1	182.3
Total Base Year	131.0	143.0	156.5	172.9	192.7	223.9
Coal Growth	0	0.88	.91	.95	1.0	1.76
Growth All other - GNP related	0	(2.44)	2.51	2.8	3.15	3.39
Addional due to Equipment	12.0	15.0	13.0	10.0	0	0
Additional Time-sensitive	0	0	0	6.0	10	10
Additional Coal Train	0	0	0	0	17.0	0
Gross Freight Revenues	143.0	156.4	172.9	192.7	223.9	239.0
Less Adtj. & ABS	6.9	7.54	8.33	9.29	10.8	11.5
Net Freight Rev.	136.1	148.9	164.6	183.4	213.1	227.5
Switching	1.9	2.0	2.0	2.1	2.2	2.2
All Other	3.0	3.0	3.0	3.5	3.5	4.3
TOTAL OPERATING REVENUES	$141.0	$153.9	$169.6	$189.0	$218.8	$234.0

optimistic one. This is particularly so when one examines average revenue per carload assumptions which underlie them. SORE work papers indicate that revenue yield will increase from an average $712 per car to $840 per car over the five year period. Since the forecast is in constant dollars, one can only conclude that the SORE forecast assumes a very favorable change in commodity mix over time. The Consulting Center did adjust SORE's assumptions with regard to projected carloads; but in the interest of being conservative, we did not change SORE's yield per carload assumptions. Even the adjusted forecast, therefore, remains optimistic.

Assessment and Adjustments to SORE's Operating Expenses

As described earlier, SORE did not have access to enough data to forecast operating expenses in an ICC format nor enough time to develop projections for year 2-4. After reviewing SORE's work papers and clarifying points with SORE staff, the Consulting Center restated SORE's year 1 and year 5 expenses as shown in Exhibit 12. Next, the Consulting Center estimated SORE's operating expenses in years 2-4 by gradually improving SORE's year 1 operating ratio of 97%[1] to its year 5 ratio of 78%. This exercise yielded annual estimates of SORE's net railway operating income. To this figure we then made a series

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(1) Based on total year 1 expenses of $167.1 million. This amount was used because the Consulting Center determined that SORE neglected to include $5.5 million of budgeted maintenance of equipment expenses in its first year's total budget and a $1.0 million addition error.

Exhibit 12

RESTATEMENT OF SORE EXPENSES

BY ICC ACCOUNT[5]

($ millions)

	YEAR 1	YEAR 5
Maintenance of Way[1]	$32.9	$36.7
Maintenance of Equipment[2]	10.3	34.5
Traffic	2.9	3.1
Transportation	69.1	96.9
General & Administrative	15.9	16.8
Rents:[3]		
Locomotive & Net car Hire	23.8	23.1
Trailer Train	4.3	4.5
Total Rents	28.1	27.6
Taxes[4]	2.4	2.2
Total Operating Expenses[5]	$ 161.6[6]	$217.8

(1) Includes depreciation and retirements of $.7 million in year 1 & 5

(2) Includes depreciation and retirements of $1.0 million in year 1 and $1.5 million in year 5.

(3) Includes a recent SORE adjustment to increase its net rents in year 5 from $25.1 million to $27.6 million.

(4) Taxes not including payroll taxes or federal income taxes.

(5) Total operating expenses for years 2, 3 and 4 were estimated by reviewing and projecting discrete components which totaled $172.7, $180.5 and $190.2 million respectively. Total operating expenses in year 6 were projected to be $220.5 million.

(6) Includes correction of $1.0 million addition error.

of adjustments, based on our analysis of the SORE expenses in detail. These adjustments are summarized in Exhibit 13 and discussed below. Since many of the adjustments related to equipment requirements, the Consulting Center's work sheet in this area is included in Appendix D.

- Reduction in Expenses to Reflect Consulting Center's Adjustments to Revenues.

  Since the Consulting Center reduced SORE's future traffic levels, we also had to reduce SORE's operating expenses. In making this adjustment the Consulting Center reduced SORE's volume related expenses in proportion to our reductions of traffic levels.

- Credit to SORE for Lease Costs in Year 1

  As already discussed, SORE cannot acquire the Milwaukee owned cars it had hoped to if the Milwaukee decides to reorganize around a subcore. Hence the lease costs for acquiring Milwaukee leased cars that SORE had included in its expenses were too high. The Consulting Center consequently reduced net rents for year 1.

- Lease Costs Inadequate to Cover Budgeted Equipment Additions

  The SORE proposal and work papers state that SORE intends to acquire 3650 units of additional equipment over the first 3 years. SORE's intention is to acquire these units by means of lease arrangements. The Consulting Center examined SORE's estimates of these costs and determined that they were too low. We therefore increased SORE's net rents to reflect more realistic costs.

Exhibit 13

CONSULTING CENTER's ADJUSTMENTS TO SORE'S NROI

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
NROI (Loss)	(19.6)	(18.8)	(10.9)	(1.2)	1.0	13.5
Adjustments to NROI						
Expense Reduction Due to Lower Volume	0	1.4	3.8	5.7	7.8	10.0
Credit to SORE for Lease Costs in	1.2	1.3	1.4	1.5	1.6	1.7
Leases inadequate to cover budgeted eq. additions	0	(3.0)	(7.0)	(9.0)	(9.3)	(9.3)
Additional Eq. Acq. Costs	(12.2)				(1.4)	(1.4)
Lower TTX usage than assumed	1.1	1.1	1.2	1.3	1.4	1.4
Arithmetic Error - omitted budgeted 5.5 for MOE from total	(5.5)	-	-	-	-	-
Inc. in MOE to account for worse initial bad order ratio than assumed	(1.9)	(.7)				
MOW inc. for yards/sidings	(4.0)	(4.0)	(4.0)	(4.0)	(4.0)	(4.0)
Adjusted NROI	(40.9)	(22.7)	(15.5)	(5.7)	(2.9)	11.9
Erosion due to Inflation	(1.51)	(1.46)	(1.53)	(1.61)	(1.83)	(1.84)

- Lease Costs Inadequate to Provide Level of Equipment Needed to Serve SORE's Traffic Levels (As Adjusted by the Consulting Center

Despite the increases described above, the Consulting Center determined that SORE's net rent account was not high enough to cover the costs of acquiring enough equipment to serve projected traffic levels particularly in the first year. Accordingly, the Consulting Center further increased the net rent account. We believe we have been very conservative by not taking exception to SORE's projected improvement in on-line car cycle time from 16 days in year 1 to 7 days by year 5. SORE did not adjust the off-line car cycle time of 9 days in its forecast. Indeed an annual rate of improvement in equipment utilization of 15% would be extraordinary; Conrail only realized a 4.7% improvement from April 1978 to April 1979.

- Lower Trailer Train Costs

Based on carload estimates, the Consulting Center determined that SORE over-estimated expenses related to the usage of trailer train. Accordingly, we reduced SORE's net rent account to reflect the revised estimate.

- Arithmetic Error by SORE

According to SORE's work papers, SORE's year 1 estimate of maintenance of equipment expenses was $14.8 million. $9.3 million was included in SORE's "mechanical" expense category. The other $5.5 million was meant to be included in the "General Manager's" account but work papers show

these funds were not added to that account. Accordingly, the Consulting Center added $5.5 million to SORE's first year operating expenses. (SORE did include this expense in its 5th year expenses.)

- Maintenance of Equipment Expenses Inadequate

At the present time the Milwaukee Railroad's equipment bad order ratio is among the worst in the country. (The 1977 R1 report shows a bad order ratio of 13.1% for equipment and 46.4% for locomotives, both as of February 28, 1978.) According to SORE staff one reason for the high ratios is that the management has "bad ordered" every car requiring more than $500 in repairs as a cash preserving measure. Many of these cars, SORE asserts, can be returned to service with relatively little effort. Since the Trustee will probably wish to retain the best of the Milwaukee fleet for the subcore, however, SORE's initial bad order ratio will undoubtedly be higher than assumed. Accordingly, we have increased SORE's MOE expenses, but even so, considerable latitude was given to SORE's hopes.

- MOW expenses Increased for Yards/Siding

As explained earlier in this report, the Consulting Center determined that SORE's MOW budget did not reflect normalized maintenance of trackage contained in yard and sidings. Accordingly, SORE's MOW budget was increased at the rate of $4500 per mile for the miles of track estimated to be in passing track, sidings and yards.

- Adjusted Net Railway Operating Income

  As shown in Exhibit 13, the effect of all these adjustments on net railway operating income is to increase SORE's operating losses of $28.2 million over two years to $95.4 million over five years. According to our adjustments, therefore, SORE's turnaround could not occur until the sixth year of operations.

- Estimate of Cash Flows/Cash Shortfalls

  As reviewed earlier, SORE identified a number of other loans and other requirements that would eventually have to be met by the railroad's cash flow from operations. These included: financing the ESOP loan; financing debt assumed in exchange for assets acquired from the Milwaukee; financing an ERSA loan to cover initial operating losses; financing a capital program needed to rebuild part of a yard in Tacoma, Washington; and financing a Title V loan made to obtain rehabilitation funds. Since SORE has already determined it cannot obtain an ERSA loan and since the Consulting Center's adjustments result in greater losses than anticipated, the Consulting Center has assumed that all cash shortfalls not otherwise identified with specific sources of funding will be financed with debt at an interest rate of 10%.

  In estimating these annual shortfalls the Consulting Center made several other adjustments to SORE's financing requirements. First, we treated the cost of financing

assets assumed by the Milwaukee as a separate calculation in order to better focus upon SORE's cash needs due to operating the railroad. Second, we increased SORE's capital program to reflect the cost of building the Tacoma Yard.[1] Third, we increased the initial ESOP loan of $32.1 million to $36.1 million to reflect an arithmetic error in SORE's year 1 Sources and Application of Funds statement. Fourth, the Consulting Center assumed, as did SORE, that the Federal Railroad Administration would extend a loan to SORE for its rehabilitation program under Title V of the 4R Act. For purposes of the analysis we assumed FRA would require no repayment on this loan until the elventh year and that the interest on the loan would be at a 2% rate.[2]

The results of this analysis are shown in Exhibit 14. As seen therein, the Consulting Center projects that SORE's cumulative cash shortfall will be $167.7 million by the end of year 6. Again, this shortfall does not reflect the financing of SORE's rehabilitation program nor the financing of initial assets.

- Outlook Beyond Year Six

According to the SORE proposal, the western lines will begin showing a positive net railway operating income in

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(1) Using $7.5 million as the total capital program is very conservative. Considering the western railroad's capital programs per revenue dollar and taking into consideration the portion of MOW expenses to be perceived as capital items, the Consulting Center believes that a 5 year capital program totaling $30 million would not be unreasonable.

(2) An FRA official connected with this program agreed that such terms were available under the Act but stressed that FRA could not approve the loan unless it was assured that the rehabilitation program was adequate to accomplish the planned improvements and that the loan could be repaid by the railroad.

Exhibit 14

CONSULTING CENTER'S CALCULATION OF SORE'S CASH SHORTFALLS

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Total Adjusted NROI	(42.4)	(24.2)	(16.8)	(7.3)	(4.7)	10.1
Depreciation	1.7	1.9	2.0	2.1	2.2	2.3
Capital Program	(1.5)	(4.0)	(2.0)			
ESOP Loan	(4.5)	(4.5)	(4.5)	(4.5)	(4.5)	(4.5)
Annual Cash Shortfall	(46.7)	(30.8)	(21.3)	(9.7)	(7.0)	7.9
Financing of Shortfalls (cum)	(4.25)	(7.44)	(10.1)	(11.9)	(13.6)	(12.9)
Cum. Shortfall					(162.7)	(167.7) (1)

(1) The effects of financing the main line rehabilitation program and any acquisition loan, if required, are not included in this total since it is assumed that the rehabilitation loan will be federally funded with no payments due until the eleventh year and that the assets would be exchanged for the foregoing of labor claims.

year 3 and thereafter would continue to become more profitable. Work papers show that SORE believes net railway operating income will increase by 11-14% each subsequent year. The Consulting Center believes sustained improvement of this magnitude is unrealistic. Although revenues may continue to grow as SORE is able to take advantage of the growing import-export market in the Pacific Northwest and other marketing opportunities, we do not believe net income levels can grow at even higher rates. The Consulting Center has estimated that net railway operating income will reach $22.3 million by year 10, assuming a continuation of year 6 growth levels and a 75% operating ratio. Over the longer term, we would expect growth in income levels to flatten out.

- Selfsustainability of the SORE system

  Even with sustained improvement of net income levels over the long term, the Consulting Center has concluded that SORE's cash flow would never be great enough to repay the $168 million needed to finance cash shortfalls over the first six years, the $118 million dollar rehabilitation loan (166 million inflated dollars) much less to finance the acquisition of assets. If long term securities are used to acquire these initial assets, the Consulting Center calculates that SORE will need to pay $638 million for redemption of these securities in year ten.

- Government Financing of the SORE Proposal

  SORE's proposal is too risky and too unprofitable to

enable it to obtain private capital to finance any of its needs for funds. If the SORE proposal is implemented therefore, it will acquire the following financial assistance from the Federal Government:

(Current $ millions)

	Loan or Federal Guarantee	Guarantee at Redemption *	Grants
Mainline Rehabilitation	$ 166		
Branch line rehabilitation			$ 84
Cash Shortfall	168		
Purchase of Assets		$ 638*	
Employees' Investment in ESOP	36		
Sub-totals:	$ 370	$ 638*	$ 84
Cumulative Federal Involvement			$1,092

* This figure is the redemption value of initial assets of $246 million compounded at 10% per year for ten years assuming no prior payment of principal or interest.

- Other Factors Which May Affect SORE's Viability

There are a number of other factors which might affect SORE's ultimate selfsustainability although the Consulting Center did not make any adjustments to reflect them. One is the possibility that start up costs may be greater than assumed by SORE. This is particularly true given the potential problems involving the sorting out and splitting up of the Milwaukee's equipment fleet between the Trustee's subcore and SORE.

Another is that SORE's equipment acquisitions program and our adjustments to them, are based on SORE's belief that

it can reduce car cycle turnarounds from 25 days to 16 days. Since the industry average is 22 days, this improvement is very optimistic. If SORE projected improvement in car cycle time is reduced by one half, total capital requirements would increase by $90.4 million, the car lease expense would increase to $13.3 million per year by the fifth year and every year thereafter, and annual per diem expenses would increase to $3.5 million by the fifth year.

A third problem is that we have not adjusted SORE's assumptions with regard to locomotive requirements since SORE did not attempt to rigorously review these needs and adequate data was not available to make any responsible judgments on our part.

A fourth problem is that the economic outlook is worsening and would affect SORE during its formative years.

REQUIREMENTS FOR SORE TO ATTAIN SELFSUSTAINABILITY

The SORE proposal as presently constituted is not self-sustainable because the earnings generated by the system are not great enough to cover the costs of financing interim losses, equipment acquisitions, and the acquisition of initial assets. In order to achieve selfsustainability, therefore, some way would have to be found to curb initial losses and to lower debt obligations. The Consulting Center has identified several possibilities by which such ends might be advanced. If all these possibilities were realized, the Consulting Center believes SORE's chance of becoming selfsustainable would be greatly enhanced, although further analysis would be needed to develop a definitive judgement as to whether ultimate success is attainable by these means alone. These possibilities are discussed below.

Reducing Interim Losses

As previously discussed, the Consulting Center has estimated that SORE will need to obtain $168 million in debt to finance cash shortfalls in Years 1-5. SORE's initial losses could be reduced and subsequent profits increased if SORE could further improve its ratio of revenues to expenses. Except for the possibility of improving this margin by implementing selective rate increases(1), the Consulting Center does not feel the revenue side of the ratio could be increased much beyond levels already assumed. Operating expenses ould be

(1) Proposed deregulation legislation would enable SORE to do so.

reduced, however, if employees and labor unions were willing to agree to a number of changes which should reduce the company's labor ratio.

Such changes include: changing the basis for employee compensation from the existing rules (such as the 100 mile per day crew law) to ones based on the performance of a specific task or ones based on total hours worked; changing crew consist rules to allow 2-3 man crews instead of 4-5 man crews; changing seniority districts and craft rules to permit employees to perform more than one job or to change jobs to reflect seasonal work requirements.

According to the Milwaukee's 1977 R-1 Report to the ICC, the ratio of employee expense (including wages, pension, health and welfare and payroll taxes) to operating revenues was 55.6%. If this ratio could be reduced to about 40%, SORE should save in the order of $30 million per year. If implemented from the start this amount would just about eliminate SORE's cumulative cash shortfalls for the first five years.[1] Further study would be needed, however, to determine whether such work rules changes are attainable and if they are whether they would result in savings of $30 million per year.

The Consulting Center recognizes that employees and railroad labor unions have been reluctant to agree to work rule changes in the past. If SORE were to be owned and operated by employees, however, this reluctance might be overcome.

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(1) Of course, to the degree earnings are still overstated that much more will be needed from the labor accounts.

Acquisition of Assets

In the opinion of the Consulting Center, SORE will have to pay $246 million (in 1977 dollars) or $638 million (in 1987 dollars) to acquire initial rail assets from the Milwaukee estate. As stated earlier, SORE's potential income could not possibly support this cost. Some other way of financing this acquisition must be found if SORE is to have a chance of achieving selfsustainability. Since SORE is to be employee owned, one possible approach would be for SORE employees to consider giving up their employee protection claims against the Milwaukee estate in exchange for the assets attributable to the western lines.

According to the testimony of Lawrence W. Harrington, Vice President, Management Services for the Milwaukee Trustee, potential labor protection claim costs could total $1.068 billion if the Milwaukee were liquidated, all employees dismissed, and New York Dock Railway Protective Conditions used to calculate employee protection payments. SORE staff has reported that 2800 employees are currently associated with operation of the western lines. SORE has also reported that it would have to employ additional employees, up to a total of 3,500, soon after start up in order to undertake its rehabilitation program and increase traffic levels. Based on a ratio of 3500 employees to 10,833 (the total level of Milwaukee personnel in 1978), labor protection claims for potential SORE employees could amount to $345 million.[1] In view of this potential claim SORE

(1) On the other hand, SORE representatives estimated that labor protection claims applicable to employees on the western lines would total only $60 million.

employees could consider giving up all rights to these claims in exchange for acquiring the rail assets needed to operate the western lines as a separate entity. If this exchange could be accomplished, SORE's beginning equity ratio would be far healthier than now projected in SORE's pro forma. The exchange would also allow SORE to offer liens against these assets in exchange for new financing.

The Consulting Center cautions, however, that this trade may not be easy to arrange because the actual liability of the Milwaukee estate to pay these labor protection claims in the event of liquidation is not clear. As Mr. Harrington testified, resolution of labor protection claims

> "involves the laws and principles governing the Commission and courts, the relative roles of the Commission and the Reorganization Court, and the constitutional rights of creditors and the estate. It is impossible to predict the status or priority of such claims in reorganization or liquidation, the control the Reorganization Court would have over the amount actually paid out, or the limits the constitution places on them."

Nevertheless, there would appear to be enough potential merit to this approach to warrant SORE's consideration of it as a way to acquire the necessary assets from the Milwaukee estate. However, SORE's employees would also have to consider what they would be giving up if SORE's new company did not achieve self-sustainability.

APPENDIX A

APPENDIX A

Documents supplied by DOT/FRA:

- SORE Proposal for Rehabilitation and Operation of Milwaukee Lines Between Twin Cities and West Coast, Jan 2, 1979

- SORE, Lines West Proposal, April 28, 1979

- The Milwaukee Road Strategic Planning Studies, May 1979, Volumes I and II; prepared by Booz Allen & Hamilton Transportation Consulting Division.

- Liquidation Value of the Chicago, Milwaukee, St. Paul & Pacific Railroad, November 29, 1978, prepared by Ford Bacon and Davis Construction Company.

- Assessment of the Estimated Liquidation Value of the Chicago Milwaukee, St. Paul & Pacific Railroad, March 2, 1979, by Day & Zimmerman, Inc.

- Annual Report (R-1) To the Interstate Commerce Commission for the Year Ended December 31, 1977 of the Chicago Milwaukee, St. Paul & Pacific Railroad Company.

- Annual Report (R-1) To the Interstate Commerce Commission for the Year Ended December 31, 1978 of the Chicago, Milwaukee, St. Paul & Pacific Railroad Company.

- Milwaukee work papers pertaining to potential traffic levels of the western lines; trasnmitted from Thomas F. Power, Assistant to the Trustee to Mr. Danforth Walker, Department of Transportation.

- Traffic Effects Study, the Viability of the Western Lines of the Milwaukee Road, Preliminary Draft Report, June 1979, Prepared by Reebie Associates for DOT, FRA.

- In Re Milwaukee Reorganization Proceedings

  ------ Testimony of Paul F. Cruickshank, Jr.
  ------ Testimony of Peter C. White
  ------ Testimony of Richard V. Nugent, Jr.
  ------ Testimony of Lawrence W. Harrington
  ------ Supplemental Testimony of Thomas F. Powers, Jr.

- FRA Memoranda

  ------ Closing on the Milwaukee Road Section 511 Equipment Repair and Environmental Control Facilities Projects and Section 505 Track Rehabilitation Project, July 28, 1978.
  ------ Recommendation Package; Milwaukee Package, Milwaukee Road Section 505 and Section 511 Projects Docket Nos. RFA-5-5-76-1 and RFA 511-76-2, July 31, 1978.

------ Recommendation Package: Milwaukee Interim Corridor Project, July 14, 1977.

- Chicago, Milwaukee, St. Paul & Pacific Co., Interim Corridor Project 505 Loan Application, Analysis by James Hanscom, July 11, 1977

- Documents Supplied by SORE:

  . Package of Work Papers
  . Copy of a June 13, 1978 Letter and Five Year Financial forecast of the Milwaukee Land Co. prepared by A.L. Nance and sent to R.V. Nugent, Jr., VP Finance of the Milwaukee Railroad.

- In Re Milwaukee Reorganization Proceedings

  ------ Affidavit and Supplemental Affidavit of J. Fred Simpson, February 8, 1979 and March 5, 1979
  ------ Written Statement by the Association To Save Our Railroad Employment in opposition to the Trustee's "Petition for Direction with Respect to Partial Embargo of Freight Operations, Financing Remaining Operations and Related Relief"
  ------ The State of Montana's statement In Opposition to the Trustee's (Embargo) Petition
  ------ The State of Montana's Objections and Responses to the "Report of Special Master, Milton H. Gray, Etc."

Other Documents Used During the Course of Study:

- Moody's Transportation Manual, 1978

- Prospectus For Change, Department of Transportation October, 1978.

- Chase Econometric Associates, Long Term Macro Economic Forecasts, December 1978 and February, 1979

- Association of American Railroads, Equipment Car Cycle Time Report

APPENDIX B

RUSSELL F. MURPHY

Executive Vice President

As Executive Vice President, Mr. Murphy's primary responsibility is to foster the firm's domestic business, particularly in the field of transportation. Toward that end, Mr. Murphy brings extensive expertise in dealing with the management of complex transportation analyses and the evaluation and determination of solving issues.

Mr. Murphy has been the project manager of all the domestic transportation studies undertaken by the Consulting Center.

Prior to joining the Consulting Center, Mr. Murphy was Vice President, Finance and Operations at the United States Railway Association with responsibilities that included the monitoring of Conrail's operational and financial performance. While the Director of the Office of Financial Analysis, Mr. Murphy's primary responsibilities were to forecast earnings, cash flows, and investment needs for the Consolidated Rail Corporation and any strategic alternative under consideration. Prior to joining USRA, Mr. Murphy was Chief of the Industry Analysis Division in the U.S. Department of Transportation and in that capacity was extensively involved in analyses of the transportation industry.

Educational Background:

B.A., Aeronautical Engineering (1958), Polytechnic Institute of Brooklyn
M.B.A., (1963), Harvard Graduate School of Business

PAUL D. JOHNSON

Vice President

Mr. Johnson has over ten years of experience as a rail analyst and planner. He recently joined the staff of the Consulting Center.

At the present time, Mr. Johnson's primary activities are to aid the federal government in the litigation of the value of assets conveyed to ConRail. In his capacity as consultant, he advises the government parties on methods and techniques for evaluating the going concern value of these assets had governmental intervention in the reorganization of bankrupt railroads in the Northeast not been forthcoming. His areas of specialty include rail operations, finance and costing analysis.

Before coming to the Consulting Center, Mr. Johnson was Assistant Vice President, Operations and Finance for the United States Railway Association, where he was responsible for implementing operational and revenue monitoring of ConRail. At the Association, he undertook financial, operational and marketing analysis of railroad mergers and consolidations, using extensive quantitative methods.

His railroad experience includes the Atchison, Topeka and Santa Fe Railroad, where he was Director of Cost Analysis and Research, and the Southern Railway System, where he was a Senior Economist. At Santa Fe, Mr. Johnson was responsible for determining rail transportation costs both for existing rail service and new business proposals; the financial analysis of new asset acquisition; and analysis of economic conditions and their potential impact on business performance. At Southern Railway, he forecasted business volumes and evaluated business performance against expectations. He also evaluated the potential impact of proposed governmental regulations on the rail industry.

Educational Background:

B.A., Economics (1962) Kent State University, Ohio
Graduate studies (1963) Kent State University, Ohio
Course work completed for Ph.D., Economics, University of Virginia.

RICHARD G. TRENERY

Director

Mr. Trenery joined the Consulting Center as senior policy and financial analyst in 1977. To date, he has been a key participant on contracts involving cost analyses, econometric financial forecasting of trucking and railroad industries. In addition to general financial and economic expertise, Mr. Trenery brings extensive experience in statistical analyses.

Prior to joining the Consulting Center, Mr. Trenery, while employed by Conrail, was responsible for the design and implementation of a computerized model which generated multiple year financial forecasts. While at USRA he had comparable responsibilities and was also engaged in a broad based analysis involving the propensity for rail traffic to be diverted to regulated and non-regulated motor carrier transportation.

Educational Background:

B.S., Finance and Economics, (1968), American University
M.B.A., Finance (1972), American University

JANE E. M. HOLT

Director

Mrs. Holt joined the Consulting Center as Senior Policy and Financial analyst in April of 1977. To date she has been a key participant on contracts involving policy and financial analyses of the railroad and trucking industry, including the assessment of the railroad industry's future capital needs for the FRA.

As do other members of the firm, Mrs. Holt brings extensive experience in the field of transportation to the firm. Immediately prior to joining the firm, Mrs. Holt was employed by the United States Railway Association as a financial consultant. In that capacity, she participated in most of the major financial decisions involved in the creation of Conrail as well as in support activities such as developing the process by which the proforma financial statements would be generated, and evaluating the Conrail alternatives. In addition, she wrote the bulk of the Financial Analysis Chapter of the PSP and much of the Capital Structure and Financial Programs Chapter in the PSP.

Prior to this, Mrs. Holt was employed in the office of the Assistant Secretary for Policy at the DOT, where she conducted financial and policy analyses involving all modes of transportation and was awarded a Special Achievement Award and the Secretary's Award for Meritorious Achievement.

Educational Background:

B.A., General studies (1966)....Harvard University
M.B.A., Finance (1970)....Boston University
Executive Education Program....Harvard Business School

APPENDIX C

MILWAUKEE ROAD INDUSTRY TREND TONNAGE PROJECTIONS

COMMODITY	ORIGINATED/ RECEIVED	PROXY RELATIVE MARKET SHARE FACTORS: MILW. W.RAIL / W. RAIL U.S.RAIL	PROXY RELATIVE MARKET SHARE FACTORS: U.S.RAIL PROD.	1977 TOTAL	1981 TOTAL 1)	1986 TOTAL 2)	COMMODITY PRODUCTION INDEX 1967=100 4): 1977	1981	1986	PROJECTED MILWAUKEE ROAD TONNAGES: 1977	1981	1986
Grain	O	.062	.69	643.6	20.70	24.18	21.55			2995	3194	3319
	R	.007			2.44	2.73	2.43	144.7	132.1	353	361	374
Other Farm	O	.046	.777	323.6	11.47	8.77	7.59			1476	1106	1039
	R	.007			1.48	1.34	1.16	128.7	126.1	190	169	159
Coal 3)	O	.045	.264	3372.9	40.16	-	-			4940	-	-
	R	.038			33.41	-	-	123.0	141.2	4109	-	-
Non Metal	O	.038	.350	1226.4	16.32	14.17	12.72			1856	1777	1919
	R	.006			2.74	2.25	2.01	113.7	124.5	312	280	303
Grain Mill	O	.082	.619	234.5	11.90	9.85	8.50			1743	1520	1431
	R	.016			2.31	1.92	1.66	146.5	154.3	339	296	279
Beverages	O	.128	.746	93.0	8.72	9.07	9.19			1253	1507	1751
	R	.008			.51	.57	.57	143.7	166.1	74	95	109
Other Food	O	.053	.583	389.3	12.29	10.42	9.22			1584	1381	1304
	R	.023			5.21	4.52	4.00	128.9	132.5	672	599	566
Forest	O	.108	.352	565.1	21.40	20.17	19.09			2673	2642	3035
	R	.008			1.96	1.49	1.41	124.9	131.0	245	195	224
Other Lumber	O	.048	.725	214.6	6.97	6.41	5.86			1006	1021	1174
	R	.100			14.37	13.37	12.21	144.4	159.3	2075	2130	2447
Paper	O	.057	.415	85.7	2.03	1.91	1.82			275	280	309
	R	.090			3.18	3.02	2.87	135.2	146.6	430	443	487
Paper Boards	O	.195	.425	33.7	2.78	2.51	2.29			391	398	428
	R	.045			.64	.58	.53	140.9	158.5	90	92	99
Other Pulp	O	.077	.351	199.1	5.37	5.28	5.00			755	834	942
	R	.108			7.54	7.40	7.02	140.7	158.0	1061	1169	1323
Chemicals	O	.011	.560	642.4	3.86	3.81	3.78			626	707	869
	R	.050			18.13	17.30	17.16	162.3	185.5	2943	3209	3947
Construction	O	.031	.387	507.2	6.00	5.35	4.78			709	720	776
	R	.034			6.66	5.87	5.25	118.1	134.6	786	790	852
Prim. Metals	O	.062	.202	479.7	6.02	4.87	4.07			691	637	643
	R	.132			12.80	10.36	8.66	114.7	130.9	1468	1356	1367

February 26, 1979

MILWAUKEE ROAD INDUSTRY TREND TONNAGE PROJECTIONS (cont'd)

Trans Equip.	O	.127	.152	240.0	4.88	4.71	4.79				707	761	949
	R	.173			6.66	6.42	6.52	145.0	161.5	198.2	965	1037	1292
etal Waste	O	.137	.283	249.5	8.40	8.88	8.25				963	1162	1303
	R	.017			1.07	1.10	1.02	114.7	130.9	157.9	123	144	161
Other Waste	O	.080	.295	63.3	1.41	1.37	1.21				196	210	216
	R	.075			1.32	1.29	1.14	138.6	153.2	178.9	183	198	204
All Other	O	.015	.590	1394.4	13.19	10.54	9.42				1678	1553	1673
	R	.011			9.40	7.73	6.91	133.7	147.3	177.6	1257	1139	1227
								Total (ex coal) Tons			35145	35112	38500
								AAGR %				(.02)	1.02
								Total (inc. BA coal) Tons			44194		50549
								AAGR %					1.50

1) 1981 Regional and industry forecasted commodity market share factors were incorporated at the average annual growth (decline) rates for the historic period, 1966 to 1977.

2) 1986 regional and industry forecasted commodity market share factors are developed by assuming a positive impact to deregulation whereas the growth (decline) share factors are applied at 50% of their historic levels beginning in 1982.

3) Coal market share factors were not developed as Booz's shipper survey results were deemed more appropriate.

4) Commodity production growth indexes based on Chase Econometrics, Standard Forecast of December, 1978.

February 26, 1979

APPENDIX D

CALCULATION OF NET EFFECTS OF ADDITIONAL EQUIPMENT REQUIREMENTS ON NET INCOME

		Year 1	Year 5
L-1	Beginning Fleet Size	24269 (1)	
L-3	Fleet Req. of Eastern Core	17000 (2)	
L-4	Net Equip. available to SORE	7269	
L-5	Residual Fleet after Ret.	7004 (3)	5172 (3)
L-7	SORE carloadings/day excl. TTX	515 (4)	667 (11)
L-8	SORE System Ldgs/day	334 (4)	487
9	Foreign Car Ldgs/day	180 (4)	180 (4)
L-10	On-line days	16 (4)	7 (4)
L-11	Off-line days	9 (4)	9 (4)
L-13	SORE Proj. Bad Order Ratio	6% (4)	6% (4)
L-14	Service Reserve Ratio	10% (5)	10% (5)
L-16	Required Fleet	9765 (6)	9085 (6)
L-18	Required Additions	2761	3913
L-20	Cost Per Unit (1977 $)	35349 (7)	
22	Capital Cost of Additional Cars ($ millions) net of SORE's planned Purchase of 3650	$97.6 (8)	$9.3 (9)
L-26	Effect of Addt'l Reg (by year ($millions)	$12.2 (10)	$1.4 (10)

SOURCE

(1) Booz Allen analysis which netted out useless equipment and trailer train equipment reported in R-1 Reports. SORE staff accepted this estimate as responsible and the one to use.
(2) Booz Allen analysis for subcore not including Miles City link.
(3) Apply 1977 REtirement ratio of .073 to base fleet. Use ½ of this factor in first year then full rate thereafter.
(4) Factors developed by SORE
(5) Factors subsequently acknowledged by SORE staff as required.
(6) Determined by L8 x (L10 + L11) x 1.06 x 101
(7) Derived by adjusting SORE's box car est. of avg. unit costs of $38,000 (1978 $) ⊢ Chase Econometrics equipment Infl rate.
(8) SORE only planned to acquire addt'l equip in yrs 2 & 3 (1730 & 1927). Therefor the net effect of addit'l equip will be felt in at least years 1 and 5.
(9) Determined by L5 + 3650 (SORE's additions) less L 16
(10) Derived by assuming annual cost of a 15 yr lease at 12% int rate with 15% sa value credited in determing lease.
(11) Derived by using new revenue projections & SORE's year 5 yield factor