Rail Freight Transportation and Regional Economy: A Case Study of Northwest Indiana

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ABSTRACT

An understanding of the role of transportation improvements in economic revitalization of a region requires examination of the relationship between rail freight transportation and the local economy. A case study using northwest Indiana is being performed to determine the dependence of the region on rail. A brief summary of the rail network, railroad operations, and the commodity flow by rail in northwest Indiana is presented. The impact of rail on three potential long-range scenarios for economic development in northwest Indiana is also discussed along with the conclusions that can be reached on the basis of the present study.

A multimodal freight transportation study is being conducted at Purdue University to identify improvements in transportation and related strategies that can assist in the economic revitalization of a major industrial region. The northwestern Indiana region including Lake and Porter counties is the area studied in this project. It is situated at the south end of Lake Michigan and is physically and economically part of the greater Chicago metropolitan area.

An essential part of a regional freight transportation analysis is determining the role of railroads in providing transportation services to the local economy. To achieve this purpose in northwest Indiana, an inventory of the rail network, an analysis of railroad operations, and an assessment of commodity flows by rail was performed. A brief summary of this work is presented in this paper.

RAIL SYSTEMS

Ten railroads and the National Railroad Passenger Corporation (Amtrak) operate in Lake and Porter counties. Railroad operations and the rail network in this region can be divided into two segments: mainline and terminal. Mainline operations involve through trains on the Class 1 railroads passing through northwest Indiana en route to and from Chicago. Terminal operations focus on the service provided to the local industry. Almost 100 percent of the terminal operations are performed by the Indiana Harbor Belt; Elgin, Joliet and Eastern; and the Baltimore and Ohio Chicago Terminal.

The major thrust of rail development in this region was to reach and serve Chicago; therefore, few terminal facilities developed in Lake and Porter counties in Indiana. Instead, the terminal and yard facilities developed closer to Chicago in Illinois. As a result rail freight tends to travel through northwest Indiana without stopping. Even freight destined for the region usually travels into Illinois to a major yard and is returned to Indiana on a local or transfer run.

CHARACTERISTICS OF CORRIDOR SERVICE

An analysis of traffic capacity and existing traffic density indicates that the rail facilities in the region are not fully used at present and that many of the corridors have capacity far in excess of service volume. Furthermore, only about half of the corridors have a traffic density of 15 or more million gross tons per year (1). The capacity of some of the mainline segments, however, can be as high as 80 to 120 trains per day.

Few lines have traffic densities that approach half of the route capacity. This excess capacity makes it possible to consolidate lines and reroute traffic with little or no expansion of facilities. In addition, projections do not indicate that capacity will ever become a constraint. Despite the inevitable end to the current recession and associated reduction in traffic, the general economic decline of the northeastern part of the United States implies that most of the eastward rail lines will not experience traffic significantly above current levels.

Because of the current excess capacity and no expectation of major increases in traffic, several rail lines through the northwest Indiana region may be candidates for plant reduction. Most of the lines through the region are double track even though in many places traffic levels no longer justify a second main track. Double track lines, however, may be advisable in some urban areas so trains can pass and meet without stopping. This reduces the problem of blocking public road crossings and also reduces the opportunity of theft from trains.

TERMINAL FACILITIES

The terminal infrastructure in northwest Indiana evolved at the turn of the century around the steel industry when rail was the dominant mode of transport. An intertwining maze of tracks was built throughout Gary, Hammond, East Chicago, and Whiting. Many of the larger companies are served by more than one railroad. Local industry is primarily served by the Indiana Harbor Belt; the Elgin, Joliet and Eastern; and the Baltimore and Ohio Chicago Terminal. Figure 1 shows a map of the terminal network in northwest Indiana, which is actually an extension of the Chicago terminal network. The yards and terminal facilities in the region are used primarily to service local industry. The classification of cars and most interchanges with other railroads occur in Chicago.

Although northwest Indiana was once considered a busy rail terminal, it is presently overbuilt and underutilized. Railroads are no longer the primary mover of goods, and improved technology and greater efficiency of the railroads have decreased the need for yards and associated facilities.

RAIL OPERATIONS IN THE REGION

As part of the study, representatives from all three

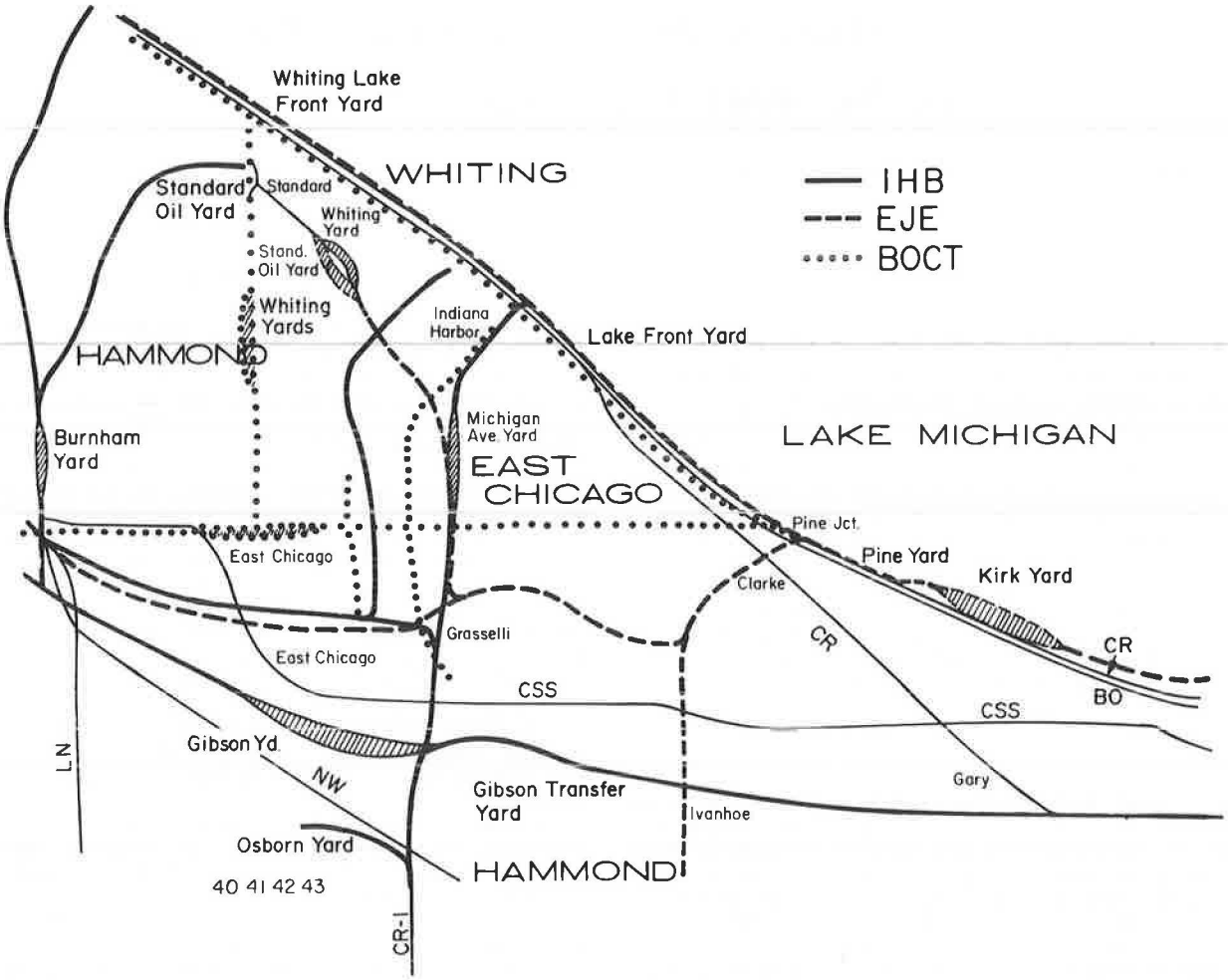

FIGURE 1 Northwest Indiana terminal rail network.

terminal railroads operating in the region were interviewed about their railroad's northwest Indiana operations. The following is a synopsis of the responses received.

The Indiana Harbor Belt (IHB) is a Class 1 terminal and switching railroad serving the Chicago and northwest Indiana region. The IHB is 51 percent owned by the Consolidated Rail Corporation (Conrail) and provides Chicago terminal operations for that railroad. The IHB also provides an interchange between all the railroads serving the Chicago area. The IHB operates more than 30 miles of running track and serves 25 industries in northwest Indiana.

Five yards are located in northwest Indiana on the IHB: Gibson, Burnham, Michigan Avenue, Whiting, and Lakefront. All industries in northwest Indiana are serviced out of one of these yards. Currently, engine crews only work out of the Burnham and Michigan Avenue yards. Each morning a train from the railroad's main yard in Chicago delivers cars to the Burnham and Michigan Avenue yards to be switched in the area. Local crews perform all industrial switching. In the evening a train departs from Burnham and Michigan Avenue to return to the main yard. Hence, nearly all cars originating or destined for northwest Indiana pass through Chicago. Conrail through freight trains on IHB tracks do not stop to perform switching.

Operations on the Baltimore and Ohio Chicago Terminal (BOCT) are similar to those on the IHB. All Chessie System trains enter Chicago from the East over the BOCT. However, these trains do not stop to pick up or drop off traffic.

The Elgin, Joliet and Eastern (EJE) is a Class 1 common carrier subsidiary of the United States Steel Corporation. The railroad provides in-plant switching at the various U.S. Steel plants in the Chicago area including the mill at Gary. The EJE also comprises an outer belt line around the Chicago suburban area beginning at Gary and running through Griffith to Joliet and then north and east to Waukegan. The railroad has several branch and industrial lines in northwest Indiana to serve local industry.

Approximately 65 to 70 percent of EJE traffic is steel related--either inbound raw materials or outbound steel products. Most of this traffic runs to and from the U.S. Steel mill at Gary and is interchanged to other railroads around the city. Because of its position as a belt railroad with a number of industries located on the route, almost all EJE traffic is interline movements.

Kirk yard in Gary is the EJE's main yard facility in northwest Indiana. The yard has a hump with 58 tracks in the bowl. The capacity of tracks in the bowl varies from 20 to 80 cars. There are seven inbound/outbound tracks on the north side of the yard and 14 on the south side. Each of these tracks is capable of holding 70 cars. Currently the tracks on the south side are being used for storage. When operating at capacity, between 40 and 50 cars an hour can be humped at Kirk yard.

A total of 105 firms were identified as having direct rail access in northwest Indiana. However, only 54 indicated they were active shippers by rail. Of these, 19 were served directly by more than one of the terminal railroads. These firms were also the larger shippers. Little interchange of traffic occurs among the terminal railroads in northwest Indiana. With the exception of unit coal trains, little traffic is interchanged by any of the railroads in northwest Indiana.

Consolidation of yards, tracks, and facilities of the terminal railroads could reduce excess capacity and duplication of operations without reducing service. The cost savings of a more efficient terminal operation could be passed on in rates charged to shippers. Such an effect would make rail a more attractive mode in northwest Indiana.

COMMODITY FLOWS IN THE SEVEN-COUNTY REGION

Data were obtained from Reebie and Associates (2) on commodity flow by rail to and from the northwest Indiana region comprised of Lake, Porter, LaPorte, Starke, Pulaski, Jasper, and Newton counties. The data were based on 1980 movements and provide a broad overview of the importance of rail freight transportation in the region. The Reebie data also give origin and destination information by mode for 26 major business economic areas (BEAs). Lake and Porter counties have the most industry and the largest employment (almost 83 percent of the 1980 total) in the seven-county region.

Table 1 (2) gives the tons inbound and outbound for each commodity type by rail and the combined total tons inbound and outbound by commodity type. Because this paper focuses on the effect of railroads, tonnage for the other modes is excluded. Table 1 also gives the percentage that rail tons comprise of the total tons shipped inbound, outbound, and combined for each commodity.

Figure 2 shows the major corridors for goods shipped by rail to and from the seven-county region. The eastern and midwestern states are the primary trading partners with the seven-county region. The primary product moved on most of the major corridors is coal.

The Reebie data (2) indicate that for the seven-county region, 13 million tons were moved inbound by rail. This is 71 percent of the total inbound tons coming into the seven-county region. Rail also carried more than 8 million outbound tons, which is 27 percent of the total outbound tons. Hence, rail was responsible for the movement of more than 21 million tons or 43.6 percent of the total tons destined for or originated in the seven-county region.

The Reebie data showed that certain commodities were highly dependent on rail for their movement to and from northwest Indiana. Farm products, metallic ores, coal, nonmetallic minerals, waste or scrap materials, and containers were all identified as moving more than 90 percent of their tons by rail. The inbound movement of primary metal products and petroleum or coal products was 87 and 58 percent by rail, respectively. The outbound movement of chemicals or allied products and primary metal products was 56 and 32 percent by rail.

The high percentage of inbound tons by rail to the seven-county region is primarily a result of rail's superior ability to move low value, bulky materials (especially coal) efficiently and effectively. Coal comprises nearly 50 percent of all inbound tons and more than 62 percent of all inbound rail tons. More than 91 percent of the coal is moved by rail.

Because of the manufacturing nature of the region, a large percentage of outbound tons are finished products. Because finished products have a higher value and low-cost transport is not as essential, rail has a decreased importance in the movement of the goods. Primary metals account for the largest percentage of tons shipped outbound and are followed by farm products.

The corridors between northwest Indiana and Pittsburgh, Philadelphia, Baltimore, Johnson City, Charleston, Champaign, Duluth, and Cheyenne were all identified as shipping more than 80 percent of their tons by rail. It is not surprising that the Reebie data also identified four of these cities as being originators of coal to the region. Except for Duluth and Cheyenne, these cities are directly accessible by the railroads serving northwest Indiana. The corridors moving the highest percentage of rail tons to and from the region are Johnson City, Detroit,

TABLE 1 Percentage of Rail Tons to Total Tons by STCC, 1980 Seven-County Region Data *(2)*

STCC[a]	Tons Inbound (10^5)	Rail Tons Inbound (10^5)	Percentage of STCC	Tons Outbound (10^5)	Rail Tons Outbound (10^5)	Percentage of STCC	Total Tons (10^5)	Rail Total Tons (10^5)	Percentage of STCC
01	0.0010	-	0.0	12.19	11.79	96.7	12.2	11.3	96.69
10	4.20	4.20	99.9	0.54	0.05	9.7	4.7	4.3	89.75
11	89.85	82.08	91.4	-	-	-	89.9	82.0	91.7
14	0.36	3.55	100.0	1.34	1.34	100.0	1.7	1.7	99.9
20	7.60	3.03	39.9	9.15	1.79	19.6	16.7	4.8	28.8
22	0.19	-	-	0.25	0.04	18.1	0.4	0.04	10.26
24	1.89	0.71	37.8	0.32	-	-	0.2	0.7	32.3
25	0.20	0.06	30.3	0.22	0.02	10.4	0.4	0.08	19.7
26	2.87	0.07	24.4	2.51	0.73	29.0	5.0	1.4	26.56
28	9.28	1.43	15.0	5.37	3.02	56.0	14.6	4.4	30.41
29	18.97	11.03	58.1	45.12	5.27	11.7	64.1	16.3	25.42
30	0.43	0.07	1.6	0.25	0.07	26.9	0.7	0.07	11.04
32	16.72	2.66	16.0	58.98	1.84	3.1	75.7	4.5	5.95
33	25.96	22.52	86.7	146.58	47.57	32.45	172.5	70.1	40.62
34	1.56	0.07	4.8	9.23	0.12	1.4	10.8	0.2	1.86
35	0.95	-	-	1.09	0.05	4.3	2.0	0.05	2.33
36	0.39	0.04	10.4	0.08	-	-	0.5	0.04	8.52
37	1.30	0.02	1.7	2.13	1.72	81.1	3.4	1.7	51.01
40	1.97	1.85	93.9	5.95	5.80	97.36	7.9	7.7	96.49
41	0.33	-	-	0.02	0.02	100.0	0.3	0.02	6.01
42	-	-	-	0.03	0.03	100.0	0.03	0.03	100.0
46	0.03	-	-	0.04	0.04	100.0	0.07	0.04	63.4
Total	185.01	130.77	71.0	301.47	81.33	27.0	486.4	212.10	43.6

[a]Standard transportation commodity code.

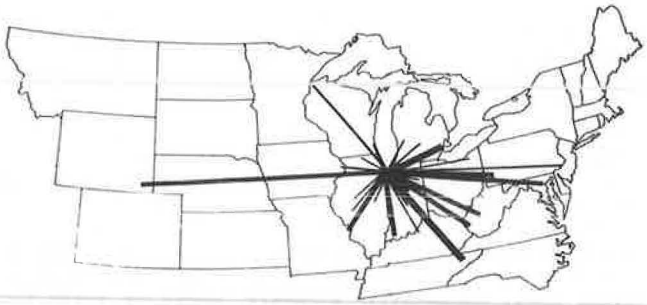

FIGURE 2 Commodity flows by rail.

St. Louis, Champaign, and Cheyenne. Coal or primary metal products comprise a large percentage of tons on these corridors.

The Reebie data (2) did not include most intermodal freight movements, nor does the shipment information include most agricultural products. Also, because the seven-county region is a part of the Chicago BEA, no interchange between the region and the Chicago area was included. It should also be noted that the freight carried by the steel companies by water was not included in the Reebie data. Consequently, the Reebie data would present much lower freight movement volumes than were actually carried.

COMMODITY FLOWS IN LAKE AND PORTER COUNTIES

To get more direct information about the characteristics of freight transportation in the primary study area (Lake and Porter counties), the study team conducted a detailed survey of freight generators in the area in 1981-1982 (3). The 13 largest employers with 1,000 or more employees were contacted along with another 232 randomly selected generators of freight in the region. Completed questionnaires were received from the 10 largest employers and from 55 other employers. The respondents were requested to identify the commodity type, quantity, mode, value, and origin (for incoming flow) and destination (for outbound flow) for each shipment. Commodities were identified by the two-digit standard transportation commodity code (STCC).

The sample data were adjusted by appropriate factors based on the average productivity (tons of commodity per employee) for the sample by the number of employees in the population for a given commodity type (3). It was assumed that the average productivity of each employee from the usable responses in a commodity category is the same as that in the population. Carrying out these adjustments for a representative sample on a commodity-by-commodity basis minimizes the inaccuracies inherent in such a computation.

Table 2 (3) gives the tons shipped by commodity type and the rail tons shipped by commodity type for Lake and Porter counties. Data are given for both inbound and outbound movements along with the aggregated results. Rail accounted for 30 percent of the inbound tons, 15 percent of the outbound tons, and 25 percent of the total tons shipped to and from the two-county region. Unlike the Reebie data, the freight data in this survey included the movement of goods within the region. When the intraregional movement is considered, the percentage of rail tonnage is greatly reduced. Nevertheless, the relative significance of the inbound rail traffic over the outbound traffic is still reflected in the two-county survey data.

An analysis of the two-county survey data indicated that the inbound traffic was dominated by metallic ores, coal, and primary metal products. Together, these three commodities accounted for 75.5

TABLE 2 Percentage of Rail Tons to Total Tons by STCC, 1981 Lake and Porter County Data *(3)*

STCC[a]	Tons Inbound (10^5)	Rail Tons Inbound (10^5)	Percentage of STCC	Tons Outbound (10^5)	Rail Tons Outbound (10^5)	Percentage of STCC	Total Tons (10^5)	Rail Total Tons (10^5)	Percentage of STCC
01	4.24	0.20	4.75	-	-	-	4.24	0.20	4.75
08	0.009	-	-	0.08	-	-	0.09	-	-
10	135.27	9.34	6.91	-	-	-	135.27	9.34	6.91
11	143.06	142.30	99.47	-	-	-	143.06	142.30	99.47
13	179.77	-	0.0	-	-	-	179.77	-	-
14	9.16	0.09	0.98	0.40	-	-	9.55	0.009	0.09
20	2.34	2.29	97.56	5.28	4.01	75.96	7.62	6.30	82.59
21	1.32	-	0.0	-	-	-	1.33	-	-
22	0.34	-	0.0	-	-	-	0.34	-	-
23	-	-	0.0	0.32	-	-	0.32	-	-
24	0.20	0.15	75.12	0.22	-	-	0.41	0.15	36.0
25	0.0	-	0.0	-	-	-	0.0	-	-
26	0.002	-	-	0.14	0.14	100.0	0.16	0.14	93.53
27	0.0	-	-	-	-	-	0.0	-	-
28	4.97	1.92	38.56	6.86	1.73	25.27	11.8	3.64	30.85
29	53.25	0.49	0.93	179.68	2.82	1.57	232.93	3.31	1.42
30	0.0	-	-	0.010	-	-	0.01	-	-
32	20.43	0.61	2.98	7.56	4.70	62.22	27.98	5.31	18.98
33	20.32	15.59	76.71	104.67	28.54	27.32	124.99	44.18	35.35
34	2.54	-	-	1.58	0.84	52.75	4.13	0.84	20.27
35	0.21	-	-	0.43	-	-	0.63	-	-
36	0.04	-	-	0.09	-	-	0.13	-	-
37	0.0	-	-	0.89	0.89	100.0	0.89	0.89	99.81
39	0.59	0.53	90.24	0.07	-	-	0.66	0.53	80.25
40	8.43	4.85	57.49	2.80	2.71	97.05	11.22	7.55	67.35
41	0.02	-	-	0.0	0.0	0.669	0.02	0.0	0.08
42	0.18	0.16	84.66	0.02	0.02	76.94	0.20	0.17	83.73
46	0.0	-	-	1.71	0.005	0.32	1.71	0.005	0.32
47	0.0	-	-	0.01	-	-	0.01	-	-
49	0.0	-	-	0.0	-	-	0.0	-	-
Total	586.68	178.42	30.46	312.83	46.48	14.86	899.51	224.89	25.0

[a]Standard transportation commodity code.

percent of all the incoming tons. However, coal was the major commodity shipped by rail and had an 80 percent share of all inbound rail tonnage.

Outbound traffic was dominated by primary metal products and petroleum products with 34 percent and 57 percent, respectively. Primary metal products accounted for 61 percent of the outbound rail traffic whereas petroleum products comprised only 6 percent. Clay, concrete, glass, and stone products was the second largest commodity type shipped by rail with 10.5 percent of the outbound traffic followed by food products at 9 percent and waste or scrap materials at 6 percent.

The combined inbound and outbound statistics indicated that at 26 percent, petroleum products represented the highest percentage of total tons shipped but comprised only 1.5 percent of the total rail tons. Crude petroleum was the second largest shipment at 20 percent followed by coal at 16 percent, metallic ores at 15 percent, and primary metal products at 14 percent. However, coal dominated the total rail tons with a 63 percent share. Primary metal products accounted for nearly 20 percent of all rail tons followed by fabricated metals and waste or scrap materials at 4 and 3 percent, respectively.

The two-county survey data indicated that the majority of the inbound freight shipments to Lake and Porter counties come from nine states: Colorado, Illinois, Kentucky, Michigan, Pennsylvania, Virginia, West Virginia, Wisconsin, and Wyoming. Most of these states are large coal producers, providing the resources required for the production of electricity and the manufacturing of steel.

Outbound shipments by rail traveled to nearly every state in the continental United States. However, Alabama, Illinois, Indiana, Michigan, Pennsylvania, Tennessee, and Wisconsin received a higher percentage of shipments than the other states. The data also showed that Chicago received 4.6 percent of all outbound shipments and that 10.8 percent remained within the two-county region.

When the inbound and outbound tons moving between the two-county region and the other states were combined, nine states were identified as being the most interactive with the region. These states and the percentage of total tons shipped by rail to and from them are Colorado (3.8), Illinois (13.9), Kentucky (3.95), Michigan (4.25), Pennsylvania (10.78), Virginia (5.2), West Virginia (3.68), Wisconsin (5.42), and Wyoming (18.2). Again the major coal producing states are represented highly in this group.

The use of the two-digit STCC does not permit specific identification of the product shipped. Some firms responded to the survey form simply by guess or estimation or using one commodity code to represent one or more STCC numbers for convenience. Because the analysis was sensitive to the weight of each commodity type recorded, a comparison using this value for each STCC may be biased. Also, data were not obtained from one of the major employers in the area.

SURVEY OF RAIL-DEPENDENT ESTABLISHMENTS

To obtain a better understanding of rail terminal operations in northwest Indiana, a survey was conducted among those firms that had direct access to rail. The rail dependence survey was limited to Whiting, East Chicago, Hammond, Gary, Griffith, and Burns Harbor. The companies contacted were asked to provide information on the number of carloads shipped or received in the past year by commodity type, the railroad they were served by, and plant employment. The amount shipped was requested in carloads instead of tons because those figures are usually more easily available. An estimate of the number of tons shipped was made by using an average conversion factor given elsewhere (4). Using carloads as a measure can be beneficial because railroad operations are often measured in terms of cars handled and trains moved.

Although 105 firms were identified as having direct access to rail, a number of these firms indicated that they no longer use rail in their distribution systems. These firms along with those companies that reported five or less carloads shipped or received per year were removed from the data base. A total of 57 firms were used in the railroad analysis.

Table 3 (3) gives the results of the survey. Only 10 different commodity codes are identified because they comprised the majority of the reported carloads. The remaining commodities are recorded as "other." In all, 16 different commodity codes were reported. Table 3 also gives the ratio of each commodity code to the total amount shipped as well as information on the number of firms reporting under each STCC and their employment.

The results of the rail dependence survey are easily interpreted and fairly predictable. Coal dominates the rail carload traffic followed by primary metal products and then metallic ores. Petroleum products account for only a small percentage of the rail carload traffic.

Coal (STCC 11) is the predominant commodity shipped by rail to the region. The importance of coal to both the regional economy and the railroads cannot be underestimated. The inbound movement of coal represents nearly 80 percent of all inbound rail tons and 90 percent of all inbound rail ton miles in the

TABLE 3 Rail Dependence Survey, 1982 Data *(3)*

STCC[a]	Number of Firms	Employment	Total Carloads Received or Shipped	Percentage of Total Carloads	Estimated Tonnage	Tons per Carload
10	4	-	13,979	3.4	1,118,320	80
11	4	-	182,000	44.3	18,200,000	100
24	3	115	228	0.06	12,312	54
28	6	700	2,683	0.65	179,761	67
29	2	2,250	7,890	1.9	444,840	56
32	4	475	12,512	3.0	750,720	60
33	17	63,275	152,254	37.1	9,744,256	64
34	5	565	4,772	1.16	305,408	34
37	4	1,840	7,269	1.77	NA	NA
40	3	-	11,380	2.8	508,380	51
Other	12	1,865	15,734	3.8	944,040	60

[a]Standard transportation commodity code.

two-county survey. Even though there are no outbound movements of coal from the region, coal still comprises 63 percent of all rail tons and 76 percent of all rail ton miles.

Because coal is a low-value, bulky commodity mined from inland sources, rail and water are the only practical modes currently available for its transport. Nearly 100 percent of the coal destined for northwest Indiana moves by rail.

The major coal users in northwest Indiana are the electric utilities and the steel producers. Both Commonwealth Edison and Northern Indiana Public Service Commission have large coal-fired generating plants. Bethlehem Steel, Inland Steel, Jones and Laughlin Steel, and U.S. Steel operate coke ovens; and Marblehead Lime Company uses coal in its production process.

Coal is delivered to northwest Indiana primarily by unit train. Three railroads, the IHB, the EJE, and the Chicago South Shore and South Bend deliver most of the coal to the industries in the region. However, all three of these railroads are essentially terminal railroads. Coal arriving in northwest Indiana must be transferred from a line-haul railroad to one of the previously mentioned railroads for delivery to the plant. This transaction is both time consuming and costly.

Most of the coal used in the production of steel comes from sources served by railroads operating in the region. The terminal cost of transferring railroads adds to the delivery cost of coal to the mills. It would, therefore, appear reasonable to assume that if the line-haul railroads could make direct delivery, the savings could be passed on to the steel companies.

Primary metal products (STCC 33) is clearly the second highest shipped commodity by rail. STCC 33 comprises 62 percent of all outbound rail tons and 20 percent of total tons. Almost 9 percent of all inbound rail tons is also classified as STCC 33. Maintaining an effective and reliable rail system to transport the region's primary manufactured product is important.

In northwest Indiana, 17 companies were identified that ship primary metal products by rail. The railroad survey found that in 1982 these 17 companies had a total employment of 65,631 and shipped a total of 108,697 cars in and out of the region. The steel manufacturers in northwest Indiana, however, dominate both the employment and the carloads of STCC 33. The seven steel companies in the region have a total employment of 63,200 and shipped or received about 106,500 carloads in 1981. The five largest manufacturers of steel are Inland Steel, Jones and Laughlin Steel, U.S. Steel, Bethlehem Steel, and Midwest Steel. Together, these five firms account for 62,000 employees and 105,973 carloads.

The total employment and the carloadings of the twelve other firms is inconsequential when compared with the five largest steel mills. The survey shows that of the firms using rail service in northwest Indiana, 89 percent of the employment is associated with primary metal products. Also, the railroad survey indicates that STCC 33 comprises 34 percent of all carloads shipped and received in the region. If shipments of coal, metallic ores, and waste or scrap materials are considered, the total carloads associated with the steel industry in northwest Indiana is 70 percent of all carloads.

The continued production of primary metal products and a viable rail network to handle the shipments are essential to the economy of northwest Indiana. The tons originated by rail in the region represent a high percentage of revenue to the railroads. The market for primary metal products produced in the region appears to be in the Midwest for those shipments moving by rail. The rail transit time and the level of service provided may be detrimental for markets northwest and west of Chicago where the railroads in northwest Indiana do not operate.

REGIONAL ECONOMIC DEVELOPMENT SCENARIOS AND THE ROLE OF RAIL TRANSPORTATION

Three potential long-range scenarios for economic development in northwest Indiana have been developed by the study team (3). A brief synopsis of the scenarios and their impact on rail are presented in the paragraphs that follow.

Scenario one is steel and allied industry reindustrialization. This scenario emphasizes the reconstruction of existing old-line manufacturing industries. Because the rail network was originally developed to serve these industries, the railroads are well equipped to accommodate any new growth that might occur. The superintendent of one of the terminal railroads indicated to the study team that even if the steel manufacturers returned to peak production, his railroad would still have excess capacity and there would be little change in their operation.

The second scenario is steel reindustrialization and new enterprise vitalization. This scenario focuses on a decline in heavy industries and relies on the development of high technology and service industries. If this scenario were to occur, the need for direct rail service would be further diminished. This would result in more excess capacity in the region and possibly poorer service to the remaining companies. High switching rates can be anticipated as the railroads attempt to cover their costs from smaller traffic levels. However, use of trailers on flat car (TOFC) and containers on flat car (COFC) may increase. All the Class 1 railroads have extensive TOFC and COFC facilities within 20 or 30 miles of northwest Indiana in Chicago and are accessible by the freeways.

The third scenario is steel industry repositioning and regional economy diversification. This scenario assumes that the steel industry will redevelop as a smaller but more efficient and more competitive industry. Alongside steel industry repositioning would be the diversification of allied and high technology industries. The effect on railroads in this scenario would be similar to that of scenario two. Railroads would still deliver bulk commodities such as coal but would experience a decrease in other carload shipments. Because delivery by unit trains does not require extensive yard or terminal facilities, an overbuilt rail infrastructure would still exist and rates might increase to cover operating costs.

CONCLUSIONS

The rail operation in northwest Indiana is a satellite system to Chicago. A number of conclusions can be reached about such a system on the basis of the present study.

Mainline consolidations are possible and would relieve safety and grade crossing problems in the local communities. Consolidation, however, is at the discretion of the operating railroads. Consolidation on a small scale has already occurred in northwest Indiana with the mergers in the last several years and Conrail's efforts to divest itself of excess trackage. The CSX corporation has also reported that it is studying the feasibility of consolidating more of its operations in the Chicago area.

Consolidation of the terminal yards, tracks, and facilities could reduce operating costs and release capital investments without a loss or decline of service to the local industries. An added benefit would be the availability of valuable real estate. Since the enactment of the Staggers Act, which permits greater freedom in rate making, the terminal railroads have increased their rates in an attempt to cover the operating costs. Consolidation could lower costs, which would make rail a more attractive shipping mode if the savings were passed on to the shipper. However, political incentive and local pressure would probably be needed to make such a consolidation feasible.

Transit time is increased for cars moving in and out of the region because northwest Indiana is a satellite operation to the Chicago terminal. Classification occurs at the main yard of the terminal railroads in Chicago. Transit time is also increased by the need to interchange between the terminal railroads and the Class 1 carriers. Transit time and possibly costs could be reduced for movements on eastbound railroads (Class 1) if direct deliveries or pickups were made in northwest Indiana. However, an incentive such as a significant traffic base at a centralized location would probably be needed to induce the railroads to make stops in the region. A consolidated or coordinated terminal system in the region might be the sufficient incentive required. On the other hand, operating agreements between the Class 1 and terminal railroads for unit coal trains should reduce both transit time and cost without consolidation.

A continued decline of heavy manufacturing industries in northwest Indiana will further erode the traffic base of the terminal railroads resulting in even greater excess capacity. The result could be an increase in rates and a decline in service. A domino effect could occur resulting in even fewer carloads shipped by rail.

Even with direct rail access, a number of companies do not use the service. The literature contains a variety of reasons for mode choice, but it is well known that rail is not the primary mover of goods that it once was. Rail shipments tend to be of low value or bulky.

Economic growth in northwest Indiana is dependent on fast, reliable, and cost-effective transportation. Recent mergers of railroads serving northwest Indiana have opened up new markets for goods produced in the region. The efficiency of the terminal operations could be the key to the ability of the region to capitalize on these new opportunities.

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