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The State Core Rail System: Impacts on Grain Marketing

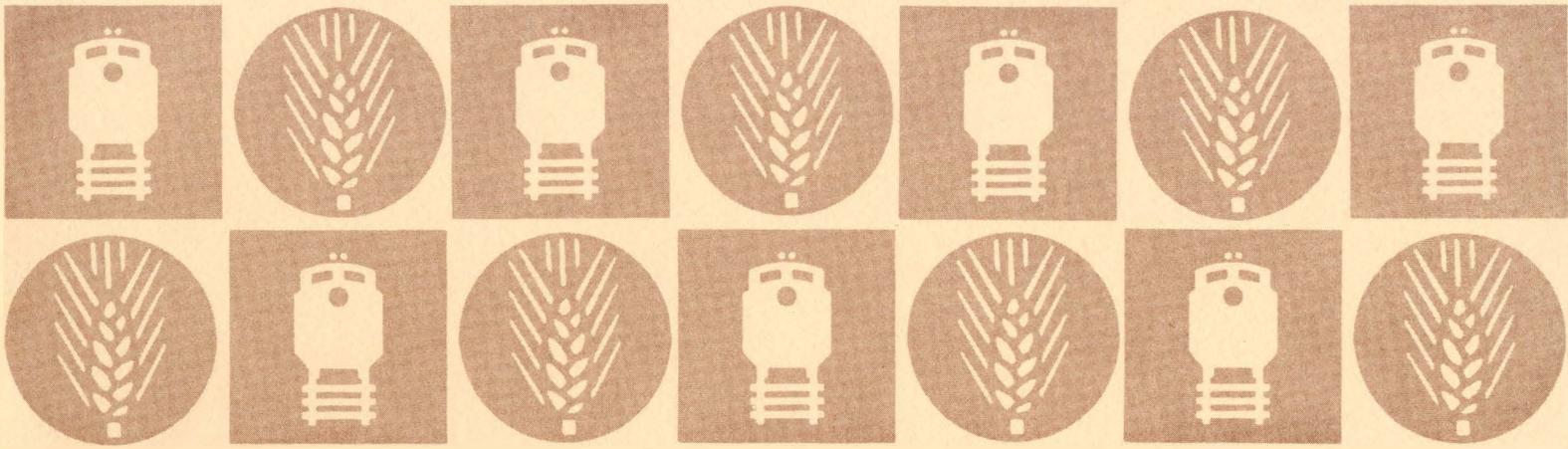
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The State Core Rail System: Impacts on Grain Marketing

Agricultural Experiment Station • South Dakota State University • Brookings, South Dakota 57007



The State Core Rail System: Impacts on Grain Marketing

by

Charles E. Lamberton

SUMMARY

Introduction of unit train rail service on state owned lines in southeastern South Dakota has had an impact on grain marketing from the region.

Significantly greater quantities of corn and soybeans were shipped to more distant destinations in 1983. Unit train service gave South Dakota shippers both an access to multiple marketing outlets and the advantage of intermarket price differences.

A rough estimate of the direct benefits to corn producers and shippers in 1983 is \$.11 to \$.28 per bushel on the 61 million bushels produced in the region.

This estimate of \$7 to \$17 million does not include benefits to producers of other commodities -- soybeans, oats, and wheat -- which also were shipped by unit train movement to new markets. It also excludes benefits to shippers of non-agricultural commodities, additional income generated in the region through multiplier effects, and the net effect on trucking firms in the region of making fewer long hauls and more short hauls.

This report summarizes 1983 grain movement information collected by a mail survey questionnaire sent to the 122 elevators in the region. These are firms in the grain merchandising business; firms exclusively in the seed or feed manufacturing business have been excluded.

The data represent all of the grain shippers in the region. Some estimates have been made by extrapolation when information was not received from all shippers.

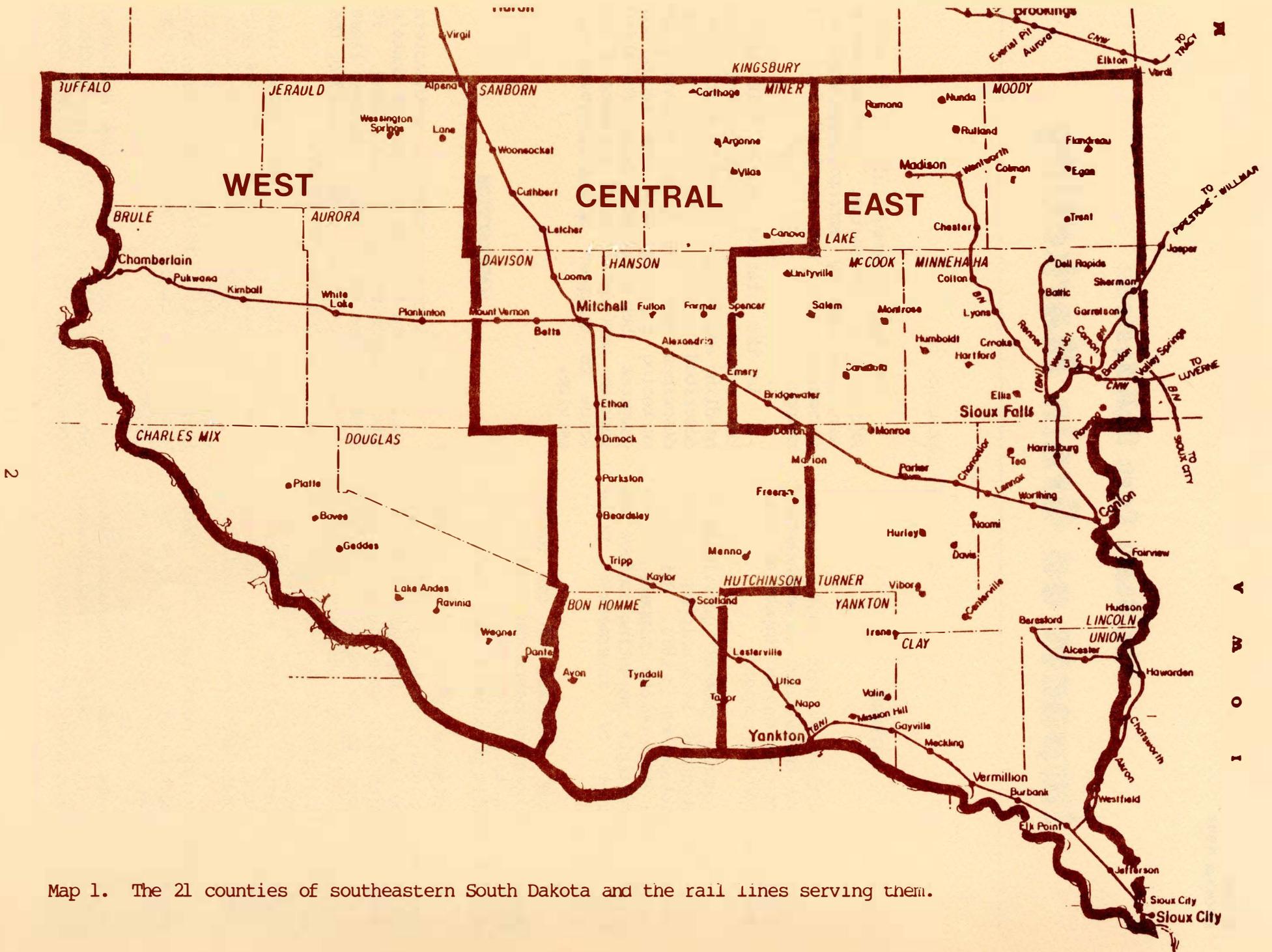
In the first section of this report the region's crop production and grain handling and transportation facilities are described briefly. The second section describes the 1983 grain shipments and marketing patterns from the region and compares them with 1981 data. The third section provides a rough estimate of the value to shippers of the improved rail service.

INTRODUCTION

The 21-county region of southeastern South Dakota includes much of the state's most productive agricultural land. It also includes the principal railroad lines purchased by the state and operated by the Burlington Northern since 1981.

From 1981 through 1983 these lines were rehabilitated and service was restored and improved. All lines in the region can now carry fully loaded unit trains except the Mitchell to Chamberlain branchline which is restricted to 70-ton hopper cars.

The 21-county region has a diverse level and nature of crop production. Consequently, it was divided into three



Map 1. The 21 counties of southeastern South Dakota and the rail lines serving them.

areas -- east, central, and west -- as shown on Map 1. The map also shows the rail system serving the region.

Crop Production

The region produced 80% of the soybeans and 59% of the corn grown in the state in 1983. It also produced nearly one half (47%) of the sorghum and one third (31%) of the oats. Minor shares of barley, sunflowers, and wheat are grown in the region.

Production varies across the region from east to west. As shown in Table I, the nine eastern counties produced 82% of the soybeans and 57% of corn grown in the

region in 1983 while contributing only 24 and 5% of the region's oats and sorghum respectively.

The six central counties are a transition area producing a significant, but not a majority share, of each of the commodities grown in the entire region. The shares of the central area are oats, 37%; corn, 27%; sorghum, 17%; and soybeans, 15%.

The six counties in the west area of the region parallel the Missouri River and produce 78% of the region's sorghum and 39% of its oats. The west area produces a large share of the wheat (64%) and barley (40%), both minor commodities in the region as a whole. It also grows 16% of the region's corn, much of it on irrigated land.

TABLE I
Southeastern South Dakota
1983 Crop Production
(000 Bushels)

County	Corn	Wheat	Oats	Barley	Soybeans	Sorghum	Sunflowers (000 lbs.)							
	%	%	%	%	%	%	%							
East Area														
Clay	2700	8.8	186	---	1773	---	---							
Lake	3780	252.0	860	225	1030	9	6500							
Lincoln	4585	---	309	---	1974	72	---							
McCook	3036	14.0	1299	161	1079	54	3161							
Minnehaha	5435	34.5	805	59	2288	5	---							
Moody	4064	95.7	451	16	2321	4	---							
Turner	3971	---	782	18	2164	36	---							
Union	4460	---	361	---	1542	---	---							
Yankton	2804	---	789	---	1107	152	---							
Total	34835	57	405.0	13	5842	24	479	17	16278	82	332	5	9661	22
Central Area														
Bon Homme	3781	21.8	1051	14	1119	243	---							
Davison	2243	83.6	1945	168	130	201	2725							
Hanson	2048	19.2	1598	195	145	103	6148							
Hutchinson	4779	98.3	1954	132	1408	272	---							
Miner	1700	253.0	1333	270	101	83	7571							
Sanborn	1685	201.1	947	136	12	166	3520							
Total	16236	27	677.0	23	8828	37	915	34	2915	15	1068	17	19964	47
West Area														
Aurora	1600	327.0	2201	268	15	458	3120							
Brule	1455	699.0	1675	311	127	703	3220							
Buffalo	279	333.0	255	169	16	133	---							
Charles Mix	3670	121.2	2637	225	301	2599	5060							
Douglas	2294	8.8	1872	129	96	685	1666							
Jerauld	869	434.0	823	220	---	387	---							
Total	10167	16	1923.0	64	9463	39	1322	40	555	3	4965	78	13066	31
Region Total	61238	59	3005.0	3	24133	31	2716	12	10748	80	6365	47	42691	9
State Total	103400		89729.0		79200		23100		24778		13630		475700	

Source: South Dakota Agricultural Statistics, South Dakota Crop and Livestock Reporting Service, U.S. Dept. of Agriculture.

Grain Handling Facilities

The number and size of elevators in the three areas reflect their crop production and transportation differences.

The nine counties in the eastern area had 71 elevators in 59 communities. As shown in Table II, they had a combined capacity of 17.5 million bushels. As expected, those elevators with rail service generally had greater storage capacity than those having only trucking

capability. Among those with rail service, the elevators capable of loading out unit trains tended to have greater storage capacity.

The greater number and larger average size of elevators in the east area reflect the relatively greater productivity of the area, the concentration on corn and soybeans, and the availability of rail service — especially unit train service. Of the 71 eastern elevators, none had a storage capacity exceeding 475,000 bushels and 12 were capable of handling unit trains.

TABLE II
Southeastern South Dakota
Grain Handling Facilities
1983

	<u>East</u>	<u>Central</u>	<u>West</u>	<u>Total</u>
Number of Shippers	71	31	20	122
Total Licensed Storage Capacity (000 bu)	17,482	5,489	3,147	26,118
Average Storage Capacity (000 bu)	246	177	157	214
<u>Shippers with Rail Service</u>				
Number	41	16	6	63
Storage Capacity	11,365	2,922	974	15,261
Average Capacity	277	183	162	242
<u>Shippers with Unit Train Capability</u>				
Number	12	(1)	(1)	15
Storage Capacity	4,570			4,853
Average Capacity	415			363
<u>Rail Shippers with no Unit Train Capability</u>				
Number	29	(1)	(1)	48
Storage Capacity	6,795			10,408
Average Capacity	234			217
<u>Truck Only Shippers</u>				
Number	30	15	14	59
Storage Capacity	6,117	2,567	2,173	10,857
Average Capacity	204	171	155	184

(1) Presentation of this data could reveal private company information because of the small number of firms involved.

While average storage capacity has not changed significantly since 1981, elevators have invested in rail loadout facilities. Twelve shippers could load unit trains in 1983 while only four had unit train capability in 1981.

In the six-county central area there were 31 elevators of which 16 had rail service. Average capacity was 177,000 bushels. Those with rail service again tended to be larger.

The relatively balanced production pattern in the central area and the availability of rail service at 16 of the 31 elevators shows up in both the greater number and the size of the elevators than in the west area. Average storage capacity is still small, however, consistent with the general lack of unit train facilities.

The only rail line in the west area is the Chamberlain branch serving only six of the area's 20 elevators. Elevators in the west area tend to be smaller with an average storage capacity of 157,000 bushels. This reflects the smaller yields of principal crops in the area, the limited access to rail service, and the inability to ship unit trains of fully loaded 100-ton hopper cars.

Transportation Facilities

The region's rail service is provided primarily by the BN on lines owned by the state.

In the western area the lightweight line from Mitchell to Chamberlain crosses Aurora and Brule counties. There was no service on the line in 1981; restricted and limited service was initiated in 1982. The state owned local option line between Napa and Platte travels the length of Charles Mix County. There has been no service on the line since it was embargoed by the Milwaukee Road in 1977.

The central and eastern areas of the region had rail service phased in during 1981 on the Mitchell-Canton-Sioux Falls

and Mitchell-Yankton-Sioux City lines. Along the Iowa border, limited service was also introduced on the Canton-East Wye Switch (Elk Point) line.

In Minnehaha and Lake counties the BN operates its own lines between Sioux Falls and Sherman and between Sioux Falls and Madison. Minnehaha County is also served by the C & NW's lightweight line from Worthington, MN, to Sioux Falls.

The east and central areas are also served by an extensive highway system including interstate, U.S. and state highways, and a grid-pattern county and township road system. I-90 crosses from east to west, connecting Sioux Falls, Mitchell, and Chamberlain. Between Mitchell and Chamberlain, I-90 is parallel to the lightweight rail branchline. The eastern counties are crossed by I-29 between Sioux City, IA, Sioux Falls, and Brookings.

GRAIN SHIPMENTS AND DESTINATIONS

The grain shipped in 1983 from elevators in the 21-county region was estimated and compared with 1981 estimated shipments from a 15-county region included in the larger 1983 data set. The 1983 data (see Table III) include estimates from the northern tier of counties -- Moody, Lake, Miner, Sanborn, Jerauld, and Buffalo -- which were not in 1981 data.

The data from the 2 years are, therefore, not directly comparable in terms of volumes shipped. However, the changes in truck and rail use and the changes in the relative importance of alternative market destinations are useful indicators of the effect of changes in the transportation system.

Corn

Table IV shows the estimated corn shipments from elevators in 1983. Survey responses indicate that a significant proportion of the 40.8 million bushels

TABLE III
Southeastern South Dakota
ESTIMATED ELEVATOR GRAIN
SHIPMENTS: 1983
(000 Bushels)

	East		Central		West		Total	
	Truck	Rail	Truck	Rail	Truck	Rail	Truck	Rail
Corn	22,727	18,879	8,895	4,870	9,226	—	40,848	23,749
Soybeans	14,498	6,463	2,709	956	—	17	17,207	7,436
Oats	4,758	228	5,584	965	6,212	—	16,554	1,193
Wheat	434	74	1,076	398	101	2,246	1,611	2,718
Barley	—	9	340	49	417	—	757	58
Sorghum	—	—	370	482	4,818	—	5,188	482
Sunflowers (000 lbs)	—	—	35,000	420	2,000	1,366	37,000	1,786

moved by truck was shipped from elevators with no rail service or no unit train service to unit train loading facilities in South Dakota, Minnesota, Iowa, or Nebraska. Responses also show that corn is received at South Dakota unit train facilities from the other three states. Consequently, there is some double counting of corn shipped in the combined 64.6 million bushels.

The rail volume also includes corn trucked in from counties just north of the region. Brookings County, although served by the C & NW railroad, has no unit train facilities; its farmers and elevators may truck to such facilities in the southeast region.

In 1981 approximately 84% of the corn was shipped, at least initially, by truck. Initial truck moves from elevators fell to 63% in 1983 with 37% being shipped by rail.

Tables IV and V also show how the availability of unit train service has allowed corn to be shipped to a broad range of more distant markets in 1983. The share shipped to the Pacific Northwest increased by one half. The corn transferred within South Dakota increased by a similar amount (from 24 to 35%), reflecting increased truck movements from local elevators to unit train terminals in the state.

At the same time, the share of corn shipped to other states such as Iowa, Nebraska, Missouri, and Kansas (all within traditional trucking range) fell from approximately 60% in 1981 to approximately 40% in 1983.

Thus, it appears that the improved grain handling and rail service facilities allowed South Dakota corn to reach more markets and to be shipped longer distances to those newly accessed markets.

Soybeans

The traditional destinations for southeastern soybeans have been Sioux City, IA, and Mankato, MN. In 1981, nearly 87% of soybeans shipped from the region went to the crushing plants at these two locations.

Virtually 100% of soybean shipments were truck movements in 1981. In 1983, the trucking share fell to 70%, and this included some truck movements from local elevators to rail terminals.

Tables VI and VII show the distribution of soybean destinations in 1983 and a comparison of 1981 and 1983 shares of soybean shipments. In 1983, the Pacific Northwest (14%), Missouri (6%) and

TABLE IV
ESTIMATED ELEVATOR SHIPMENTS
1983
(000's of Bushels)
CORN

Destination	East		Central		West		Total	
	Truck	Rail	Truck	Rail	Truck	Rail	Truck	Rail
Pacific Northwest		12,873		2,279				15,152
Middle South	5,383	3,966	957	1,044			6,340	5,010
Gulf Coast		1,430		178				1,608
Southwest		331		1,311				1,642
Iowa-Nebraska	7,455	279	2,029	51	2,459		11,943	330
Minnesota	172	—	8	4			180	4
Illinois-Wisconsin		—		3				3
South Dakota	9,717		5,901		6,767		22,385	
Total	22,828	18,879	8,895	4,870	9,226	—	40,848	23,749

TABLE V
ESTIMATED SHIPMENTS
(Percent)
CORN

	1981	1983
Pacific Northwest	16	24
Middle South	—	18
Gulf Coast	—	3
Southwest	—	3
Iowa-Nebraska	30	19
Minnesota	—	—
Illinois-Wisconsin	—	—
South Dakota	24	35
Other	31*	—

* Includes Middle South, Southwest and Minnesota

The data indicate that, as for corn, the improved handling and rail facilities allowed South Dakota soybean producers to reach more markets and ship their product longer distances.

Oats

The southeastern region produced 31% of the state's oats in 1983. Production was distributed across the entire region but was relatively more important in the west and central areas where access to rail service is limited compared with the east area.

Tables VIII and IX show that the marketing pattern for oats was more diverse in 1983 than in 1981. Data on destinations of oats shipments are less reliable than those for corn and soybeans because of the large share moved by truck and the common practice of direct sale to truckers for resale at the destination. The selling elevator then does not record the destination.

Significantly, the estimated share of oats shipped by rail increased to nearly 7% in 1983 from less than 1% in 1981. The total volume of oats shipped from elevators in the region increased from 11.6 million bushels in 1981 to 17.7 million bushels in 1983.

Illinois (6%) were the destinations for a combined 26% of the region's soybeans. No soybeans were sent to these destinations in 1981.

The Iowa, Nebraska, and Minnesota truck market shares were down to 74% in 1983 from 98% in 1981. Survey responses suggest that some of the truck shipments to Nebraska in 1983 were also destined for unit train terminals for transshipment to more distant export markets, thus decreasing the share of soybeans shipped to traditional nearby plants.

TABLE VI
ESTIMATED ELEVATOR SHIPMENTS
1983
(000's of Bushels)
SOYBEANS

Destination	East		Central		West		Total	
	Truck	Rail	Truck	Rail	Truck	Rail	Truck	Rail
Pacific Northwest		3,446		—	—	—	—	3,446
Middle South		1,308		215	—	—	—	1,523
Iowa-Nebraska	11,826		3,464	360	—	—	14,290	870
Minnesota	2,672		175	—	—	17	2,847	17
Illinois		1,199	—	381	—	—	—	1,580
South Dakota	—	—	70	—	—	—	70	—
Total	14,498	6,463	2,709	956	—	17	17,207	7,436

TABLE VII
ESTIMATED SHIPMENTS
(Percent)
SOYBEANS

	1981	1983
Pacific Northwest	—	14
Middle South	—	6
Iowa-Nebraska	82	62
Minnesota	16	12
Illinois	—	6
South Dakota	—	—
Other	2*	—

* Includes Middle South, Illinois, and South Dakota

Sorghum

Like oats, sorghum is shipped primarily by truck and often through direct sales to truckers so the destination data are not as reliable as that for corn and soybeans. The data in Table X indicate that a large share of sorghum was shipped to traditional markets. The estimated share shipped by rail did, however, increase from virtually zero in 1981 to over 2% in 1983.

Survey responses indicate that much of the sorghum shipped to Iowa and Nebraska in 1983 was sent to unit train

loading terminals for subsequent movement by rail. Principal sorghum production is in the southern part of the west area with the most convenient rail access being in Nebraska.

Wheat

The primary wheat producing part of the region is the set of northern counties in the west area with access to rail service on the lightweight Mitchell-Chamberlain branchline. Wheat is grown over the entire region, however, and much of it is moved initially by truck. Table XI indicates that approximately 60% was shipped by rail in 1983. This represents a dramatic increase from 1981 when an estimated 1% was shipped by rail.

Comparison of the production data in Table I and the estimated elevator shipping data in Table XI suggests that a significant share of wheat produced in the west area was marketed by producers through elevators in the central area.

Barley

Barley is a relatively minor crop in the region with only 2.7 million bushels

TABLE VIII
ESTIMATED ELEVATOR SHIPMENTS
1983
(000's of Bushels)
OATS

Destination	East		Central		West		Total	
	Truck	Rail	Truck	Rail	Truck	Rail	Truck	Rail
Middle South	1,317	75	2,010	547	2,198	—	5,525	622
Iowa-Nebraska	1,644	120	2,353	394	3,246	—	7,243	514
Minnesota	523	33	595	24	—	—	1,118	57
South Dakota	1,274	—	626	—	768	—	2,668	—
Total	4,759	228	5,584	965	6,212	—	16,554	1,193

produced in 1983. Table XII shows that only about 800,000 bushels were shipped with more than half originating from west area elevators. It is usually feed barley that is grown, especially in the west and central areas. Some malting barley will be produced in the east area, depending upon growing conditions.

Survey responses indicate that relatively little barley is marketed through elevators in the east area. This may be misleading because the marketing of malting barley tends to be a specialized function. Therefore, a significant volume may have been marketed through elevators which did not respond to the survey.

ESTIMATED BENEFITS OF RAIL SERVICE AVAILABILITY

The data, particularly those for corn and soybeans, suggest that South Dakota commodities were shipped to different, more distant destinations when rail and unit train service were available.

This availability by itself has value to grain producers, for it gives them choices among marketing alternatives. Estimating the value of this marketing access is imprecise at best and requires several assumptions. We have to think about what would have happened if rail service had not been available. Such an attempt can, however, provide some ball-

TABLE IX
ESTIMATED SHIPMENTS
(Percent)
OATS

	1981	1983
Middle South	—	35
Iowa-Nebraska	12	44
Minnesota	—	7
South Dakota	13	15
Other	75*	—

* Includes Middle South and Minnesota

park estimates of the value of rail service availability and the benefit of the state's investment.

One assumption is that the grain handling industry in southeastern South Dakota is very competitive and operates on a narrow margin between buying and selling prices. This implies that an elevator manager must shop around for the combination of market price and transportation cost which will result in the highest net price to the elevator.

The principal commodity shipped by rail is corn. It is assumed here that without rail service, the South Dakota corn price would be based upon the Minneapolis cash price less the cost of trucking corn from South Dakota to Minneapolis (or the Mississippi River terminals). This is the pricing which ap-

TABLE X
ESTIMATED ELEVATOR SHIPMENTS
1983
(000's of Bushels)
SORGHUM

<u>Destination</u>	East		Central		West		Total	
	<u>Truck</u>	<u>Rail</u>	<u>Truck</u>	<u>Rail</u>	<u>Truck</u>	<u>Rail</u>	<u>Truck</u>	<u>Rail</u>
Pacific Northwest	—	—	—	130	—	—	—	130
Illinois	—	—	—	352	—	—	—	352
Iowa-Nebraska	—	—	349	—	3,196	—	3,545	—
South Dakota	—	—	21	—	1,622	—	1,643	—
Total	—	—	375	482	4,818	—	5,188	482

TABLE XI
ESTIMATED ELEVATOR SHIPMENTS
(000's of Bushels)
WHEAT

<u>Destination</u>	East		Central		West		Total	
	<u>Truck</u>	<u>Rail</u>	<u>Truck</u>	<u>Rail</u>	<u>Truck</u>	<u>Rail</u>	<u>Truck</u>	<u>Rail</u>
Iowa-Nebraska	120	31	333	181	73	2,023	515	2,235
Middle South	—	—	—	40	—	—	—	40
Minnesota	228	43	754	177	0	223	991	443
South Dakota	86	—	—	—	19	—	105	—
Total	434	74	1,076	398	101	2,246	1,611	2,718

peared to prevail in the 1977-81 period when rail service was not available.

This implies that local elevators would sell corn for local feed use only at a price which netted the elevator at least as much as the Minneapolis less trucking cost alternative. The assumed competitive structure of the local elevator industry implies that no elevator could demand a local feed corn price significantly above the Minneapolis alternative without being underpriced by a nearby competitor.

A study by Gunn and Schmiesing at the South Dakota Agricultural Experiment Station for the 1977-82 marketing years showed that the corn price differential between Sioux Falls and Minneapolis narrowed by 10-12 cents per bushel between the 1977-80 and 1981-82 periods. If this narrowing is attributed to the introduction of rail service access to other, more

distant markets beginning in the 1981 marketing year, then one estimate of the benefit of rail service to corn producers is approximately \$7 million. That is, each of the 61 million bushels produced in the region was worth 10-12 cents more to the producer due to the availability of rail service in the region.

A second approach to estimating the benefit to corn producers is to assume that corn shipped by truck reflects the Minneapolis pricing alternative but that rail shipments to other markets realize a net benefit. This benefit is equal to the price less transportation cost differential between each destination market and the Minneapolis alternative.

For example, in 1983 the average weekly cash price in Portland exceeded the corresponding Minneapolis price by \$1.30 per bushel. With unit train rates to the

TABLE XII
ESTIMATED ELEVATOR SHIPMENTS
1983
(000's of Bushels)
BARLEY

Destination	East		Central		West		Total	
	Truck	Rail	Truck	Rail	Truck	Rail	Truck	Rail
Middle South	—	5	—	—	—	—	—	5
Minnesota	—	4	146	49	333	—	479	53
South Dakota	—	—	194	—	84	—	278	—
Total	—	9	340	49	417	—	757	57

Pacific Northwest, transportation to the West Coast cost approximately \$.53 per bushel more than the trucking cost to Minneapolis. Thus, the average net gain to the South Dakota shipper would be \$.77 per bushel for the 15 million bushels shipped, or \$11.7 million.

Similar estimates for corn shipped by rail to the Middle South, Gulf Coast, and Southwest are \$.6 million, \$1.2 million, and \$.4 million respectively. This approach results in an estimated benefit to producers of nearly \$14 million.

A third measure of the benefit to corn producers of rail access to the West Coast reflects the price differential between the Portland market and the Sioux Falls market. The Sioux Falls price, over the years considered, remained approximately \$1.10 under the Portland price. In 1983, by this measure, the average weekly net gain by shipping corn to the West Coast was \$.45 per bushel or approximately \$7 million on the 15 million bushels shipped. This assumes that grain was shipped to the West Coast on a continuous basis in 1983.

During 1983 the Portland price strengthened significantly while the Minneapolis price declined. The difference between the two prices was 60-65 cents during January, \$1.00-1.10 between April and July, and \$1.70-1.90 for much of the last half of 1983. During the July-December period, the weekly average Portland price was \$1.65 above the Minneapolis price (the \$1.30 used above was for the entire calendar year). If the

corn shipped to the West Coast moved at this average price differential, then the net benefit after adjusting for transportation cost differences is \$1.12 per bushel or nearly \$17 million for the 15 million bushels shipped.

These alternative measures suggest that corn producers in the 21-county region received between \$7 and \$17 million in additional income due to the availability of unit train rail service. For the 61 million bushels produced this implies a gain between \$.11 and \$.28 per bushel.

Approximately 27% of the soybeans shipped from the region were sent to non-traditional markets -- the Pacific Northwest, Missouri, and Illinois. As a small residual supplier of soybeans, the region's soybean pricing is primarily based upon the Sioux City price less truck cost to Sioux City.

Thus, the benefit of rail service availability rests in the ability of shippers to take advantage of periodic changes in the price differential between Sioux City and the more distant market. For example, the difference in price between the Sioux City market and Illinois processors ranged from less than 5 cents to more than 50 cents per bushel in 1983.

The survey of shippers did not include data on specific pricing or transportation costs. Perhaps the best estimate of the rail benefit to soybean shippers would be any narrowing which may

have occurred between Sioux City and local South Dakota prices. Such an estimate would be based upon the assumption that shippers would move soybeans to distant destinations only during periods when the price differential exceeded the additional transportation cost. No local soybean price data are available to make such an estimate.

CONCLUSIONS

Commodities produced in the southeastern region of South Dakota benefited from having access to rail and unit train service in 1983. The data indicate that several commodities were shipped longer distances and in larger volumes than in 1981 when limited rail service was being introduced.

In addition to the 15 million bushels of corn sent to the Pacific Northwest export market, significant volumes of corn were also shipped to feed users in the Middle South and Southwest states. These represent changes from the 1981 pattern of movements.

Soybeans were also shipped farther — to Missouri and Illinois as well as the Pacific Northwest. The volume of oats and wheat moving by rail also increased.

The principal benefit of rail service may be in the ability to access several markets and thereby choose, at any time, to sell in the market providing the best price. In volume and in broad geographic marketability, corn shippers and producers benefit most from rail service access. A conservative estimate of such benefits in 1983 is \$7 million.