

U.S. Soybean Movements By Rail in the United States

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Soybeans are the most important oilseed crop produced in the United States. Domestic soybean usage has historically been in soybean oil products, soybean protein products (flour and meal), and in seed and feed products. Recent innovations using soybeans for a variety of new products indicate that it will become increasingly important to accurately track soybean shipping patterns in the U.S. Soybeans are transported to end users and export destinations in three ways--rail, truck, and river barge. In order to facilitate an efficient flow of soybeans from production regions to domestic and export destinations, it is important to make decisions about soybean shipping patterns based on accurate information. This information can also lead to improved market performance and investment decision-making at the processing, elevator, port facility, and transportation level. This study of soybean rail movements, along with other studies of truck and barge movements, should help port, processor, and elevator facilities recognize investment opportunities and improve current market performance.

Soybean grain flow data for this study was collected using the Interstate Commerce Commission (ICC) 1992 Public Use Waybill. Limited information was also obtained from telephone calls to representatives of grain handling, storage, and processing firms. Waybill samples from train shipments are taken for carloads, ton, trailer/container, and freight revenue. The samples are then expanded to give a total estimated soybean flow per train shipment by multiplying the sampling rate per car by the number of carloads. Each carload has an estimated 3,247.28 bushels. Each of these samples is one recorded train shipment. The data is reported by 183 Business Economic Areas (BEA's) that are defined by the U.S. Department of Commerce (see Appendix A for a list of U.S. BEA's). The tables that follow in this analysis summarize the soybean movements by origin and destination into freight rate territories, states, and by U.S.D.A. specified shipment regions.

This report was prepared by Donald Larson and Chris Alexander, Professor of Agricultural Economics and Research Associate, The Ohio State University.

As a background for this study, Table 1 summarizes the historical supply, demand, and price characteristics of the U.S. soybean industry for the period 1980 through 1994. Overall, export demand for soybeans has decreased relative to domestic demand for the period, while total production in bushels has remained relatively constant. While the number of acres in production has decreased by over 15% since 1980, efficiency (yield per acre) has tended to increase steadily.

Soybean Shipment Origins

Soybean shipment origins (BEA's) were first grouped by region according to those outlined by the United States Department of Agriculture (Figure 1). Seven of the ten regions outlined by the U.S.D.A had positive origin shipment activity in 1992.

The U.S. Freight Rate Territories illustrated in Figure 2, which differ from the regions used by the U.S.D.A. regions of Figure 1, were also used in this paper to account for the large number of soybean movements that were Not Reported in the Public Use Waybill. The major reason for Not Reported movements of soybeans in the data is to prevent disclosure of confidential information. For purposes of this study, Freight Rate Territories will only be used to more accurately account for movements Not Reported. The use of Freight Rate Territories helped link 43.2% of total unreported destination BEA's to a specific Freight Rate Territory.

Regional Shipments

Nearly 125 million bushels of soybeans were transported by rail in 1992. The Corn Belt and Northern Plains regions originated 109.2 million bushels, or 87.4% of total soybean shipments by rail (Table 2). Remaining shipments were scarcely dispersed in the Lake States, Southern Plains, Appalachian, Northeast, and Southeast regions (8.2%). The remaining shipment origins were not reported, and account for 4.4% of total shipments.

The Corn Belt Region--Iowa, Missouri, Illinois, Indiana, and Ohio--was responsible for 83.3 million bushels, or 66.7% of total shipments. Well over half of these shipments (65.4%) had destination BEA's that were not reported. Shipments originating in the Corn Belt Region were also received in the Northeast (9.8%), Delta States (7.2%), Appalachian (6%), Mountain (1.6%), and Pacific (.5%) regions. Nearly 10% of all shipments remained in the Corn Belt Region (9.5%).

Assuming that the percentage of unreported movements linked to destination Freight Rate Territories is representative of the total unreported movements, roughly 21% of Corn Belt shipments go to Freight Rate Territory 1, 23% to Territory 2, 13% to Territory 3, and 26% to Territory 4 (Table 6).

The Northern Plains was the second largest shipment origin region with 20.7% (25.8 million bushels) of total shipments (Table 2). Just over 7 million of this 25.8 million bushels (27.3%) originating in the Northern Plains Region had a destination in the Pacific Region, while smaller amounts ended up in the Corn Belt (12.8%), Lake States (11.9%), Delta States (8.8%), and Mountain (.5%) Regions. Shipments with an unreported destination BEA accounted for 38.7% of total shipments originating in the Northern Plains and can be traced exclusively to Freight Rate Territories Three and Four (Table 6).

Other regions originated smaller but significant soybean shipments in 1992. The Lake States (5.3%) and Southern Plains (2%) both made notable contributions to total originating shipments. Shipments with an unreported origin accounted for roughly 4% of total shipments. The balance of the shipments accounted for only 1% of the total.

State Origins

Soybean shipments by state origin show Missouri to be first among the states (Table 3). In all, 19 states had BEA's that contributed to total soybean shipments. The top five origin states for soybean shipments in 1992 were (in order): Missouri, Ohio, Iowa, Indiana, and Illinois. These five states make up the Corn Belt Region, which accounts for two-thirds of total bushels shipped, just over 83.3 million bushels. Of the

remaining 14 states only South Dakota (7.8%) and Nebraska (7.2%) contributed more than 5% to total bushels shipped.

Shipment Concentration By BEA

Within each state lie many local Business Economic Areas (BEA's). BEA's are used by the Department of Commerce's Bureau of Economic Analysis to record individual activity within a particular city area. The number of BEA's within each state and the level of shipping and receiving activity varies by state. Only two of the top ten largest originating shipment BEA's are located in states that are not part of the Corn Belt Region (Table 4). More broadly, 17 of the top 25 (68%) origination BEA's by total bushels are in states in the Corn Belt Region. Six of the remaining BEA's are in the Northern Plains, and 2 lie in the Lake States. Kansas City, Missouri was the largest origin BEA with 11.88% (14.8 million bushels) of all shipments and accounted for 76% of Missouri's total shipments. Toledo, Ohio was second with 8.75% (10.9 million bushels) of all shipments and accounted for 57% of Ohio's total shipments. Ohio also had four cities (BEA's)--Toledo, Columbus, Cincinnati, and Dayton--in the top 25. Fort Dodge, Iowa was third with 7.91% of total shipments.

The relationship between a high concentration of shipments in some states to a single BEA can be caused by many factors. Location in the state, market presence, and transportation accessibility can affect the degree of concentration within a state. Although Missouri was the number one originator of soybean shipments, only Kansas City and St. Louis rank in the top 25 BEA's. By contrast, Indiana has four BEA's in the top 25--Fort Wayne, Anderson, Indianapolis, and Evansville--while it ranks fourth in total shipments at 12.3%. All of the top five shipment originating states had at least two BEA's in the top 25 (Tables 3 & 4).

Regional Receipts

Unfortunately, 56.5% of all soybean receipts (70.6 million bushels) were not reported for use in the 1992 Public Use Waybill Summary (Table 2). Major grain processors and grain handlers often refuse to report origin and destination volume data, and have no obligation to do so. As a result, tracking specific movements to destinations is difficult at best.

Soybeans with reported destinations can be linked to seven U.S.D.A. regions with varying concentration (Table 2). The Corn Belt (9.9% of all receipts), Northeast (8.7%), Pacific (7.8%), and Delta States (7.3%) regions all made notable reported contributions to total soybean receipts. The Appalachian (4.5%), Lake States (3.9%), and Mountain (1.4%) regions also reported some receipts. It is unclear how the large unreported volume can be accurately traced to specific U.S.D.A. regions.

Tracking soybean movements to destination areas by the utilization of Freight Rate Territories can provide a general tendency in soybean flow patterns. These patterns are analyzed further here.

Of the 56.5% of soybean receipts not reported, 43% (30.5 million bushels) can be linked to one of four Freight Rate Territories. While this analysis cannot link soybeans received by state or specific BEA-destination, it can provide a general statement about the movement of soybean shipments.

A summary of unreported shipment destinations from Table 6 linked to Freight Rate Territories is summarized below:

<u>Freight Rate Territory</u>	<u>Number of Bushels</u>	<u>Percent</u>
1	7,079,767	23.2%
2	7,307,453	24.0%
3	5,884,546	19.3%
4	10,214,608	33.4%
<u>5</u>	<u>3,095</u>	<u>0.01%</u>
Total	30,489,469	100.0%

* percent of total unreported receipts that were linked to a specific Freight Rate Territory.

Receipt Concentration By BEA

Disregarding receipts Not Reported, Baltimore, Maryland received the largest number of bushels with 10.8 million bushels (8.7%) of total receipts(Table 5). New Orleans, Louisiana was second and Seattle, Washington third with 9.08 million (7.3%) and 8.7 million bushels (6.9%), respectively. It is interesting to note that all twelve states reporting soybean receipts have a major water transport route (river, lake, or ocean) bordering the state in some capacity. It could be assumed that receipts Not Reported could follow this pattern for shipments destined for export. It is unclear whether shipments used in interior processing plants would follow this pattern, and would be difficult, if not impossible, to deduce.

Interstate Rail Movements

Figure Three summarizes the major state to state movements of soybeans by rail in 1992. In general, grain flows tend to originate in interior states and move toward those states that possess naturally superior port facilities. Interstate grain movements involving two interior states can probably be linked to the existence of large soybean processing facilities within the destination state. Ignoring those shipments not reported to the ICC, the busiest route was from Ohio to Maryland with nearly 6 million bushels (Table 7). The second most popular route was from Illinois to Louisiana (3.5 million bushels), followed by South Dakota to Washington (3.2 million bushels).

Conclusion

Soybean movement analysis from origin shipments to receiving destinations by BEA, state, territory, and region is important for improving market performance, enhancing investment decision-making, and increasing transportation efficiency. It is

important to producers, processors, and export policy-makers.

The production of soybeans in the United States is highly concentrated in the Corn Belt Region, accounting for two-thirds of all originating shipments. Substantial soybean shipments originate in the Northern Plains as well.

Shipment destinations, while more widely dispersed across the U.S., are fewer in number. Fewer destination BEA's exist because of the processing or export requirement placed on an attractive receipt location. Receipt BEA's seem to be located near significant water transport routes.

Major grain processors and grain handlers are not legally required to disclose total bushel information, and may not report in order to protect their own business interests. Tracking soybean movements Not Reported is difficult, and is only slightly enhanced through the use of Freight Rate Territories.

This study of soybean movements by rail can be used with other studies of movements by truck and barge to better determine efficient investment decisions, use of port and processing facilities, and overall production efficiency in the domestic soybean industry.

Special recognition goes out to the following individuals for their contributions to the structure and format of this paper: Michael Babcock for his work with wheat and flour movements, and Brian Paterson and Steven Hanson for their work with corn movements in the eastern U.S.



Figure 1: U.S. Soybean Shipment Regions



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Figure 2: U.S. Freight Rate Territories

Table 1
U.S. Soybean Supply, Demand, and Price

Crop Year (Sept.1)	Harvested Acres	Yield	Supply			Demand			Avg. Price ¹
			Prod'n	Carry-in	Total	Domestic	Export	Total	
	(mill.acres)	(bu/acre)	----- (billion bushels) -----						(\$/bu)
1980	67.9	26.4	1.79	0.36	2.15	1.11	0.72	1.83	7.57
1981	66.4	30.1	2.00	0.32	2.32	1.12	0.93	2.05	6.04
1982	70.8	32.2	2.28	0.27	2.54	1.20	0.91	2.11	5.48
1983	62.5	26.2	1.64	0.35	1.98	1.06	0.74	1.81	7.83
1984	66.1	28.1	1.86	0.18	2.04	1.12	0.60	1.72	5.84
1985	61.6	34.1	2.10	0.32	2.42	1.14	0.74	1.88	5.05
1986	58.3	33.3	1.94	0.54	2.48	1.28	0.76	2.04	4.78
1987	57.0	33.7	1.94	0.44	2.37	1.27	0.80	2.07	5.88
1988	57.4	27.0	1.55	0.30	1.86	1.15	0.53	1.67	7.42
1989	59.5	32.3	1.92	0.18	2.11	1.25	0.62	1.87	5.69
1990	56.5	34.0	1.93	0.24	2.17	1.28	0.56	1.84	5.74
1991	58.0	34.2	1.99	0.33	2.32	1.36	0.68	2.04	5.58
1992 ₂	58.2	37.6	2.19	0.28	2.47	1.41	0.77	2.18	5.40
1993 ₃	57.3	32.6	1.87	0.29	2.17	1.37	0.59	1.96	6.45 ₄
1994 ₅	61.1	41.9	2.56	0.21	2.78	1.54	0.80	2.34	5.39
1995	59.0	37.0	2.19	0.50	2.68	1.50	0.75	2.25	5.70

1) Average price paid to farmers from September 1 through August 31.

2) Estimates based on USDA April supply-demand reports.

3) Projections based on USDA April supply-demand reports.

4) Average price paid from September 1 through early April.

5) Projections

Source: Prepared 4/95 by Allan Lines, Agricultural Economist, The Ohio State University.

Table 2: Inter-region Soybean Movements By Rail, 1992
(000's of bushels)

Origin *	Destination **								Total	Percent
	Not Reported	Appalachian	Northeast	Delta States	Corn Belt	Lake States	Mountain	Pacific		
Not Reported	3,580.5	398.5	682.0	324.9	104.0	0.0	7.2	291.3	5,388.4	4.3%
Southeast	118.4	0.0	0.0	16.4	0.0	0.0	0.0	0.0	134.8	0.1%
Appalachian	749.7	0.0	0.0	259.2	0.0	0.0	1.5	0.0	1,010.4	0.8%
Northeast	0.0	0.0	144.2	0.0	0.0	0.0	0.0	0.0	144.2	0.1%
Corn Belt	54,568.8	5,012.2	8,173.8	5,996.0	7,795.7	0.0	1,341.8	463.1	83,351.4	66.7%
Lake States	1,196.7	198.4	1,896.8	217.5	1,216.8	0.0	0.0	1,895.8	6,622.0	5.3%
Southern Plains	435.8	0.0	0.0	0.0	0.0	1,846.2	220.5	0.0	2,502.5	2.0%
Northern Plains	9,975.7	0.0	0.0	2,270.3	3,290.8	3,056.0	142.5	7,052.0	25,787.3	20.6%
Total	70,625.6	5,609.1	10,896.8	9,084.3	12,407.3	4,902.2	1,713.5	9,702.2	124,941.0	100.0%
Percent	56.5%	4.5%	8.7%	7.3%	9.9%	3.9%	1.4%	7.8%	100.0%	

* The Delta States, Mountain, and Pacific Origin Regions had zero activity and were omitted from the summary table.

** The Southeast, Southern Plains, and Northern Plains Destination Regions had zero activity and were omitted from the summary table.

Table 3: Major Soybean Rail Shipments
By State of Origin, 1992

Rank	State	Cars	Bushels (000)	% of Total
1	Missouri	6239	19,545	15.6%
2	Ohio	5905	19,074	15.3%
3	Iowa	5239	16,920	13.5%
4	Indiana	4766	15,387	12.3%
5	Illinois	3916	12,424	9.9%
6	South Dakota	3034	9,735	7.8%
7	Nebraska	2771	9,000	7.2%
8	Not Reported ¹	1709	5,388	4.3%
9	Minnesota	1470	4,720	3.8%
10	North Dakota	1229	3,916	3.1%
11	Michigan	1190	3,482	2.8%
12	Kansas	981	3,138	2.5%
13	Tennessee	231	709	0.6%
14	Texas	206	656	0.5%
15	Ont., Canada	81	266	0.2%
16	North Carolina	92	255	0.2%
17	Pennsylvania	44	144	0.1%
18	Georgia	32	99	0.1%
19	Kentucky	21	48	0.04%
20	Alabama	11	35	0.03%
	Total	39,167	124,941	100.0%

¹ Movements "Not Reported" are analyzed further in a separate section of this report.

Source: 1992 Public Use Waybill Data

Table 4: Total Soybean Rail Shipments
Ranked By BEA Origin, 1992

Rank	Origin	Railcars	Bushels (000)
1	Kansas City, MO	4792	14,839
2	Toledo, OH	3389	10,929
3	Fort Dodge, IA	3047	9,878
4	Sioux Falls, SD	2488	7,996
5	Chicago, IL	1802	5,806
6	Not Reported	1709	5,388
7	Champaign, IL	1657	5,129
8	Omaha, NE	1455	4,729
9	St. Louis, MO	1331	4,341
10	Columbus, OH	1223	3,926
11	Indianapolis, IN	1181	3,879
12	Fargo, ND	1196	3,809
13	Minneapolis, MN	1176	3,753
14	Anderson, IN	1070	3,466
15	Sioux City, IA	963	3,111
16	Lincoln, NE	866	2,815
17	Topeka, KS	874	2,807
18	Dayton, OH	751	2,482
19	Fort Wayne, IN	736	2,423
20	Evansville, IN	777	2,357
21	Kokomo, IN	706	2,298
22	Saginaw, MI	797	2,190
23	Des Moines, IA	644	2,104
24	Waterloo, IA	585	1,826
25	Cincinnati, OH	542	1,738
26	Aberdeen, SD	546	1,738
27	Grand Island	450	1,457
28	Decatur, IL	427	1,394
29	Lansing, MI	295	968
30	Rochester	294	968
31	Terre Haute, IN	296	965
32	Lubbock, TX	206	656
33	Memphis, TN	122	395
34	Columbia, MO	116	364
35	Wichita, KS	107	329
36	Detroit, MI	98	325
37	Nashville, TN	109	313
38	Greenville	92	255
39	Ontario, Canada	81	266
40	Philadelphia, PA	44	144
41	Grand Fork	33	107
42	Macon, GA	32	99
43	Springfield, IL	30	96
44	Florence, KY	21	48
45	Montgomery, AL	11	35
	Total	39,167	124,941

Source: 1992 Public Use Waybill Data

Table 5: Total Soybean Rail Shipments
Ranked By BEA Destination, 1992

Rank	Destination	# of Railcars	Bushels (000)
1	Not Reported ¹	22, 136	70, 625.6
2	Baltimore	3, 310	10, 896.9
3	New Orleans	2, 783	9, 084.3
4	Seattle	2, 724	8, 683.3
5	Norfolk	1, 710	5, 608.9
6	Kansas City	1, 540	4, 924.7
7	Minneapolis	1, 521	4, 902.1
8	Dubuque	765	2, 429.7
9	Champaign	552	1, 775.4
10	Tuscon	602	1, 713.5
11	Davenport	514	1, 665.7
12	Evansville	381	1, 221.7
13	Portland	319	1, 019.0
14	Toledo	310	390.2
	Total	39, 167	124, 941.0

¹ Movements "Not Reported" are analyzed further in a separate section of this report.

Source: 1992 Public Use Waybill Data

Table 6: Tracking "Not Reported"
Destination Movements By Freight Rate Territory

Part I: Reported Origin City with Destination City Not Reported

Rail Movements to Freight Rate Territory One:

From Origin City	# of Railcars	Approx. # of Bushels
Columbus, OH	23	72, 519
Dayton	15	49, 781
Toledo	167	545, 005
Saginaw, MI	41	128, 877
Lansing	8	26, 286
Fort Wayne, IN	28	92, 117
Kokomo	15	49, 219
Anderson	63	201, 430
Indianapolis	213	699, 057
Chicago, IL	289	930, 562
Champaign	327	964, 068
Decatur	194	633, 112
Waterloo, IA	50	162, 539
Fort Dodge	150	486, 622
St. Louis, MO	379	1, 237, 054
Territory One Total	1, 962	6, 278, 248

Rail Movements to Freight Rate Territory Two:

From Origin City	# of Railcars	Approx. # of Bushels
Florence, SC	7	15, 911
Nashville, TN	59	169, 260
Memphis	15	48, 000
Columbus, OH	247	778, 791
Cincinnati	54	173, 243
Dayton	130	431, 431
Toledo	724	2, 362, 778
Fort Wayne, IN	15	49, 348
Indianapolis	210	689, 211
Evansville	104	299, 526
Terre Haute	153	498, 266
Chicago, IL	219	705, 167
Champaign	108	318, 408
Decatur	60	195, 808
Kansas City, MO	93	289, 167
St. Louis, MO	9	29, 376
Territory Two Total	2, 207	7, 053, 691

Rail Movements To Freight Rate Territory Three:

From Origin City	# of Railcars	Approx. # of Bushels
Minneapolis, MN	104	333, 570
Waterloo, IA	22	71, 517
Fort Dodge	868	2, 815, 925
Sioux City	14	45, 359
Des Moines	199	651, 826
Wichita, KS	3	9, 823
Topeka	3	9, 592
Kansas City, MO	80	248, 746
Columbia	13	40, 782
Lincoln, NB	4	13, 040
Omaha, NB	176	575, 134
Grand Island	89	290, 437
Sioux Falls, SD	145	464, 759
Aberdeen	41	130, 338
Fargo, ND	51	168, 225
Territory Three Total	1, 812	5, 869, 073

Rail Movements To Freight Rate Territory Four:

From Origin City	# of Railcars	Approx. # of Bushels
Sioux City, IA	45	145, 798
Wichita, KS	8	26, 194
Topeka	409	1, 307, 641
Kansas City, MO	2, 430	7, 555, 655
St. Louis	3	9, 792
Lubbock, TX	45	150, 854
Lincoln, NB	119	387, 949
Grand Island	180	587, 400
Territory Four Total	3, 239	10, 171, 283

Total "Not Reported" Traced To Freight Rate Territories	9, 220	29, 372, 295
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Table 6 (continued)

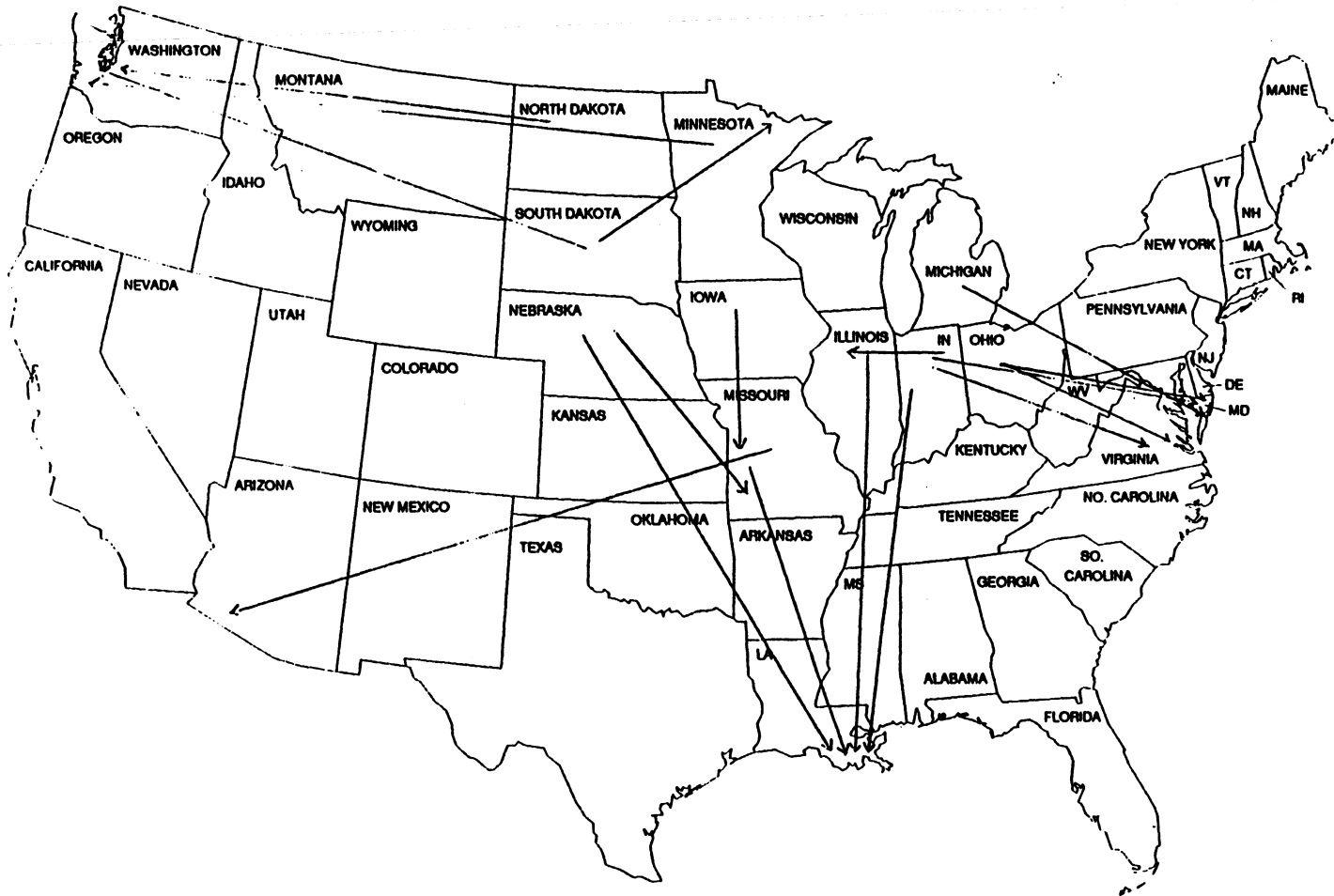
Part II: Origin and Destination Not Reported

Origin Territory	Destination Territory	# of Railcars	Approx. # of Bushels
1	1	259	801,519
1	2	38	117,597
2	2	44	136,165
3	3	5	15,473
4	4	14	43,325
4	5	1	3,095
Total		361	1,117,174
Total from Part I & II Combined:		9,581	30,489,469

Table 7: Major Interstate Soybean Movements By Rail, 1992
(One million bushels or more)

Origin State	Destination State	Bushels (000)
Ohio	Maryland	5,912
Illinois	Louisiana	3,544
South Dakota	Washington	3,248
Ohio	Virginia	2,922
North Dakota	Washington	2,681
South Dakota	Minnesota	2,126
Indiana	Maryland	2,045
Minnesota	Washington	1,896
Indiana	Virginia	1,849
Nebraska	Missouri	1,780
Nebraska	Louisiana	1,714
Michigan	Maryland	1,641
Missouri	Arizona	1,485
Indiana	Illinois	1,319
Missouri	Louisiana	1,271
Iowa	Missouri	1,196
Indiana	Louisiana	1,138

Source: 1992 Public Use Waybill Data



**Figure 3: Major State to State Soybean Movements
(One million bushels or more)**

Appendix A:
Department of Commerce-Bureau of Economic Analysis
Business Economic Area (BEA) Codes

1	Bangor, Maine
2	Portland-Lewiston, Maine
3	Burlington, Vermont
4	Boston, Massachusettes
5	Providence-Warwick-Pawtucket, Rhode Island
6	Hartford-New Haven-Springfield, Massachusettes
7	Albany-Schenectady-Troy, New York
8	Syracuse-Utica, New York
9	Rochester, New York
10	Buffalo, New York
11	Binghamton-Elmira, New York
12	New York, New York
13	Scranton-Wilkes-Barre, Pennsylvania
14	Williamsport, Pennsylvania
15	Erie, Pennsylvania
16	Pittsburgh, Pennsylvania
17	Harrisburg-York-Lancaster, Pennsylvania
18	Philadelphia, Pennsylvania
19	Baltimore, Maryland
20	Washington, D.C.
21	Roanoke-Lynchburg, Virginia
22	Richmond, Virginia
23	Norfolk-Virginia Beach-Newport News, Virginia
24	Rocky Mount-Wilson-Greenville, North Carolina
25	Wilmington, North Carolina
26	Fayetteville, North Carolina
27	Raleigh-Durham, North Carolina
28	Greensboro-Winston-Salem-Highpoint, North Carolina
29	Charlotte, North Carolina
30	Asheville, North Carolina
31	Greenville-Spartanburg, South Carolina
32	Columbia, South Carolina
33	Florence, South Carolina
34	Charleston-North Charleston, South Carolina
35	Augusta, Georgia
36	Atlanta, Georgia
37	Columbus, Georgia
38	Macon, Georgia
39	Savanna, Georgia
40	Albany, Georgia
41	Jacksonville, Florida

**Appendix A (continued):
Department of Commerce-Bureau of Economic Analysis
Business Economic Area (BEA) Codes**

42	Orlando-Melbourne-Daytona Beach, Florida
43	Miami-Fort Lauderdale, Florida
44	Tampa-St. Petersburg, Florida
45	Tallahassee, Florida
46	Pensacola-Panama City, Florida
47	Mobile, Alabama
48	Montgomery, Alabama
49	Birmingham, Alabama
50	Huntsville-Florence, Alabama
51	Chattanooga, Tennessee
52	Johnson City-Kingsport-Bristol, Tennessee/Virginia
53	Knoxville, Tennessee
54	Nashville, Tennessee
55	Memphis, Tennessee
56	Paducah, Kentucky
57	Louisville, Kentucky
58	Lexington, Kentucky
59	Huntington, West Virginia
60	Charleston, West Virginia
61	Morgantown-Fairmont, West Virginia
62	Parkersburg, West Virginia
63	Wheeling-Steubenville-Wierton, West Virginia/Ohio
64	Youngstown-Warren, Ohio
65	Cleveland, Ohio
66	Columbus, Ohio
67	Cincinnati, Ohio
68	Dayton, Ohio
69	Lima, Ohio
70	Toledo, Ohio
71	Detroit, Michigan
72	Saginaw-Bay City, Michigan
73	Grand Rapids, Michigan
74	Lansing-Kalamazoo, Michigan
75	South Bend, Indiana
76	Fort Wayne, Indiana
77	Kokomo-Marion, Indiana
78	Anderson-Muncie, Indiana
79	Indianapolis, Indiana
80	Evansville, Indiana
81	Terre Haute, Indiana
82	Lafayette, Indiana

Appendix A (continued):
Department of Commerce-Bureau of Economic Analysis
Business Economic Area (BEA) Codes

83	Chicago, Illinois
84	Champaign-Urbana, Illinois
85	Springfield-Decatur, Illinois
86	Quincy, Illinois
87	Peoria, Illinois
88	Rockford, Illinois
89	Milwaukee, Wisconsin
90	Madison, Wisconsin
91	La Crosse, Wisconsin
92	Eau Claire, Wisconsin
93	Wausau, Wisconsin
94	Appleton-Green Bay-Oshkosh, Wisconsin
95	Duluth, Minnesota
96	Minneapolis-St. Paul, Minnesota
97	Rochester, Minnesota
98	Dubuque, Iowa
99	Davenport-Rock Island-Moline, Iowa/Illinois
100	Cedar Rapids, Iowa
101	Waterloo, Iowa
102	Fort Dodge, Iowa
103	Souix City, Iowa
104	Des Moines, Iowa
105	Kansas City, Missouri
106	Columbia, Missouri
107	St. Louis, Missouri
108	Springfield, Missouri
109	Fayetteville, Arkansas
110	Fort Smith, Arkansas
111	Little Rock-North Little Rock, Arkansas
112	Jackson, Mississippi
113	New Orleans, Louisiana
114	Baton Rouge, Louisiana
115	Lafayette, Louisiana
116	Lake Charles, Louisiana
117	Shreveport, Louisiana
118	Monroe, Louisiana
119	Texarkana, Texas
120	Tyler-Longview, Texas
121	Beaumont-Port Arthur, Texas
122	Houston, Texas
123	Austin, Texas

**Appendix A (continued):
Department of Commerce-Bureau of Economic Analysis
Business Economic Area (BEA) Codes**

124	Waco-Killeen-Temple, Texas
125	Dallas-Fort Worth, Texas
126	Wichita Falls, Texas
127	Abilene, Texas
128	San Angelo, Texas
129	San Antonio, Texas
130	Corpus Christi, Texas
131	Brownsville-McAllen-Harlingen, Texas
132	Odessa-Midland, Texas
133	El Paso, Texas
134	Lubbock, Texas
135	Amarillo, Texas
136	Lawton, Oklahoma
137	Oklahoma City, Oklahoma
138	Tulsa, Oklahoma
139	Wichita, Kansas
140	Salina, Kansas
141	Topeka, Kansas
142	Lincoln, Nebraska
143	Omaha, Nebraska
144	Grand Island, Nebraska
145	Scotts Bluff, Nebraska
146	Rapid City, South Dakota
147	Sioux Falls, South Dakota
148	Aberdeen, South Dakota
149	Fargo-Moorhead, North Dakota/Minnesota
150	Grand Forks, North Dakota
151	Bismark, North Dakota
152	Minot, North Dakota
153	Great Falls, Montana
154	Missoula, Montana
155	Billings, Montana
156	Cheyenne-Casper, Wyoming
157	Denver, Colorado
158	Colorado Springs-Pueblo, Colorado
159	Grand Junction, Colorado
160	Albuquerque, New Mexico
161	Tucson, Arizona
162	Phoenix, Arizona
163	Las Vegas, Nevada
164	Reno, Nevada

**Appendix A (continued):
Department of Commerce-Bureau of Economic Analysis
Business Economic Area (BEA) Codes**

165	Salt Lake City-Ogden, Utah
166	Pocatello-Idaho Falls, Idaho
167	Boise City, Idaho
168	Spokane, Washington
169	Richland, Washington
170	Yakima, Washington
171	Seattle, Washington
172	Portland, Oregon
173	Eugene, Oregon
174	Redding, California
175	Eureka, California
176	San Francisco-Oakland-San Jose, California
177	Sacramento, California
178	Stockton-Modesto, California
179	Fresno-Bakersfield, California
180	Los Angeles, California
181	San Diego, California
182	Anchorage, Alaska
183	Honolulu, Hawaii