

Soy Transportation Coalition

Railroad Movement of Soybeans and Soy Products



Volume Moved by Railroads – Total U.S.

<u>Soybeans</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
Short Tons Produced	95,647,410	80,313,510	88,775,220	100,770,330
Short Tons Originated by Class I Railroads	17,885,292	19,326,859	22,049,468	24,545,134
% Short Tons Originated by Class I Railroads	18.70%	24.06%	24.84%	24.36%
 <u>Soybean Meal</u>				
Short Tons Produced	41,788,399	43,405,666	41,147,170	40,805,407
Short Tons Originated by Class I Railroads	18,755,151	19,375,845	18,549,097	17,572,899
% Short Tons Originated by Class I Railroads	44.88%	44.64%	45.08%	43.07%
 <u>Soybean Oil</u>				
Short Tons Produced	10,205,127	10,358,508	9,975,704	9,695,703
Short Tons Originated by Class I Railroads	7,041,598	6,992,436	7,004,920	6,511,526
% Short Tons Originated by Class I Railroads	69.00%	67.50%	70.22%	67.16%
 <u>Total Soybeans & Soy Products</u>				
Short Tons Produced	147,640,936	134,077,684	139,898,094	151,271,440
Short Tons Originated by Class I Railroads	43,682,041	45,695,140	47,603,485	48,628,559
% Short Tons Originated by Class I Railroads	29.59%	34.08%	34.03%	32.15%

Class I Railroad – a railroad with an operating revenue exceeding \$346.8 million. Currently, seven railroads are considered as Class I: Burlington Northern Santa Fe, CSX Transportation, Kansas City Southern Railway, Norfolk Southern Railway, and Union Pacific Railroad. Canadian National Railway and Canadian Pacific Railway are also considered Class I due to their significant trackage lines in the United States.

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Volume Moved by Railroads – Top 5 States (2008)

Soybeans

<u>State</u>	<u>Short Tons</u>	<u>%</u>
1.) Minnesota	3,889,040	16.12%
2.) North Dakota	3,797,909	15.74%
3.) Nebraska	3,245,971	13.46%
4.) South Dakota	2,768,796	11.48%
5.) Illinois	1,964,686	8.14%
TOTAL Originated by Railroads (50 States)	24,122,188	100.00%

Soybean Meal

<u>State</u>	<u>Short Tons</u>	<u>%</u>
1.) Illinois	3,432,104	17.53%
2.) Iowa	3,314,879	16.93%
3.) Nebraska	2,630,194	13.44%
4.) Minnesota	2,152,170	10.99%
5.) Indiana	1,382,022	7.06%
TOTAL Originated by Railroads (50 States)	19,574,401	100.00%

Soybean Oil

<u>State</u>	<u>Short Tons</u>	<u>%</u>
1.) Iowa	1,509,536	19.90%
2.) Illinois	993,580	13.10%
3.) Minnesota	832,152	10.97%
4.) Nebraska	436,604	5.75%
5.) Missouri	335,608	4.42%
TOTAL Originated by Railroads (50 States)	7,586,544	100.00%

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Leading Origins

Soybeans

<u>Origin (BEA*)- Top 5</u>	<u>Short Tons</u>	<u># of Railcars</u>	<u>%</u>
1.) Fargo-Moorehead, ND-MN	3,797,909	35,195	15.74%
2.) Grand Forks, ND-MN	2,089,132	19,314	8.66%
3.) Minneapolis-St. Paul, MN	1,799,908	16,954	7.46%
4.) Sioux Falls, SD-IA-MN-NE	1,744,696	15,827	7.23%
5.) Grand Island, NE	1,284,629	12,017	5.33%

Soybean Meal

<u>Origin (BEA*) – Top 5</u>	<u>Short Tons</u>	<u># of Railcars</u>	<u>%</u>
1.) Des Moines, IA	2,268,104	23,595	11.59%
2.) Minneapolis-St. Paul, MN	2,152,170	22,414	10.99%
3.) Champaign-Urbana, IL	1,964,432	20,216	10.04%
4.) Chicago-Gary-Kenosha, IL-IN-WI	1,467,672	24,588	7.50%
5.) Indianapolis, IN	1,382,022	13,453	7.06%

Soybean Oil

<u>Origin (BEA*) – Top 5</u>	<u>Short Tons</u>	<u># of Railcars</u>	<u>%</u>
1.) Des Moines, IA	917,240	9,680	12.09%
2.) Minneapolis-St. Paul, MN	832,152	8,672	10.97%
3.) Chicago-Gary-Kenosha, IL-IN-WI	619,200	6,744	8.16%
4.) Sioux City, IA-NE-SD	592,296	6,436	7.81%
5.) Omaha, NE-IA-MO	436,604	4,664	5.75%

*The U.S. Bureau of Economic Analysis (BEA) divides the nation into BEA regions when analyzing and compiling economic data.

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Leading Destinations After Loaded into a Rail Car, Where Does it Go?

Soybeans

<u>Destination (BEA*)- Top 5</u>	<u>Short Tons</u>	<u># of Railcars</u>	<u>%</u>
1.) Seattle-Tacoma-Bremerton, WA	5,751,418	52,278	23.84%
2.) Portland-Salem, OR-WA	3,823,206	34,412	15.85%
3.) New Orleans, LA-MS	2,972,680	29,678	12.32%
4.) St. Louis, MO-IL	740,846	7,546	3.07%
5.) Chicago-Gary-Kenosha, IL-IN-WI	575,688	5,812	2.39%

Soybean Meal

<u>Destination (BEA*) – Top 5</u>	<u>Short Tons</u>	<u># of Railcars</u>	<u>%</u>
1.) Seattle-Tacoma-Bremerton, WA	1,268,131	16,598	6.48%
2.) Jackson, MS-AL-LA	1,183,888	12,620	6.05%
3.) San Antonio, TX	1,051,284	10,267	5.37%
4.) Chicago-Gary-Kenosha, IL-IN-WI	943,600	9,724	4.82%
5.) Little Rock, AR	654,656	6,804	3.34%

Soybean Oil

<u>Destination (BEA*) – Top 5</u>	<u>Short Tons</u>	<u># of Railcars</u>	<u>%</u>
1.) Chicago-Gary-Kenosha, IL-IN-WI	1,038,572	11,008	13.69%
2.) Kansas City, MO-KS	647,952	6,972	8.54%
3.) Los Angeles-Riverside-Orange County, CA-AZ	462,640	5,040	6.10%
4.) New Orleans, LA-MS	349,636	3,944	4.61%
5.) Atlanta, GA-AL-NC	309,448	3,344	4.08%

*The U.S. Bureau of Economic Analysis (BEA) divides the nation into BEA regions when analyzing and compiling economic data.

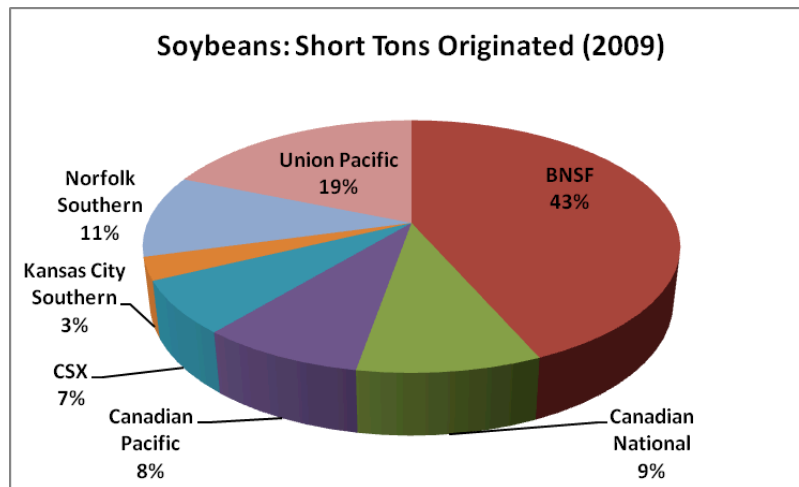
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Which Railroads Move the Most?

Soybeans (Short Tons Originated)

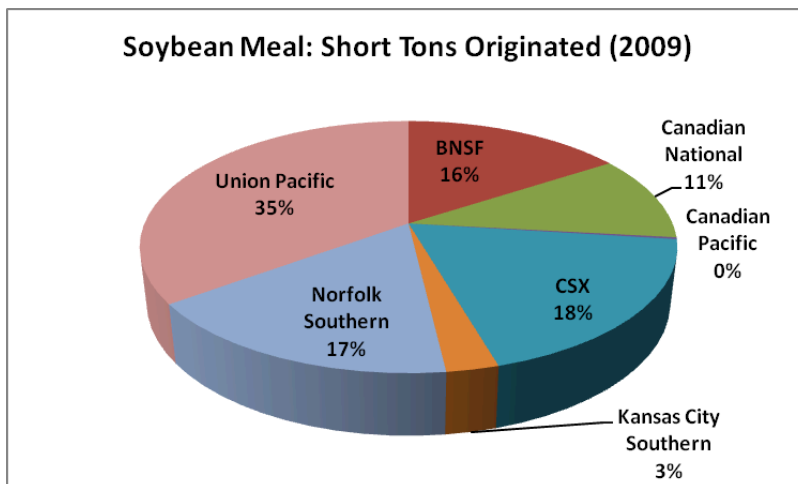


BNSF Railway	2006	2007	2008	2009
Short Tons Originated	6,506,888	8,056,998	8,827,180	10,658,767
% Change Per Year	-----	23.82%	9.56%	20.75%
% Total Class I Tons Originated	36.38%	41.69%	40.03%	43.43%
Canadian National Railway				
Short Tons Originated	2,201,139	2,202,161	2,565,837	2,288,489
% Change Per Year	-----	0.05%	16.51%	-10.81%
% Total Class I Tons Originated	12.31%	11.39%	11.64%	9.32%
Canadian Pacific Railway				
Short Tons Originated	1,777,880	2,003,651	1,942,477	2,037,043
% Change Per Year	-----	12.70%	-3.05%	4.87%
% Total Class I Tons Originated	9.94%	10.37%	8.81%	8.30%
CSX Transportation				
Short Tons Originated	1,961,515	1,704,479	1,699,889	1,660,458
% Change Per Year	-----	-13.10%	-0.27%	-2.32%
% Total Class I Tons Originated	10.97%	8.82%	7.71%	6.76%

Soybeans (Short Tons Originated) - continued

	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
Kansas City Southern Railway				
Short Tons Originated	501,809	646,843	594,389	716,521
% Change Per Year	-----	28.90%	-8.11%	20.55%
% Total Class I Tons Originated	2.81%	3.35%	2.70%	2.92%
Norfolk Southern Railway				
Short Tons Originated	2,559,515	2,652,283	2,868,698	2,583,021
% Change Per Year	-----	3.62%	8.16%	-9.96%
% Total Class I Tons Originated	14.31%	13.72%	13.01%	10.52%
Union Pacific Railroad				
Short Tons Originated	2,376,546	2,060,444	3,550,998	4,600,835
% Change Per Year	-----	-13.30%	72.34%	29.56%
% Total Class I Tons Originated	13.29%	10.66%	16.10%	18.74%
Total Class I Short Tons Originated				
Short Tons Originated	17,885,292	19,326,859	22,049,468	24,545,134
% Change Per Year	-----	8.06%	14.09%	11.32%
% Total Class I Tons Originated	100.00%	100.00%	100.00%	100.00%

Soybean Meal (Short Tons Originated)

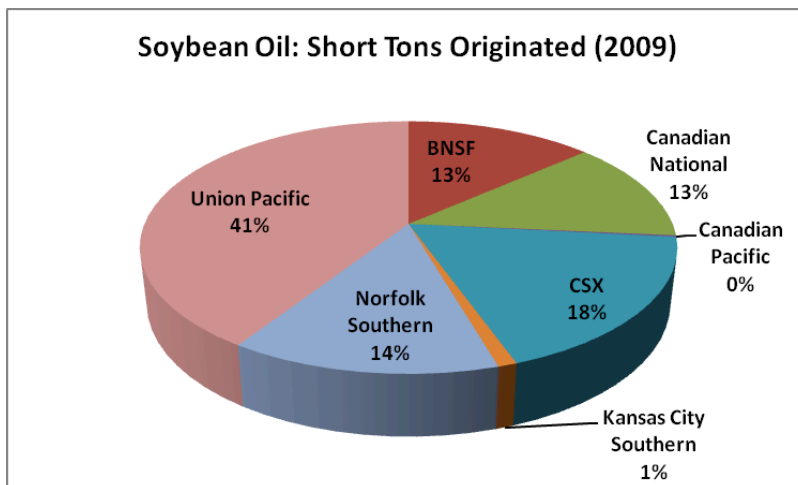


BNSF Railway	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
Short Tons Originated	2,728,516	2,878,374	2,662,350	2,780,705
% Change Per Year	-----	5.49%	-7.51%	4.45%
% Total Class I Tons Originated	14.55%	14.86%	14.35%	15.82%
Canadian National Railway				
Short Tons Originated	2,444,478	2,623,971	2,342,411	1,924,249
% Change Per Year	-----	7.34%	-10.73%	-17.85%
% Total Class I Tons Originated	13.03%	13.54%	12.63%	10.95%

Soybean Meal (Short Tons Originated) - continued

	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
Canadian Pacific Railway				
Short Tons Originated	61,486	29,101	46,455	42,591
% Change Per Year	-----	-52.67%	59.63%	-8.32%
% Total Class I Tons Originated	0.33%	0.15%	0.25%	0.24%
CSX Transportation				
Short Tons Originated	3,532,313	3,733,905	3,606,183	3,245,441
% Change Per Year	-----	5.71%	-3.42%	-10.00%
% Total Class I Tons Originated	18.83%	19.27%	19.44%	18.47%
Kansas City Southern Railway				
Short Tons Originated	320,102	333,063	322,219	467,071
% Change Per Year	-----	4.05%	-3.26%	44.95%
% Total Class I Tons Originated	1.71%	1.72%	1.74%	2.66%
Norfolk Southern Railway				
Short Tons Originated	2,488,118	2,515,165	2,811,828	2,949,529
% Change Per Year	-----	1.09%	11.79%	4.90%
% Total Class I Tons Originated	13.27%	12.98%	15.16%	16.78%
Union Pacific Railroad				
Short Tons Originated	7,180,138	7,262,266	6,757,651	6,163,313
% Change Per Year	-----	1.14%	-6.95%	-8.80%
% Total Class I Tons Originated	38.28%	37.48%	36.43%	35.07%
Total Class I Short Tons Originated				
Short Tons Originated	18,755,151	19,375,845	18,549,097	17,572,899
% Change Per Year	-----	3.31%	-4.27%	-5.26%
% Total Class I Tons Originated	100.00%	100.00%	100.00%	100.00%

Soybean Oil (Short Tons Originated)



	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
BNSF Railway				
Short Tons Originated	848,208	903,860	917,340	878,261
% Change Per Year	-----	6.56%	1.49%	-4.26%
% Total Class I Tons Originated	12.05%	12.93%	13.10%	13.49%

Canadian National Railway				
Short Tons Originated	490,592	677,394	665,488	845,250
% Change Per Year	-----	38.08%	-1.76%	27.01%
% Total Class I Tons Originated	6.97%	9.69%	9.50%	12.98%
Canadian Pacific Railway				
Short Tons Originated	20,106	8,888	106	12,634
% Change Per Year	-----	-55.79%	-98.81%	11,818.87%
% Total Class I Tons Originated	0.29%	0.13%	0.00%	0.19%
CSX Transportation				
Short Tons Originated	1,332,815	1,366,754	1,315,598	1,163,413
% Change Per Year	-----	2.55%	-3.74%	-11.57%
% Total Class I Tons Originated	18.93%	19.55%	18.78%	17.87%
Kansas City Southern Railway				
Short Tons Originated	6,515	6,956	8,020	62,552
% Change Per Year	-----	6.77%	15.30%	679.95%
% Total Class I Tons Originated	0.09%	0.10%	0.11%	0.96%
Norfolk Southern Railway				
Short Tons Originated	974,242	921,778	955,775	889,593
% Change Per Year	-----	-5.39%	3.69%	-6.92%
% Total Class I Tons Originated	13.84%	13.18%	13.64%	13.66%
Union Pacific Railroad				
Short Tons Originated	3,369,120	3,106,806	3,142,593	2,659,823
% Change Per Year	-----	-7.79%	1.15%	-15.36%
% Total Class I Tons Originated	47.85%	44.43%	44.86%	40.85%
Total Class I Short Tons Originated				
Short Tons Originated	7,041,598	6,992,436	7,004,920	6,511,526
% Change Per Year	-----	-0.70%	0.18%	-7.04%
% Total Class I Tons Originated	100.00%	100.00%	100.00%	100.00%

Class I Railroad – a railroad with an operating revenue exceeding \$346.8 million. Currently, seven railroads are considered as Class I: Burlington Northern Santa Fe, CSX Transportation, Kansas City Southern Railway, Norfolk Southern Railway, and Union Pacific Railroad. Canadian National Railway and Canadian Pacific Railway are also considered Class I due to their significant trackage lines in the United States.

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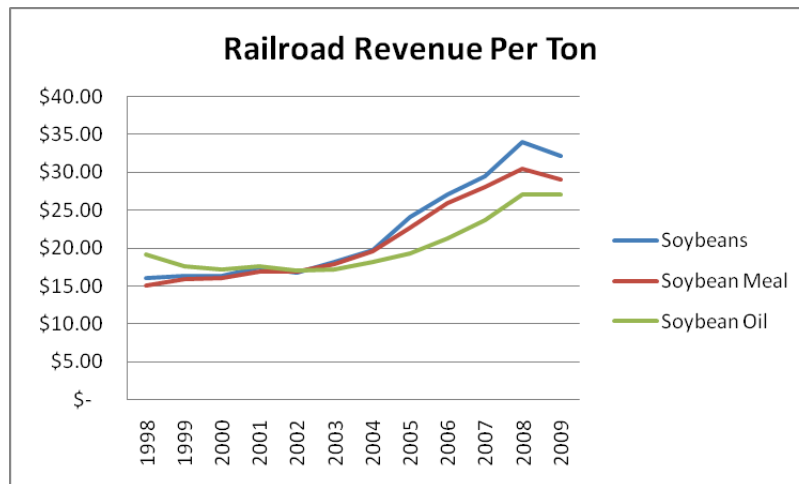
Railroad Movement of Soybeans and Soy Products



Railroad Revenue

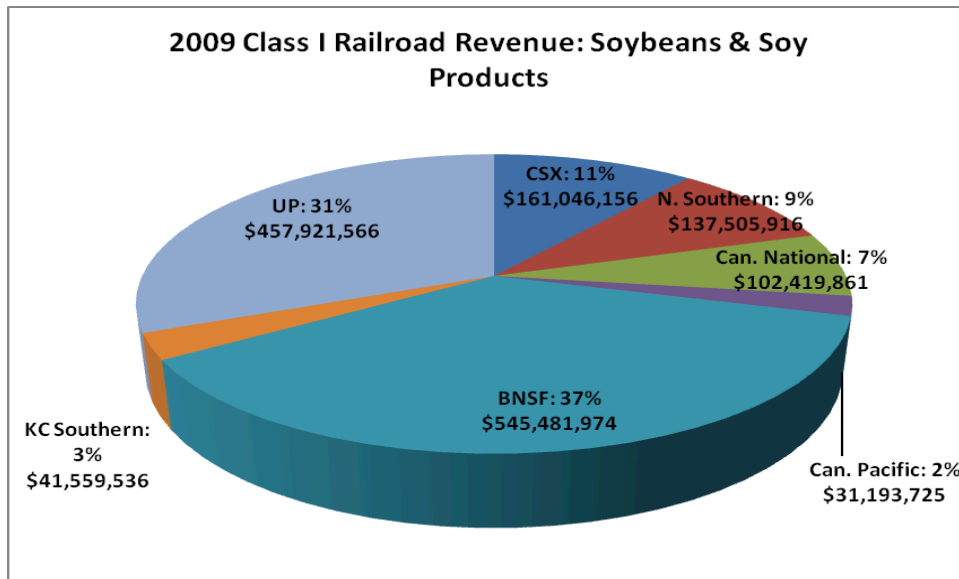
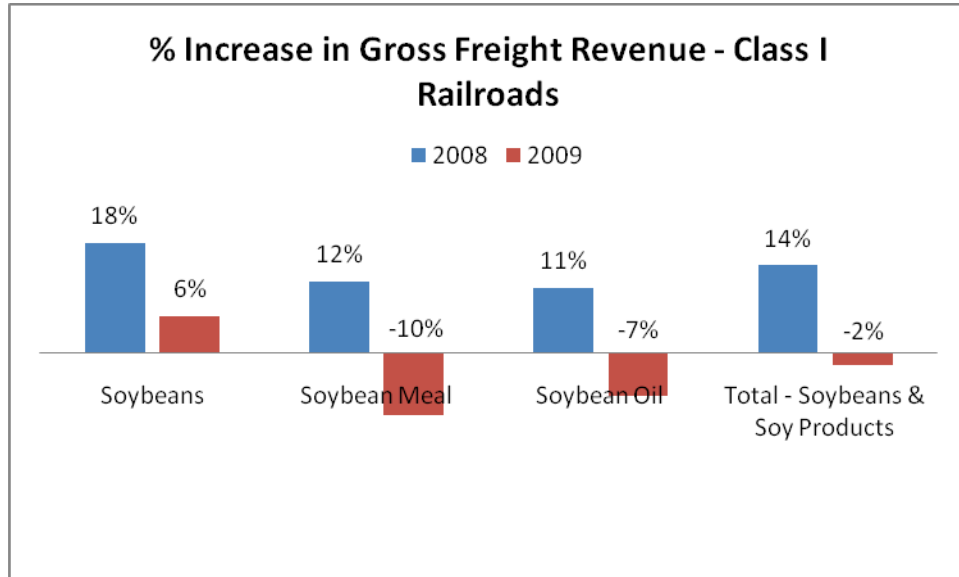
Class I Railroad Revenue (Per Short Ton)

<u>Year</u>	<u>Soybeans</u>	<u>Soybean Meal</u>	<u>Soybean Oil</u>
1998	\$16.03	\$15.04	\$19.14
1999	\$16.32	\$15.84	\$17.64
2000	\$16.36	\$16.09	\$17.16
2001	\$17.48	\$16.91	\$17.58
2002	\$16.74	\$16.84	\$17.08
2003	\$18.18	\$17.92	\$17.17
2004	\$19.73	\$19.60	\$18.15
2005	\$24.15	\$22.69	\$19.27
2006	\$27.01	\$25.99	\$21.23
2007	\$29.52	\$28.10	\$23.66
2008	\$34.00	\$30.51	\$27.09
2009	\$32.23	\$29.02	\$27.04



Total Gross Freight Revenue for Soybeans & Soy Products for Class I Railroads

	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
Soybeans	\$483,027,779	\$570,535,145	\$749,762,239	\$791,041,122
Soybean Meal	\$487,500,392	\$544,387,232	\$565,868,411	\$510,023,697
Soybean Oil	\$149,517,610	\$165,411,233	\$189,761,557	\$176,063,915
TOTAL	\$1,120,045,781	\$1,280,333,610	\$1,505,392,207	\$1,477,128,734



Class I Railroad – a railroad with an operating revenue exceeding \$346.8 million. Currently, seven railroads are considered as Class I: Burlington Northern Santa Fe, CSX Transportation, Kansas City Southern Railway, Norfolk Southern Railway, and Union Pacific Railroad. Canadian National Railway and Canadian Pacific Railway are also considered Class I due to their significant trackage lines in the United States.

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Railroad Movement of Soybeans and Soy Products



Railroad Rates

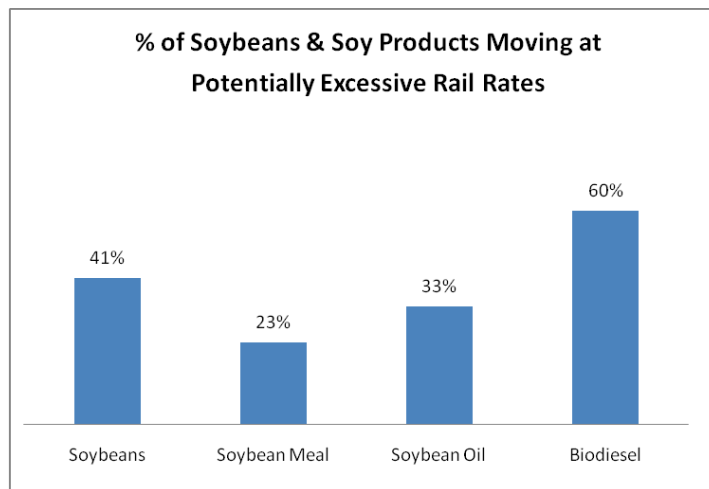
Average Freight Charges Per Carload:

	<u>Soybeans</u>	<u>Soybean Meal</u>	<u>Soybean Oil</u>	<u>Biodiesel</u>
2007	\$3,047.09	\$2,590.43	\$2,457.65	\$3,989.54
2008	\$3,688.55	\$3,104.98	\$2,650.14	\$3,934.61
% Change Since 2007	21.08%	19.86%	7.83%	-1.38%

Average Freight Charges Per Short Ton:

	<u>Soybeans</u>	<u>Soybean Meal</u>	<u>Soybean Oil</u>	<u>Biodiesel</u>
2007	\$30.50	\$29.64	\$27.09	\$46.81
2008	\$35.58	\$32.78	\$28.87	\$44.41
% Change Since 2007	16.66%	10.59%	6.57%	-4.91%

Excessive Rates?



Excessive Rates? – STB Jurisdictional Traffic: Revenue to Variable Cost Ratio \geq 180%

	<u>Soybeans</u>	<u>Soybean Meal</u>	<u>Soybean Oil</u>	<u>Biodiesel</u>
Short Tons Moving at R/V \geq 180%	9.89 million	4.50 million	2.50 million	1.71 million
% of Total Short Tons	41%	23%	33%	60%

*Revenue to Variable Cost Ratios (R/V) are used by the U.S. Surface Transportation Board (STB) to evaluate and measure the profitability and reasonableness associated with railroad freight charges. For example, if a railroad's freight charges are \$2,000 per carload and the variable costs for that movement are \$1,000 per carload, the R/V would be 200%. In order for a rate to be regarded as potentially excessive, and subject to STB jurisdiction, the R/V ratio must be equal to or greater than 180%.

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Railroad Movement of Soybeans and Soy Products



High Rail Rates – Top 5 States

Soybeans

<u>State</u>	<u>Short Tons Moving at R/VC > 180% (Excessive Rates?)</u>
1.) North Dakota	2,377,263
2.) Nebraska	1,494,763
3.) Minnesota	1,157,579
4.) South Dakota	1,125,154
5.) Ohio	644,971

Soybean Meal

<u>State</u>	<u>Short Tons Moving at R/VC > 180% (Excessive Rates?)</u>
1.) Nebraska	1,121,315
2.) Iowa	841,333
3.) Illinois	524,133
4.) Indiana	337,569
5.) Minnesota	248,155

Soybean Oil

<u>State</u>	<u>Short Tons Moving at R/VC > 180% (Excessive Rates?)</u>
1.) Iowa	568,258
2.) Illinois	323,045
3.) Minnesota	245,105
4.) Indiana	113,786
5.) Missouri	104,129

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Railroad Movement of Soybeans and Soy Products



Average Tons Per Carload & Average Railroad Mileage Haul

	<u>Soybeans</u>	<u>Soybean Meal</u>	<u>Soybean Oil</u>	<u>Biodiesel</u>
Average Short Tons Per Carload	103.67*	91.97	91.78	89.39
Average Railroad Mileage Haul	1,156	921	665	853

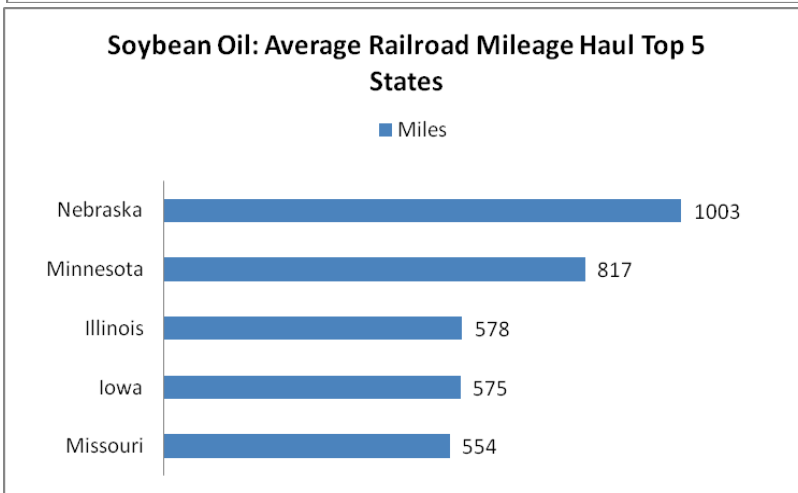
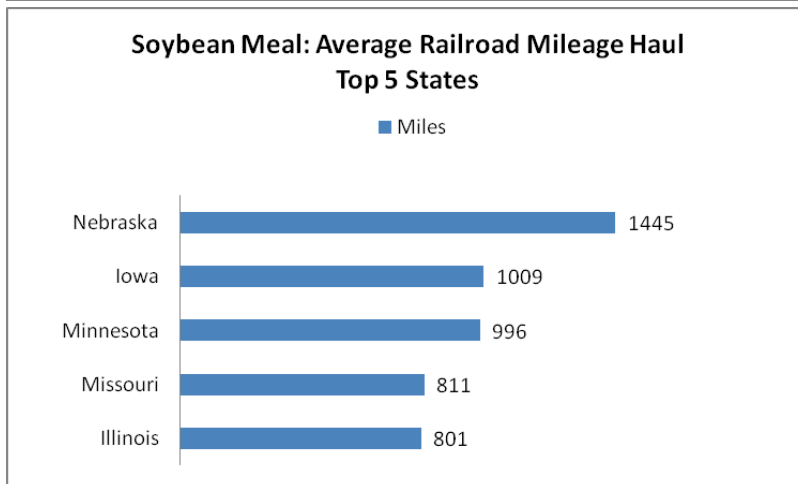
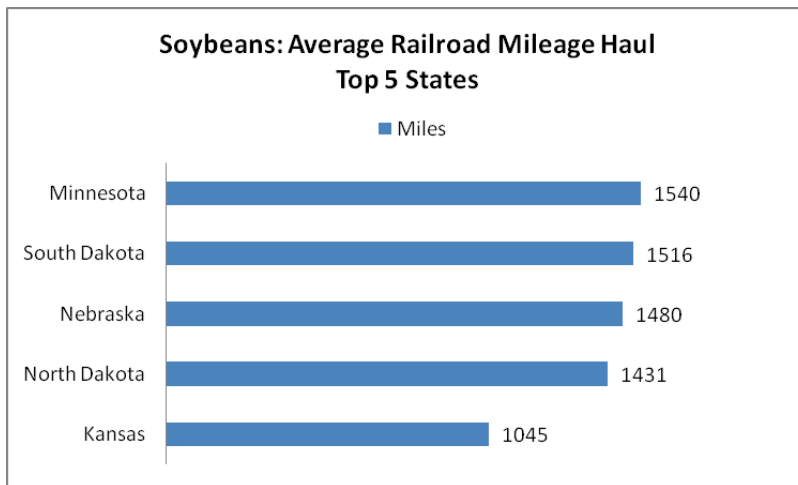
*103.67 Short Tons = 3,455 bushels of soybeans

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Average Mileage Haul – Top 5 States

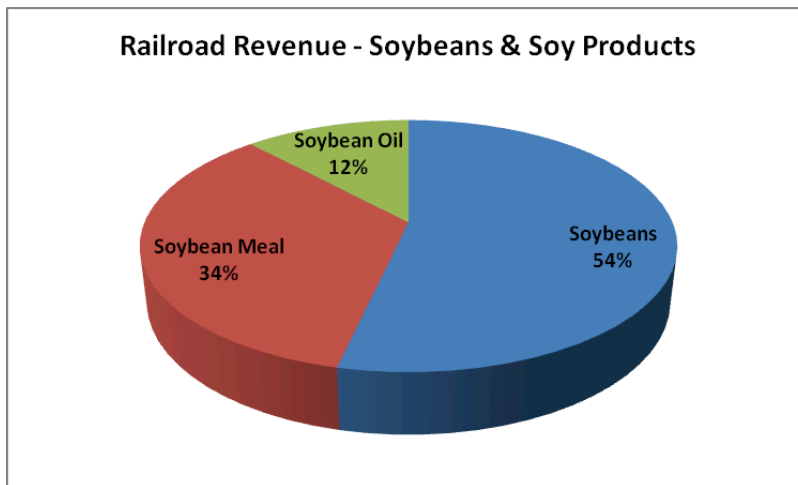


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Railroad Movement of Soybeans and Soy Products



Soybeans vs. Corn & Wheat – Class I Railroad Movements



Soybeans & Soy Products

Soybeans
Soybean Meal
Soybean Oil
TOTAL Soybean & Soy Products

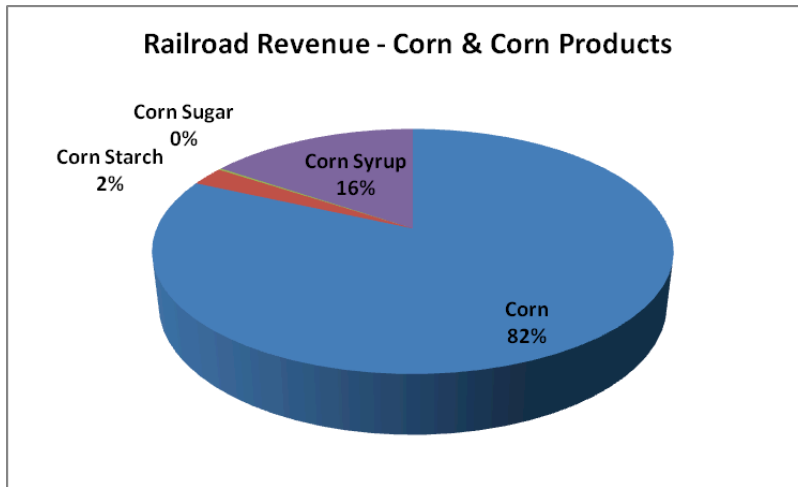
Gross Freight Revenue

\$791,041,122
\$510,023,697
\$176,063,915
\$1,477,128,734

%

53.55%
34.53%
11.92%
100.00%

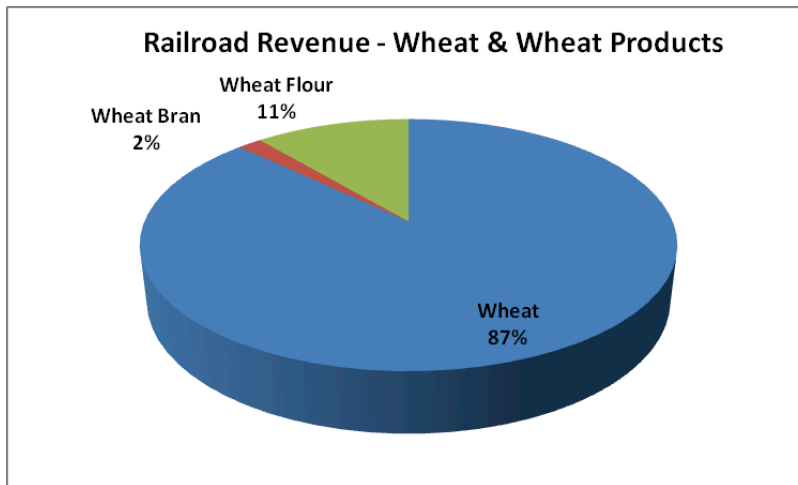
Soybeans vs. Corn & Wheat – Class I Railroad Movements – continued



Corn & Corn Products

<u>Corn & Corn Products</u>	<u>Gross Freight Revenue</u>	<u>%</u>
Corn	\$1,812,137,566	81.75%
Corn Syrup	\$344,188,644	15.53%
Corn Starch	\$55,474,215	2.50%
Corn Sugar	\$4,895,229	0.22%
TOTAL Corn & Corn Products	\$2,216,695,654	100.00%

NOTE: Railroad data do not classify ethanol as a food or farm product. It is therefore not included under the corn or corn products category. In 2009, Class I railroads moved 27.5 million short tons of "Alcohols" – the majority of which was ethanol – and generated revenues of \$1.197 billion.



Wheat & Wheat Products

<u>Wheat & Wheat Products</u>	<u>Gross Freight Revenue</u>	<u>%</u>
Wheat	\$1,094,483,447	87.15%
Wheat Flour	\$140,007,846	11.15%
Wheat Bran	\$21,408,178	1.70%
TOTAL Wheat & Wheat Products	\$1,255,899,471	100.00%

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Railroad Movement of Soybeans and Soy Products



Analysis Prepared and Compiled by G.W. Fauth & Associates, Inc.

G. W. Fauth & Associates, Inc. (GWF) has been engaged in the transportation consulting business for over 50 years. GWF has been involved in a wide variety of projects, litigations, arbitrations, regulatory proceedings, and legislative debates – primarily associated with or related to the U.S. freight railroad industry.

Gerald W. Fauth III, President of GWF, has over 30 years of experience in the private sector and in the federal government working on economic, regulatory, public policy and legislative issues impacting the transportation industry with a primary focus on the North American freight railroad industry.

As a consultant, he has assisted a wide variety of clients, including major corporations, trade associations, railroads, and other groups with: projects, litigations, negotiations, arbitrations, regulatory proceedings, and legislative debates involving all modes of transportation. He has submitted expert testimony in numerous proceedings before the STB, Interstate Commerce Commission (ICC), courts, state regulatory agencies, and arbitration panels, which has helped resolve complicated economic and regulatory issues and helped shape public policy and regulation.

One of Mr. Fauth's primary areas of expertise involves the economic evaluation of railroad freight rates and the determination of railroad rate reasonableness. For example, he submitted expert testimony for a large group of over 35 major stakeholders in STB Ex Parte No. 646 (Sub-No. 1), Simplified Standards for Rail Rate Cases, which was a major regulatory proceeding before the STB involving new economic procedures and eligibility standards for the establishment of maximum reasonable railroad freight rates. He has extensive hands-on experience working with the STB's Waybill Sample and Uniform Railroad Costing System or URCS which are utilized in determining rate reasonableness. A complete listing of his testimony is available upon request.

Mr. Fauth spent 3½ years with the STB and was directly involved in several large proceedings and rulemakings which involved all matters of STB jurisdiction and had an impact on the railroad industry and the National economy. He served as Chief of Staff to one of the three politically appointed STB Board Members. He reviewed, analyzed and made recommendations on over 600 written formal decisions that were decided by the entire Board, such as Ex Parte No. 582 (Sub-No. 1), Major Rail Consolidation Procedures, which involved a major revision of the STB's railroad merger rules. A complete listing of these STB decisions is available upon request.

Mr. Fauth is extremely familiar with the long history associated with the existing federal laws, public policies and regulations impacting the transportation industry. His legislative experience includes work on major legislative efforts impacting the transportation industry, such as the Staggers Rail Act of 1980 and the ICC Termination Act of 1995. He was actively involved in monitoring, tracking and analyzing proposed legislation and regulation impacting the transportation industry. His experience includes working directly with Members of Congress, Congressional and Committee staff, Federal, State and Local government officials, and key stakeholders as a consultant and Federal Government official on appropriation, authorization, and legislative reform issues.

Mr. Fauth is a 1978 graduate of Hampden-Sydney College, Hampden-Sydney, Virginia. His major areas of study were history and government. His senior paper in college dealt with the History of Railroad Deregulation. His professional memberships include the Association for Transportation Law Professionals, Inc. and the Transportation Research Forum.

Soy Transportation Coalition

Railroad Movement of Soybeans and Soy Products



DATA SOURCES

Several different publicly available data sources were used in the development of the analyses included in this report and in the evaluation of U.S. railroad movements of soybeans and soy products, including:

- ◆ U. S. Department of Agriculture (USDA) Annual Crop Reports;
- ◆ U.S. Census Bureau Report titled: *Fats and Oils: Oilseed Crushings*;
- ◆ 2006, 2007, 2008 and 2009 Annual Reports of Freight Commodity Statistics (FCS), submitted by U.S. Class I railroads to the STB;
- ◆ The 2006, 2007 and 2008 Public Waybill Sample (PWS) developed by the STB, which are data bases including over 600,000 records of U.S. railroad movements;
- ◆ Uniform Railroad Costing System (URCS) data for individual U.S. Class I railroads developed by the STB;
- ◆ USDA *Study of Rural Transportation Issues*, April, 2010;
- ◆ *The Rail Transportation of Grain*, Volume 7 (2009 data), published by the Association of American Railroads (AAR), Policy and Economics Department, August 4, 2010;
- ◆ Other publicly available data and internal sources.

The AAR's annual grain report (*The Rail Transportation of Grain*) is a good source for information concerning the production and railroad transportation of soybeans and soy products. It is available for purchase online from the AAR. The tables and data included herein, however, were independently developed by GWF, but may include information which is also included in AAR's grain report.

The most current data available for use in evaluating individual railroad movements is the STB's 2008 PWS data. Several charts and tables herein are based on this database. The STB's 2008 PWS includes approximately 8,000 records of railroad movements of soybeans and soy products. An individual railroad movement (i.e., the movement of a specific commodity moving over the same railroad route and involving the same origin and destination pair) may involve a single PWS record or multiple PWS records.

There are several inherent problems with the STB's PWS data which make it difficult to accurately analyze individual railroad movements. For example, for confidentiality reasons, the STB's PWS does not identify specific locations, such as the Standard Point Location Code (SPLC), nor does it identify the individual railroad(s) involved in the movements. For this report, it was not necessary to identify the specific origins and destinations and the individual Class I railroads were identified based on BEA and other information included in the individual PWS records.

Revenue/Variable Cost (R/V/C) ratios have been historically used in the evaluation of railroad freight rates. For example, the STB's jurisdictional threshold has been set by Congress at a R/V/C ratio of 180%. For this report, R/V/C ratios were developed based on the revenue (rates plus fuel surcharges) of the individual PWS records and the developed 2008 URCS variable cost data.

The STB's PWS also does not include URCS variable cost information necessary to develop the R/V/C ratios for the individual records. The variable costs were developed based on the STB's most current URCS data (2008) for the identified railroads involved in each movement. Regional URCS data was used for movements involving non-Class I railroads and for records where the railroad could not be accurately identified. The variable cost approach utilized closely follows the STB's "unadjusted" URCS costing methodology as set forth in STB Ex Parte No. 646 (Sub-No. 1), Simplified Standards For Rail Rate Cases, served September 5, 2007. The STB's "unadjusted" URCS jurisdictional costing approach disallows adjustments to reflect the actual economies of individual movements. It generally overstates the actual variable cost associated with most rail movements of soybeans and soy products, which often move in efficient multiple car and trainload shipments.

The 2008 revenues and developed costs have not been indexed to a current level. Since freight charges on soybeans and soy products have increased since 2008 and costs have remained fairly level, it is likely that the R/V/C ratios have increased as well.

The developed R/V/C ratios have been grouped into four (4) R/V/C groups:

- R/V/C < 180% (Below STB Jurisdiction)
- R/V/C \geq 180% and < 200%
- R/V/C \geq 200% and < 300%
- R/V/C \geq 300%

Despite the problems associated with the STB's PWS and URCS data, the analyses and summaries that have been developed and presented herein provide a fairly accurate picture of U.S. railroad movements of soybeans and soy products.

