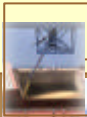




U.S. Grain Transportation: An Overview of the Railway System

Delmy L. Salin, Senior Economist
U.S. Department of Agriculture
Agricultural Marketing Service
Transportation and Marketing Programs



Outline

- U.S. grain transportation overview
- U.S. railway system
 - History
 - Railroad classification
 - Ranking by miles
- U.S. railroads and grain
- Looking into the future: issues to be addressed

U.S. Grain Transportation Overview



- Barge, rail, trucks compete and complement each other in the transport of grain

- This balance provides grain shippers:
 - Highly efficient and low-cost system of transportation
 - Lower shipping costs
 - Smaller marketing margins
 - Competitive export prices

Total Tonnages and Modal Shares for All U.S. Grains



Year	Mode of Transport					
	Rail		Barge		Truck	
	1,000 tons	Percent	1,000 tons	Percent	1,000 tons	Percent
1994	124,489	37	64,968	19	144,751	43
1995	152,033	40	73,725	19	154,570	41
1996	131,350	36	73,504	20	156,035	43
1997	122,291	33	65,049	17	187,896	50
1998	125,072	33	64,199	17	190,676	50
1999	134,899	34	74,174	19	185,554	47
2000	129,498	32	72,197	18	202,738	50
2001	135,138	33	71,808	18	202,919	50
2002	131,378	33	74,267	19	192,891	48
2003	131,388	32	68,396	17	207,034	51

Source: Transportation of U.S. Grains: A Modal Share Analysis, 1978-2003 (draft)
 Transportation & Marketing Programs/AMS/USDA



Export Tonnages and Modal Shares for All U.S. Grains

Year	Mode of Transport					
	Rail		Barge		Truck	
	1,000 tons	Percent	1,000 tons	Percent	1,000 tons	Percent
1994	27,722	26	57,966	55	20,336	19
1995	50,616	38	67,631	51	14,719	11
1996	46,850	37	66,921	53	11,471	9
1997	43,700	40	58,426	54	6,735	6
1998	41,703	39	57,509	54	7,366	7
1999	50,676	41	67,949	55	5,234	4
2000	46,040	38	67,556	55	8,743	7
2001	48,519	40	67,189	55	6,098	5
2002	46,052	39	68,506	59	2,541	2
2003	47,236	40	62,776	53	7,432	6

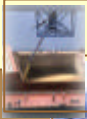
Source: Transportation of U.S. Grains: A Modal Share Analysis, 1978-2003 (draft)
Transportation & Marketing Programs/AMS/USDA



Domestic Tonnages and Modal Shares for All U.S. Grains

Year	Mode of Transport					
	Rail		Barge		Truck	
	1,000 tons	Percent	1,000 tons	Percent	1,000 tons	Percent
1994	96,767	42	7,002	3	124,416	55
1995	101,417	41	6,094	3	139,851	57
1996	84,500	36	6,583	3	144,563	61
1997	78,591	30	6,624	2	181,161	68
1998	83,369	30	6,690	2	183,310	67
1999	84,223	31	6,225	2	180,320	67
2000	83,458	30	4,641	2	193,995	69
2001	86,619	30	4,619	2	196,821	68
2002	85,325	30	5,761	2	190,350	68
2003	84,152	29	5,620	2	199,602	69

Source: Transportation of U.S. Grains: A Modal Share Analysis, 1978-2003 (draft)
Transportation & Marketing Programs/AMS/USDA



U.S. Railway System Overview

- Rail: a cost-effective transportation mode available to agricultural shippers not located near markets or river transportation.
- Privately own infrastructure with limited access.
- High fixed costs need large capital requirements.
- Few large firms.
- Only freight transportation mode subject to economic regulation.



U.S. Railway Regulatory Overview

- The interstate Commerce Act of 1887 (ICC Act):
 - Price discrimination
 - Pooling or formation of cartels
 - Rail rates required to be “just and reasonable.”
 - Railroad required publishing and adhering to these tariffs.
 - Created the Interstate Commerce Commission (ICC) to implement the ICC Act.
- The Hepburn Act of 1906
- The Transportation Act of 1920
- Regional Rail Reorganization Act of 1973 (3-R Act).
- Regulatory Reform Act of 1976 (4-R Act)



U.S. Railway Regulatory Overview

Staggers Rail Act of 1980:

- Speed up abandonment procedures
- Greater flexibility in configuration of rail networks
- Accelerated merger timetables
- Confidential contracts with shippers
- Interstate Commerce Commission Termination Act of 1995 (ICCTA) eliminated the ICC and replaced it with the Surface Transportation Board (STB).
- STB is an economic regulatory agency with the fundamental missions of resolving railroad rate and service disputes and reviewing proposed railroad mergers.



The U.S. Rail Network



Source: Association of American Railroads



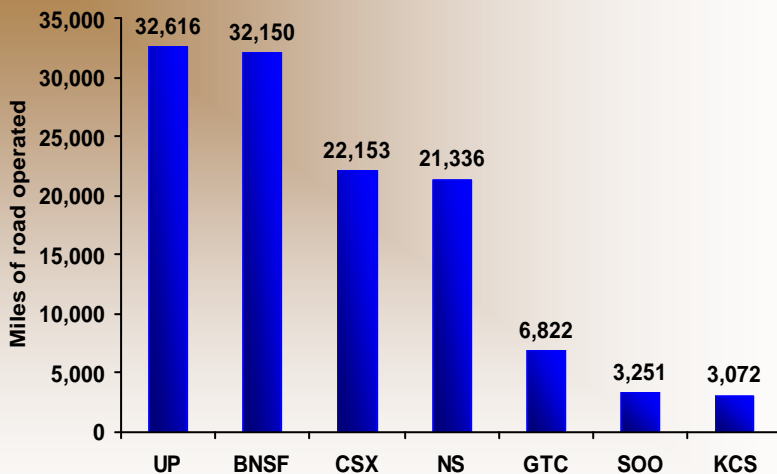
U.S. Railroads Classification, 2004

	No.	Operating revenue	Range	Miles
Class I	7	>\$289.4 million	>3,000 miles	97,662*
Regional	31	\$40-Class I threshold	= 350 miles	15,422
Local	518	<\$40 million	<350 miles	11,778
Total U.S.	556			176,899

Source: Railroad Facts, 2005 Edition, Overview of U.S. Freight Railroads, February 2005. *Updated as of January 13, 2006. Association of American Railroads



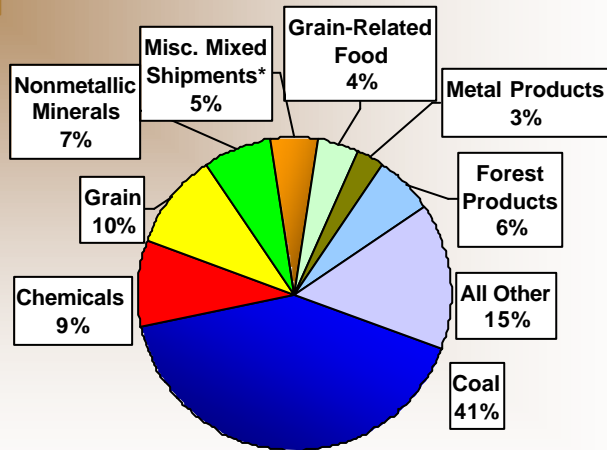
Class I Railroad Rankings, 2004



Source: Association of American Railroads



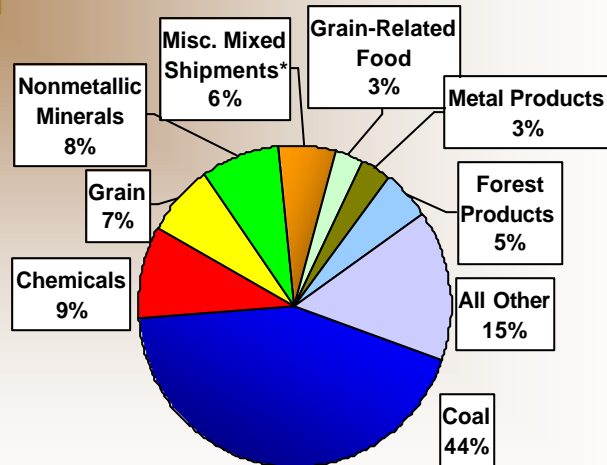
U.S. Class I - All Commodities: Tons Originated, 1995



*Mostly intermodal, some of which is also in other categories.
Source: Association of American Railroads and Union Pacific.



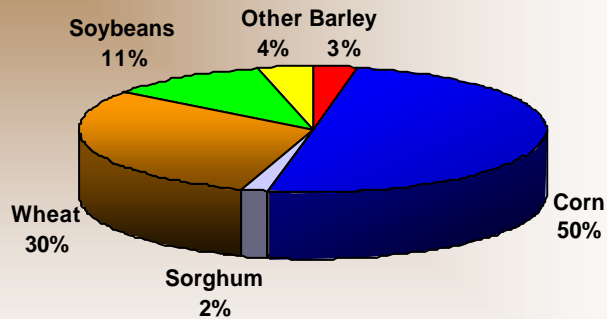
U.S. Class I - All Commodities: Tons Originated, 2004



*Mostly intermodal, some of which is also in other categories.
Source: Association of American Railroads



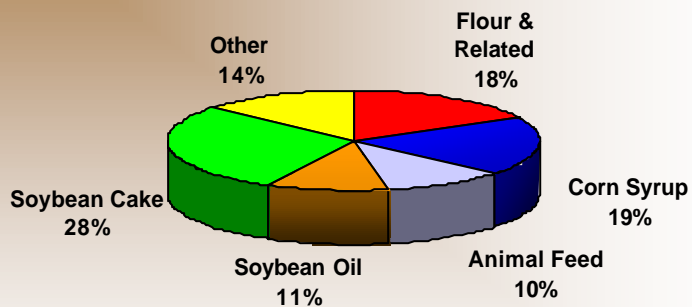
U.S. Class I - Grain: Tons Originated, 2004



Source: Association of American Railroads



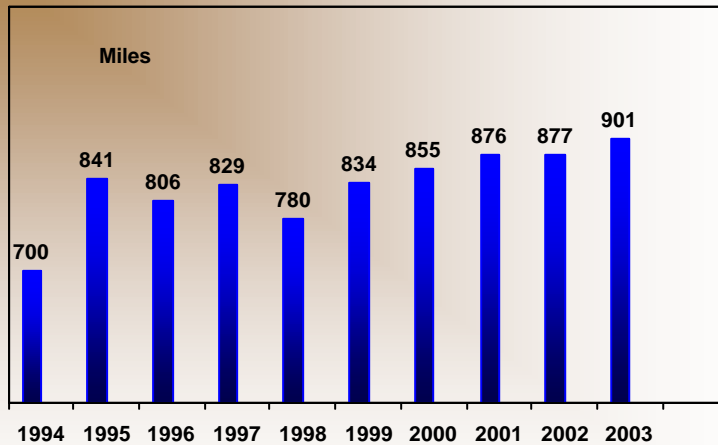
U.S. Class I - Grain Related Food Products: Tons Originated, 2004



Source: Association of American Railroads



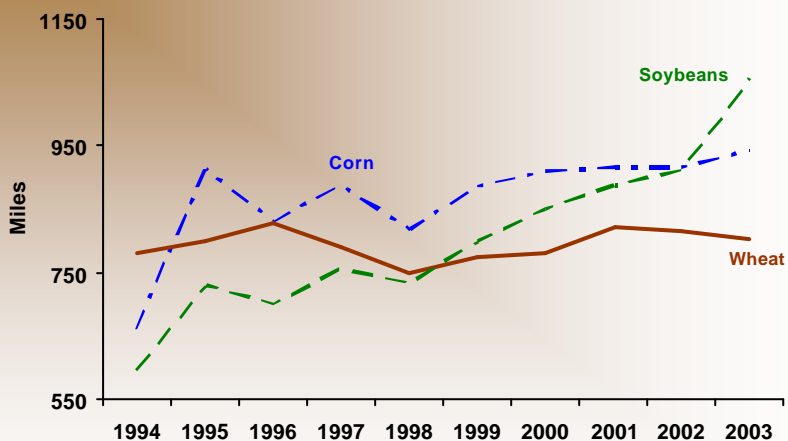
Average Length of Haul, All Grain



Source: STB Waybill Sample, various years.
Association of American Railroads



Average Length of Haul by Type of Grain

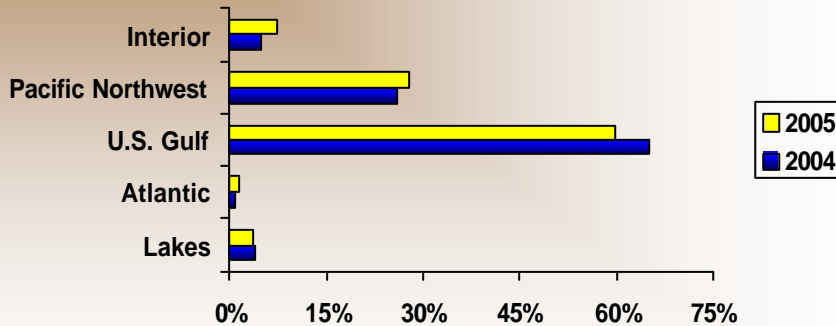


Source: STB Waybill Sample, various years.
Association of American Railroads



Total U.S. Grain Export Inspections by Port

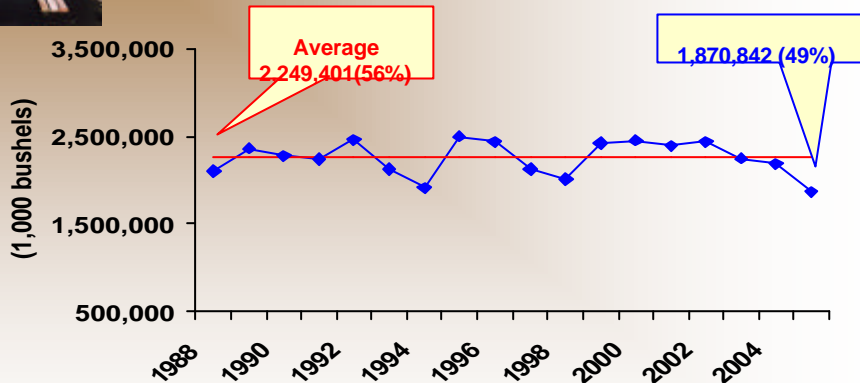
The U.S. Gulf accounted for 60% of total U.S. grain export inspections in 2005



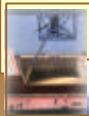
Source: USDA/GIPSA.

U.S. Gulf includes Mississippi River, East Gulf, and Texas Gulf.

Mississippi River Grain Export Inspections- Account for 56% of total U.S. grain export inspections



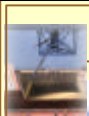
Source: USDA/GIPSA



Top 5 U.S. Corn Export Destinations, 2005

Country	1,000 mt	Rank
Japan	14,841	1
Mexico	5,799	2
Taiwan	4,810	3
Egypt	3,650	4
Colombia	2,271	5
Rest of world	13,763	
Total	45,134	

Source: USDA/FAS



Top 5 U.S. Soybean Export Destinations, 2005

Country	1,000 mt	Rank
China	9,395	1
Mexico	3,399	2
Japan	2,837	3
Taiwan	1,684	4
Indonesia	1,163	5
Rest of world	7,125	
Total	25,603	

Source: USDA/FAS

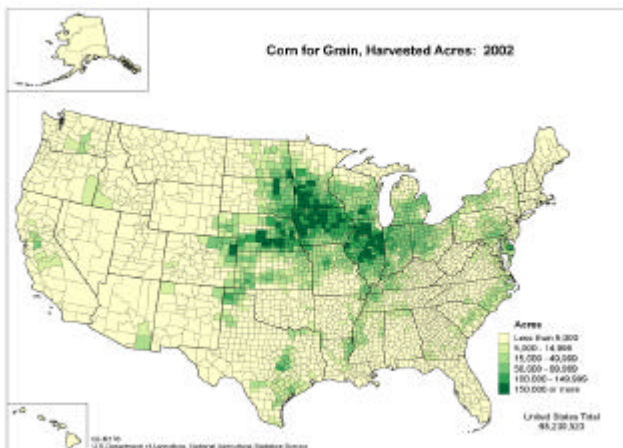
Top 5 U.S. Wheat Export Destinations, 2005



Country	1,000 mt	Rank
Nigeria	3,168	1
Japan	2,977	2
Mexico	2,692	3
Philippines	1,643	4
Egypt	1,359	5
Rest of world	15,018	
Total	26,857	

Source: USDA/FAS

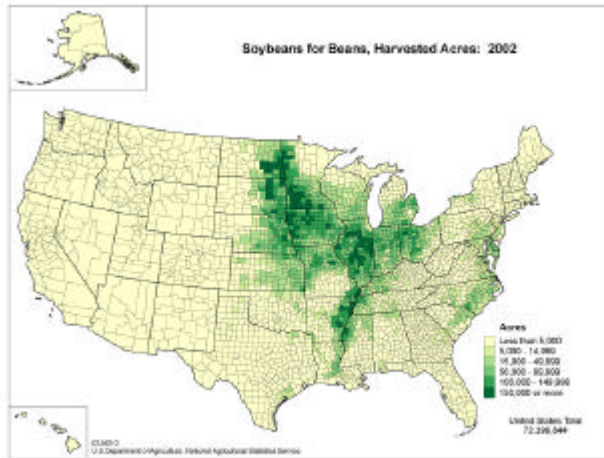
U.S. Corn Production-Tops 5 Producing States, 2005



States	Production (1,000 Bu.)
IA	2,162,500 (19%)
IL	1,708,850 (15%)
NE	1,270,500 (11%)
MN	1,191,900 (11%)
SD	470,050 (4%)
U.S.	11,112,072

Source: USDA/NASS

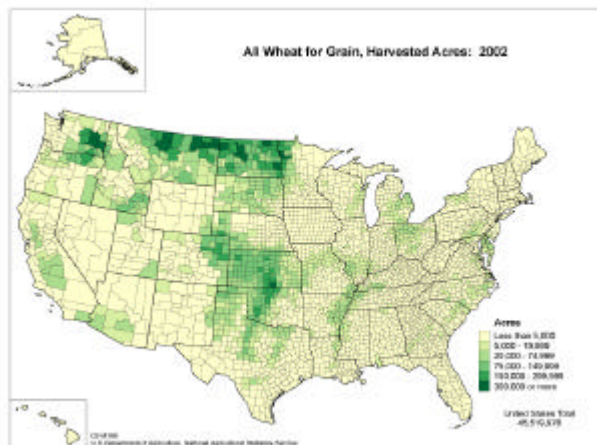
U.S. Soybean Production-Tops 5 Producing States, 2005



States	Production (1,000 Bu.)
IA	532,650 (17%)
IL	444,150 (14%)
ID	263,620 (9%)
MN	306,00 (10%)
MO	183,520 (6%)
U.S.	3,086,432

Source: USDA/NASS

U.S. Wheat Production-Tops 5 Producing States, 2005



States	Production (1,000 Bu.)
KS	380,000 (18%)
ND	303,765 (14%)
MT	192,480 (9%)
WA	139,300 (7%)
SD	133,420 (6%)
U.S.	2,104,690

Source: USDA/NASS

Looking to The Future: Issues to be Addressed

- Railroad Capacity Constraints:
 - Rail traffic density increased 41% since 1995.
 - Freight transportation demand is expected to continue increasing.
 - The U.S. DOT forecasts a 55% increase in U.S. freight rail traffic by 2020.
- Continued investment to increase capacity.



Looking to The Future: Issues to be Addressed

- Agriculture will continue competing with non-grain business for rail services.
- Captive shippers:
 - Located in areas lacking rail competitive services
 - Limited to one railroad service.



Concluding Observations



U.S. Department of Agriculture
Agricultural Marketing Service/Transportation &
Marketing Programs Market Reports:

Grain Transportation Reports:

<http://www.ams.usda.gov/tmdtsb/grain/>

The Agricultural Container Indicators (AgCI)

<http://www.ams.usda.gov/tmd2/agci/>

The Ocean Rate Bulletin:

<http://www.ams.usda.gov/tmd/Ocean/Index.asp>

Other related reports can be found:

<http://www.ams.usda.gov/tmd/TSB/marketreports.htm>