

Railroads and Fertilizer

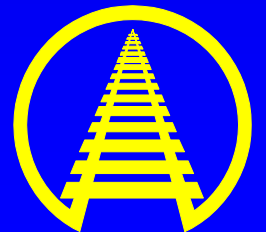
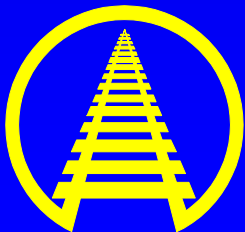
presented to

**The Fertilizer Institute
and the
Fertilizer Industry Round Table**

by

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Association of American Railroads**

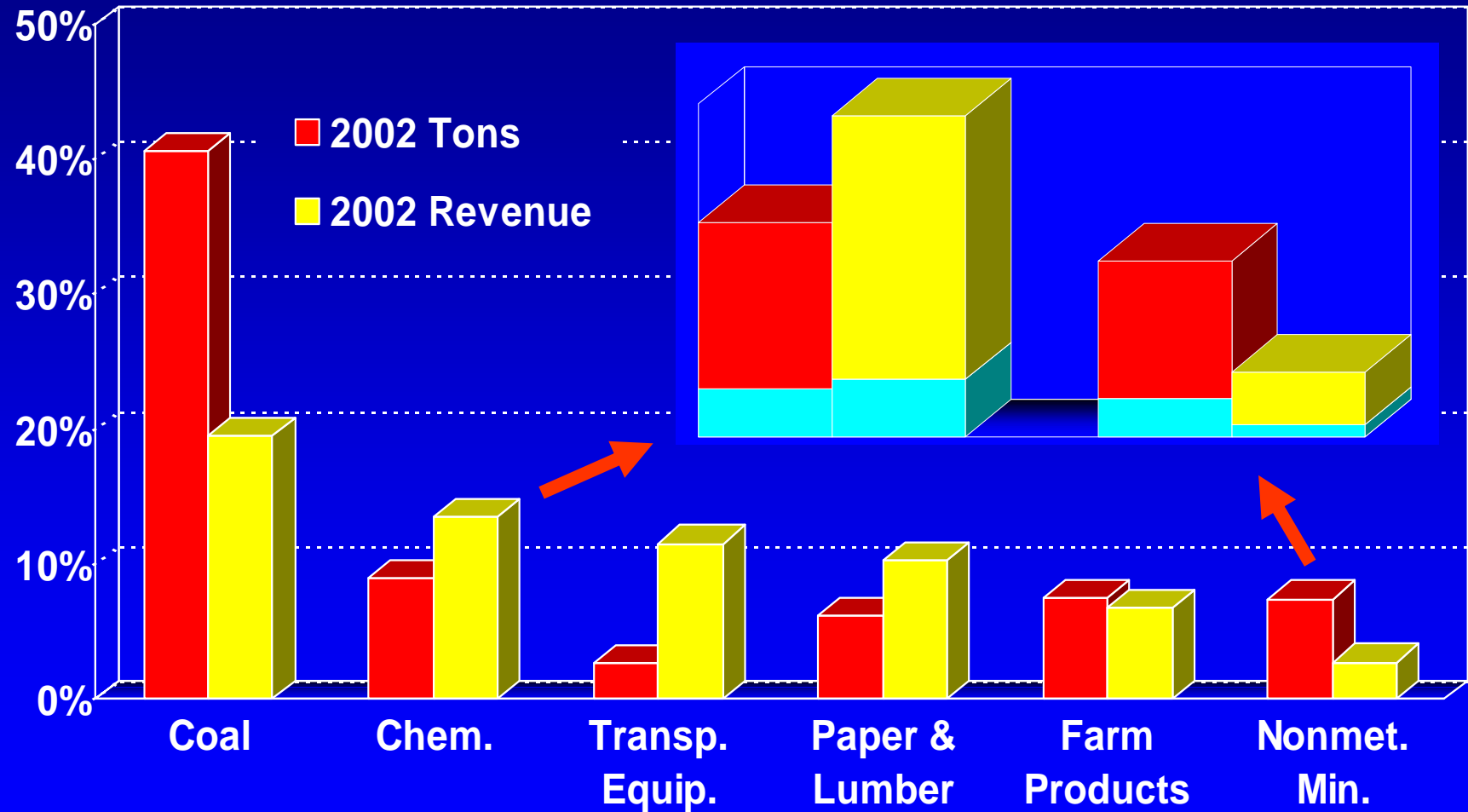
October 26, 2004



Today's Freight Rail Environment

- Vast majority privately-owned.
- Generally owner and operator.
- Access privately negotiated, voluntary.
- Essentially no government funding.

Where Fertilizer Fits



Source: AAR

Nitrogen Fertilizer

Anhydrous ammonia input:

- Alberta top origin, then FL, LA, GA
- Terminations to 41 states, private tank cars
- 40,200 carloads, 3.1 million tons in 2002

Urea output:

- Alberta top origin, then LA, TN, OH
- Terminations to 42 states, covered hoppers
- 39,100 carloads, 3.8 million tons in 2002

Nitrogen fertilizer output:

- Natural gas states (OK, LA) top origins
- Terminations to 37 states, private tank cars
- 55,700 carloads, 5.4 million tons in 2002

Phosphate Fertilizer

Phosphate rock input:

- More than 90% from Florida's Bone Valley
- Very short hauls, rail-owned covered hoppers
- 258,000 carloads, 25.8 million tons in 2002

Molten sulfur input:

- Alberta top origin (26% of total)
- Long hauls, private tank cars
- 60,000 carloads, 5.4 million tons in 2002

Phosphate fertilizer output:

- FL = 67% of originations, 46% of terminations
- Covered hoppers, > 50% rail-owned
- 169,000 carloads, 15.3 million tons in 2002

Potassium Fertilizer

Crude potash input:

- 4,100 carloads, 0.3 million tons in 2002
- Much more important for Canadian RRs

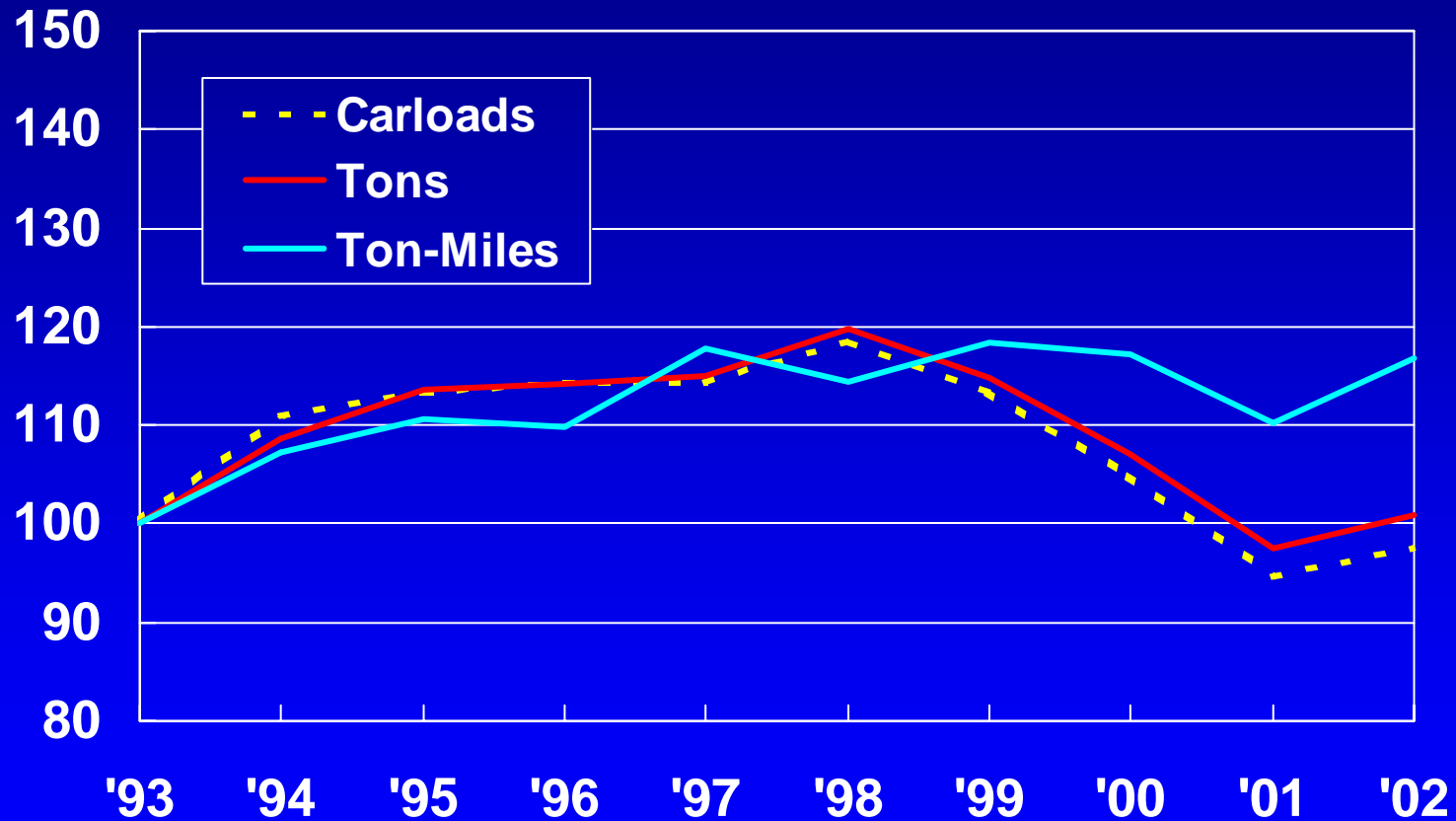
Potassium fertilizer output:

- Saskatchewan = ~60% of originations
- Terminations to 44 states
- Covered hoppers, 37% rail-owned
- 145,000 carloads, 14.6 million tons in 2002

Summary of 2002 U.S. Fertilizer-Related Rail Movements

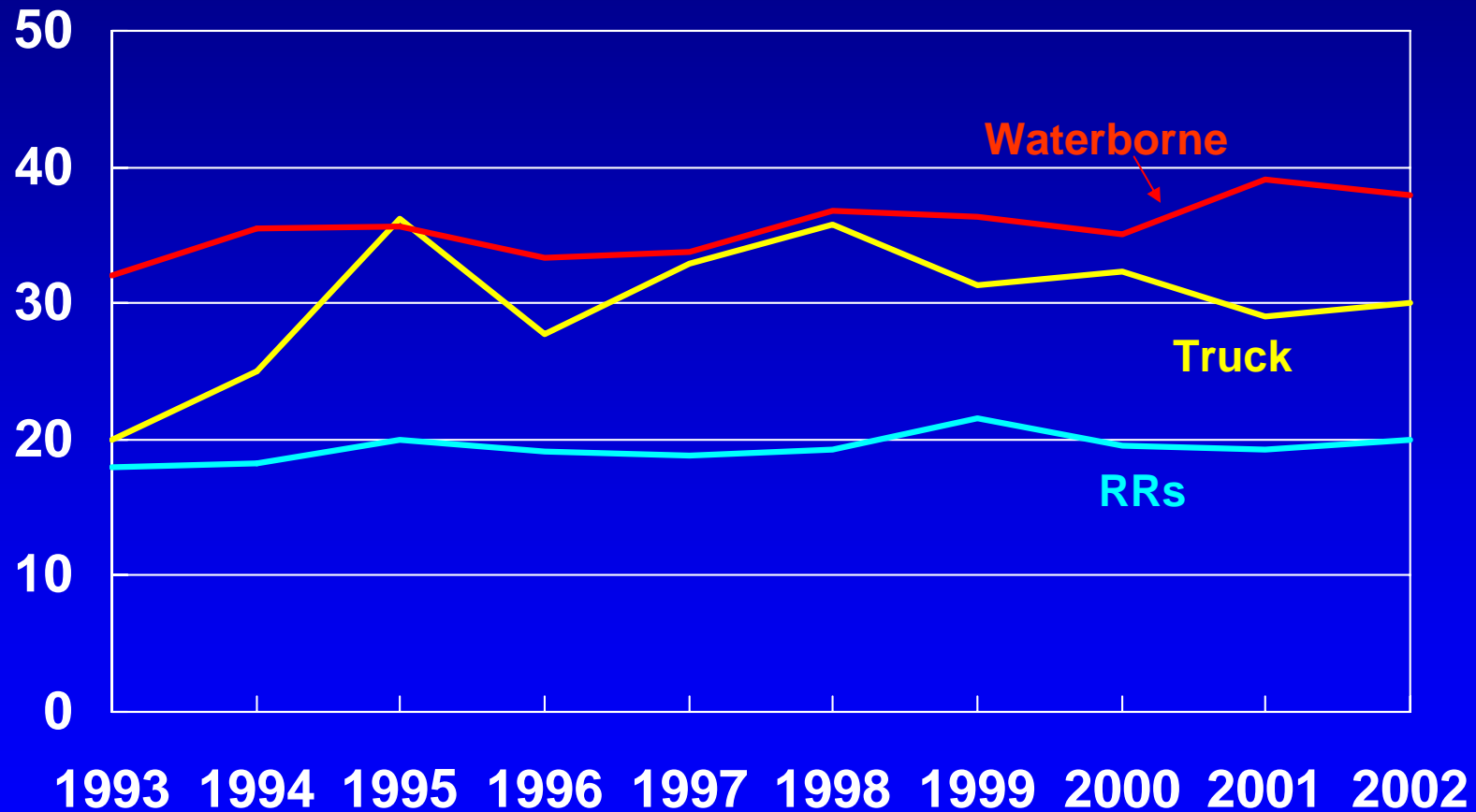
<u>Commodity</u>	<u>Carloads</u>	<u>Tons (millions)</u>	<u>Revenue (\$mil)</u>
Nitrogen			
Anhydrous ammonia	40,200	3.1	\$91
Urea	39,120	3.8	\$101
Nitrogen fertilizer	55,704	5.4	\$122
Phosphorus			
Phosphate rock	257,693	25.8	\$61
Molten sulfur	75,878	7.5	\$167
Phosphate fertilizer	168,501	15.3	\$304
Potassium			
Crude potash	4,120	0.3	\$8
Potash fertilizer	147,068	14.8	\$481
Total fertilizer-related	788,284	76.1	\$1,336
% of total rail movements	2.4%	3.6%	2.9%

U.S. Rail Fertilizer Movements (Index 1993 = 100)



Source: STB Waybill Sample

Fertilizer Transport by Mode (Millions of Tons)



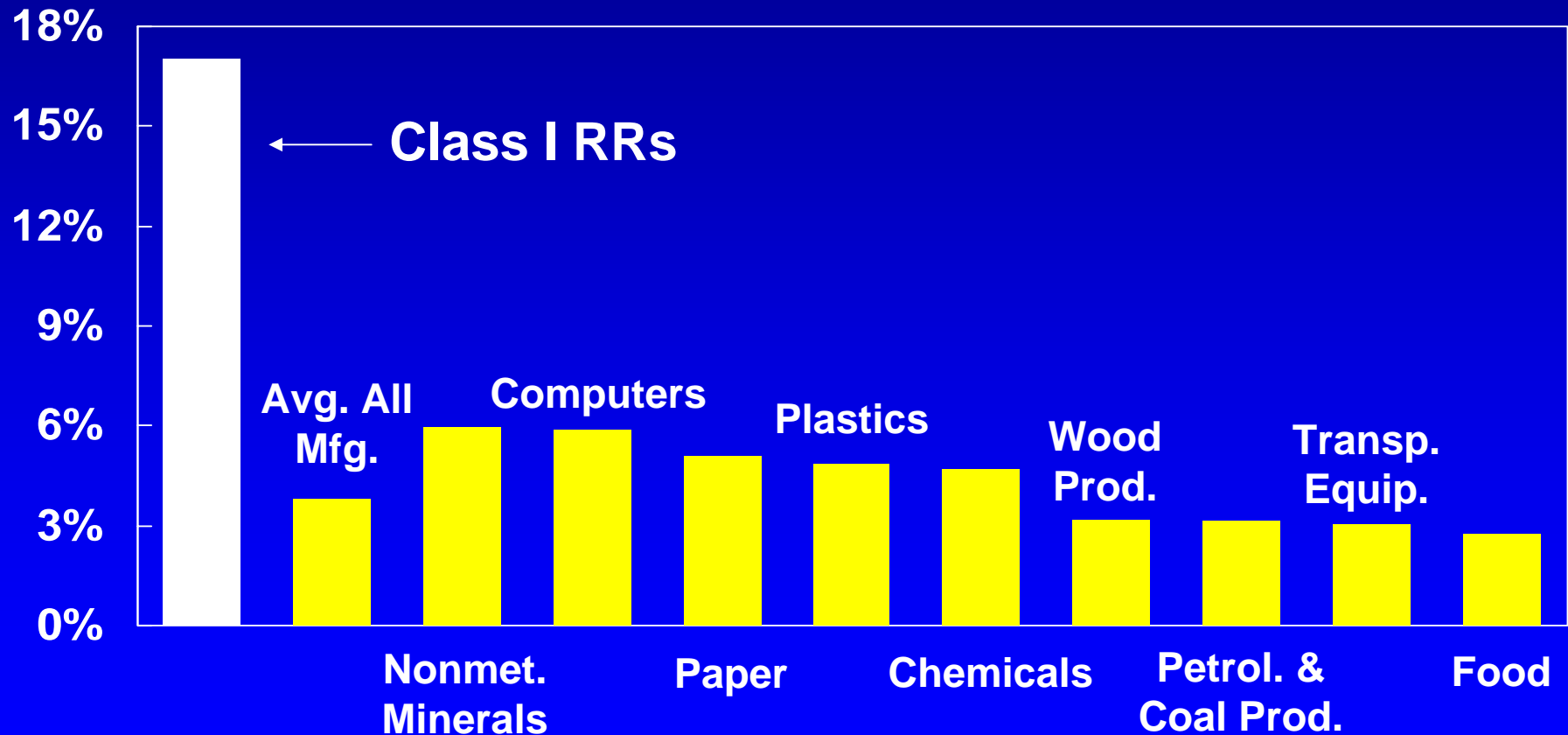
Source: American Chemistry Council

The Fundamentals of Railroad Economics Cannot Be Ignored

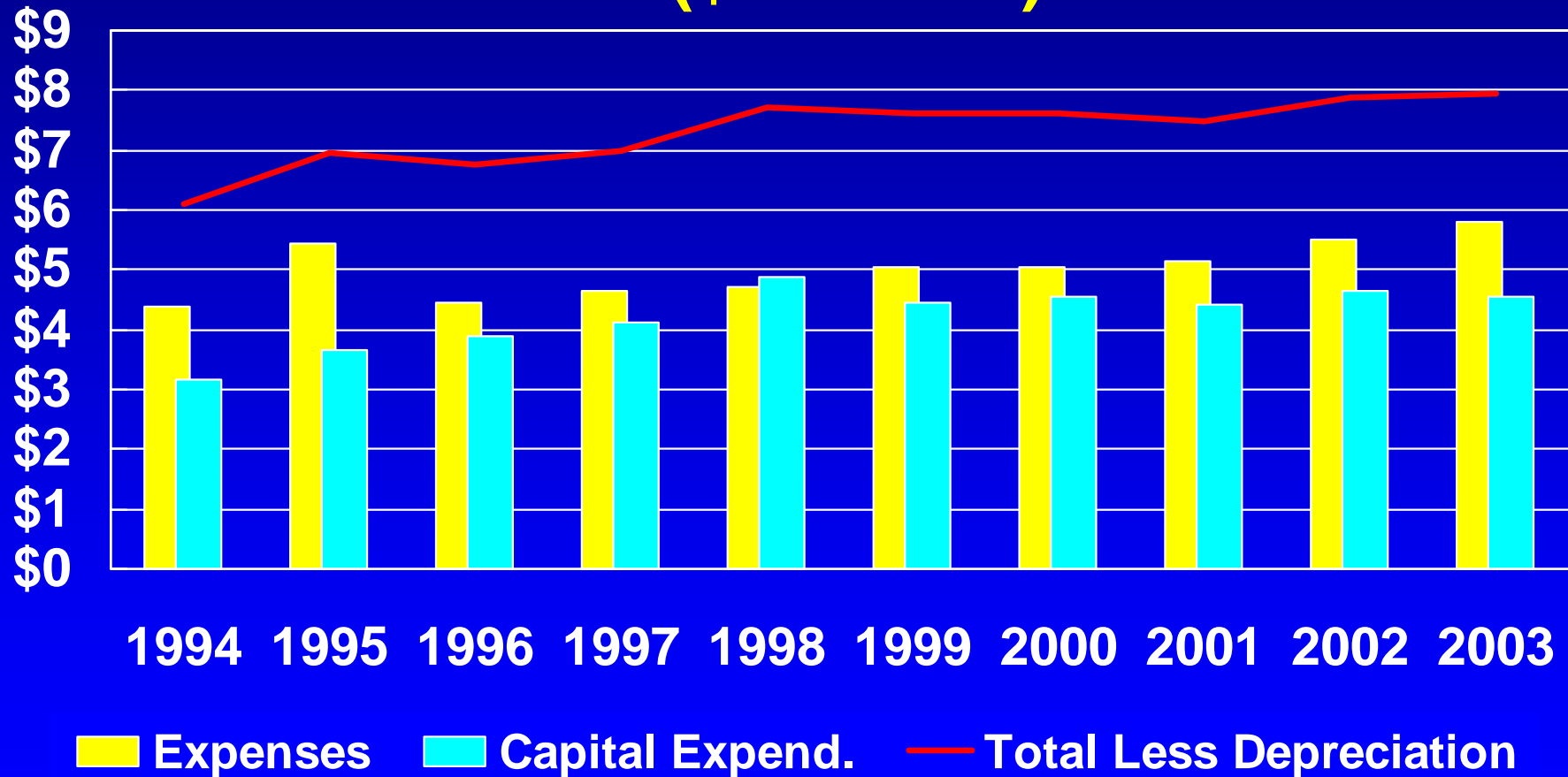
- Railroads are networks with virtually unlimited origin-destination pairs — what happens in one place affects many others.
- High fixed and sunk costs — infrastructure can't easily be picked up and moved.
- Substantial economies of scale and scope.
- Huge differences in customer demands and options.

RRs Have Far Higher Capital Expenditures Than Other Industries

Capital Expenditures as a % of Revenue: Avg. 1998-2002



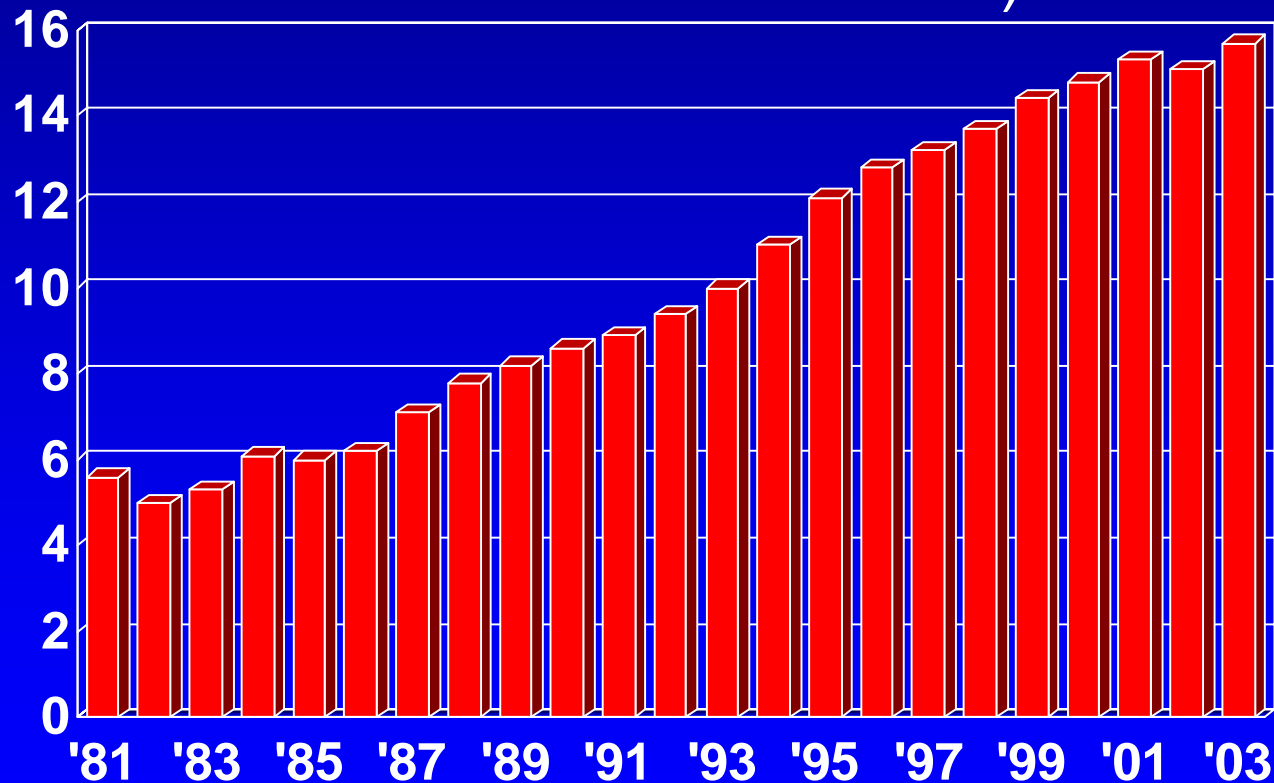
Class I RR Spending on Roadway and Structures (\$ Billions)



Source: AAR

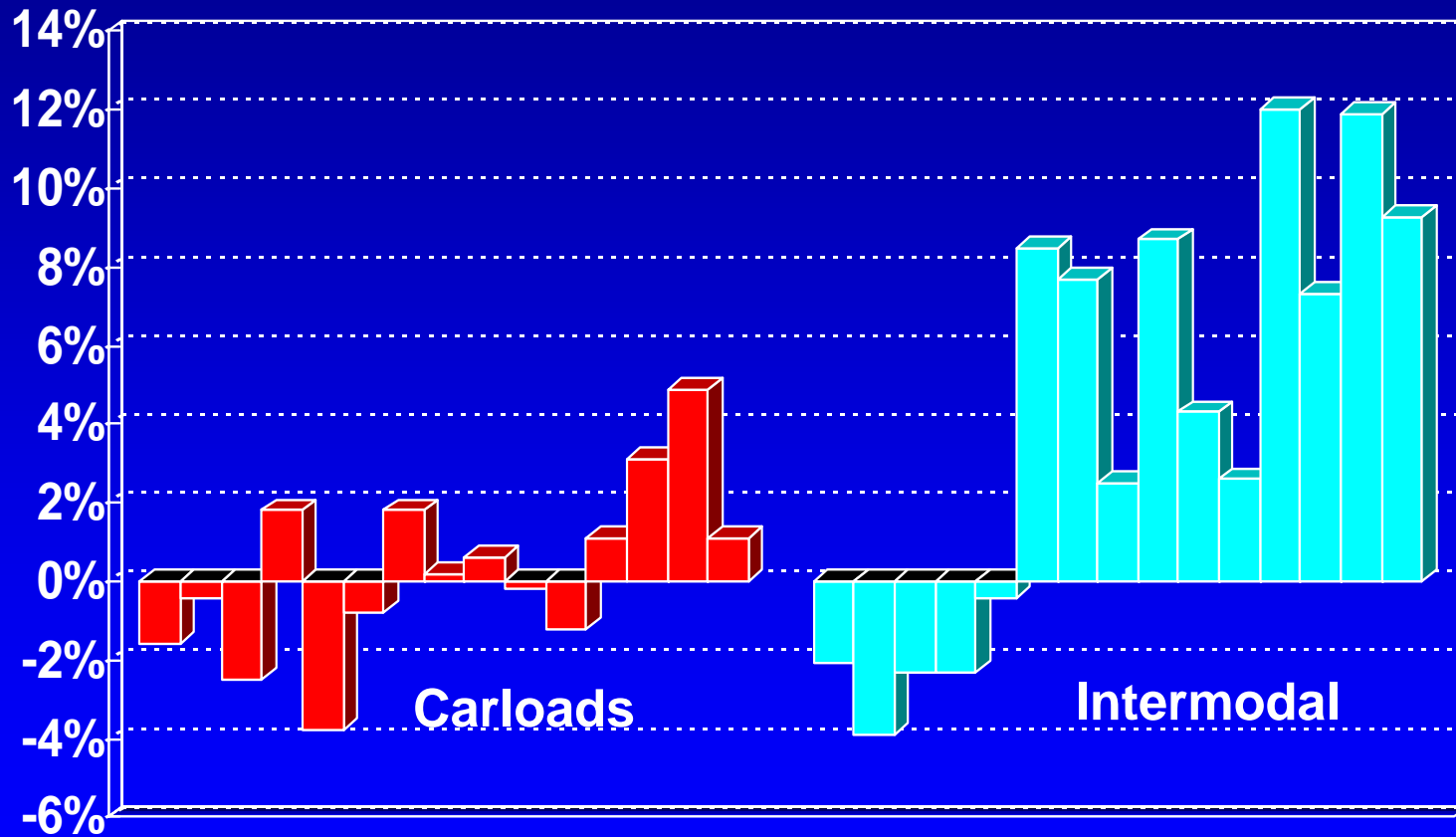
Railroad Traffic Density Is Rising

(Millions of Class I Ton-Miles
Per Mile of Road Owned)



Source: AAR

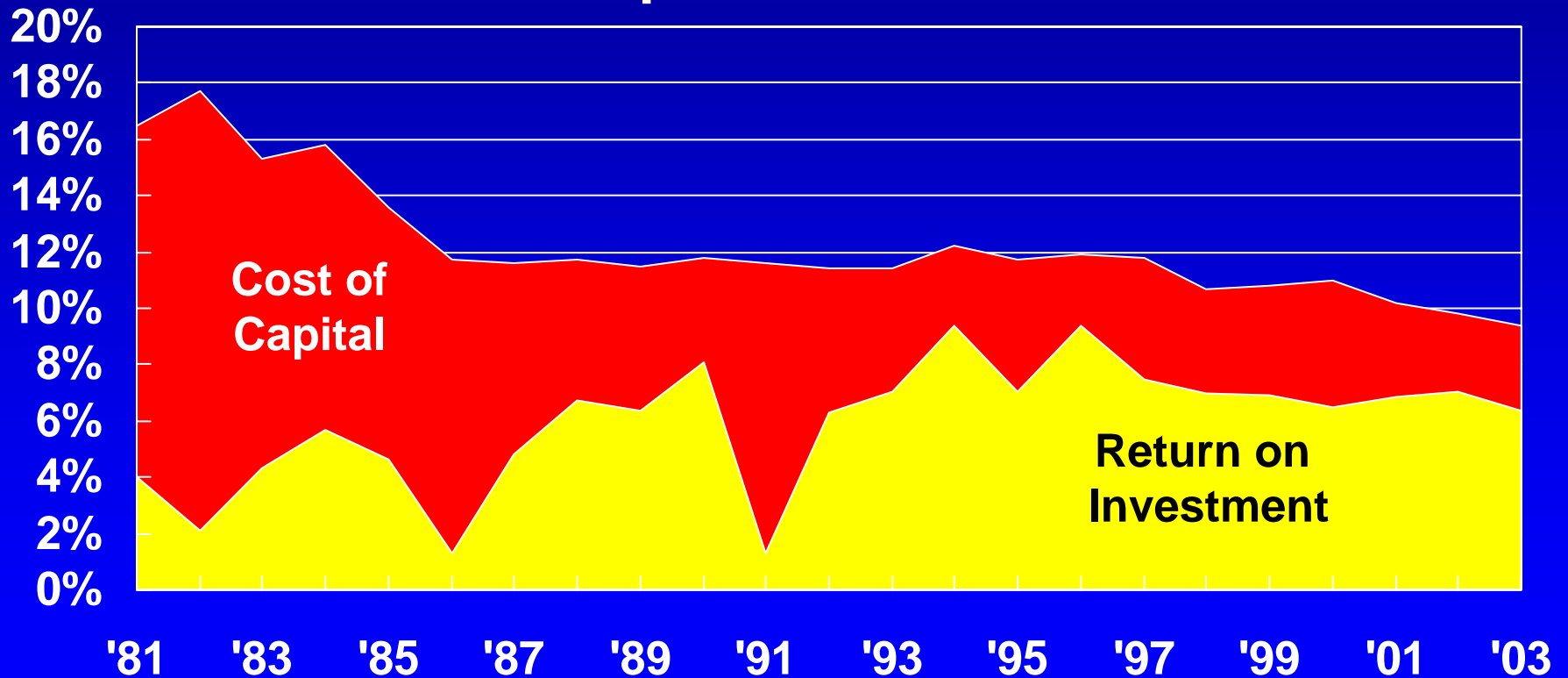
U.S. Rail Traffic: Q1 2001 – Q3 2004



Source: AAR *Weekly Railroad Traffic*

Railroads Do Not Earn Their Cost of Capital

Class I Cost of Capital vs. Return on Investment



Source: Surface Transportation Board

Return on Investment is Crucial

If $ROI > \text{cost of capital}$:

- Capital spending expands
- Stronger physical plant; more and better equipment.
- Faster, more reliable service
- Sustainability



If $ROI < \text{cost of capital}$:

- Lower capital spending
- Weaker physical plant, equipment
- Slower, less reliable service
- Disinvestment

Others Recognize the Importance of Earning Cost of Capital

- “Total cash flow return on investment to exceed cost of capital by 200 basis points.”
– PotashCorp
- “[O]ur aim is to generate a return on capital employed ... two percentage points above our cost of capital.”
– DeGussa
- “Maintain economic access to capital markets and investment grade rating.”
– Agrium

Other Measures Point to Low Rail Earnings

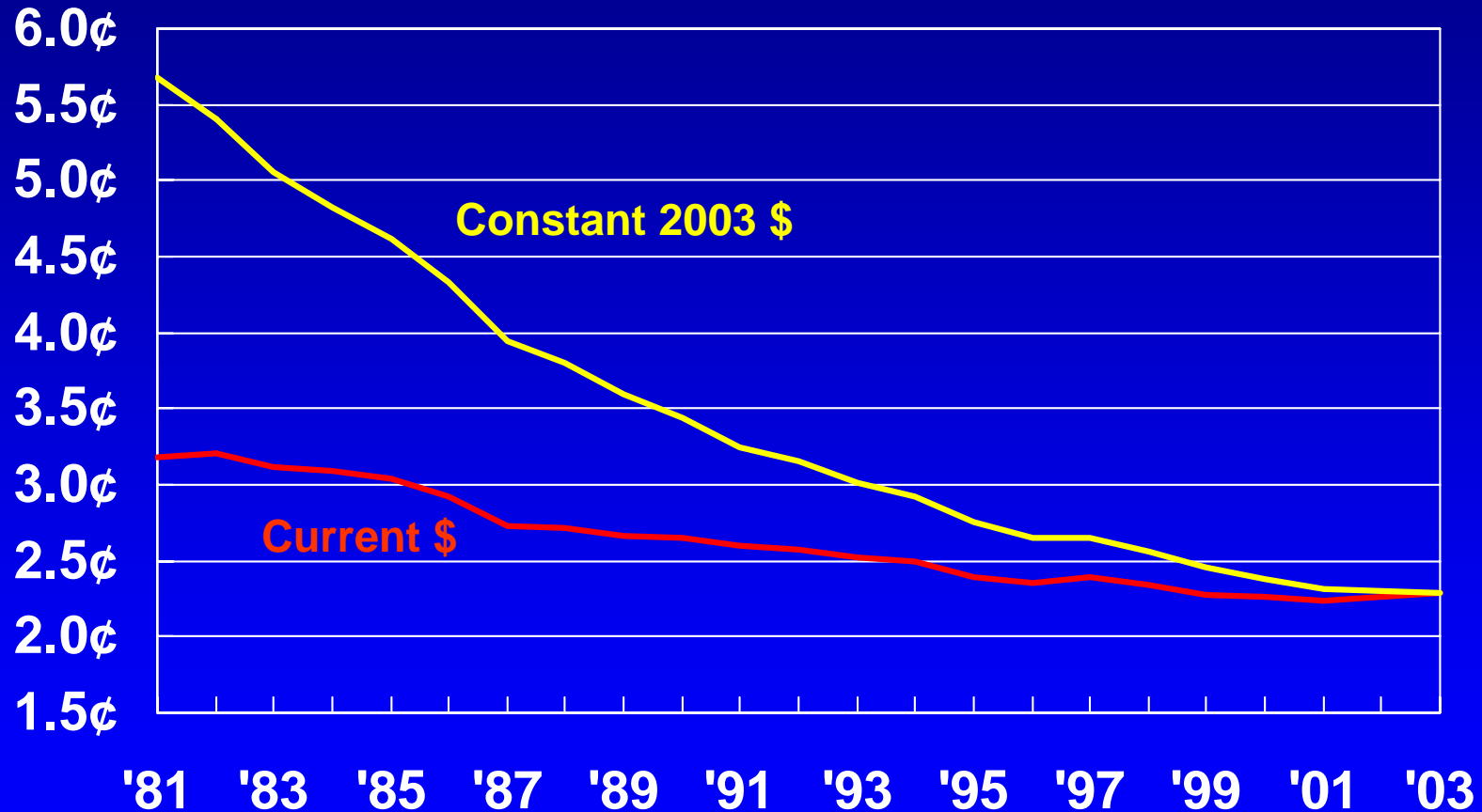
**Median Return on Equity of Class I Railroads
vs. Fortune 500 Companies: 1985–2003**

Year	Median ROE		Number of Fortune 500 Industries	Class I RR Rank
	Class I RRs	Fortune 500 Cos.		
1985	5.3 %	11.6 %	26	25th
1990	8.3	13.0	25	23rd
1994	11.3	13.7	35	27th
1995	5.9	14.0	36	35th
1996	11.6	14.1	38	30th
1997	10.4	13.9	37	30th
1998	11.5	13.4	38	28th
1999	8.8	15.2	41	34th
2000	9.4	14.6	48	39th
2001	7.2	10.4	48	30th
2002	8.7	10.2	48	30th
2003	6.8	12.6	47	39th

Source:
Fortune Magazine

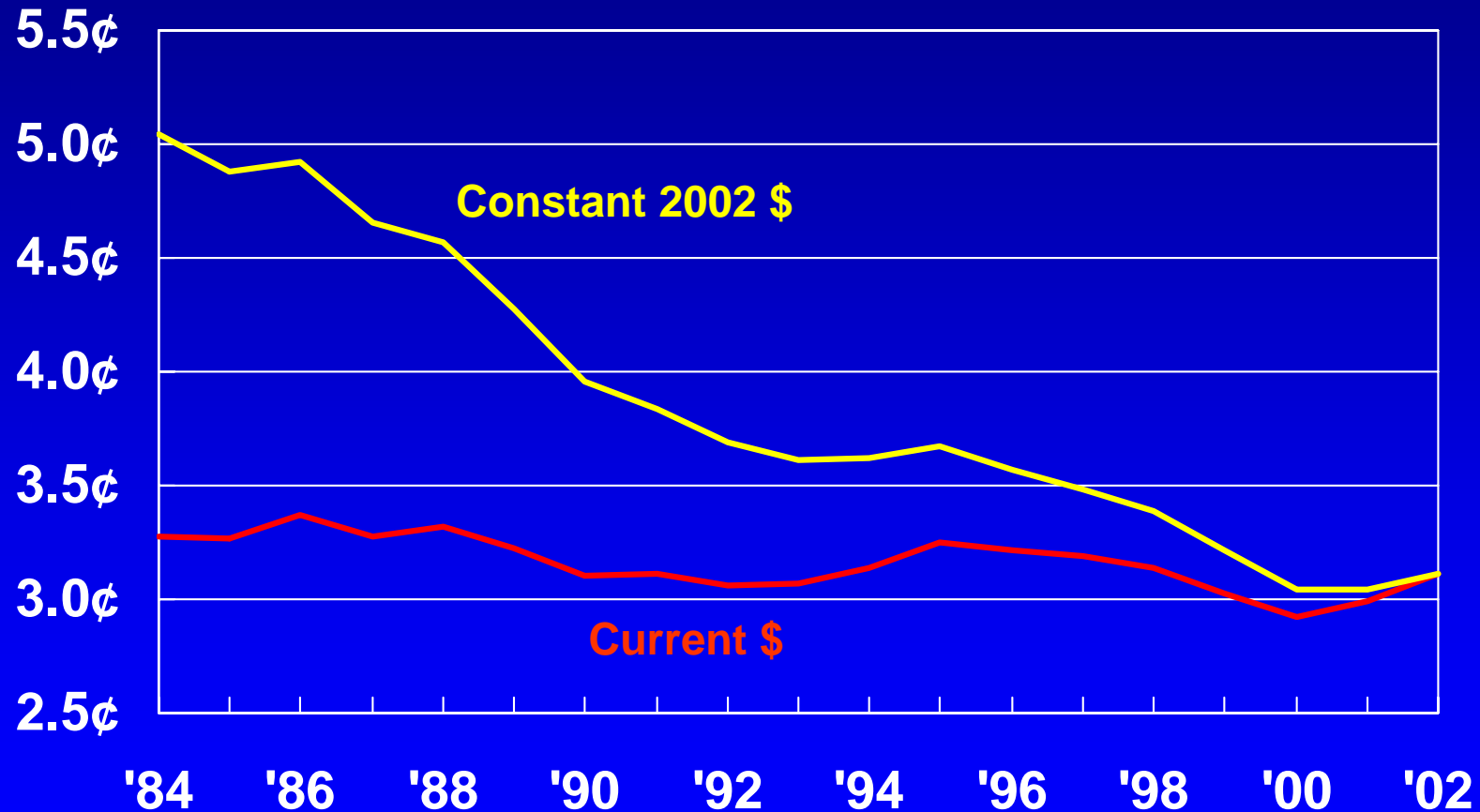
Rail Rates Are Down

(Avg. Revenue Per Ton-Mile, All Commodities)



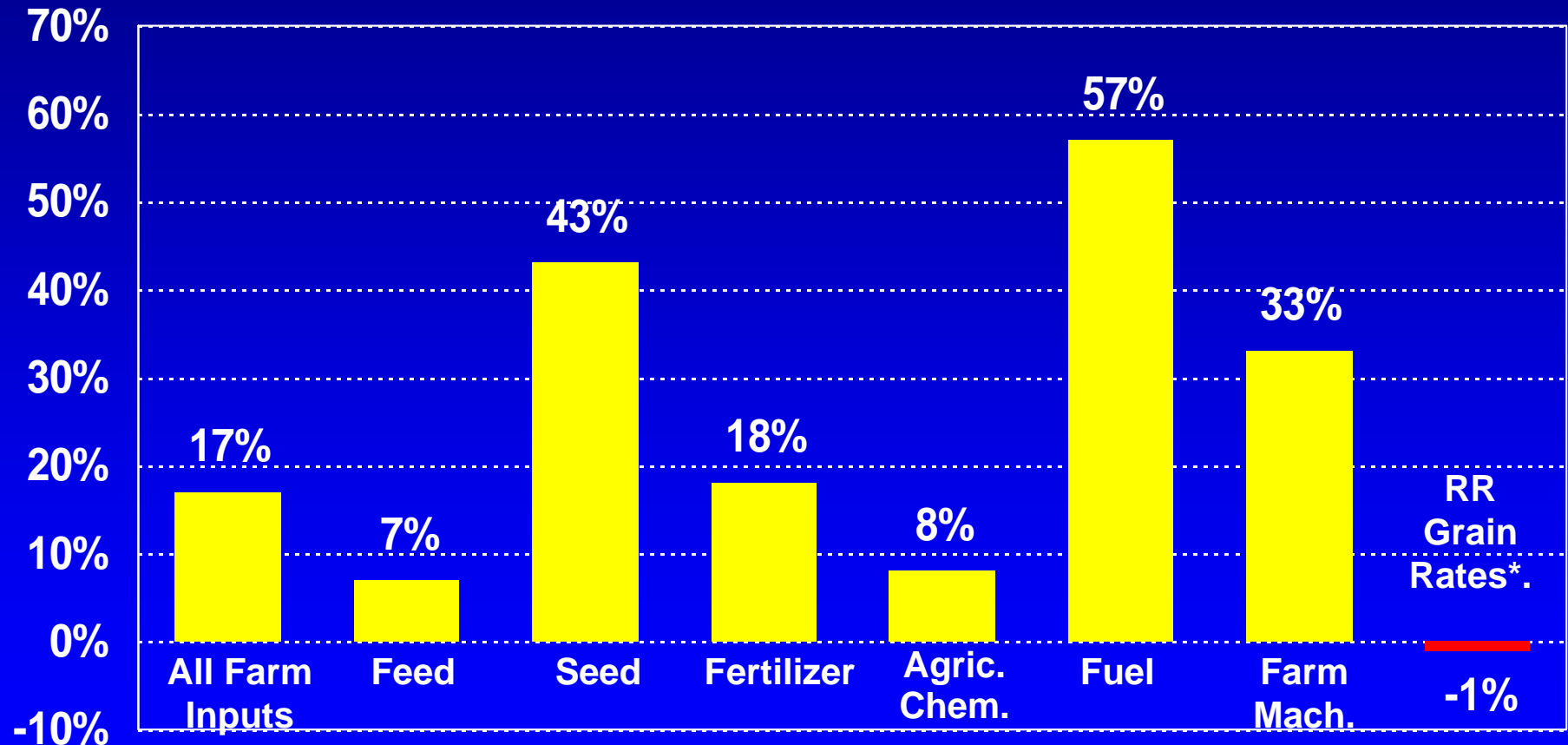
Source: AAR

Rail Fertilizer Rates Are Also Down (Avg. Revenue Per Ton-Mile)



Source: AAR

% Change in Prices Paid by Farmers: 1994-2003



* Revenue per ton-mile, 1993-2002. Source: USDA, AAR

Key Issue: Security



Key Issue:

Mandatory Hazmat Rerouting

- Disruption in hazmat transport could cause significant unintended damage to our physical health and our economic well being.
- Optimal routes could be foreclosed and exposure could actually rise.
- Risk would simply be shifted from one place to another
- Would prevent functioning of an effective, integrated national network – especially for RRs, who have limited routing options.

Key Issue: Public-Private Partnerships

- Best used for projects whose main purpose is to meet public needs.
- RRs pay for their benefits and public pays for public benefits.
- Not “subsidy” to RRs.

“Relatively small public investments in the nation’s freight railroads can be leveraged into relatively large benefits for the nation’s highway infrastructure, highway users, and freight shippers.” --AASHTO

Key Issue: Natural Gas Prices

- Reduced production of chlorine, fertilizers, methanol, etc. means fewer carloads tendered to railroads.
- Threatens to become a chronic constraint on economic growth.
- Discourage natural gas for baseload electricity generation.



Other Issues

- Economic regulation/reregulation
- 4.3 cent deficit reduction fuel tax
- SL 286 assistance
- RR tax proposal
- Labor negotiations

Summary

- Daunting growth forecast.
- Infrastructure is preeminent issue.
- Don't restrict rail earnings through reregulation.
- Tap public/private partnerships.
- Continued focus on meeting customer needs.

