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Economic and Environmental Benefits of Private
Railcars in North America
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ECONOMIC AND ENVIRONMENTAL BENEFITS OF PRIVATE RAILCARS IN NORTH AMERICA

PRESENTATION TO THE WASHINGTON STATE
TRANSPORTATION COMMISSION

KEN CASAVANT

Freight Policy Transportation Institute



We'll Talk About...

1. Ownership patterns
2. Adequacy of returns
3. New interchange rules and cost shifting
4. Energy benefits
5. Environmental benefits
6. Present conclusions



The Issue

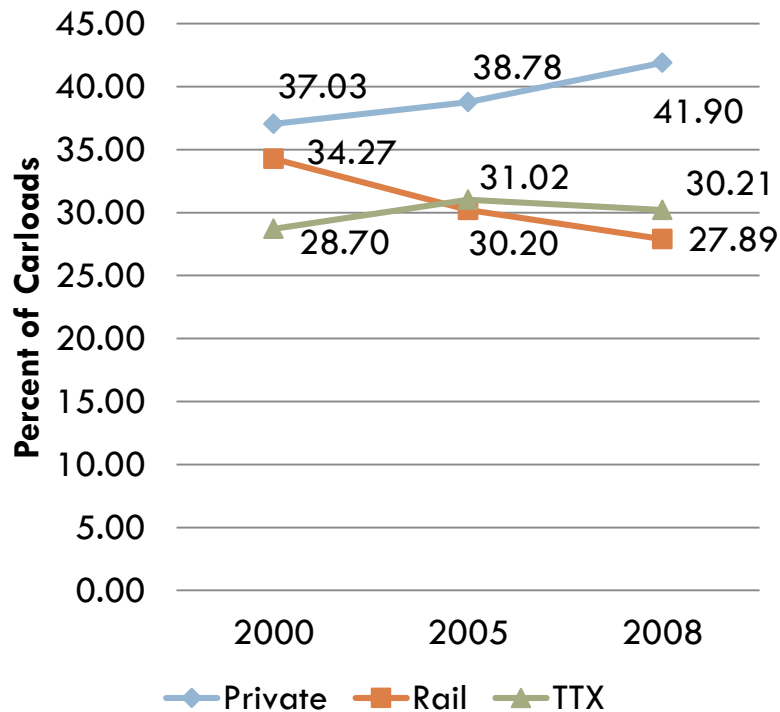
“After initial widespread use of private cars under the “common road” concept of early railways, railroad-owned freight cars predominated from the 1840's through the 1860's.... From this time on, however, the percentage of private cars has increased as railroads refused to build specialized freight cars because of high initial costs, rapid technological obsolescence, outside pressure, and managerial shortsightedness.”

William E. O'Connell, Jr.1

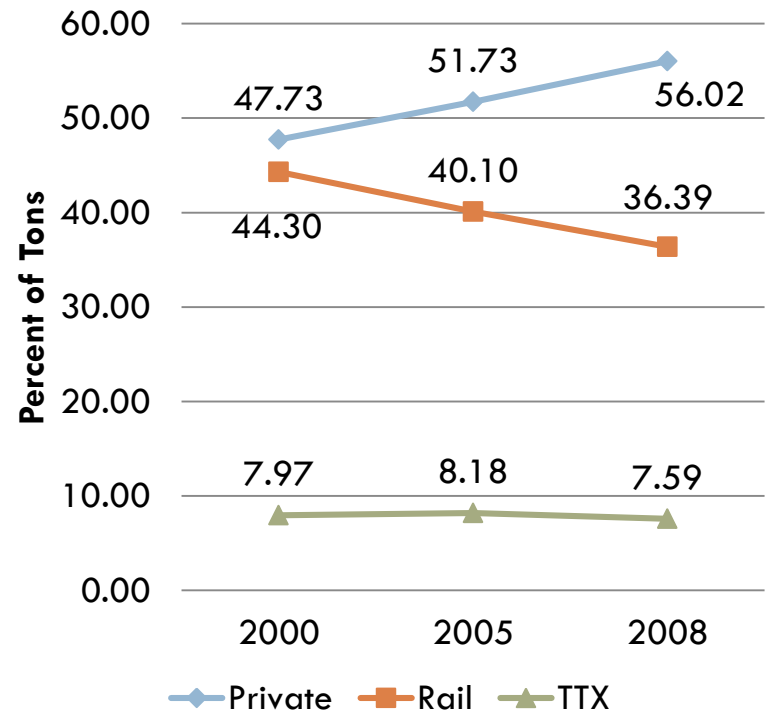
Business History Review, 1970

Shifts in Car Ownership

Distribution of Total Carloads by Ownership Category, 2000-2008

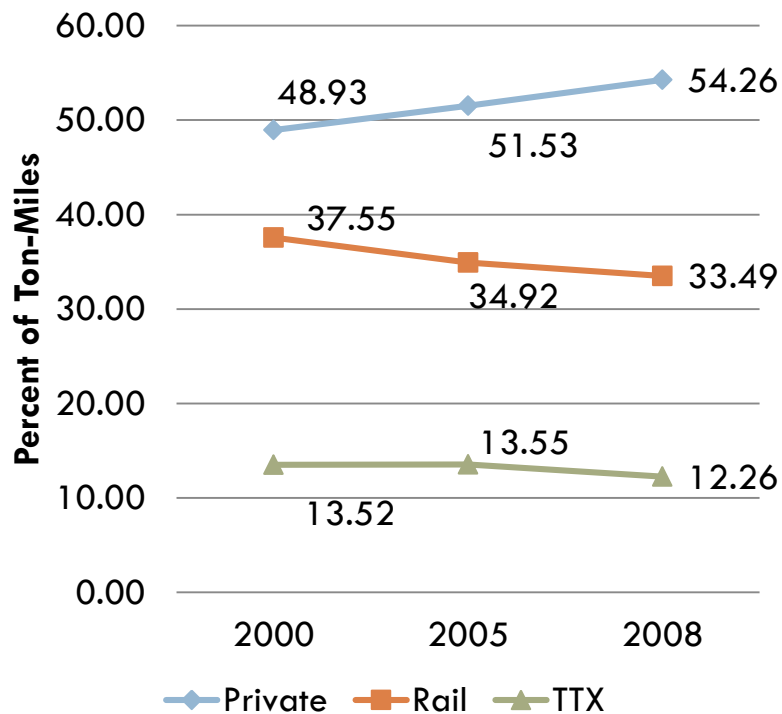


Distribution of Total Tons by Ownership Category, 2000-2008

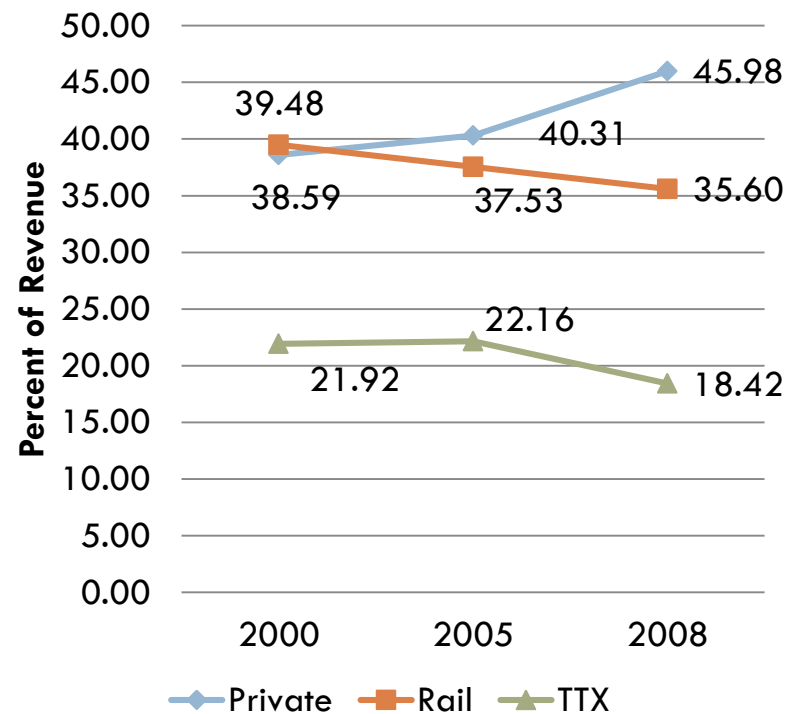


Shifts in Car Ownership (Continued)

Distribution of Total Ton-Miles by Ownership Category, 2000-2008

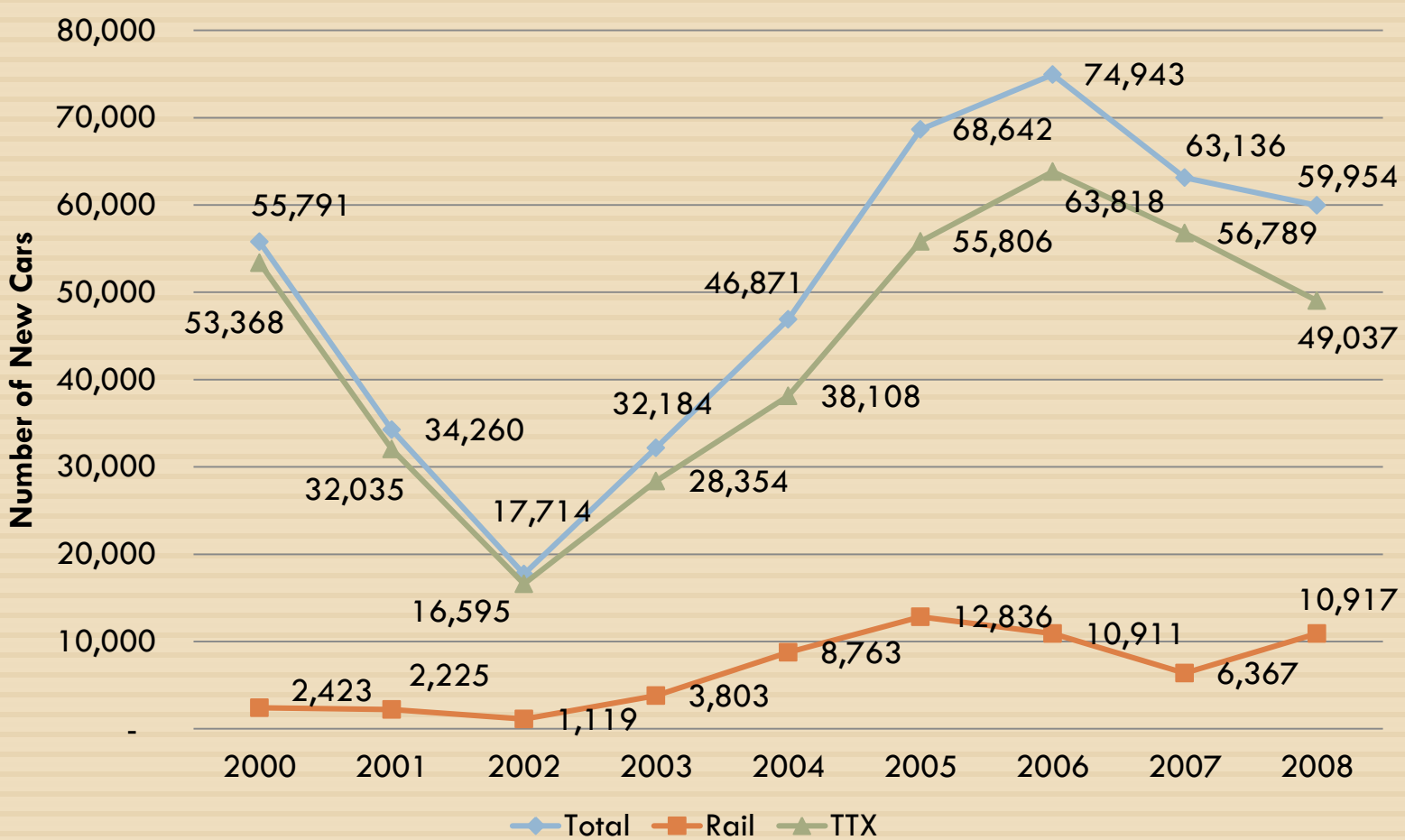


Distribution of Total Revenue by Ownership Category, 2000-2008



Replacement Cost of Private Fleet

Equipment Category	Number of Private-Owned Cars	Replacement Costs Per Car	Total Replacement Costs
Plain Bow Cars 50 ft and above	68,784	\$107,000	\$7,359,888,000
Plain Gondola Cars	154,593	\$72,000	\$11,130,696,000
Covered Hopper Cars	393,545	\$74,500	\$29,319,102,500
Open Top Hopper Cars - Special Service	103,062	\$80,000	\$8,244,960,000
Flat Cars TOFC/COFC	15,524	\$196,000	\$3,042,704,000
Flat Cars - General Service	37,133	\$70,000	\$2,599,310,000
Tank Cars - Under 22,000 Gallons	315,926	\$86,000	\$27,169,636,000
All Cars	1,088,567		\$88,866,296,500



New Railcar Installations by Ownership Category, 2000-2008

Adequacy of Returns from Investment in Private Cars

Shipper owned
and/or leased
OR
Car-hire rates



Shipper Owned and/or Leased Cars

- Per loaded mile rates
 - ▣ 35¢ to 66¢ initially
 - ▣ 18¢ to 21¢ per loaded mile currently
- Now use of differential on tariff rates
 - ▣ Based on 24¢ per loaded mile times estimated turns per month
 - ▣ Was not compensatory from the start
- Subleases used for a time, were compensatory
- More cost shifting
 - ▣ Maintenance and running repair costs
 - ▣ Branch line abandonments require power units, shipper movement and storage of cars

Car Hire Based Leases/Depreciation Rates: Adequacy of Returns

- Intended to be market driven
- No longer ICC formula; depreciation

Equipment Type	Average Hourly Rate	Equipment Replacement	Implied 30 Year Return Rate	Risk Free 20 Year T-Rate
Boxcar A405	\$0.78	\$107,000	2.19%	4.27%
Boxcar A606	\$0.80	\$120,000	2.33%	4.27%
Gondola E530	\$0.65	\$72,000	3.84%	4.27%
Hopper C112	\$0.63	\$74,500	3.84%	4.27%
Hopper C114	\$0.64	\$80,000	2.95%	4.27%

New and Changing AAR Interchange Rules

- Rules of the road in serving national markets
- Surveyed members of NAFCA
- AAR Interchange Agreement
 - ▣ A & R Committee (11 railroad, 2 non-railroad and 1 TTX)
- Sources of frustration and cost impacts
 - ▣ Maintenance costs increase of 115% in two years
 - ▣ Costs not borne by those that benefit
 - WILD Rule
 - Long travel constant contact side bearings
 - Benefits to RR, 75%
 - Benefits to shippers, 25%
 - Costs all borne, 100% by car owners
 - Etc.

Energy (Diesel Fuel) Consumed if Private Railcar Ton-Miles are Carried by Truck

Year	Private Car Ton-Miles (millions)	Rail Gallons of Fuel (millions)	Truck Gallons of Fuel (millions)	Increased Fuel at 100% Shift (millions)	Increased Fuel at 75% Shift (millions)	Increased Fuel at 50% Shift (millions)
2000	736,904	1,784	4,754	2,974	2,231	1,487
2005	885,968	2,145	5,715	3,570	2,678	1,785
2008	941,368	2,279	6,073	3,794	2,846	1,897

Energy Benefits from Private Car Fleet



Production of Hydrocarbons by Private Railcar versus Truck Movements

Year	Private Car Ton-Miles (millions)	Rail Gallons of Fuel (millions)	Truck Gallons of Fuel (millions)	Pounds of Hydrocarbon by Rail (millions)	Pounds of Hydrocarbon by Truck (millions)
2000	736,904	1,784	4,754	39	1,011
2005	885,968	2,145	5,715	47	1,216
2008	941,368	2,279	6,073	50	1,292

Environmental Benefits from Private Car Fleet



Study Conclusions

1. Dependence is dramatic and growing
 - a. 54% of total ton-miles
 - b. 56% of total tonnage
 - c. 87% of new investment
2. Viability is under pressure
 - a. Returns are 30% below lowest risk free Treasury Bill
 - i. On average of 3% vs. 4.27%, both substantially below railroad revenue adequacy standard of 10%



Study Conclusions (Continued)

3. Replacement value needed is about \$90 billion
4. Cost shifting continues
5. Changes in Interchange Rules and Administration
6. Energy savings equivalent to 30 million truck shipments
7. \$12 billion to clean up emissions if railcar traffic moves to truck
8. Loss of private car investments creates dramatic economic, energy and environmental impacts