The Freight Network and Passenger Rail

Metropolitan Washington Council of Governments
Washington DC
May 6, 2010

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An Integrated North American System

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Class I Railroads Account for Most U.S. Rail Traffic…

NORFOLK SOUTHERN

CSX How tomorrow moves™

BNSF RAILWAY

CANADIAN PACIFIC

UNION PACIFIC BUILDING AMERICA®

KANSAS CITY SOUTHERN Lines

CN

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…But Hundreds of Non-Class I Railroads Are Critical Too

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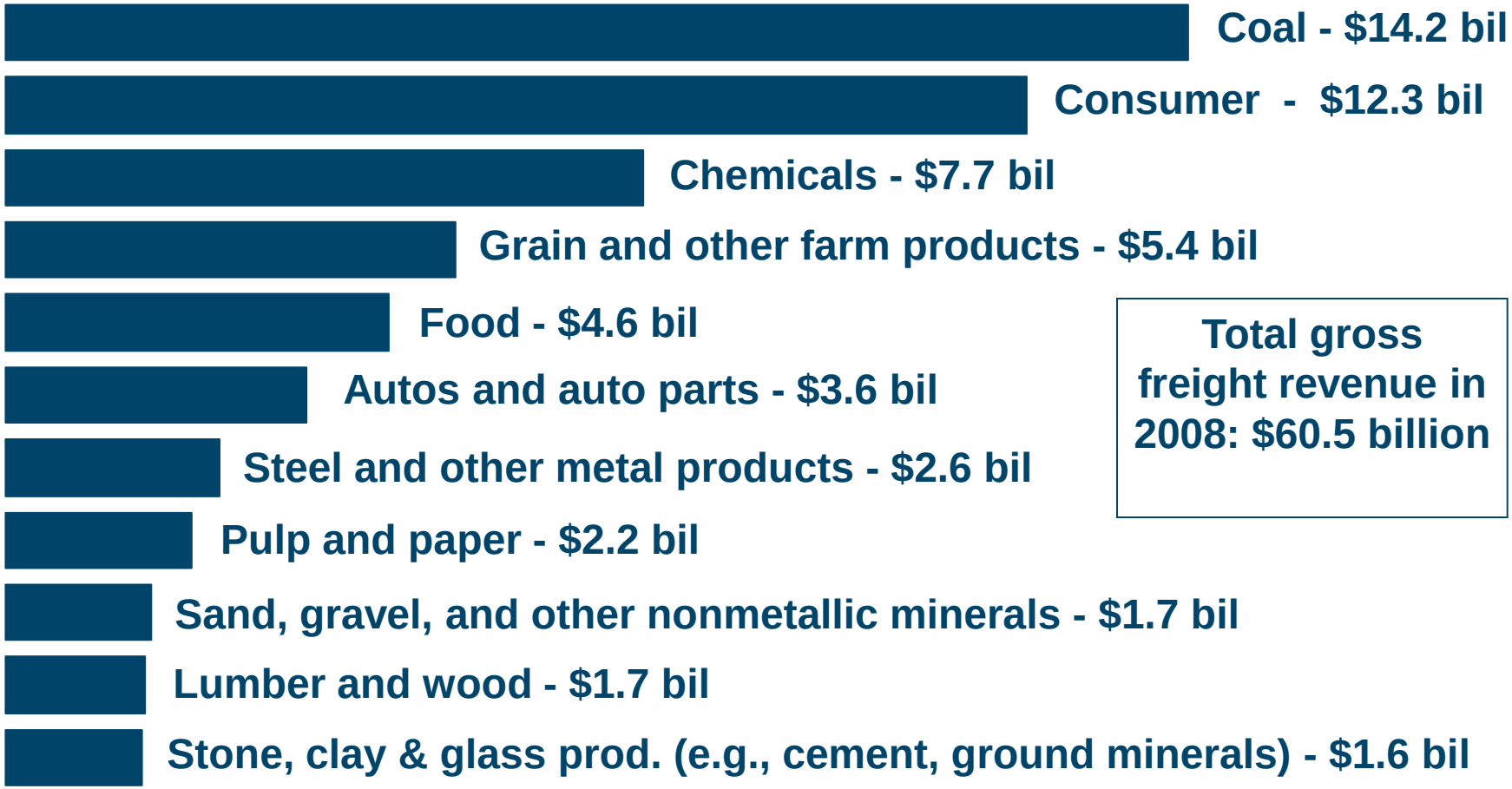
Railroads Move Just About Everything



Total gross freight revenue in 2008: $60.5 billion

Source: AAR.

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The Rail Industry Today

- 2009 carloads ↓ 16.1%, 2009 intermodal ↓ 14.1%
- ~390,000 freight cars (~27% of total) and ~4,200 locomotives (~18%) in storage.
- ↓ 21,500 employees (~13%) since Nov. 2006 peak.
- Signs seem to be pointing to a slow recovery

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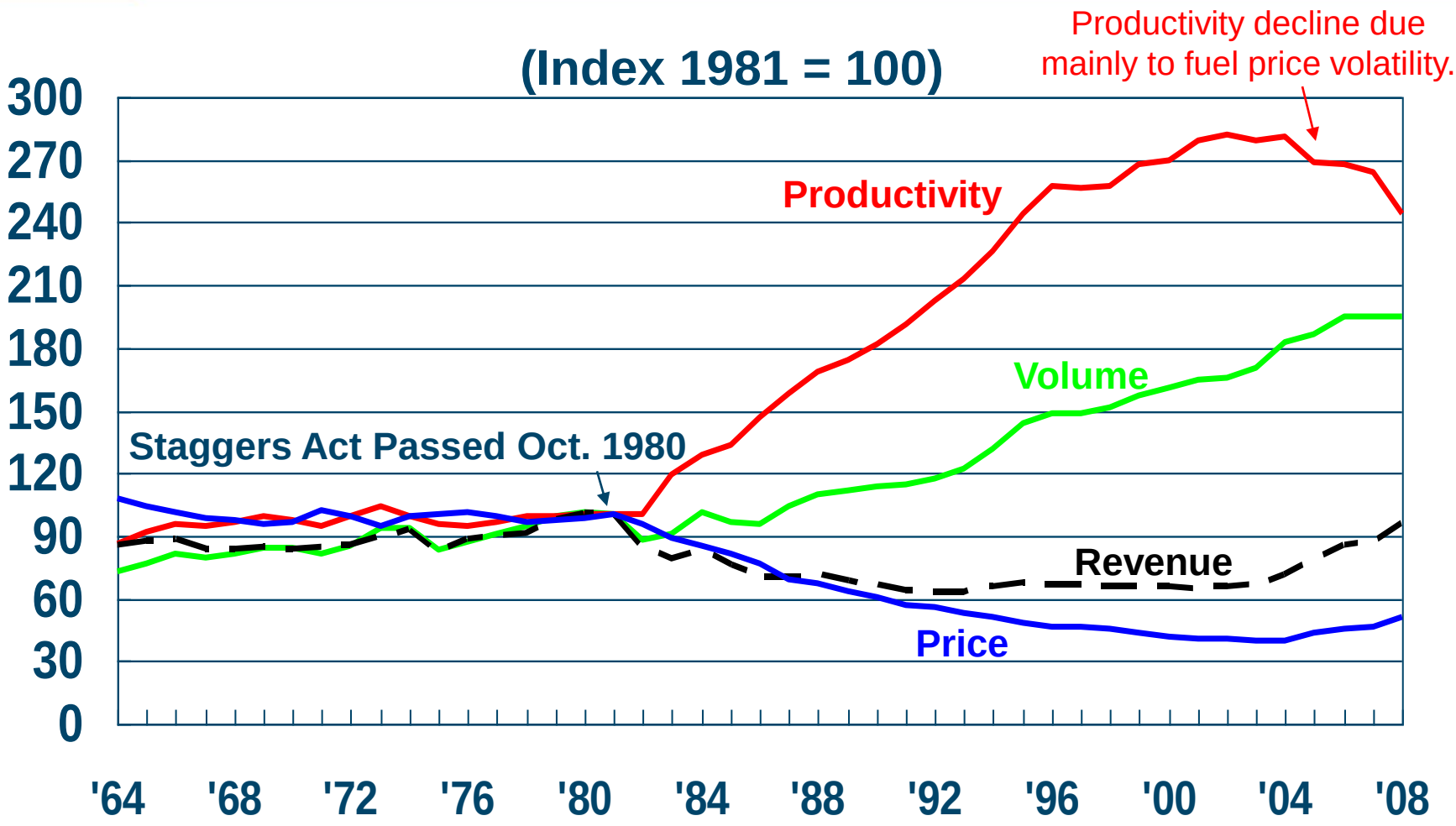
The Staggers Act: An American Success Story



Source: AAR

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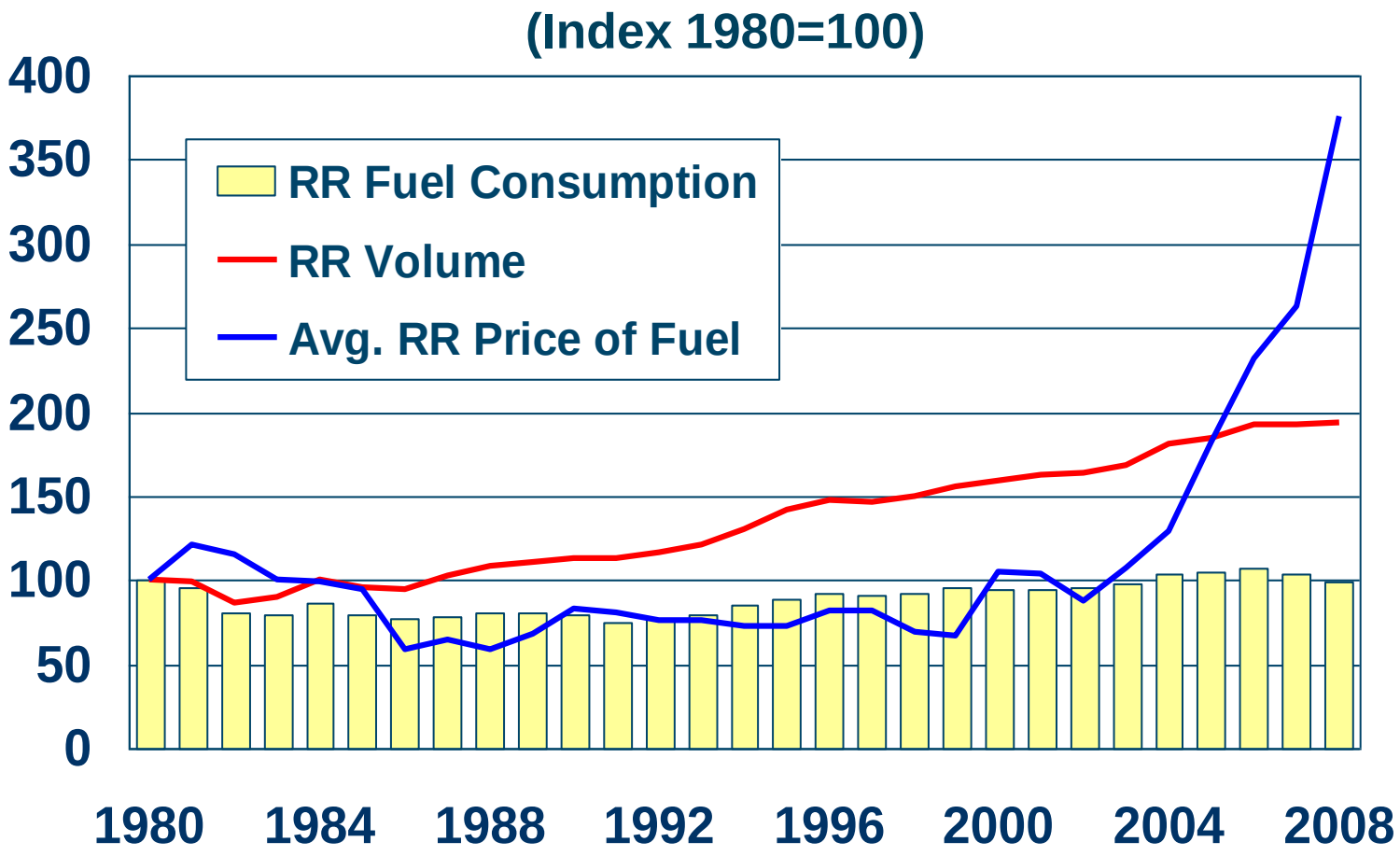
Double the Freight on Same Amount of Fuel!



Volume = revenue ton-miles. Source: AAR

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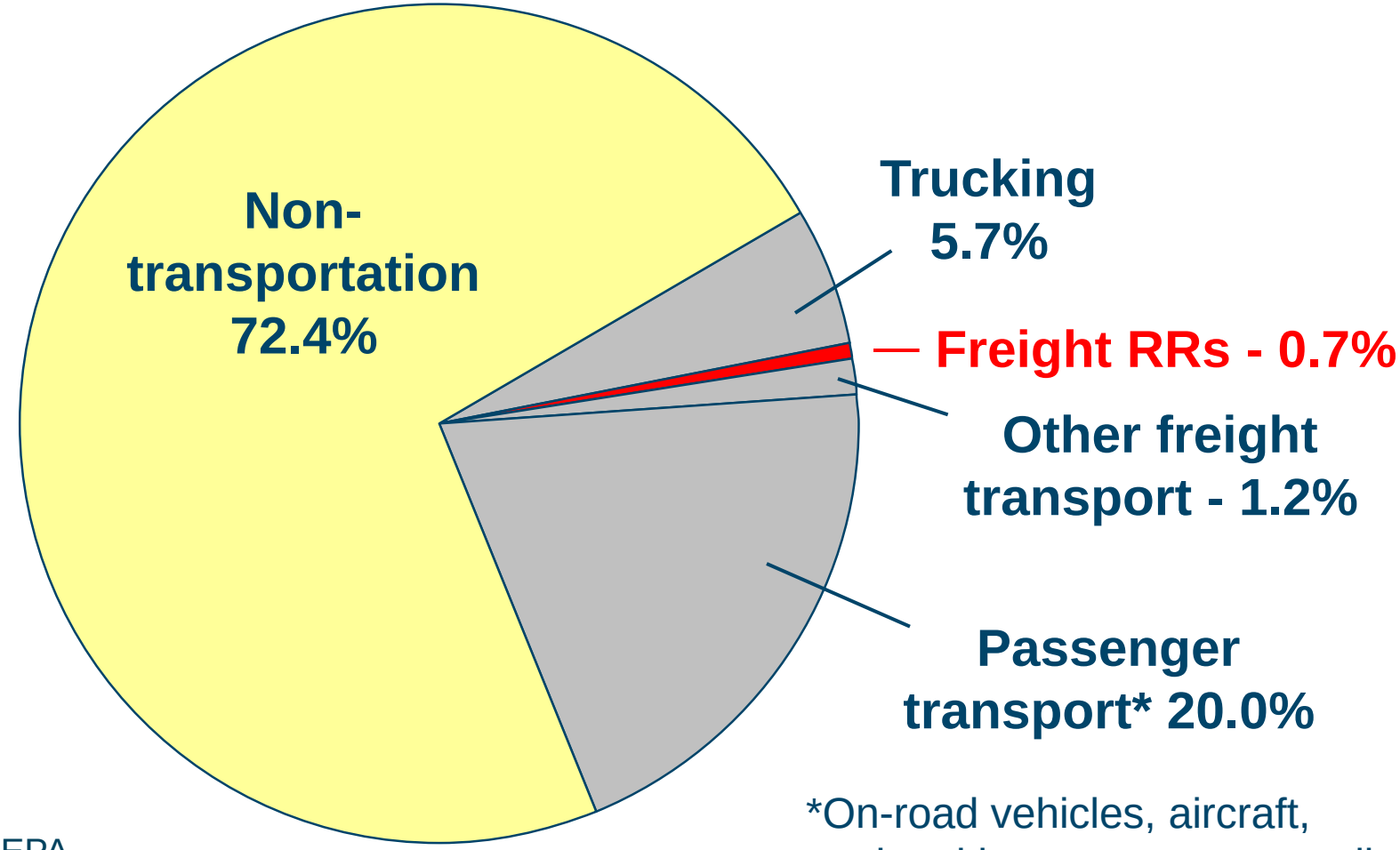
Freight RRs <1% of U.S. Greenhouse Gas Emissions



Source: EPA

*On-road vehicles, aircraft, recreational boats, passenger rail

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Freight Transportation Has Public & Private Components

	Rail	Truck	Barges	Blue Water [1]	Air
Infrastructure – Line Haul	Private	Public	Public [2]	None / Public [2]	None / Public [3]
Infrastructure - Terminals	Private	Private	Public / Private [4]	Public / Private [4]	Public / Private [4]
Equipment / Operations	Private	Private	Private	Private	Private

1 Also applies to U.S. Coastal and Great Lakes shipping
2 Public component includes aids to navigation, channel maintenance, and safety
3 Public component includes the air traffic control network
4 Often consists of privately-developed terminals on publicly-owned property

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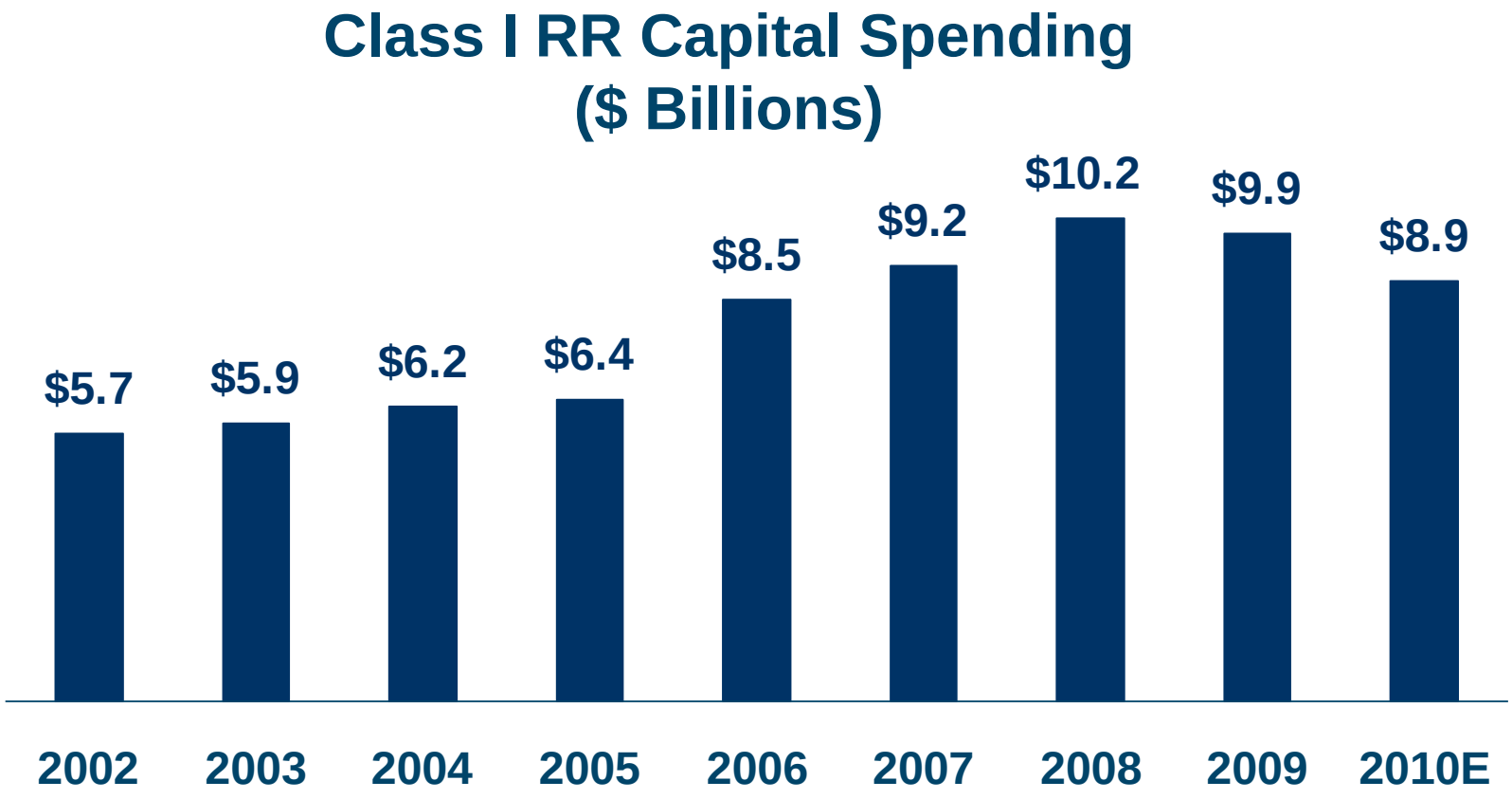
Capital Spending Staying High



Source: AAR

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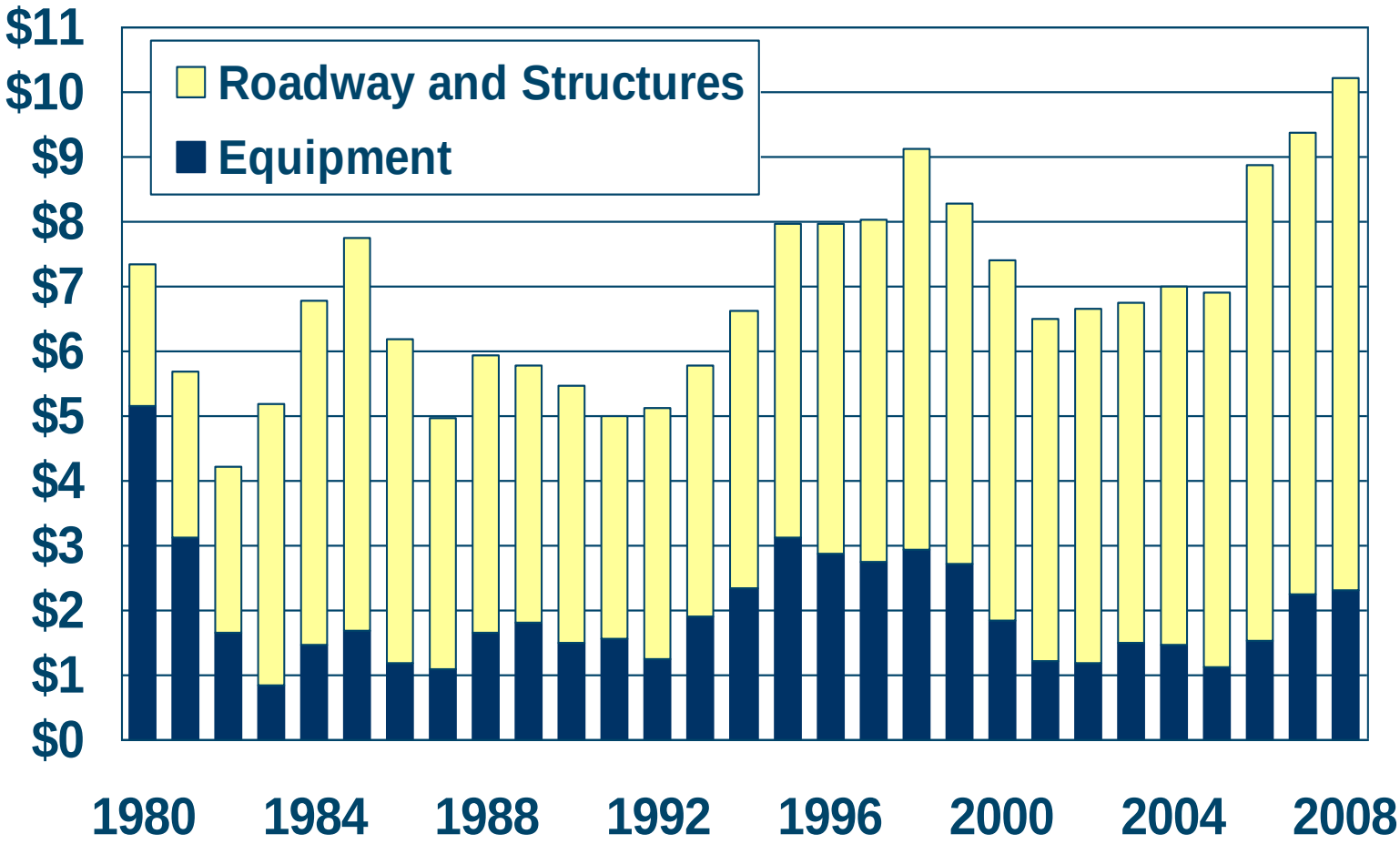
Railroad Capital Spending

($ billions, constant 2008 dollars)



Data are for Class I railroads. Source: AAR

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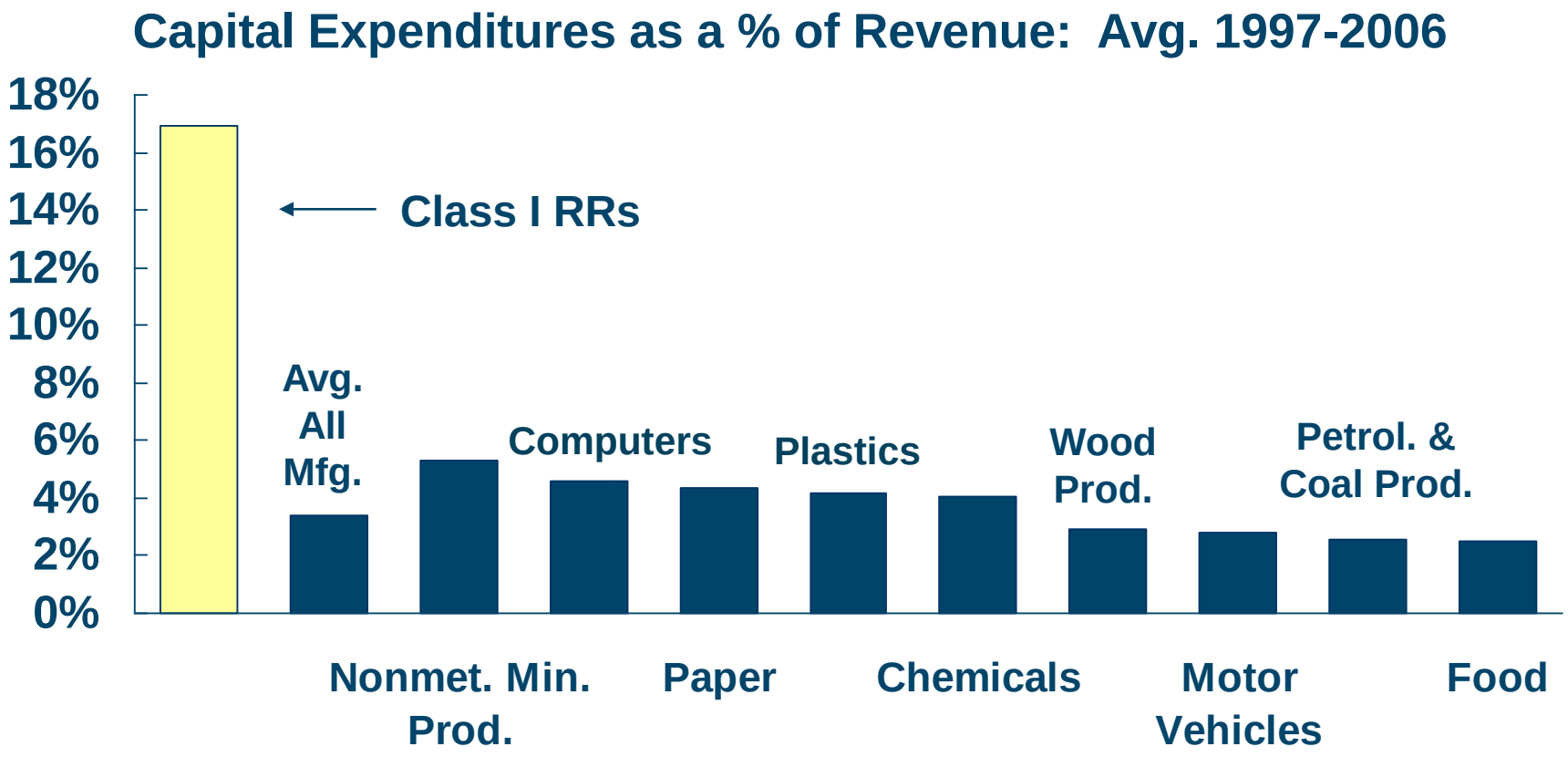
Railroads: Far More Capital Intensive Than Other Industries



Sources: U.S. Census Bureau, AAR

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Individual Railroads Spending versus State Highway Agencies

RR Infrastructure Spending vs. State Highway Agency Spending – 2007 ($ billions)

		Total
1.	Texas	$10.96
2.	Florida	$6.09
3.	California	$5.43
	Union Pacific	**$4.16**
	BNSF	**$4.05**
4.	New York	$3.88
5.	Pennsylvania	$3.79
6.	Illinois	$3.51
7.	Michigan	$2.65
8.	North Carolina	$2.51
	CSX	**$2.49**
9.	Georgia	$2.30
10.	Ohio	$2.25
11.	New Jersey	$2.08
	Norfolk Southern	**$2.07**

Data include capital outlays and maintenance expenses. Sources: FHWA, AAR

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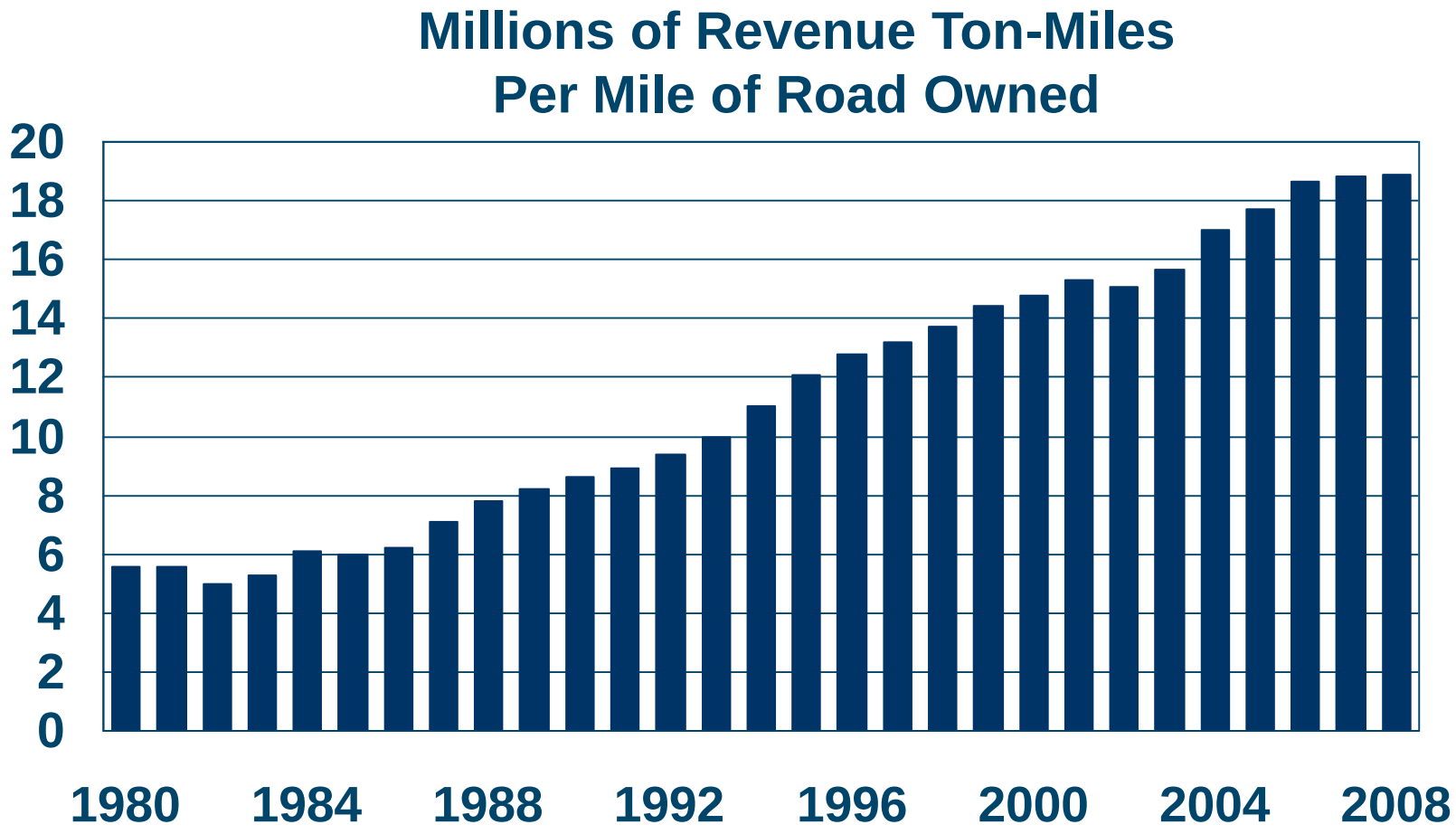
New Passenger Service Must Compete With Freight Growth



Data are for Class I railroads. Source: AAR

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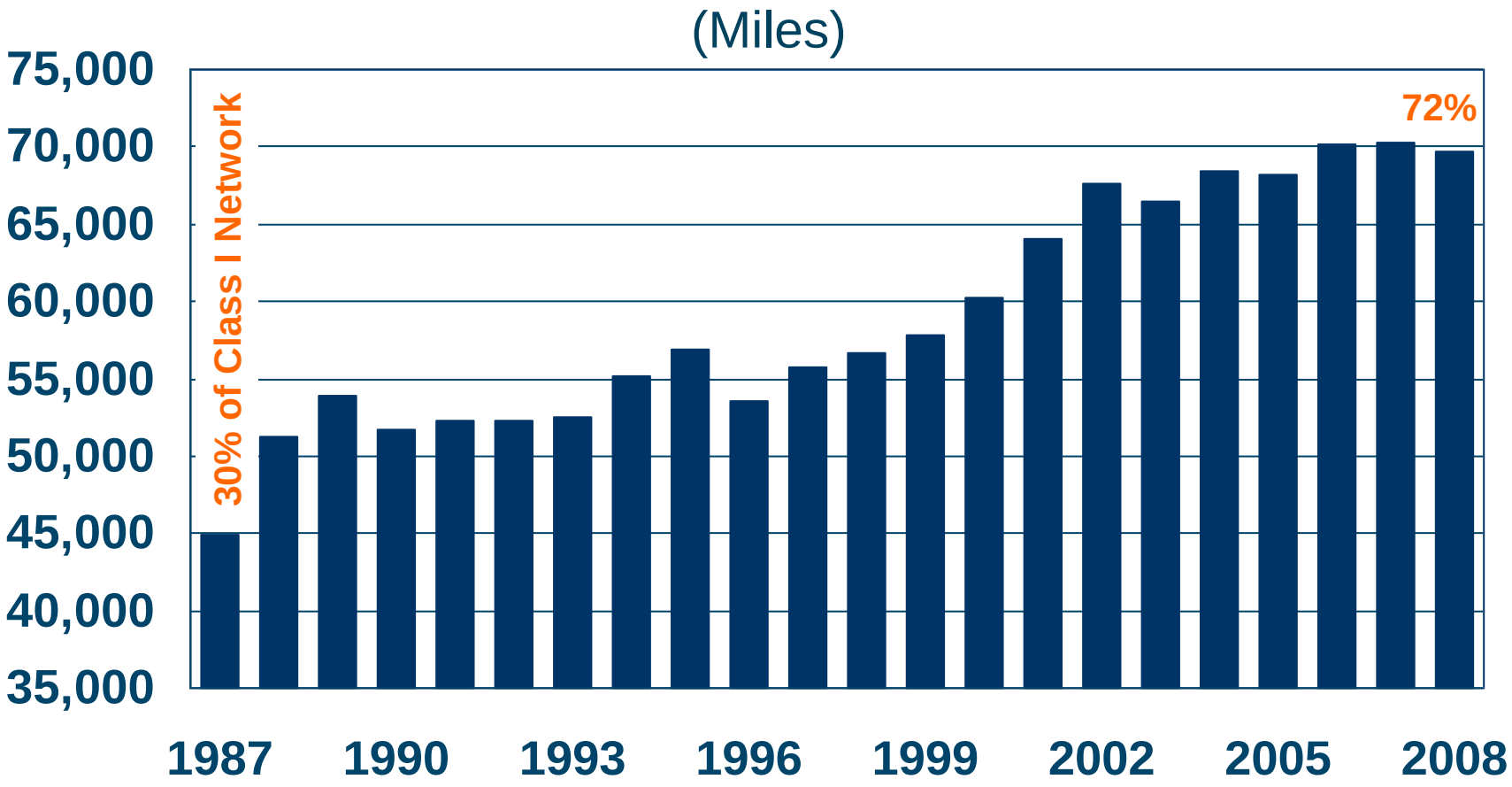
High Density* Rail Miles Have Increased



*Track with freight density of at least **20 million gross ton-miles**. Excludes way and yard switching tracks. Source: AAR

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Stated Federal High Speed and Passenger Rail Policy

"… we will not create a world-class high-speed rail system at the expense of our world-class freight rail system…"

FRA Administrator Joseph Szabo – Remarks to the sixteenth annual Conference on Passenger Trains on Freight Railroads, Chicago, October 10, 2009 and to the House of Representatives, Railroad Sub-Committee of the Transportation and Infrastructure Committee

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Rail Passenger Initiatives

- $54 billion in requests for $8 billion in 2009 stimulus package. “Winners” announced late January 2010.
- “High speed” defined as 110 mph, but money can also be used to incrementally improve existing routes toward this goal.
- Requires agreement, or significant progress toward an agreement, with freight railroad before application.
- Amtrak capital/safety funding in addition to HSR dollars.

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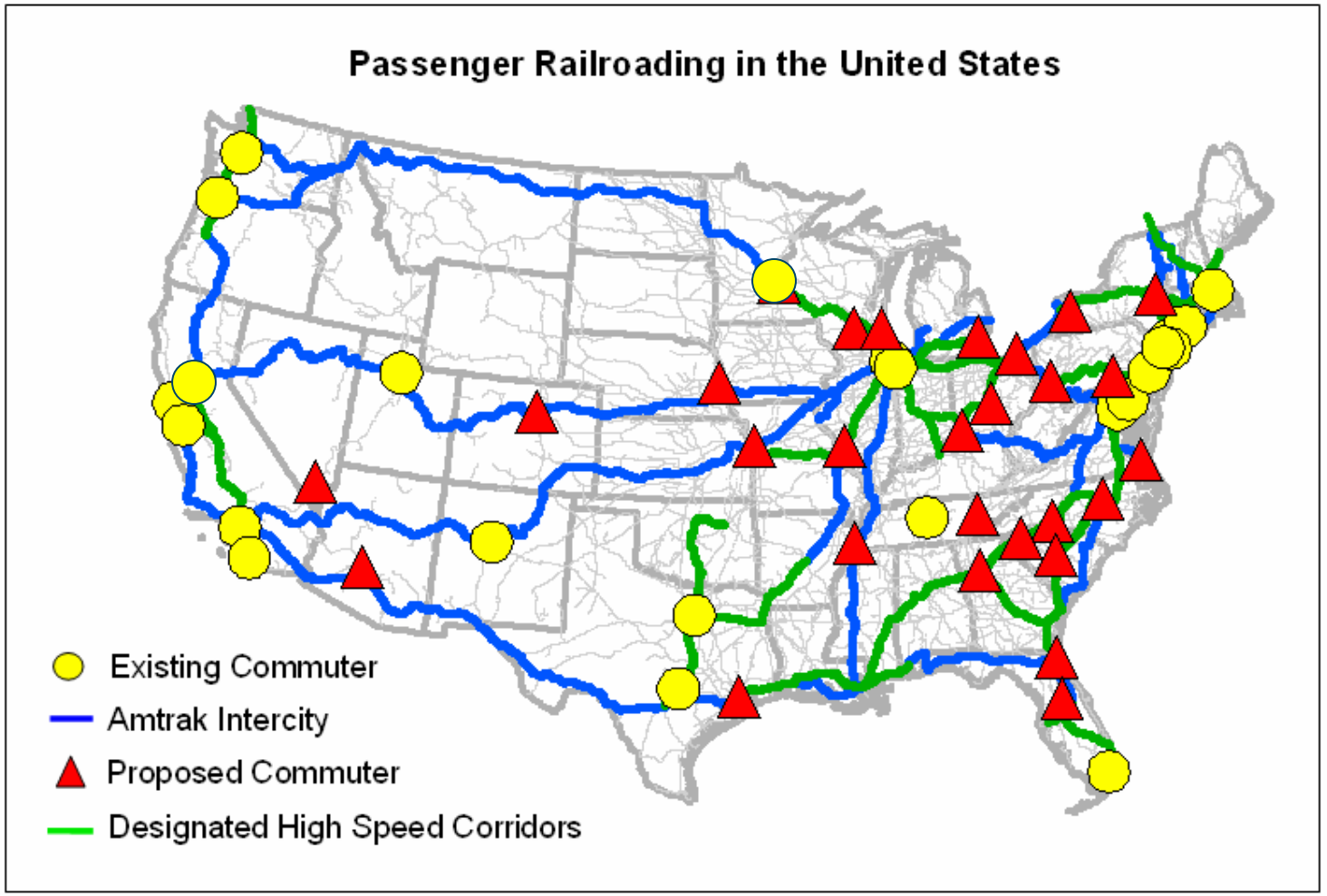
Sharing the Track With Passenger Trains



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Over 90% of HSR Anticipates Use of Freight Network

Corridor	Eastern Freight	Western Freight	Amtrak	Other	Total
California	0	505	0	326	831
Chicago Hub	1042	901	96	169	2208
Empire	349	0	10	76	435
Florida	149	0	0	158	307
Gulf Coast	649	273	0	78	1000
Keystone	243	0	104	0	347
New England	155	0	75	427	657
Pacific NW	0	436	0	3	439
South Central	0	1031	0	1	1032
Southeast	1460	0	2	8	1470
Total	4047	3146	287	1246	8726
Percent	46.4%	36%	3.3%	14.3%	100%

Eastern Freight = CSX, CN, NS; Western Freight = BNSF, CPR, KCS, UP

Other = Class II, III Freight; Commuter Operators; Class I Joint Facilities; Terminal Roads; Highway R.O.W.

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Support Passenger Rail - But Not at Expense of Freight Rail

- Passenger rail should complement, not conflict with, freight rail.
- Liability protection.
- Full compensation, no freight rail subsidies to passenger rail.
- No forced access.
- Recognize that some passenger uses not compatible with freight rail.

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Some Significant Issues for Mixed Use of Freight Facilities

- Capacity for operation and maintenance.
- Dispatch priorities; flow management.
- Main lines through terminal areas; signal placement.
- Compensation for capacity improvements and losses as well as ongoing maintenance and operation.
- Cost allocation.
- Liability protection.
- People access control.

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Where is HSR Compatible With Heavy Freight ?

- **Depends on the specific circumstances:**
  - Light freight density, limited gathering and distribution conflicts and appropriate geometry – 110 mph may be possible in limited circumstances.
  - In most cases – train management conflicts, maintenance requirements and safety will limit top speeds to 80 or 90 mph.
  - Above 110 mph, separate facilities are almost always necessary.
- **In most corridors the most effective results will be obtained by:**
  - De-bottlenecking chokepoints, and,
  - Upgrading terminal access routes in order to -
  - Obtain sustained higher speeds (80 to 90 mph) throughout the route rather than simply achieving high maximum speeds.

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Frequency and Capacity – an Important Public Issue

- **Usually, regardless of speed, frequency is a critical determinate of passenger acceptance of rail service.**
  - This has a clear impact on the capacity of a rail line to provide acceptable current and future levels of freight service, and,
  - Has a clear impact on the ability to grow freight service.
  - Implies that **PUBLIC** funding of **ALL** of the capacity required for passenger trains is critical, including that necessary to meet passenger maintenance requirements.
  - Also implies an ongoing need for **PUBLIC** funds to maintain and operate the passenger service to acceptable standards.
- **THE CURRENT LEGISLATION PROVIDES NO ONGOING OR RELIABLE SOURCE FOR PUBLIC FUNDING OF HIGH SPEED OR OTHER PASSENGER PROJECTS. THIS HAS BEEN LEFT TO STATES AND LOCAL GOVERNMENT.**

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True High-Speed Passenger Rail Can't Work on Freight Tracks

- Safety
- Operating differentials
- Capacity and efficiency
- Engineering requirements

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Positive Train Control – a $10 Billion Unfunded Mandate

- Mandated by 2008 rail safety bill.
- Required for:
  - ✓ All main lines handling passenger trains on Class I carriers
  - ✓ All Class I main lines > 5 million annual GTM handling toxic inhalation hazard (TIH) materials.
  - ✓ Other lines specified by USDOT
- Installation by Dec. 31, 2015.
- FRA rules seek to expand installation requirements.

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Some of Positive Train Control's Economic Dimensions

- **Costs (according to FRA):**
  - ✓ Installation = ~$5.8 billion (in 2009$)
  - ✓ Annual maintenance and operations = $860 million
  - ✓ Net present value of all costs (7%, 20 years) = $10 - $14 billion
- **Benefits:**
  - ✓ <$90 million per year in safety benefits
  - ✓ Recent expert review indicates upper limit of approximately $400 million NPV of commercial benefits
  - ✓ Net present value of all safety benefits (7%, 20 years) = $440 - $674 million
- **Net Result: <u>Costs exceed benefits by over 11 to 1</u>**

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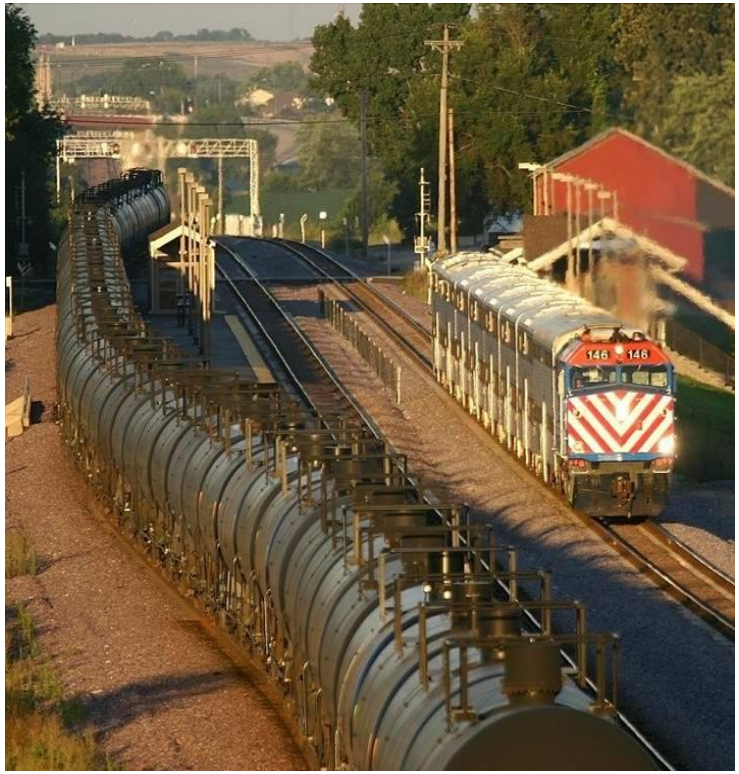
Positive Train Control Implications

- Will absorb most growth capital and capacity improving technology spending for next 6 years.
- First generation systems may reduce capacity of rail network.
- Ongoing operating expense will reduce net operating income equal to 40% of growth capital.
- Thus, PTC may represent a long-term threat to rail capacity enhancement.
- Passenger users should expect to pay all or a portion of PTC costs where they operate.



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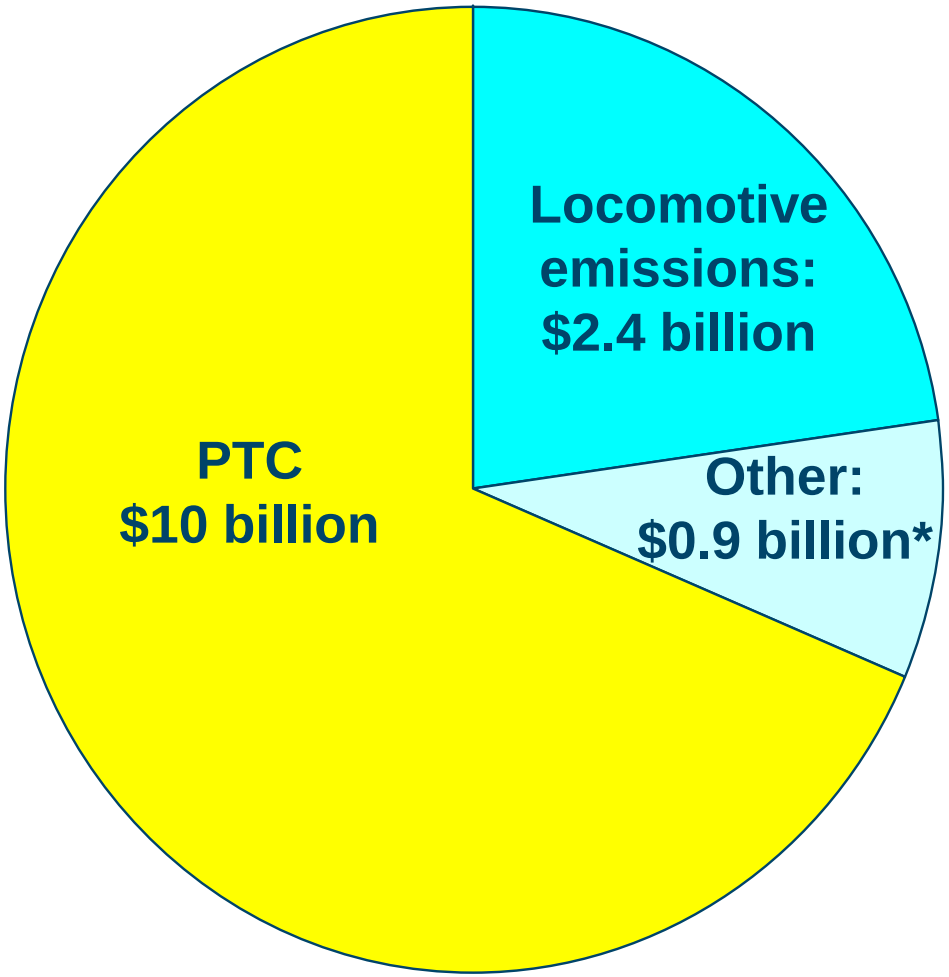
Unfunded Mandates Just From 2005-2009 Will Cost More Than $13 Billion



*Includes roadway worker (adjacent track), conductor certification, reflectorization, locomotive crashworthiness, event recorders, cab noise, operating rules, escape respirators, TIH chain of custody, routing, training, and other regulations.

Source: AAR analysis plus EPA, FRA and other regulatory impact analyses

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