

Rail Capacity

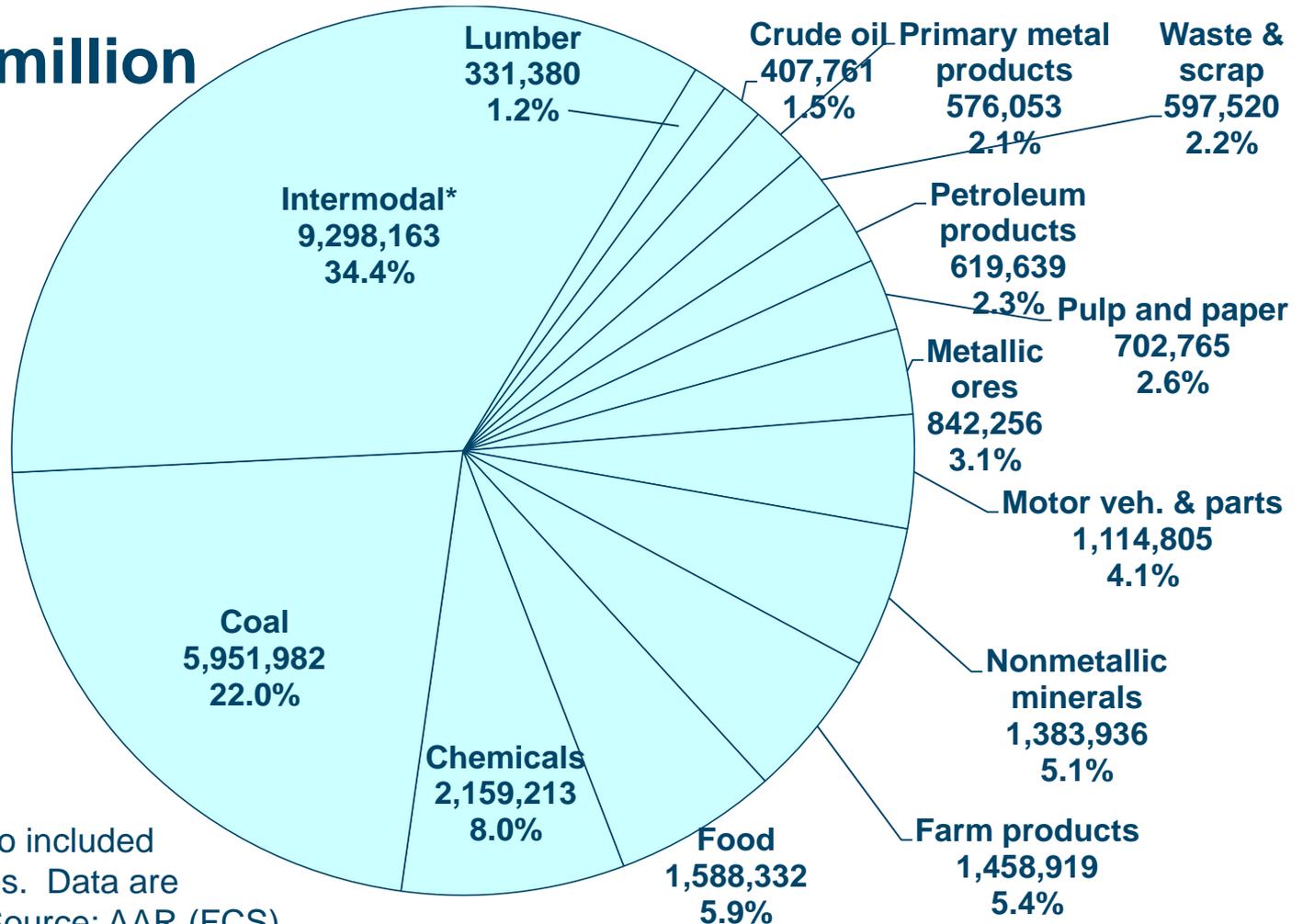
USDA Agricultural Outlook Forum
Arlington, VA
February 20, 2015





Carloads Originated by U.S. Railroads in 2013

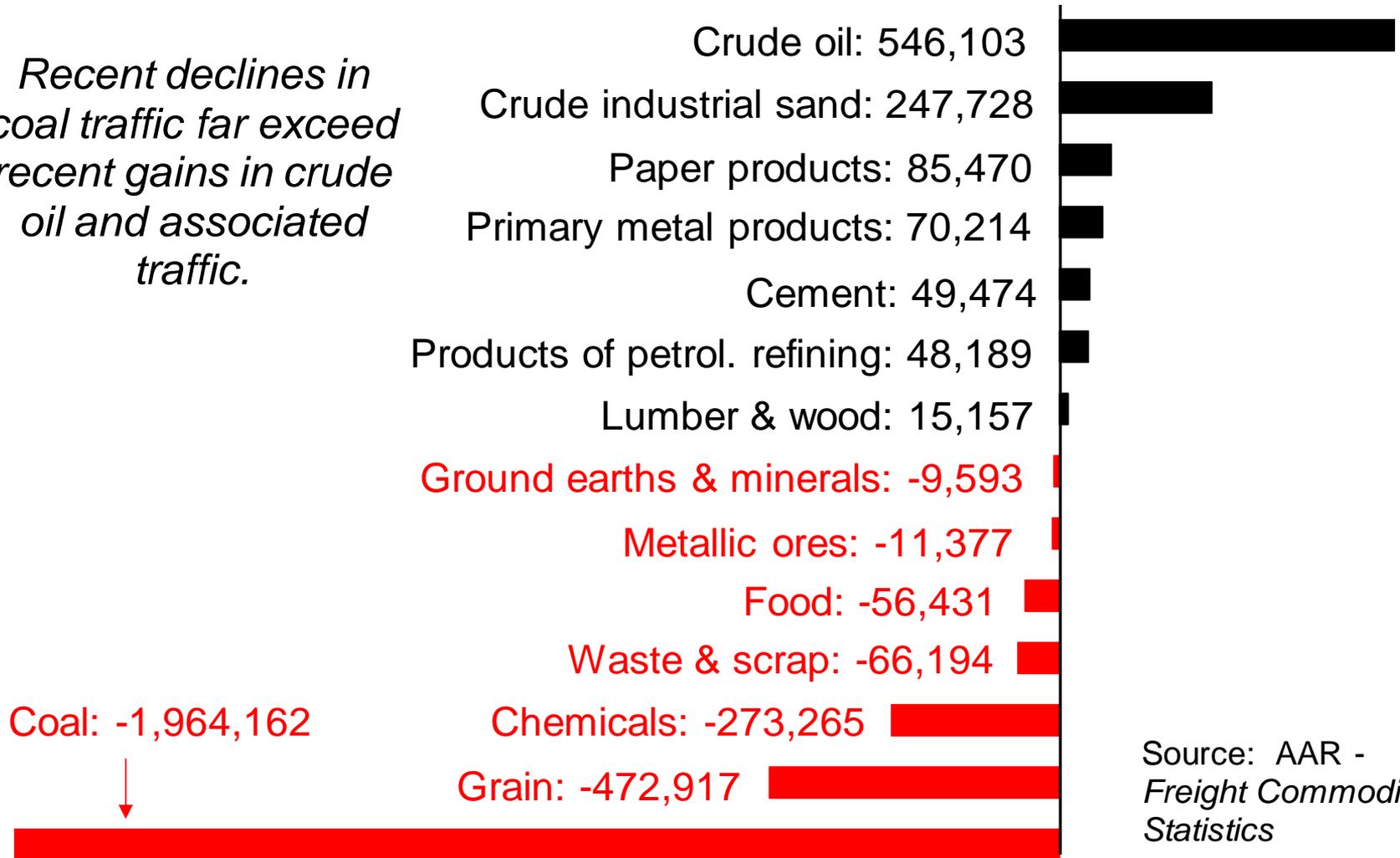
Total: 28.8 million



*Some intermodal is also included in individual commodities. Data are Class I railroads only. Source: AAR (FCS)

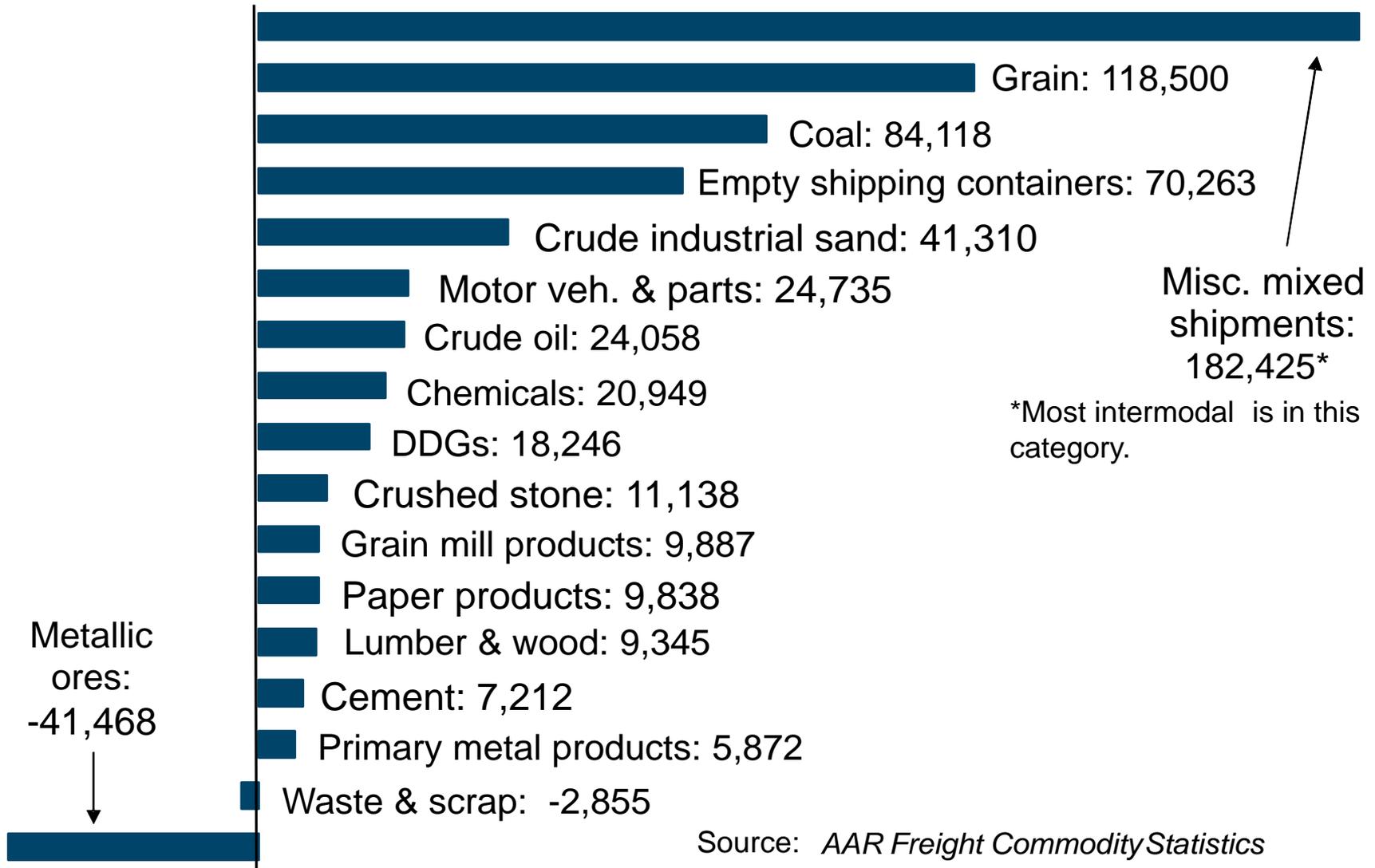
Change in Originated Carloads for Class I RRs: (2010 + 2011) vs. (2012 + 2013)

Recent declines in coal traffic far exceed recent gains in crude oil and associated traffic.



Source: AAR -
Freight Commodity
Statistics

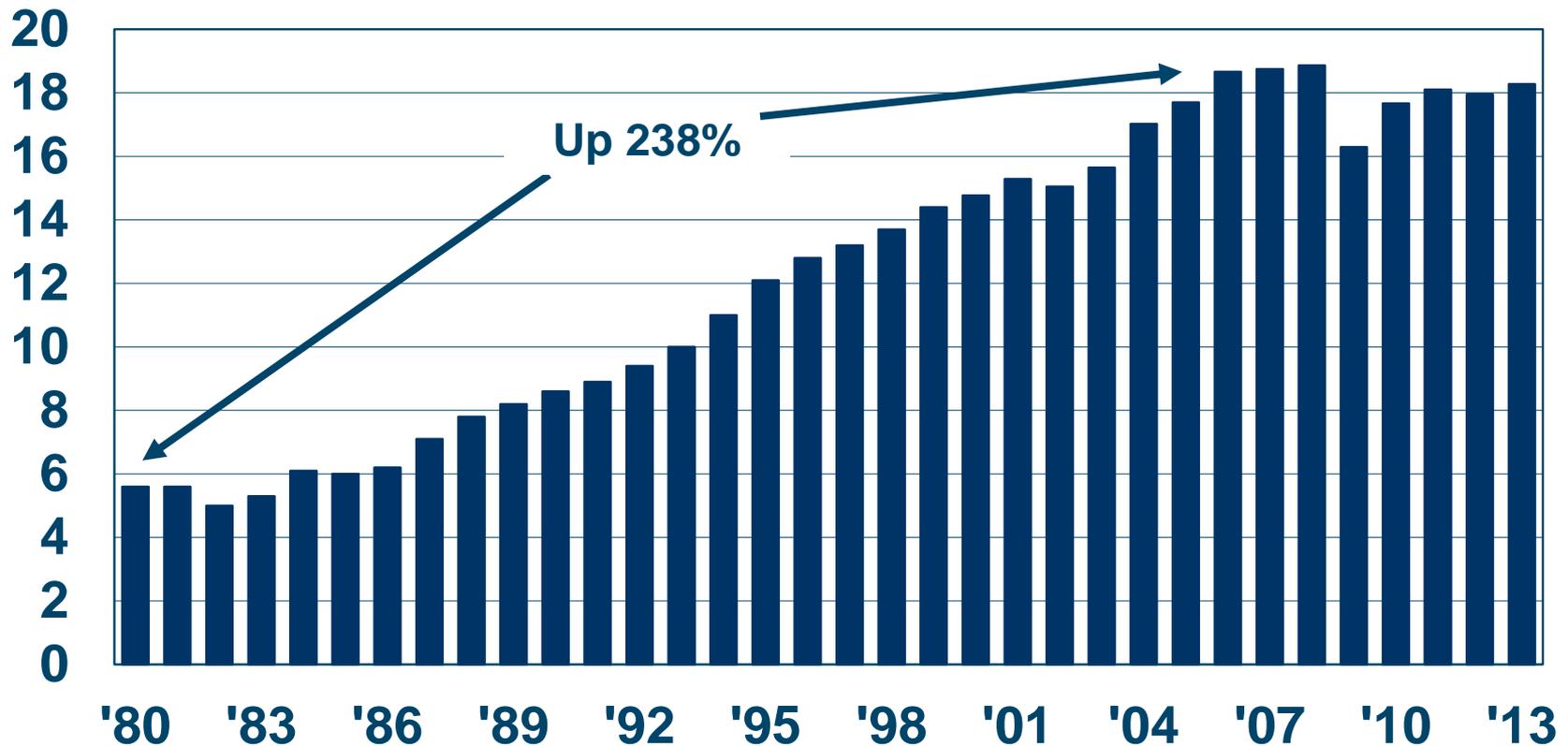
U.S. Rail Traffic First Half 2013 vs. 2014





Sharp Increase in Rail Traffic Density

(millions of revenue ton-miles per mile of railroad)



Miles = route-miles owned

Data are for Class I railroads.

Source: AAR



Traffic Growth and Mix Change Has Been a Challenge

- By and large, growth of this magnitude not anticipated.
- Different traffic mix, different locations.
- RRs did not always have resources in the right place to handle it.
- Severe winter, later flooding made things much worse.





Changing Markets = Harder to Plan and Manage Rail Networks

- Different train types
- Different service requirements
- Need for ongoing maintenance
- Traffic volumes not always foreseen
- Traffic mix changes
- Resource limitations
- Need for long lead times
- Regulatory requirements
- Railroads are networks



Four Steps to Increase Capacity

1. Identify and Implement Process Change,
2. Develop and Deploy New or Improved Information Technology,
3. Acquire and Deploy Assets Usable Throughout Network,
4. Plan, Design, Finance, Permit, Acquire, Build and Test Additional Infrastructure.

Steps are not sequential but they are interrelated.



Four Steps to Increase Capacity (1)

1. Identify and Implement Process Change

- Rework the transportation plan,
- Update the interchange plan,
- Rework yard and terminal processing plans,
- Redesign freight car distribution strategies,
- Rethink locomotive assignment and deployment,
- Develop more efficient loading/unloading with customers
- Explore joint facilities opportunities,

Time to deploy – Weeks or months up to a year (+).



Four Steps to Increase Capacity (2)

2. Develop/Deploy New/Improved Information Tech.

- Dispatching and control systems,
- “Real time” movement planning technology,
- Terminal visibility and management systems,
- Maintenance planning technology,
- Locomotive/freight car distribution systems,
- Locomotive, freight equipment and track monitoring, fault identification, early detection and diagnostic systems.

Time to deploy – Six months to ten years.



Four Steps to Increase Capacity (3)

3. Acquire/Deploy Assets Usable Throughout Network

- Trained people,
- Locomotives,
- Additional freight equipment,
- Higher capacity freight equipment,
- High capacity/productivity maintenance machinery.

Time to deploy – Six months to three years.



Four Steps to Increase Capacity (4)

4. Plan, Design, Finance, Permit, Acquire, Build, Test Additional Infrastructure.

- Main line, terminal and terminal through route upgrades,
- New signal and control infrastructure,
- Locomotive/freight car maintenance/servicing facilities,
- Intermodal, automotive or transload terminals,
- Freight classification or unit train servicing capabilities,
- New bridges or tunnels and/or replacements/upgrades.

Time to deploy – Three years to ten years.



Record Spending on Infrastructure and Equipment

Railroad Spending on Infrastructure and Equipment* (\$ billions)

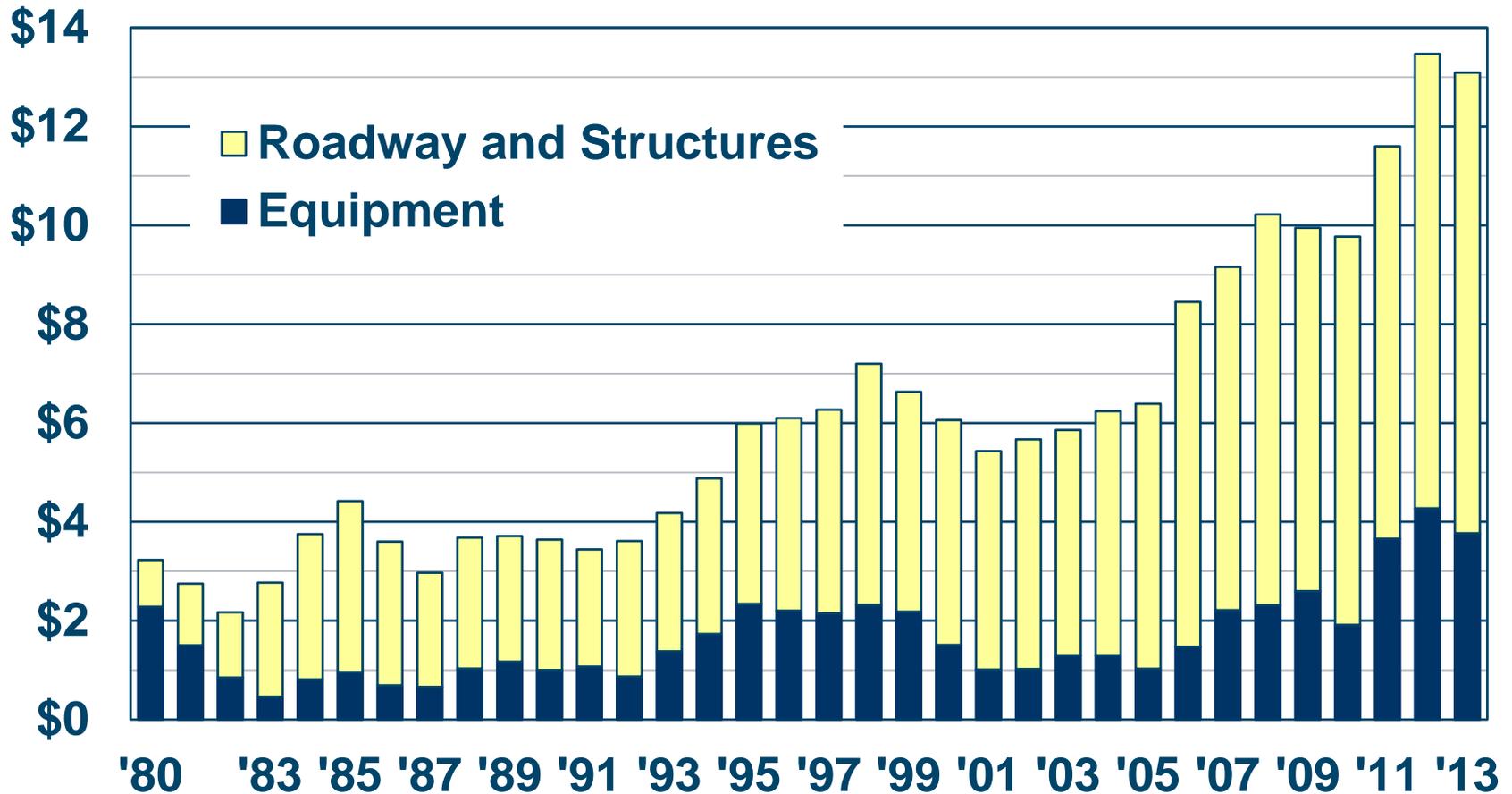


p – AAR projection *Capital spending + maintenance expenses - depreciation.
Data are for Class I RRs. Source: AAR



Railroad Capital Spending

(\$ billions, current dollars)



Data are for Class I railroads. Source: AAR



How Does Winter Mess Up Rail Operations?

- Shorter trains
- Snow accumulation
- Frozen track switches
- Rail crews
- Rail customer problems





Chicago Was Epicenter in 2014

- Dec. 2013 - March 2014 = coldest four months on record; 26 days at or below zero.
- 82 inches of snow
- Big problem because ~ 25% of freight rail traffic passes through or near Chicago





What Are Chicago Carriers Doing Differently in 2015?

- Routing protocols to use alternative gateways.
- Develop and test winter response plans earlier.
- Investment in physical plant in Chicago both through CREATE and individually.
- Trigger Chicago alerts based on performance metrics rather than field estimates.
- Scheduling more maintenance capability.
- Where appropriate, deploy more weather resistant technology.
- Where appropriate, add people.



Assn. of American Railroads

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