
Freight Trends and Freight Rail

presented to

***Delaware Valley Goods Movement Task Force
10th Anniversary Meeting
Philadelphia***

presented by

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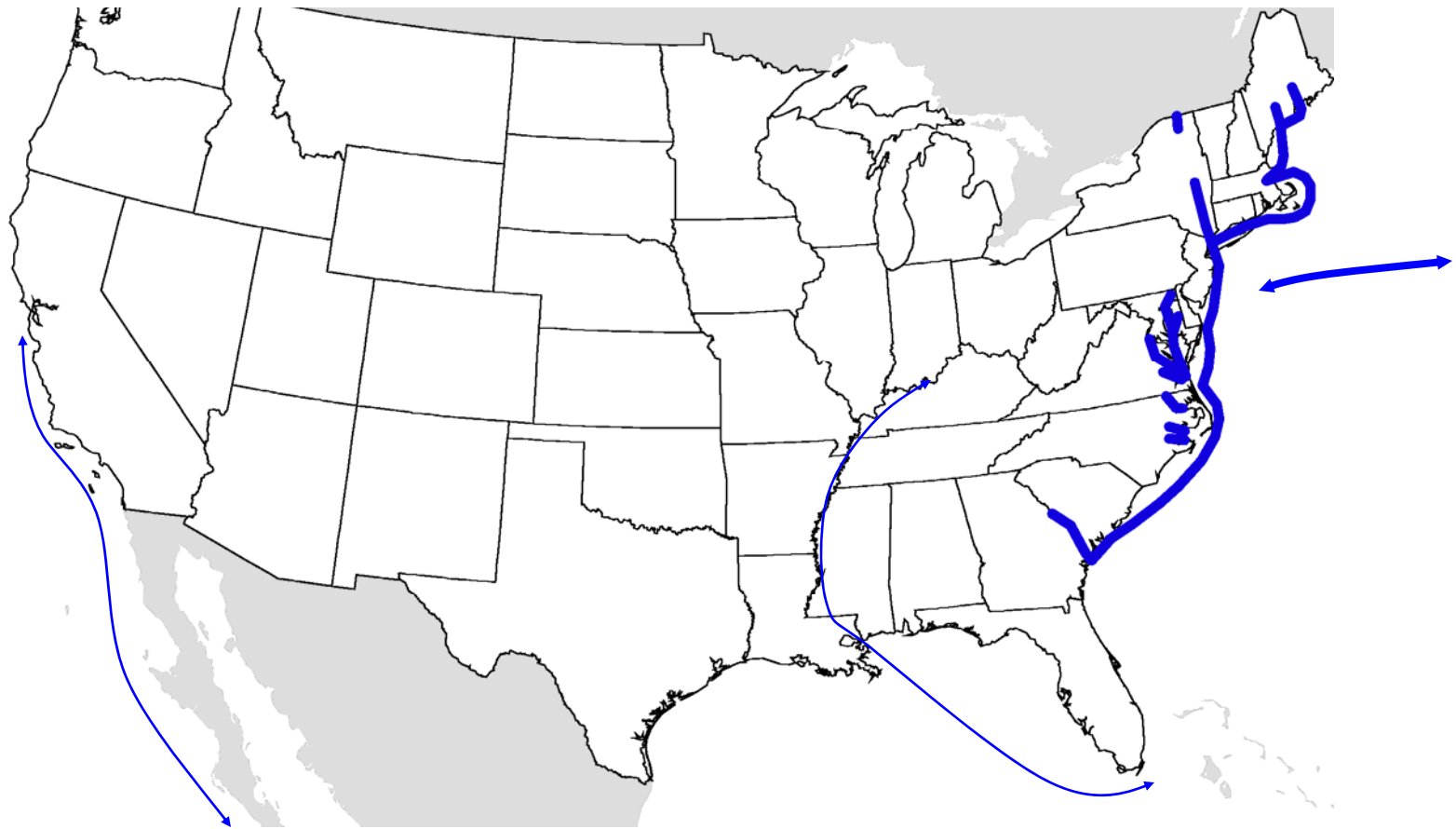
October 9, 2002

Presentation

- **Evolution of the freight transportation system**
- **Freight forecasts**
- **Congestion, capacity, and logistics productivity concerns**
- **State of the freight-rail system**
- **Freight-rail policy and program initiatives**

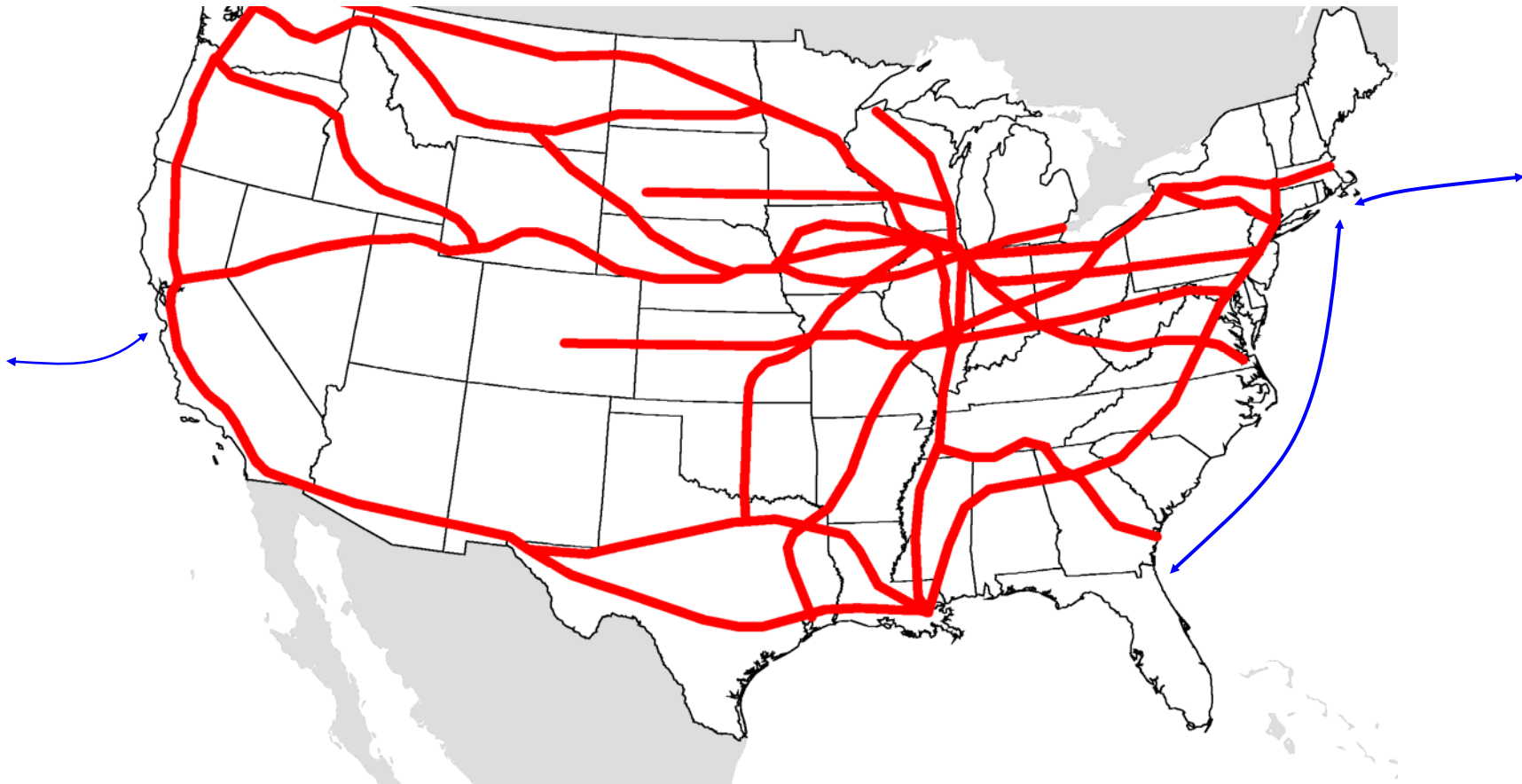
18th Century/Sail Era

Colonial economies were built on water transport; it cost as much to move a ton of goods 30 miles inland as across the Atlantic; 2 out of 3 settlers lived within 50 miles of the Atlantic coast; coastal and Atlantic trade dominated



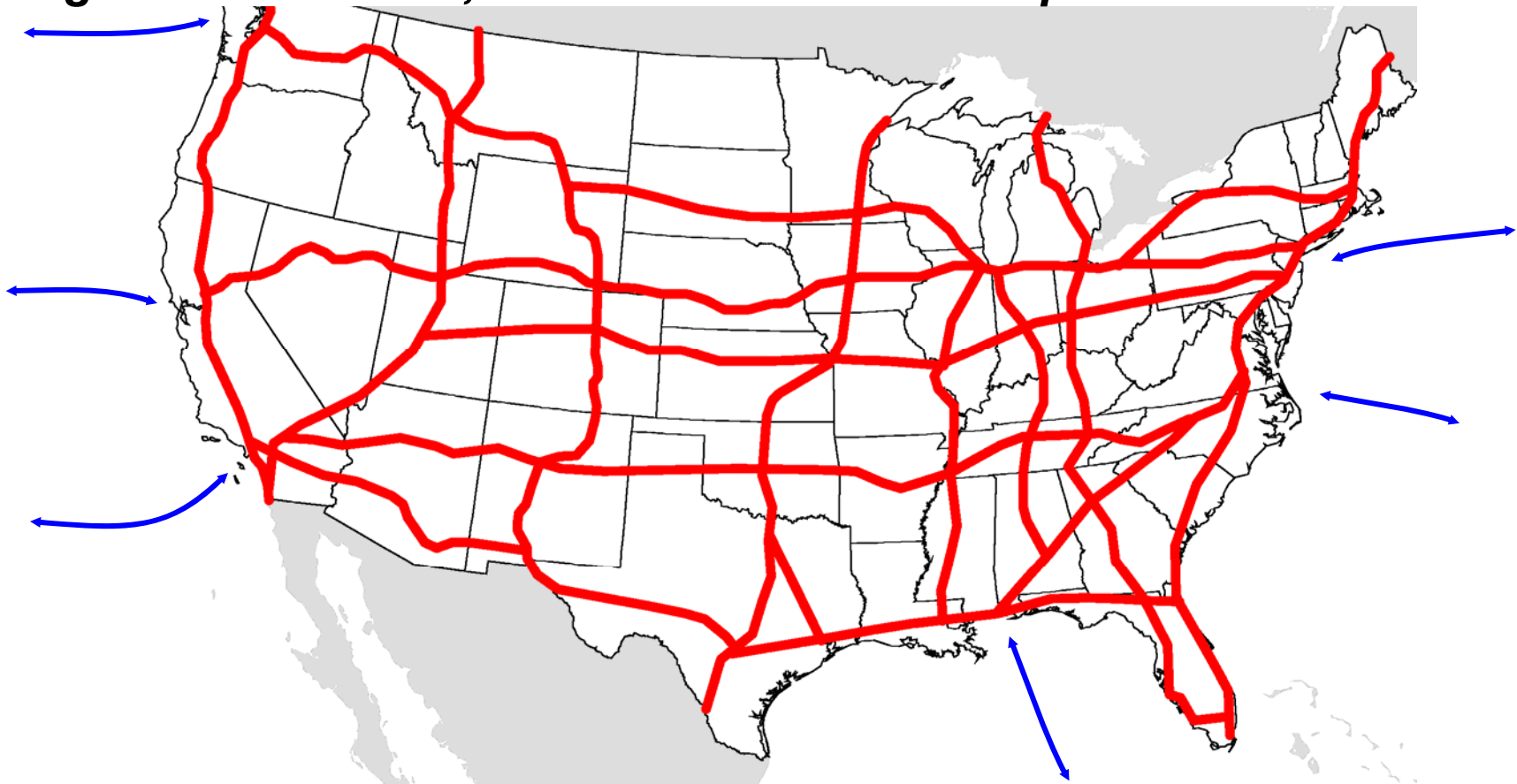
19th Century/Rail Era

Regional economies were built on rail technology that freed business and industry from ports; east-west rail routes were built to follow development of the Midwest and West; domestic trade dominated



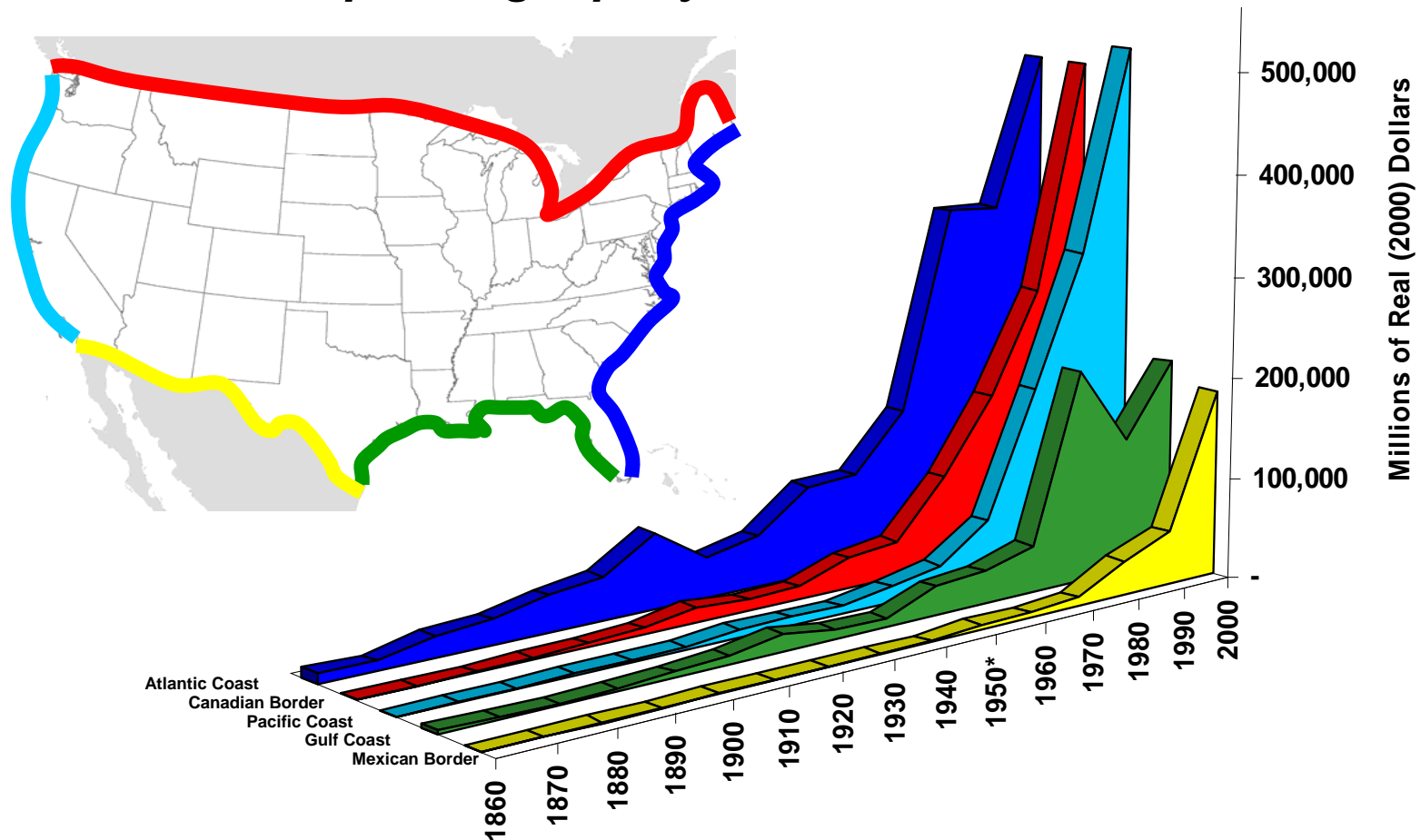
20th Century/Truck Era

National economy was built on truck and highway technology that freed business and industry from rail terminals; an east-west and north-south Interstate highway grid was built to connect cities and regional economies; Pacific and Gulf trade expanded



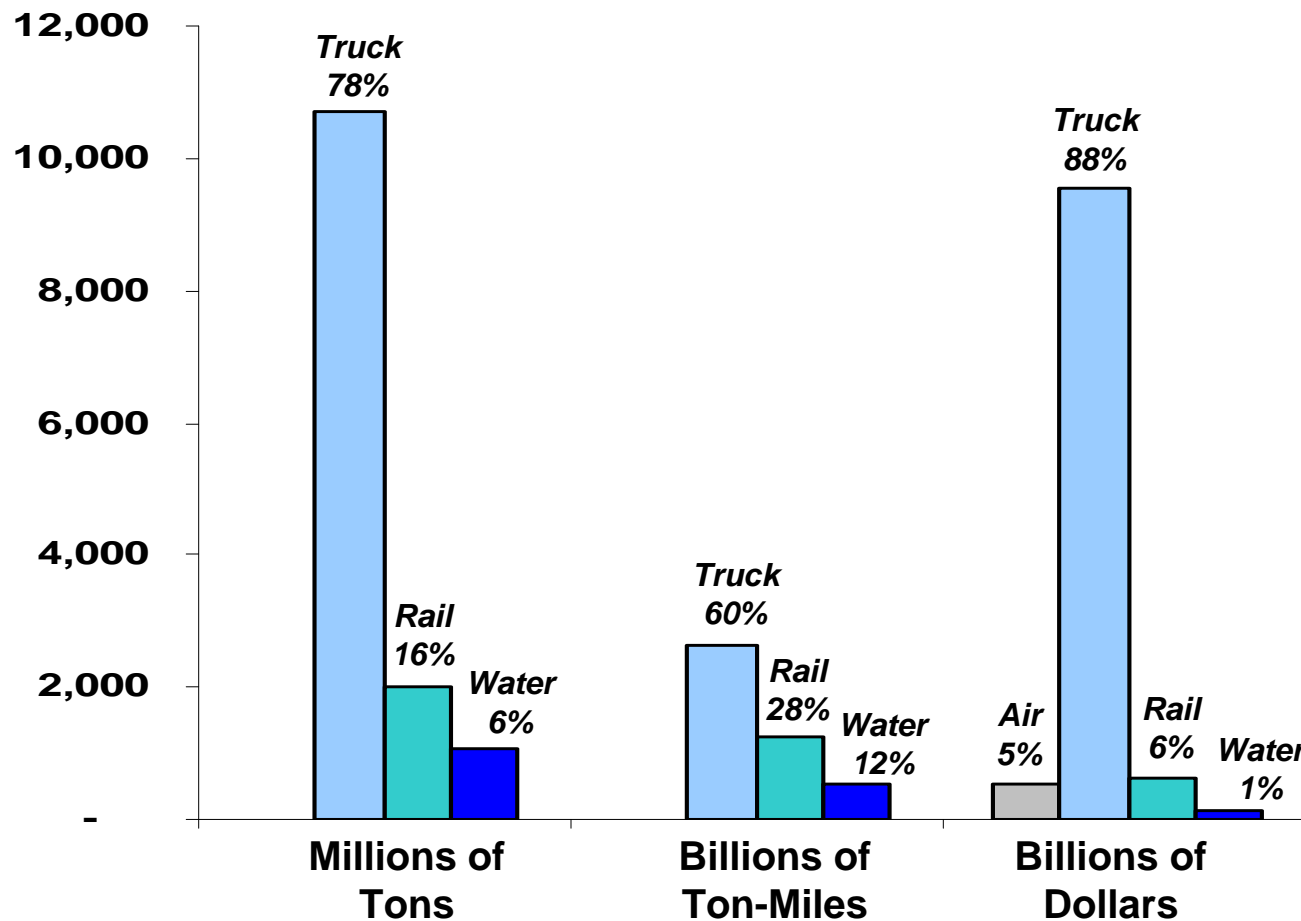
21st Century/Information Era

U.S. global trade is being built on information, telecommunications, and low-cost, long-haul transport by water, rail, and air; north-south NAFTA trade is expanding rapidly



Goods Movement Today

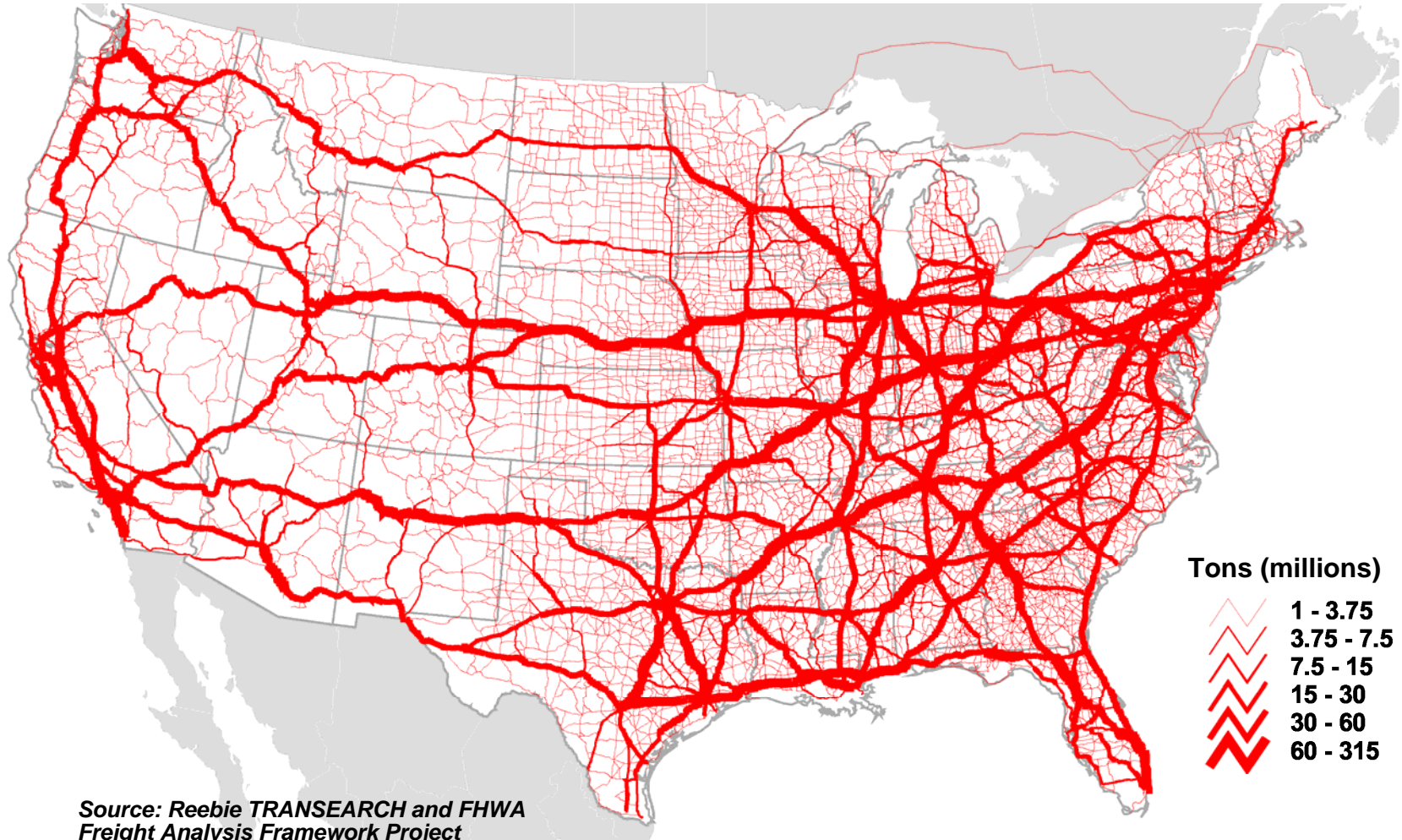
U.S. freight system moved 14 billion tons of freight valued at \$11 trillion over 4.5 trillion ton-miles in 2000



Source: Reebie TRANSEARCH and FHWA Freight Analysis Framework Project

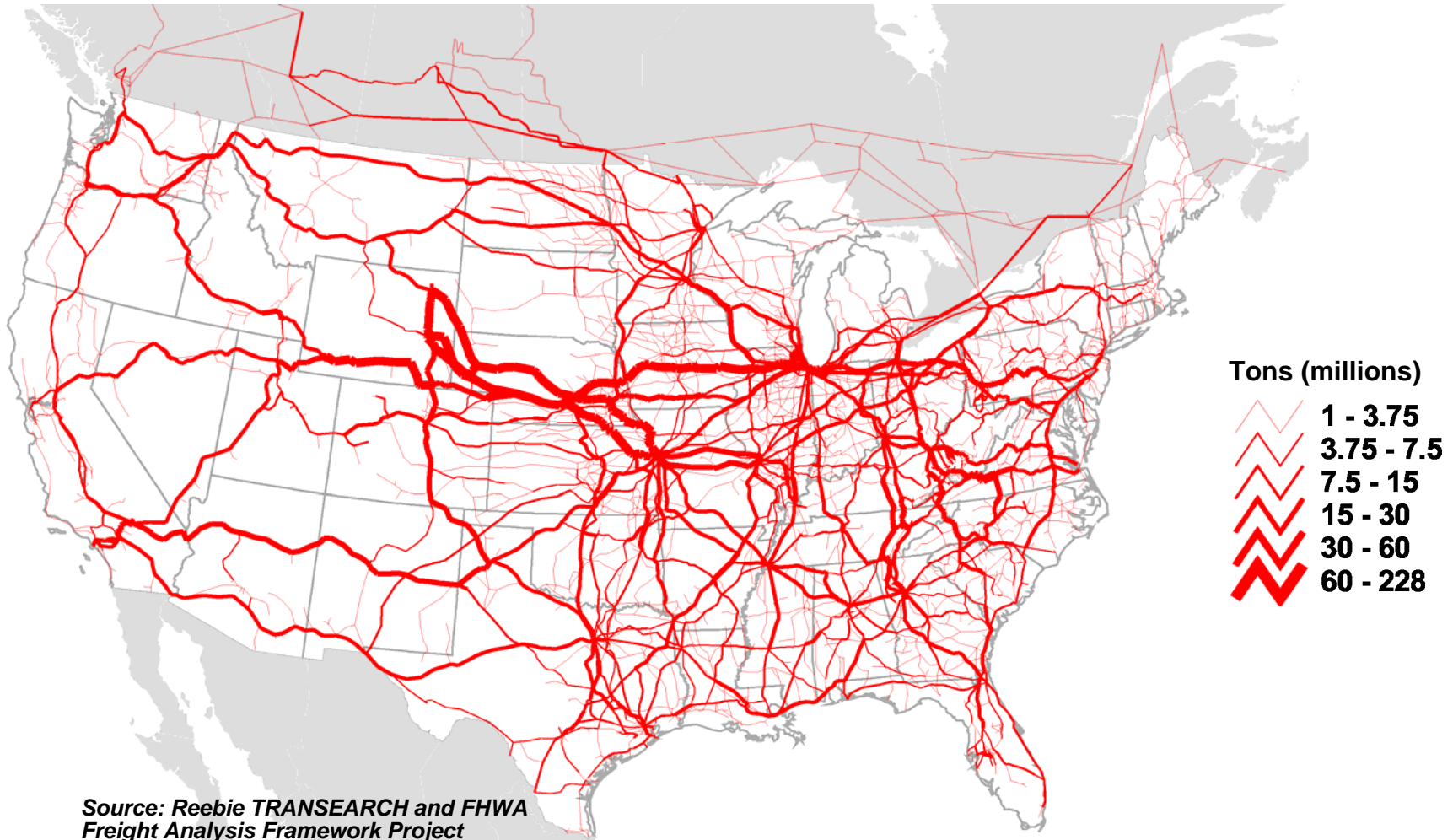
Freight-Truck Traffic

Trucks moved 11 billion tons valued at \$9.5 trillion over 2.6 trillion ton-miles in 2000



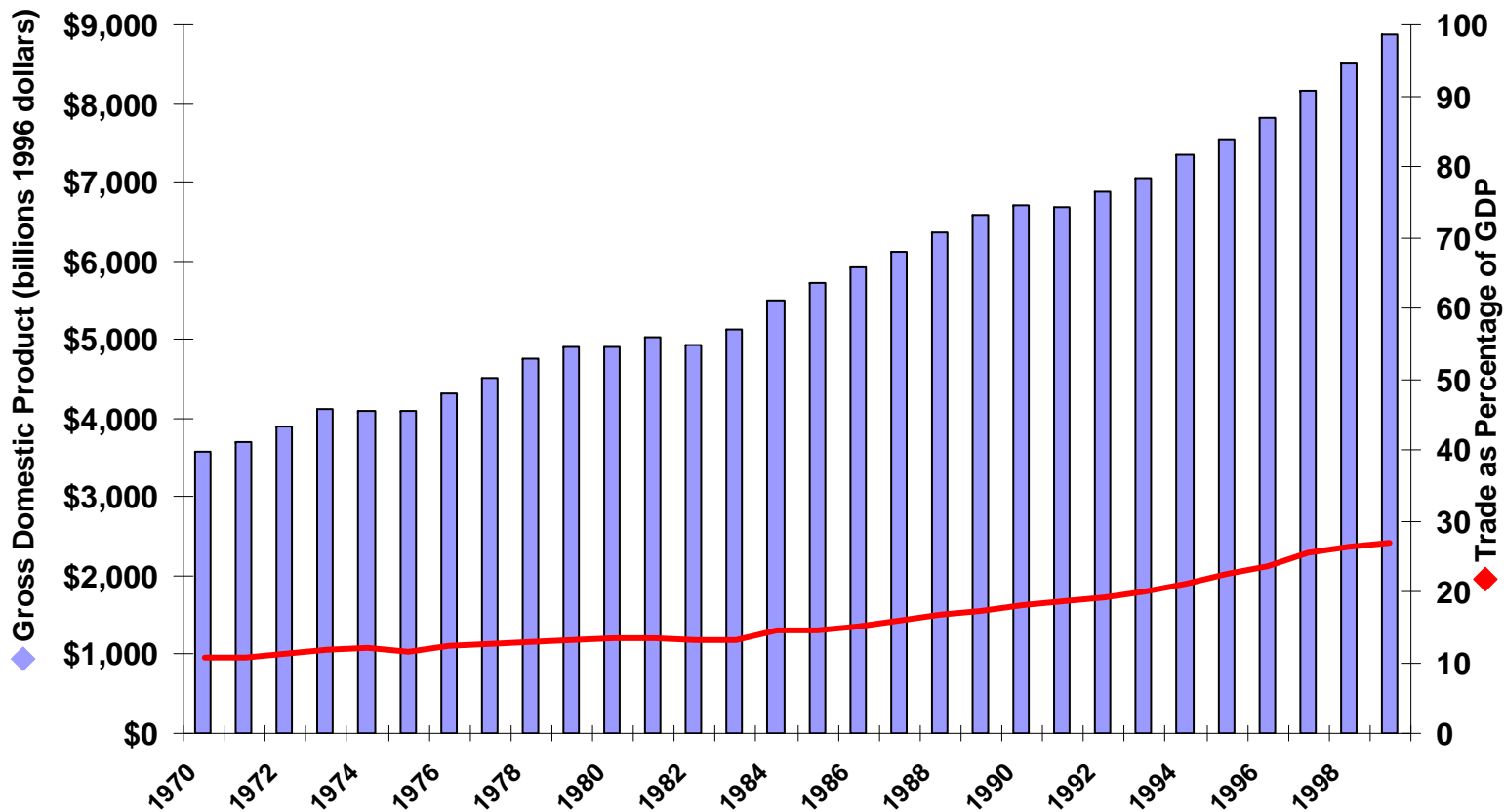
Freight-Rail Traffic

Freight-rail moved 2 billion tons valued at \$600 billion over 1.2 trillion ton-miles in 2000



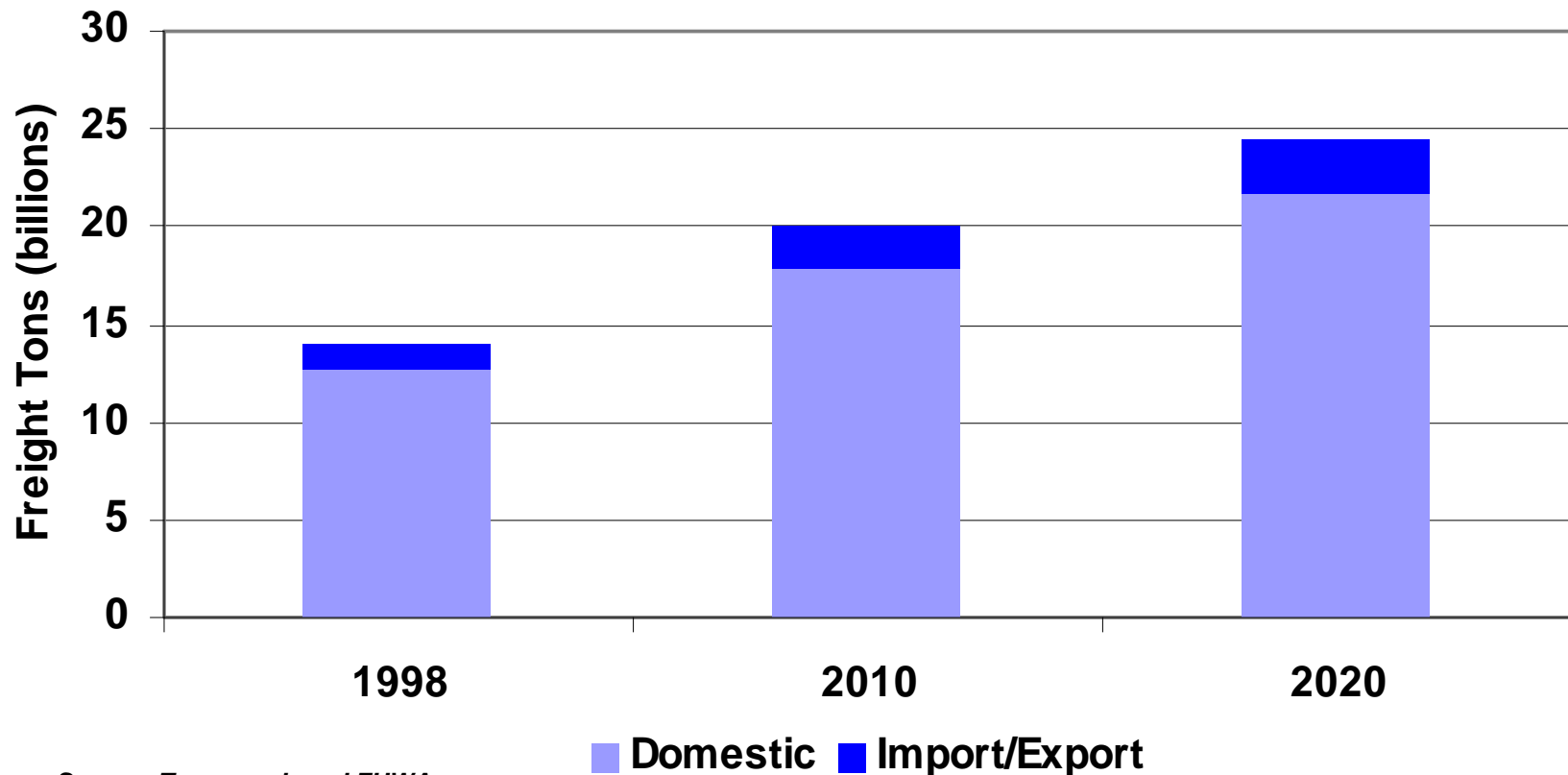
U.S. GDP and Trade History

Gross Domestic Product growth has averaged 3.2 percent per year; trade in goods and services is now equivalent to 27 percent of Gross Domestic Product



U.S. Freight Tonnage Forecast, 2000-2020

With moderate economic growth (e.g., 3.1 percent CAGR), import/export freight tonnage could double by 2020 and domestic freight tonnage could increase by about 60 percent



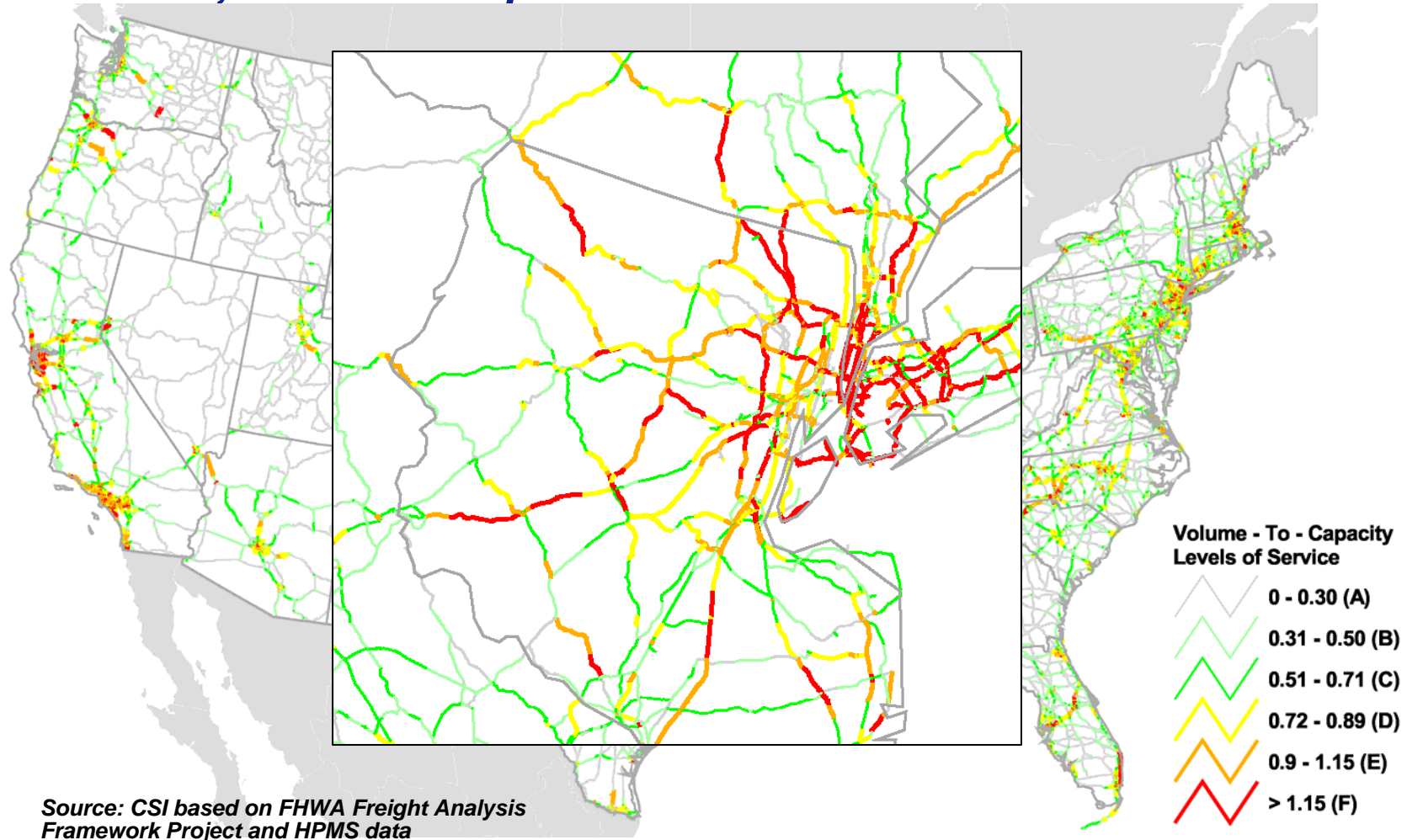
Source: Transearch and FHWA
Freight Analysis Framework Project



Photo: Port of Portland Import Program

Congested Highways, 2000

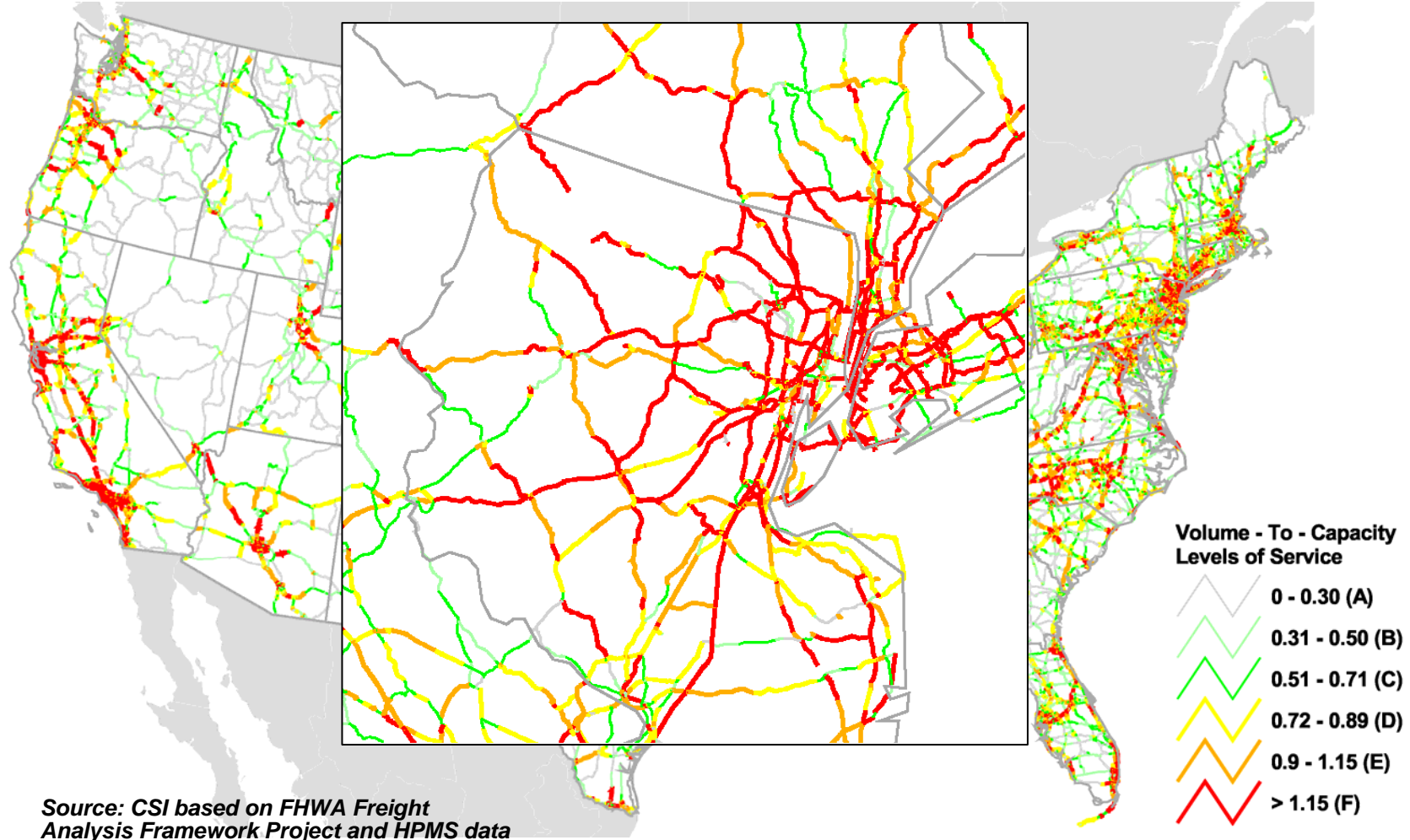
Congestion disrupts truck-freight service by making trips slower, less reliable, and more expensive



Source: CSI based on FHWA Freight Analysis Framework Project and HPMS data

Potential Congested Highways, 2020

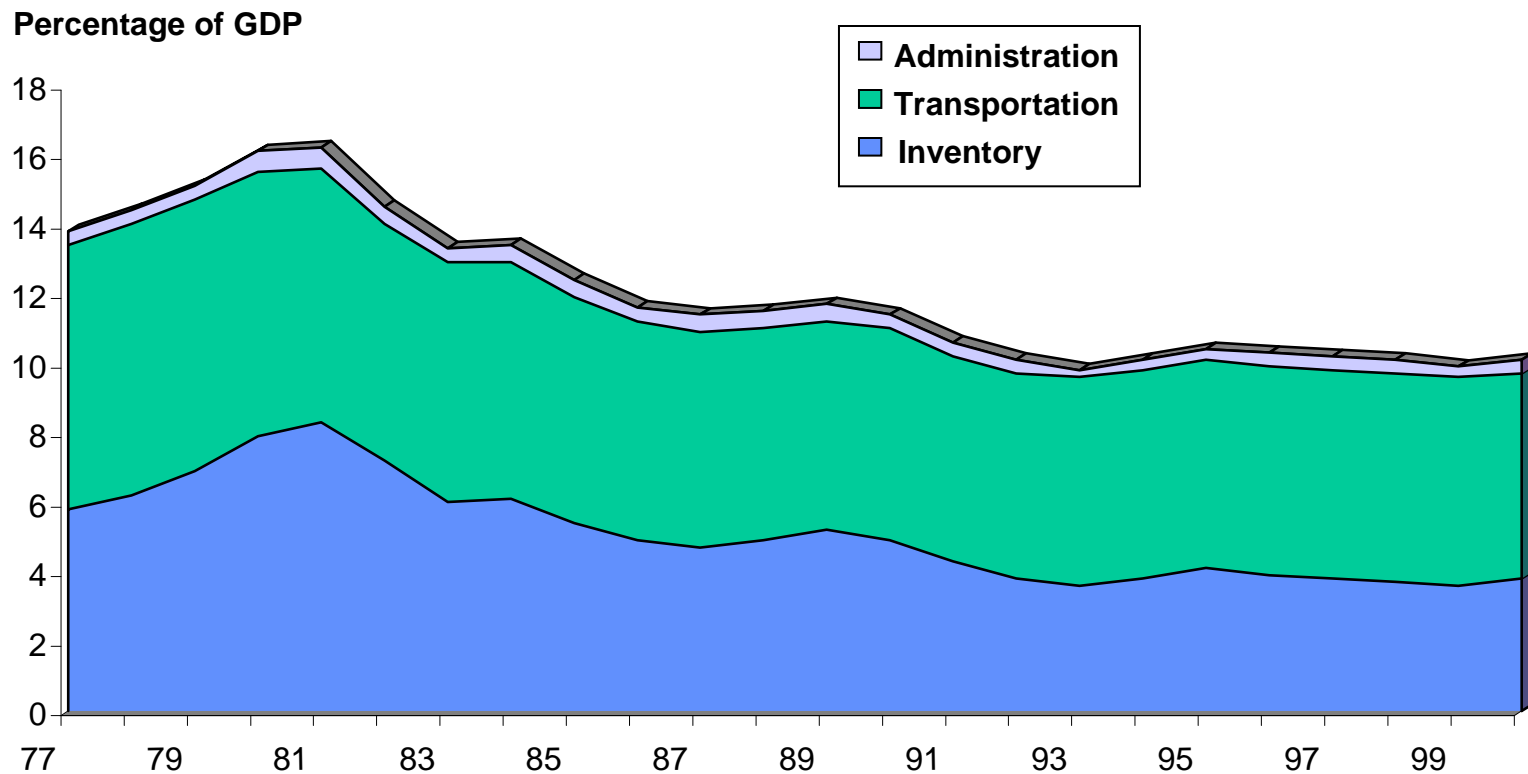
Without additional capacity or improved productivity, logistics costs will rise



Source: CSI based on FHWA Freight Analysis Framework Project and HPMS data

Total Logistics Cost Trend

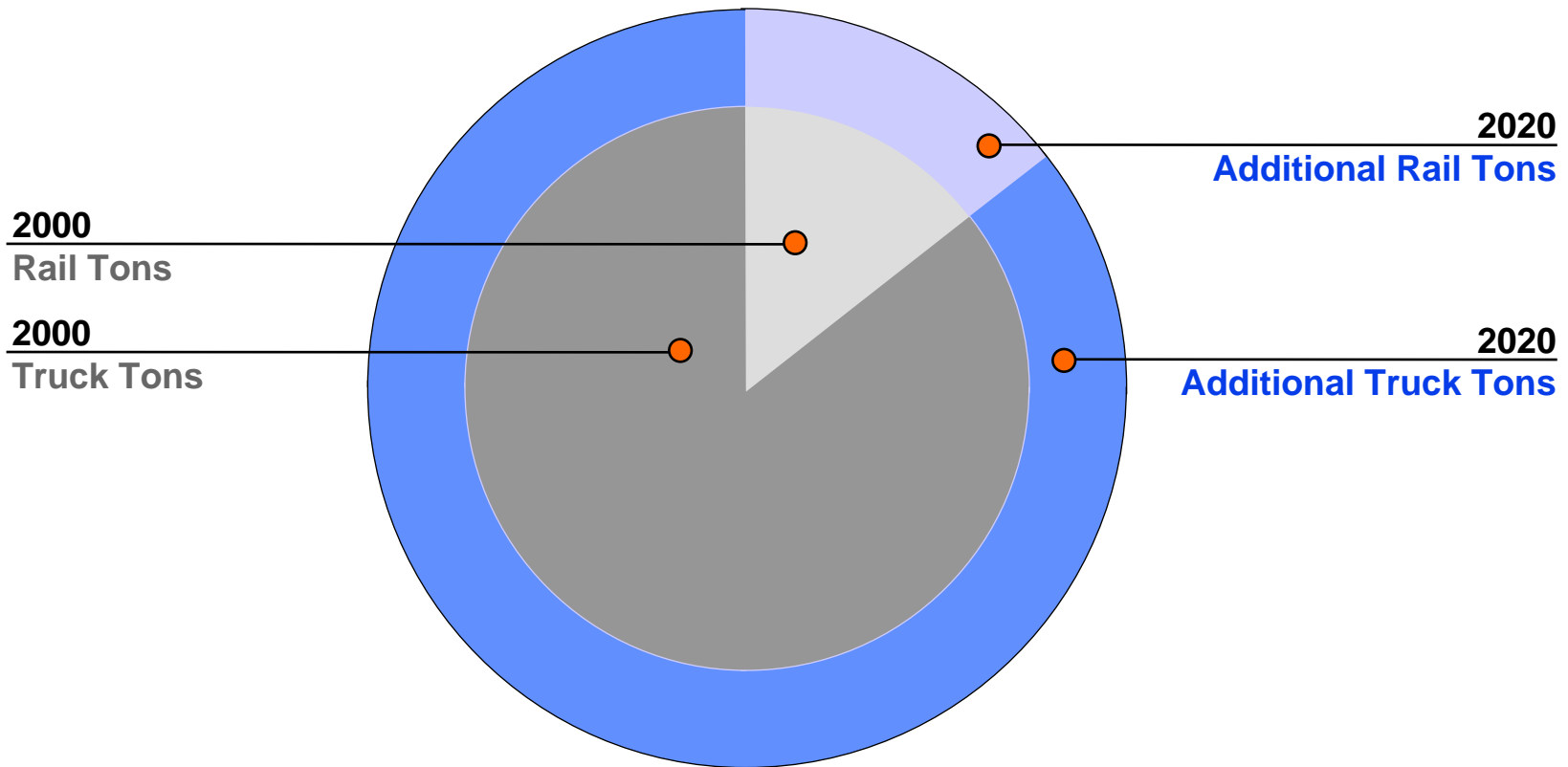
Logistics productivity gains have been a key engine behind US economy growth, but gains have stalled with total logistics expenditures at about 10 percent of Gross Domestic Product



Source: Cass/ProLogis 12th Annual State of Logistics Report, 2000

Freight and Public Policy Issues

Do the truck and rail freight systems have the capacity to handle the growing volume of freight – even if mode shares remain constant?



Do the public benefits of a rail-freight system warrant public investment to expand rail-freight capacity?

State of the Rail Industry Today

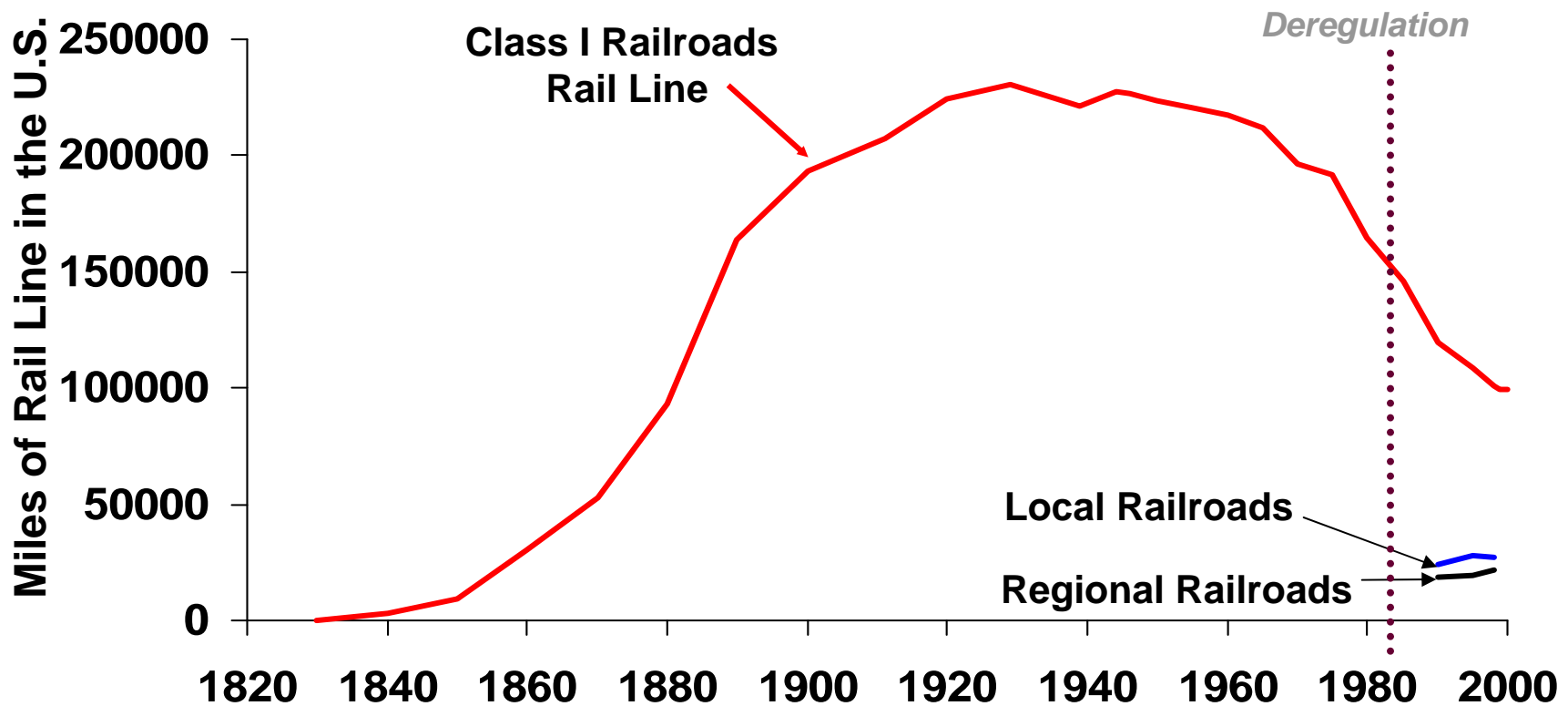
The rail industry today is stable, productive, and competitive with enough business and profit to operate, but not to replenish its infrastructure quickly or grow rapidly

- **Cost of rail infrastructure is huge and relatively fixed**
 - **Competition among railroads and with trucking has driven rail rates down**
 - **Shippers and the economy have benefited, but**
 - **Railroads are not attracting long-term investment**

- **Market economics will continue to streamline and downsize the rail system**

Rail Network Today

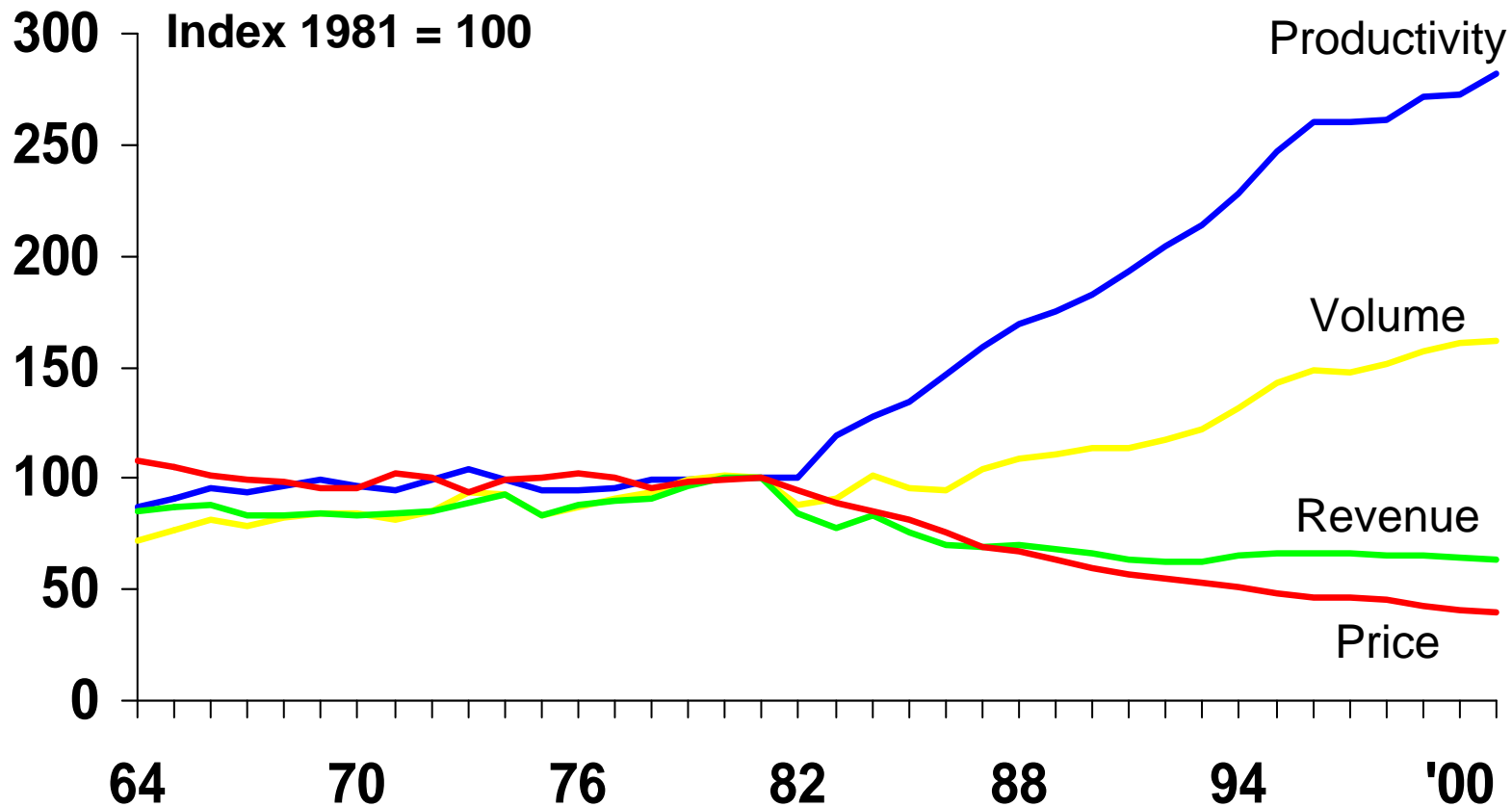
Today's rail network has been rationalized and downsized to a core network that is descended directly from the 19th Century design. Seven Class I railroads now originate 84 percent of national rail traffic and generate 91 percent of railroad revenue.



Source: Louis Thompson/World Bank

Railroad Productivity

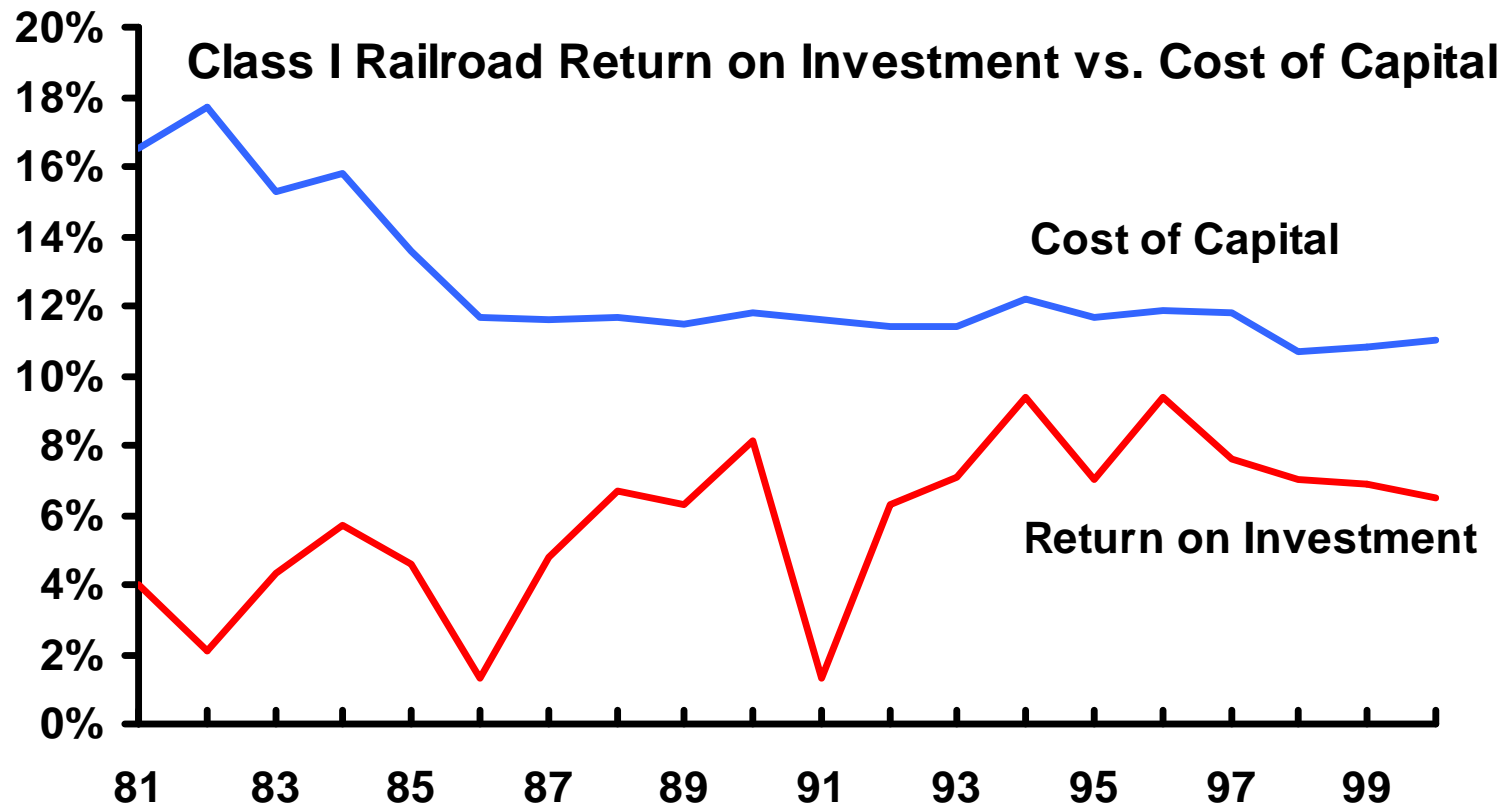
Railroad productivity has improved dramatically



Source: *Railroad Facts*, AAR

Railroad Return on Investment

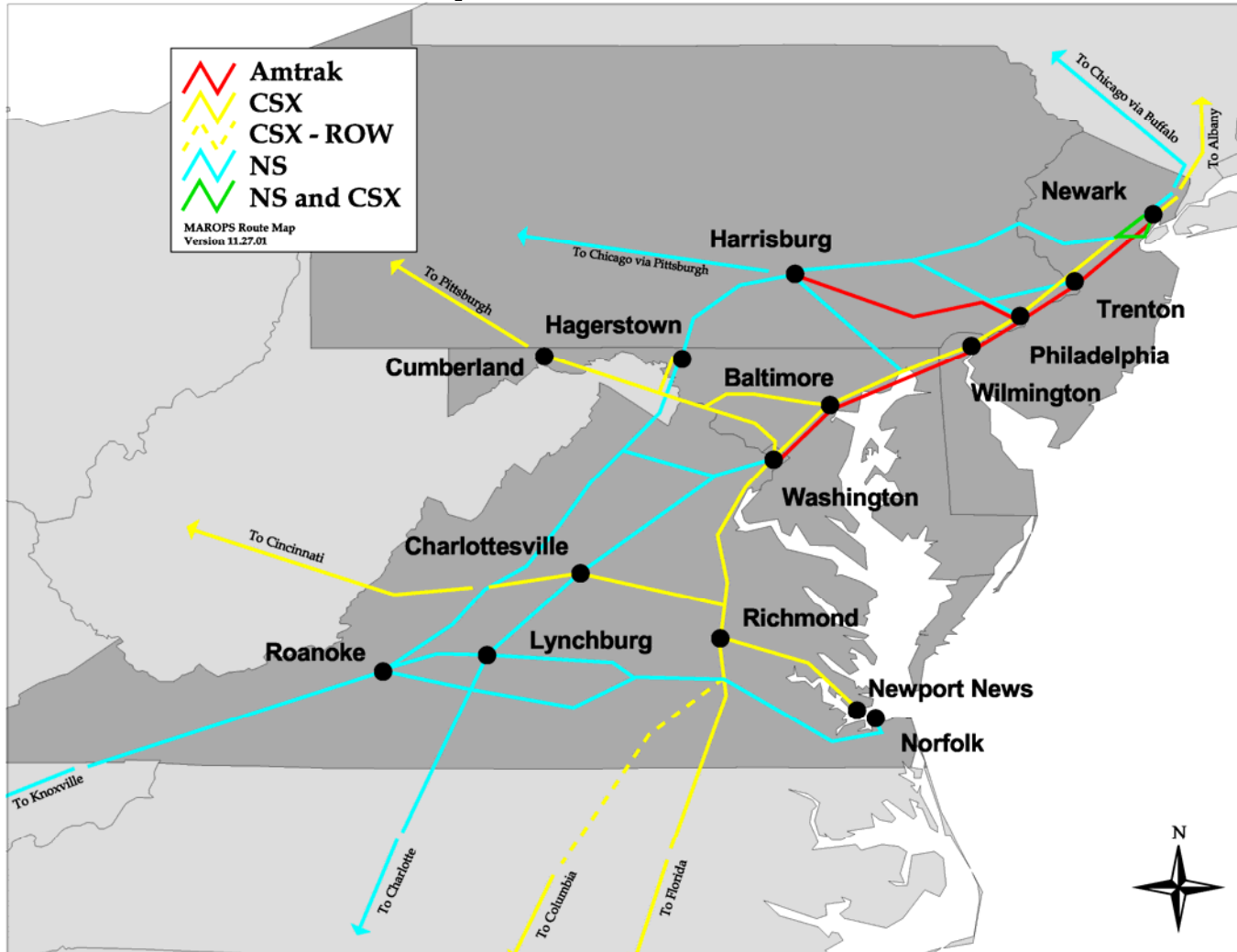
Railroads' return on investment improved through the early 1990s, but is now trending downward; ROI is still below the cost of capital; productivity benefits have gone to shippers more than to investors



Source: AAR

Mid-Atlantic Rail Network

Major Links and Ownership

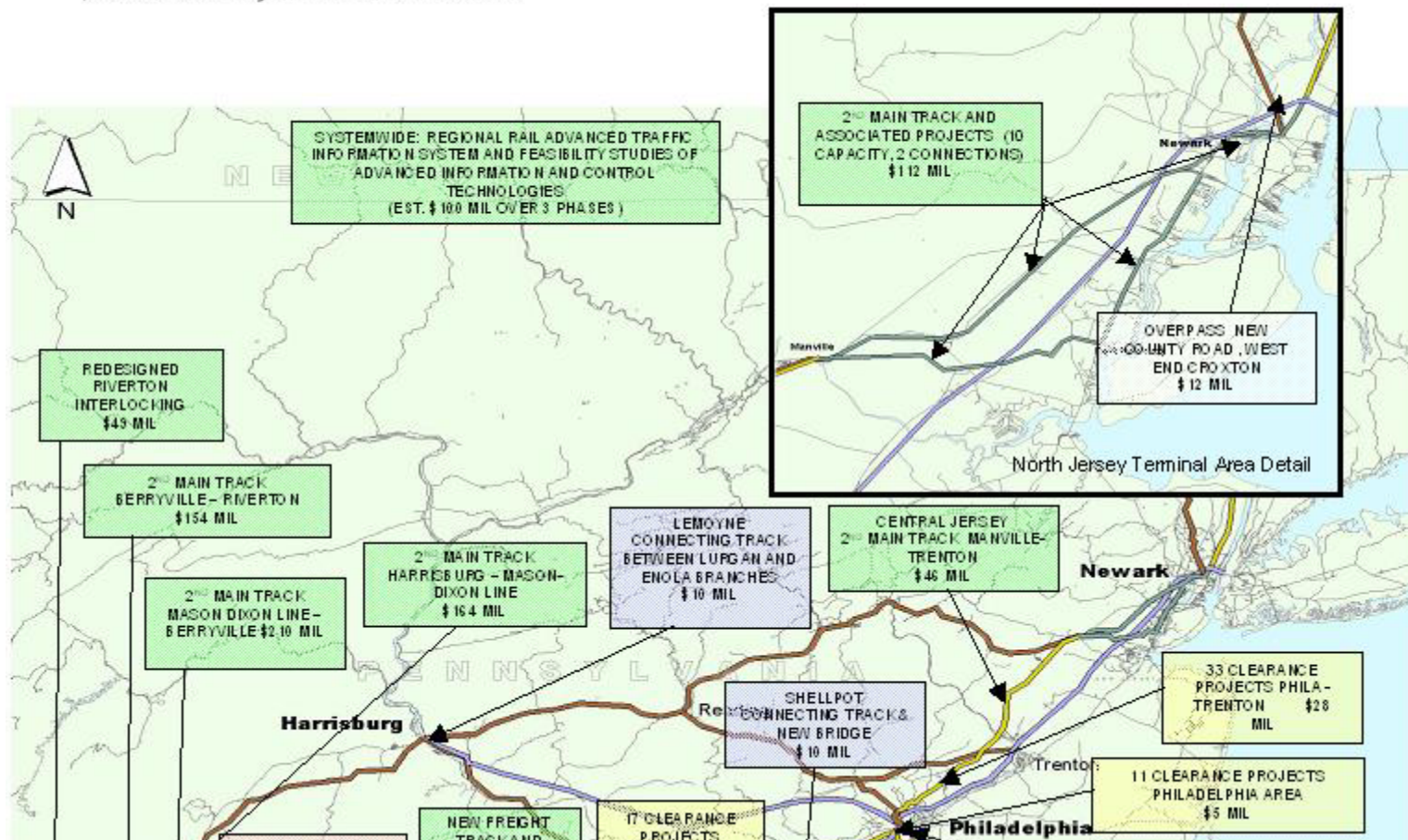


Mid-Atlantic Rail Program

- **\$6.2 billion in improvements**
 - **\$2.4 billion near-term program (within 5 years)**
 - Buildable projects where current demand exceeds supply
 - Planning projects with long lead times
 - \$620 million of quick-start projects ready now
 - **\$1.9 billion medium-term program (5 to 10 years)**
 - Important choke points needing design and environmental approvals
 - **\$1.9 billion long-term program (10 to 20 years)**
 - Growth

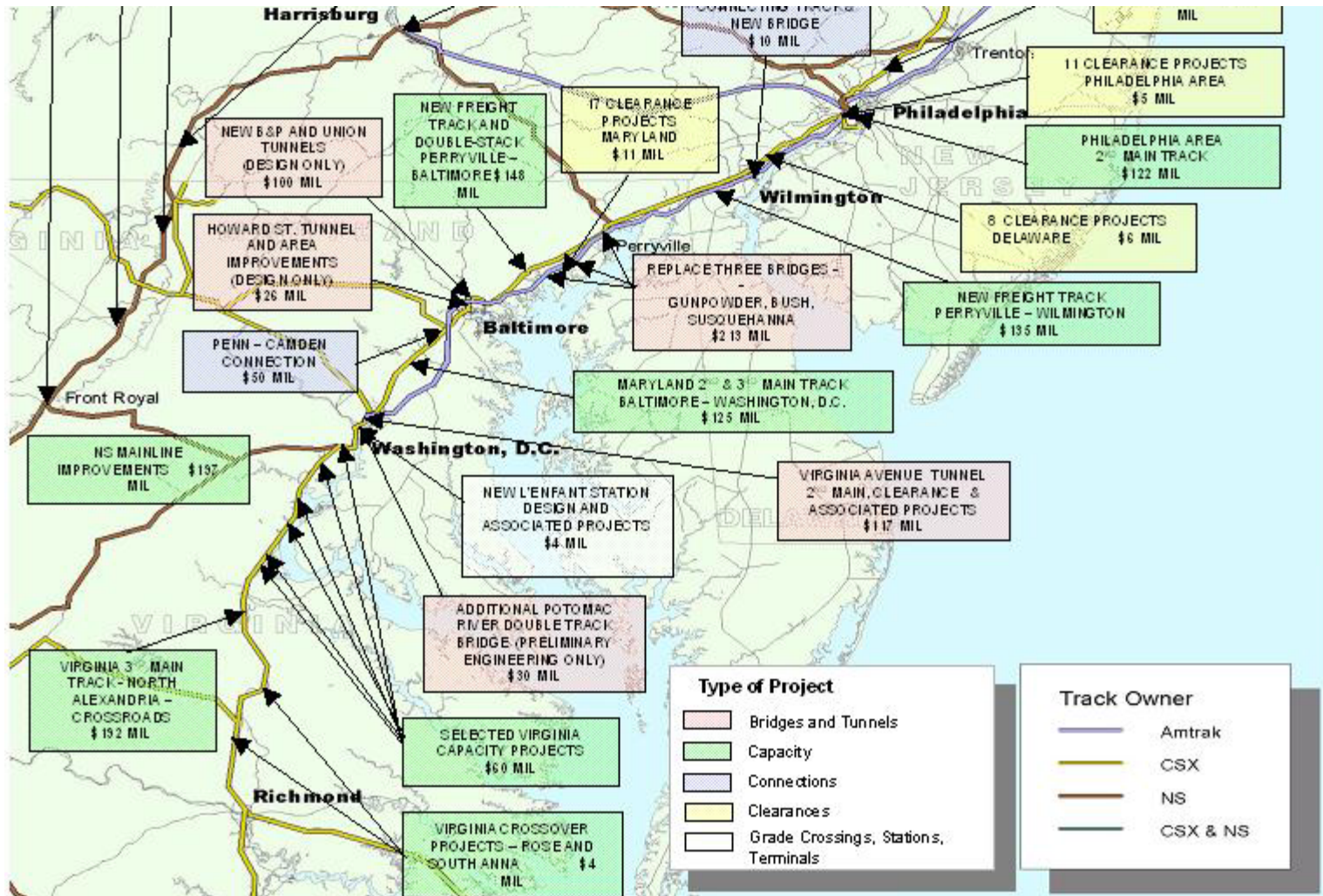
Mid-Atlantic Rail Network Program

Program identified \$6.2 billion of public-private improvements over 20 years; the near-term program covered \$2.4 billion of bridge, clearance, capacity, and connector project within 5 years



Mid-Atlantic Rail Network Program (continued)

Near-Term Program: \$2.4 billion within 5 years



Two Tracks Forward

Market-Driven Evolution or Policy-Driven Expansion

■ Market-Driven Evolution

- **A rail industry that continues to be stable, productive, and competitive with enough business and profit to operate, but not to replenish its infrastructure quickly or grow rapidly**

■ Public-Policy-Driven Expansion

- **A rail industry that provides cost-effective transport needed to serve national and global markets, helps relieve pressure on overburdened highways, and supports social, economic, and quality-of-life goals**

The Bottom Line

- **Freight volumes are growing with the economy; this growth will strain the nation's freight system**
- **Rail freight productivity is challenged by congestion and capacity choke points along national corridors, at intermodal terminals, and at urban rail interchanges**
- **Public rail investment historically has treated the bottom of the system: grade crossings, branch lines, and commuter rail services**
- **Present need is to treat the top: nationally significant corridors, intermodal terminals and connectors, and urban rail interchanges**

The Bottom Line *(continued)*

- **Market-driven evolution will be stable and productive, but the rail-freight system will slowly lose market share to trucks, which will stress congested highways**
- **Policy-driven expansion will accommodate economic growth and relieve some of the pressure on highways**
- **Without coordinated public and private action, congestion and capacity constraints will weaken the freight industry, the economy, communities, and the environment**
- **The public and private freight community must advance public policy options that improve the productivity and security of the rail freight system as an integral part of the national freight system**

Freight Trends and Freight Rail

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