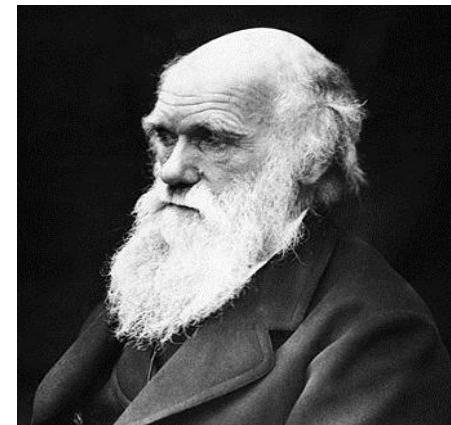




Darrell Wilson
Norfolk Southern Government Relations
Public Private Partnerships

“It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is the most adaptable to change.”

- Charles Darwin

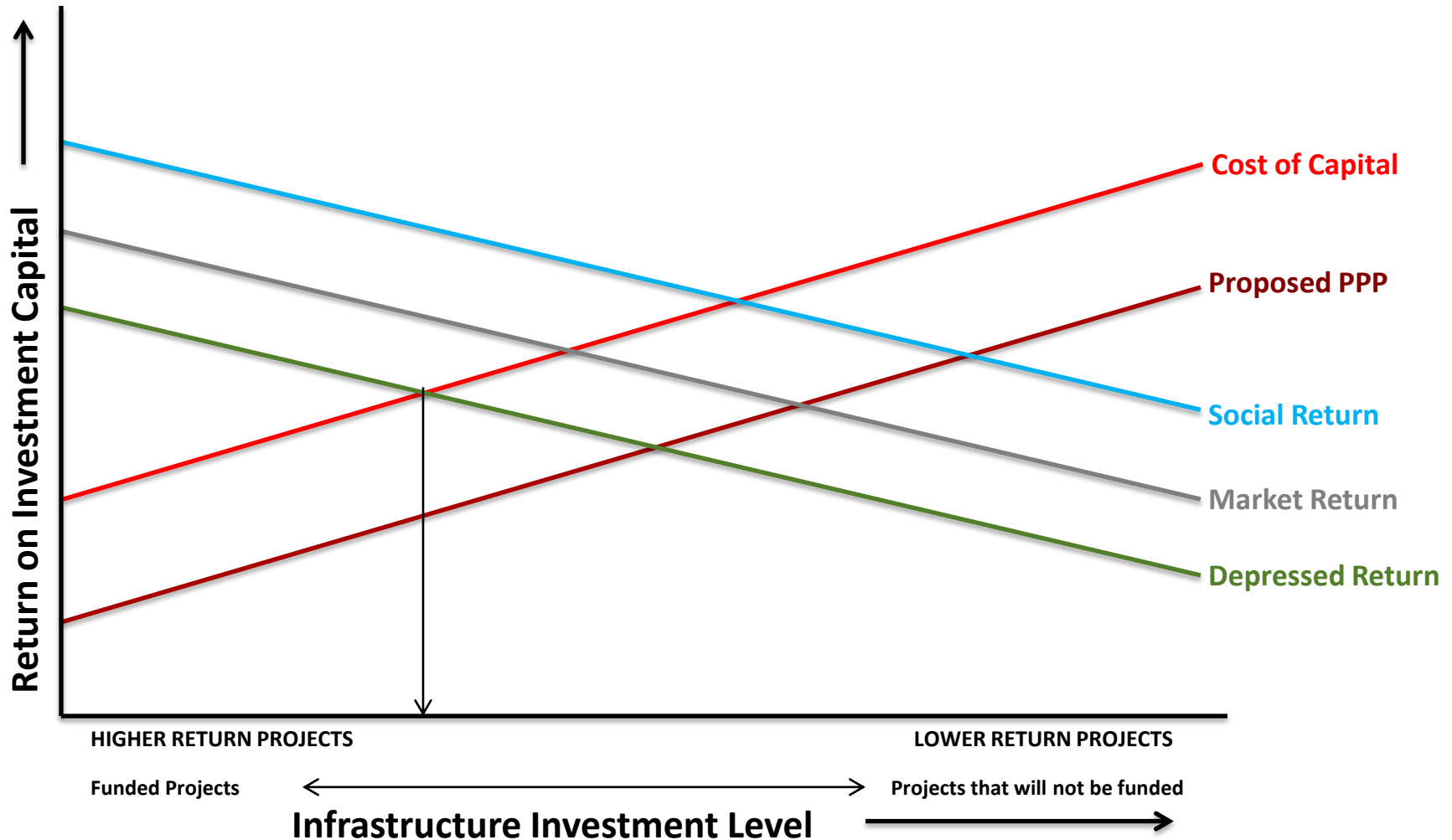


Norfolk Southern's Network

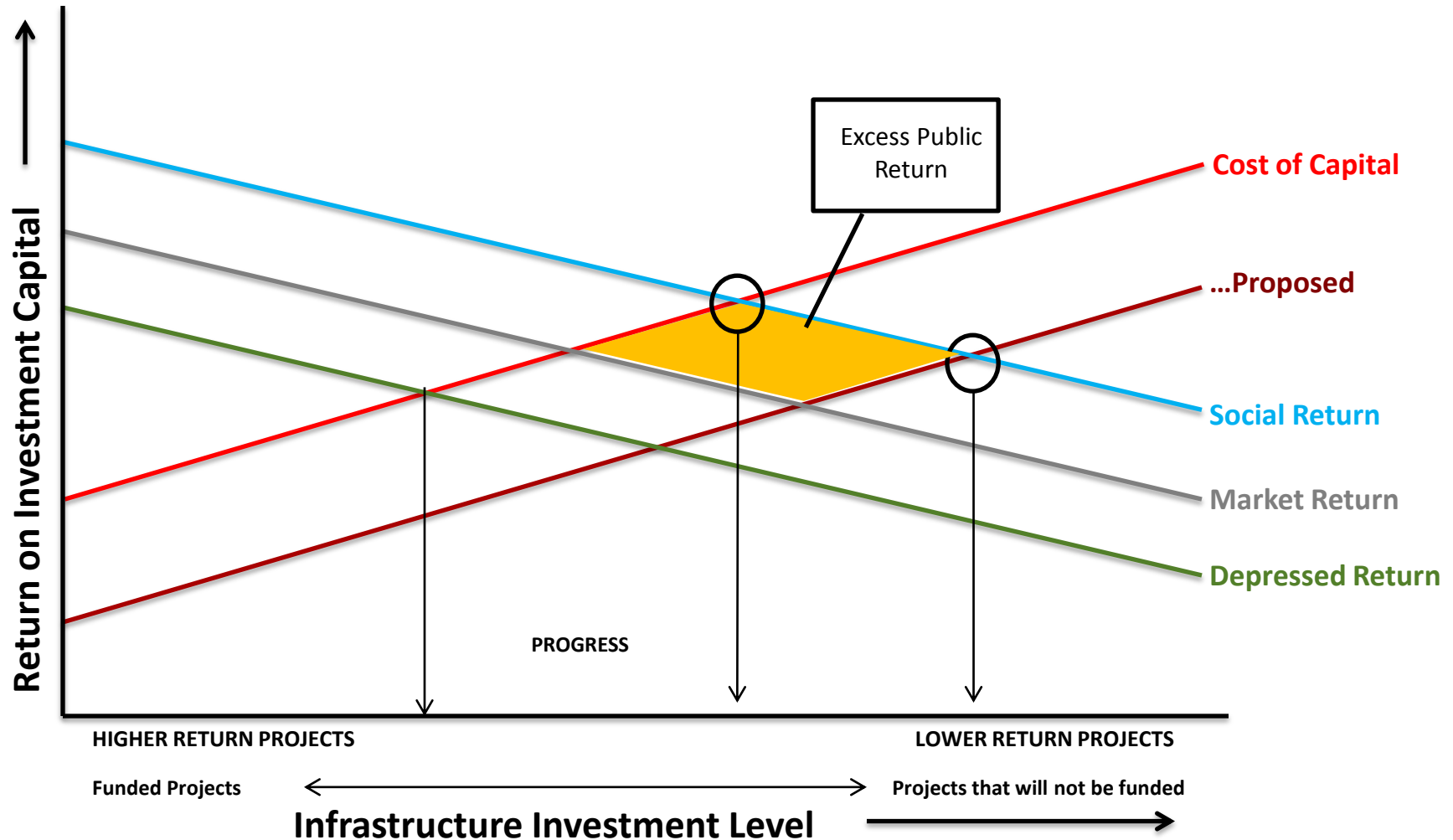
- NS operates approximately 21,000 route miles throughout 22 states and the District of Columbia
- Engaged in the rail transportation of raw materials, intermediate products, and finished goods
- Operates the most extensive intermodal network in the East and is a major transporter of coal and industrial products.
- NYSE: NSC



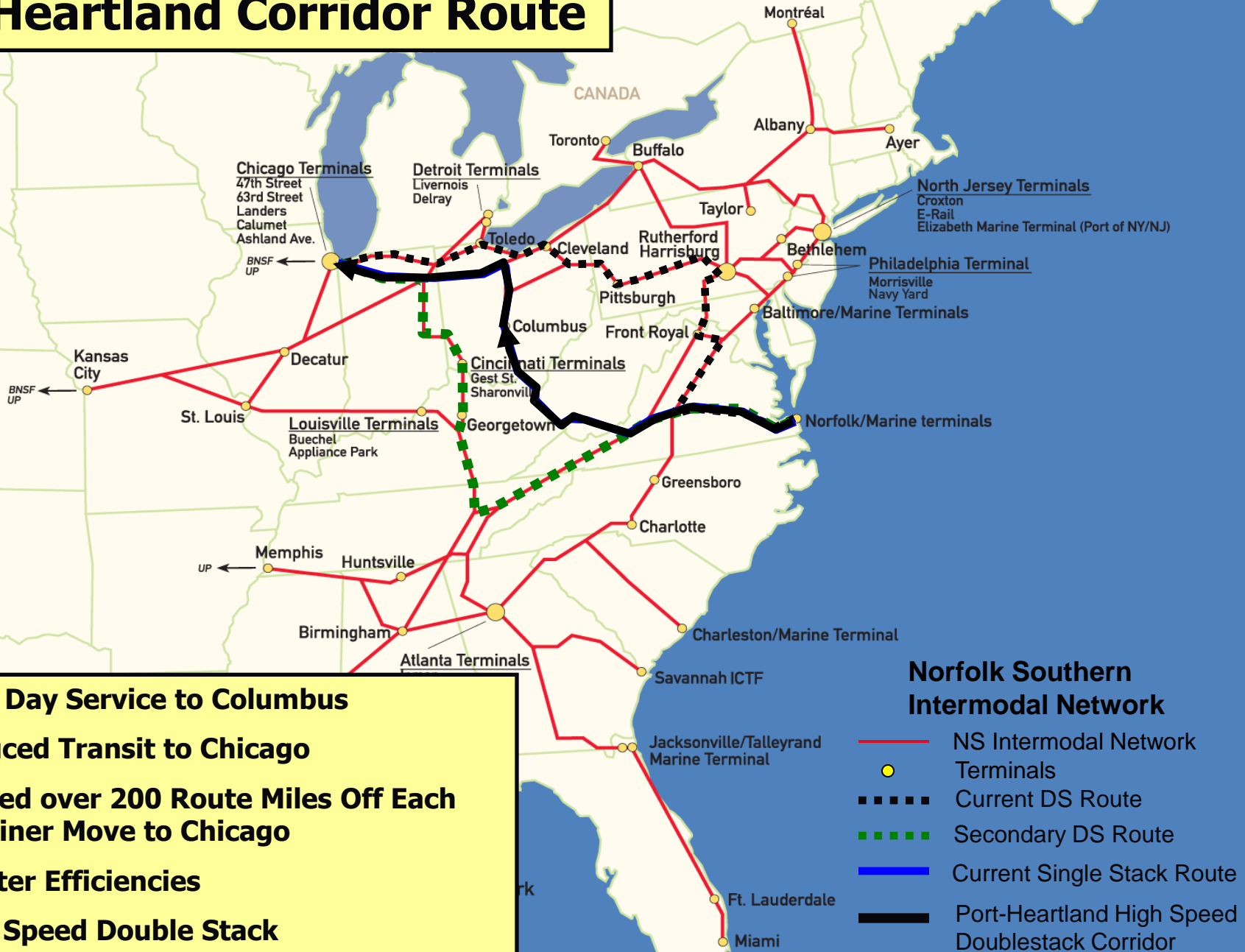
Economics of Freight Rail Investment Levels



Economics of Freight Rail Investment Levels



Heartland Corridor Route



Chicago Terminals
47th Street
63rd Street
Landers
Calumet
Ashland Ave.

Detroit Terminals
Livernois
Delray

North Jersey Terminals
Croton
E-Rail
Elizabeth Marine Terminal (Port of NY/NJ)

Philadelphia Terminal
Morrisville
Navy Yard

Louisville Terminals
Buechel
Appliance Park

Cincinnati Terminals
Gest St.
Sharonville

Norfolk/Marine terminals

- Next Day Service to Columbus
- Reduced Transit to Chicago
- Shaved over 200 Route Miles Off Each Container Move to Chicago
- Greater Efficiencies
- High Speed Double Stack

Norfolk Southern Intermodal Network

- NS Intermodal Network
- Terminals
- - - Current DS Route
- - - Secondary DS Route
- Current Single Stack Route
- Port-Heartland High Speed Doublestack Corridor



Network of Key Corridors and Port Access



A Solution: Intermodal Rail Transportation

Introducing Norfolk Southern's Six Corridor Strategy

- Norfolk Southern has employed a “**Six Corridor Strategy**” focusing on four key principles:
 - Market access
 - Length of haul
 - Asset utilization
 - Productivity



World's Largest Economies

2010

Rank	Country	GDP (US \$ Mil.)
1	U.S.	14,802,801
2	China	9,711,244
3	Japan	4,267,492
4	India	3,912,911
5	Germany	2,861,117

2020

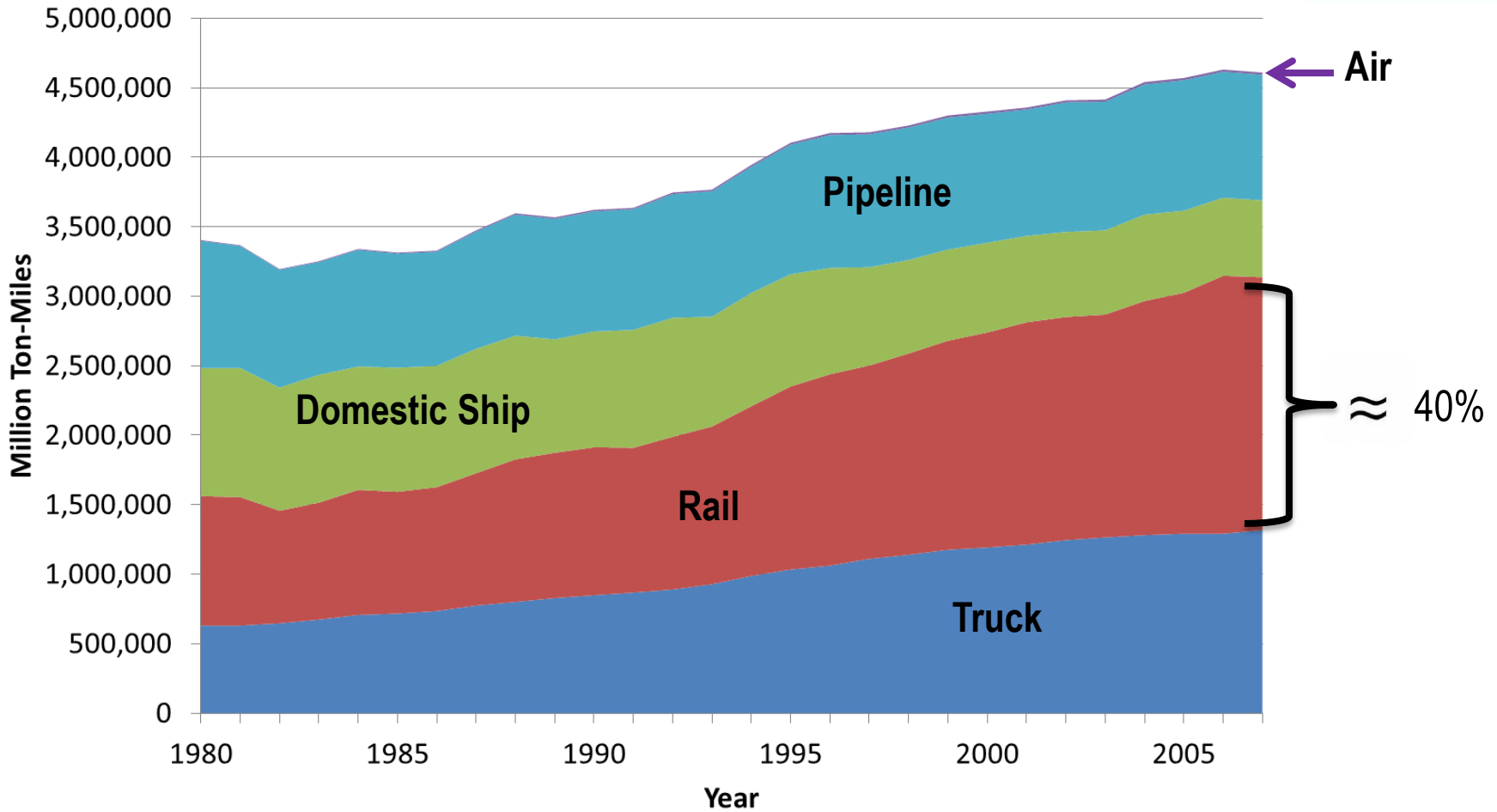
Rank	Country	GDP (US \$ Mil.)
1	China	28,124,000
2	U.S.	22,644,000
3	India	10,255,000
4	Japan	6,196,000
5	Russia	4,326,000

Fuel Prices

	2009	2010	2011	2012
WTI Crude (\$ bbl.)	61.65	79.40	94.86	94.12
Gasoline (\$ gal)	2.35	2.78	3.56	3.63
Diesel (\$ gal)	2.46	2.99	3.85	3.82

NYMEX Futures project crude could reach a high of \$150 bbl. In 2014! (EIA, 2012)

U.S. Freight Movement by Mode (1980-2006)

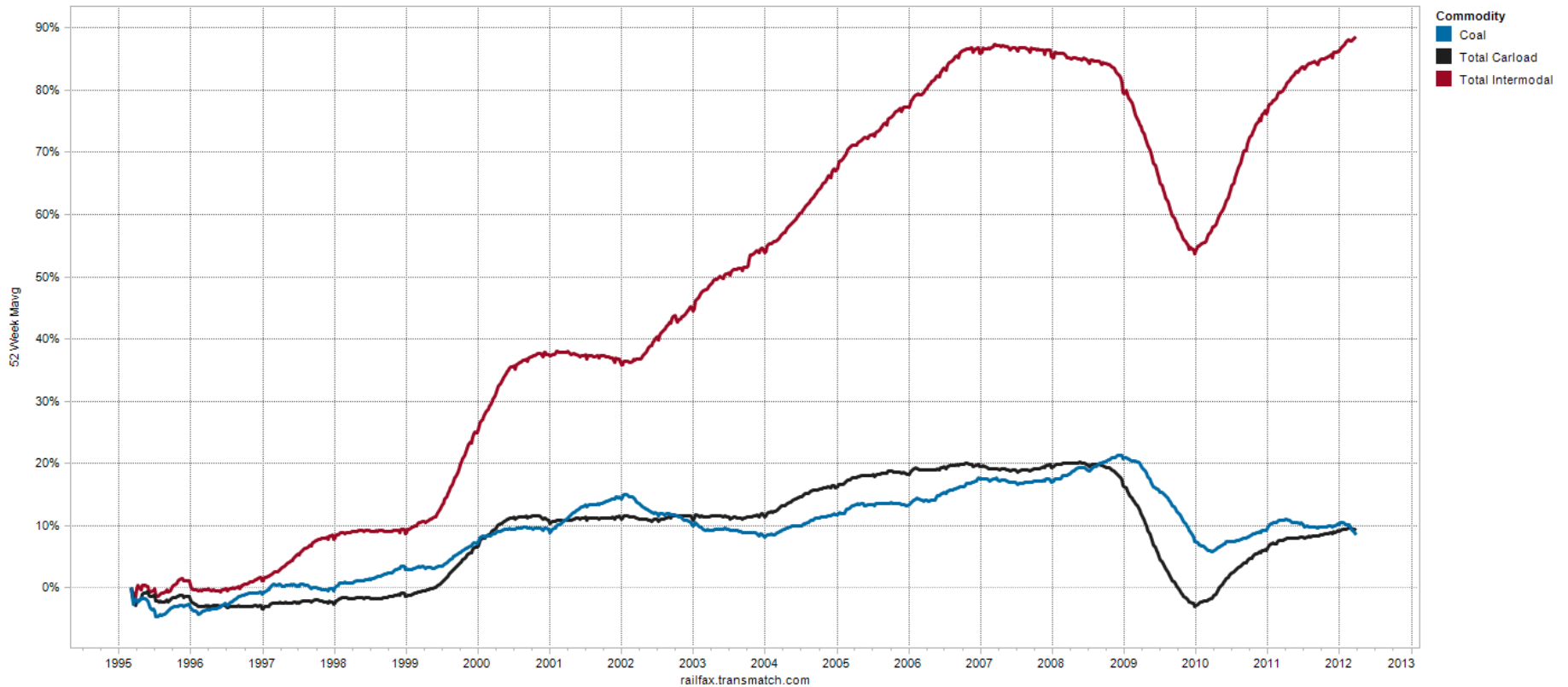


■ Truck ■ Railroad ■ Domestic Ship ■ Pipeline ■ Air

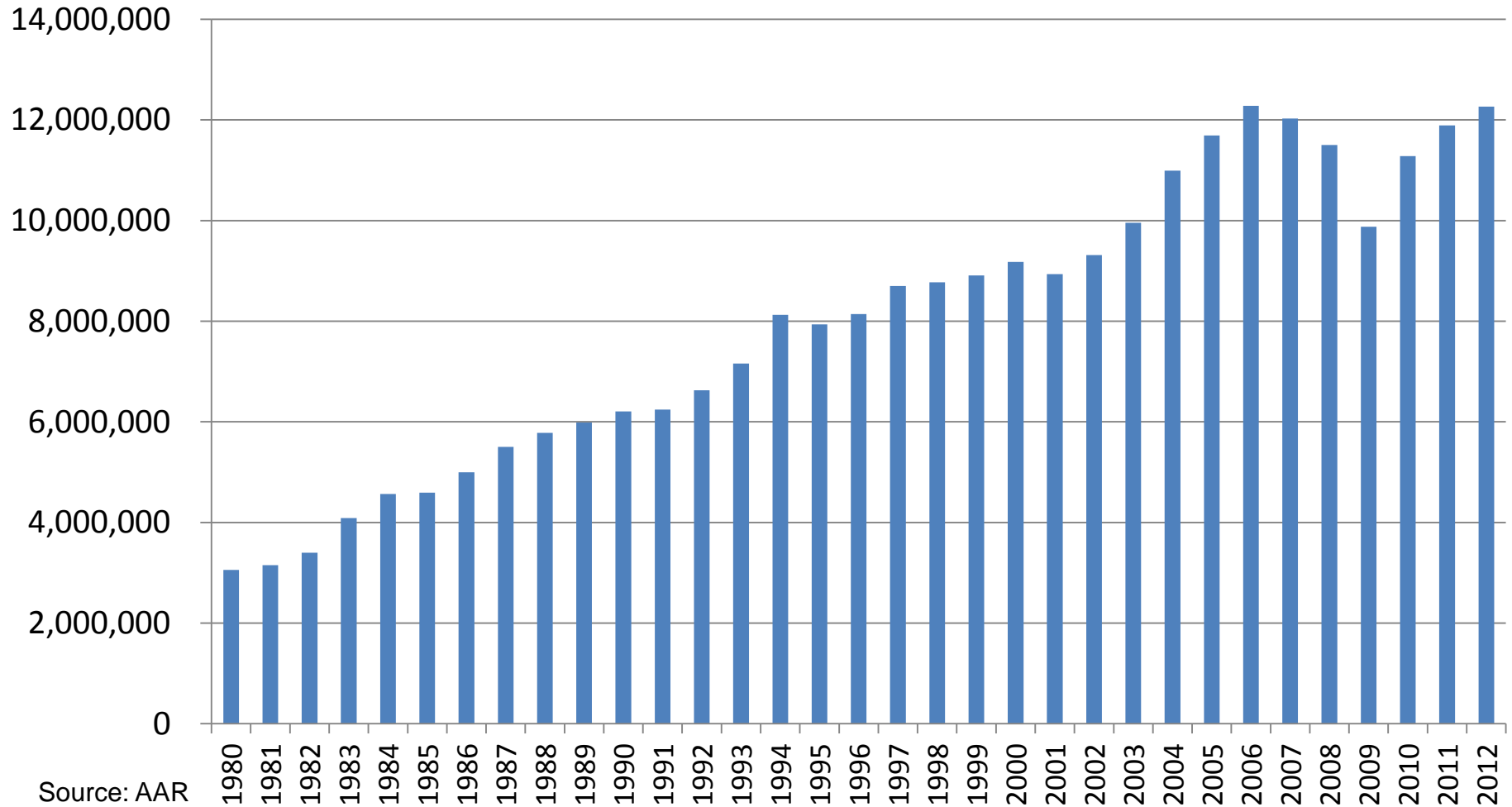
Source: Bureau of Transportation Statistics (2011)

Cumulative Growth Rail Traffic

Cumulative Growth for Intermodal, Coal and Carload Traffic
Source: iRailfax/AAR

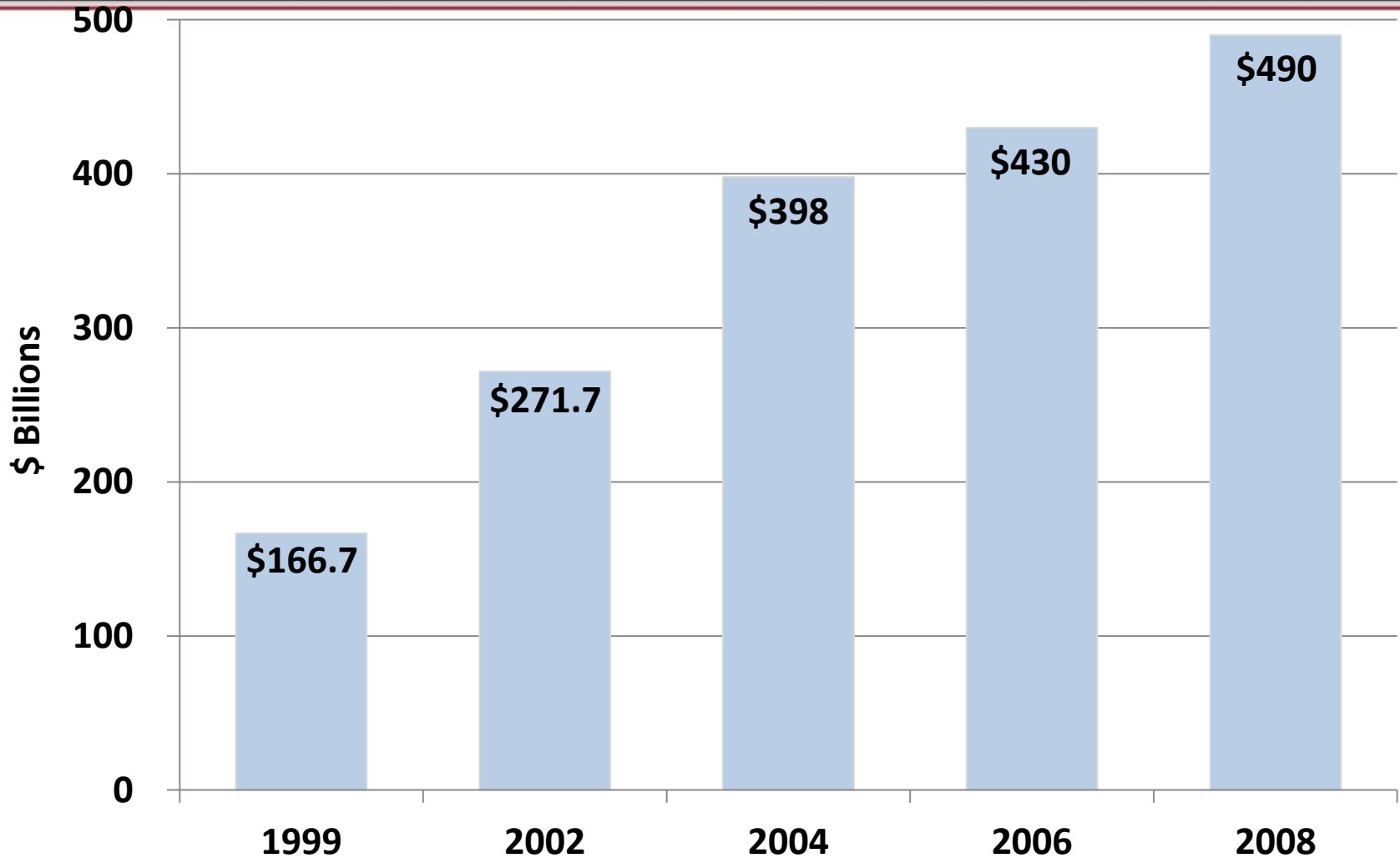


Total US Intermodal Units Originated

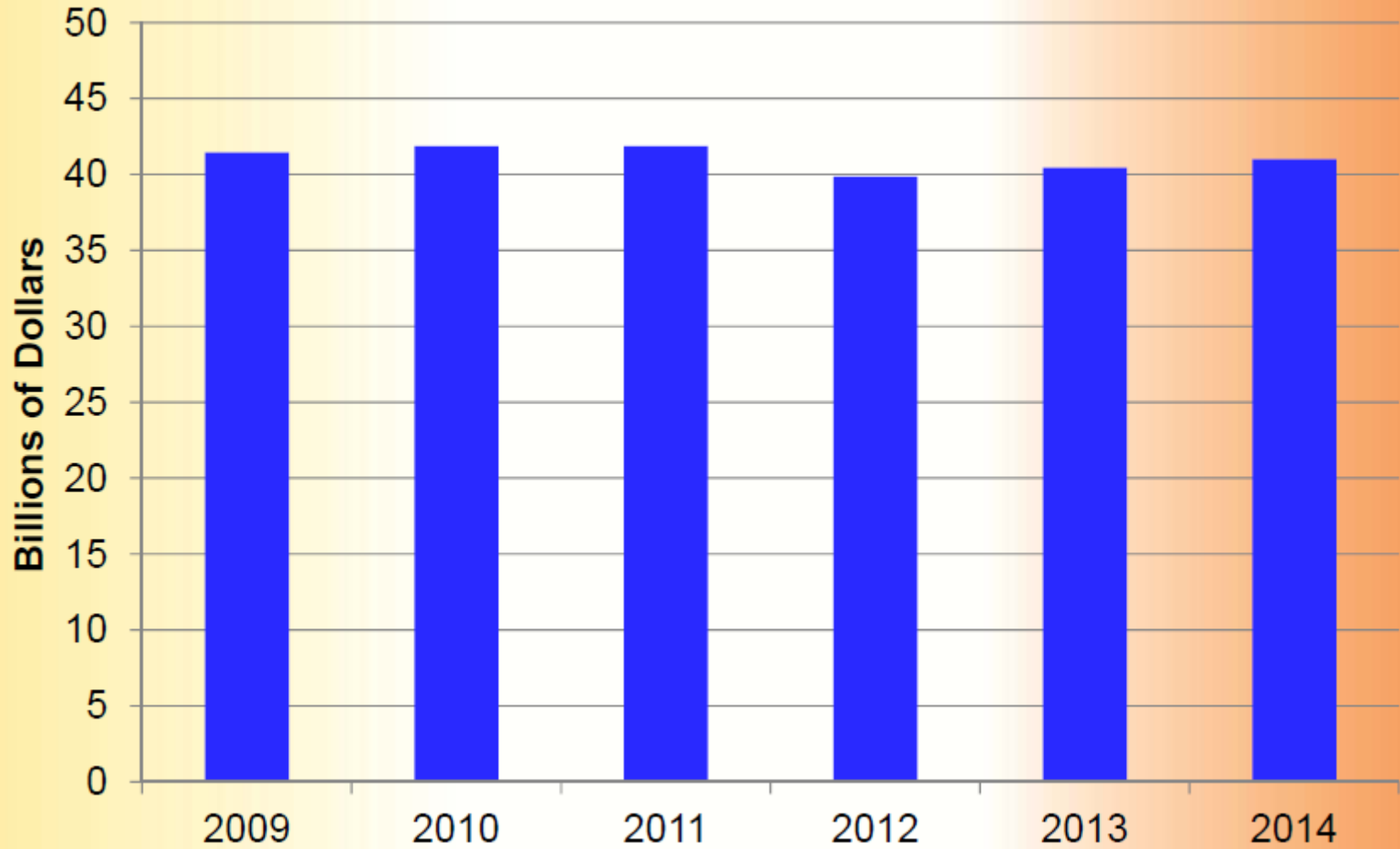


Source: AAR

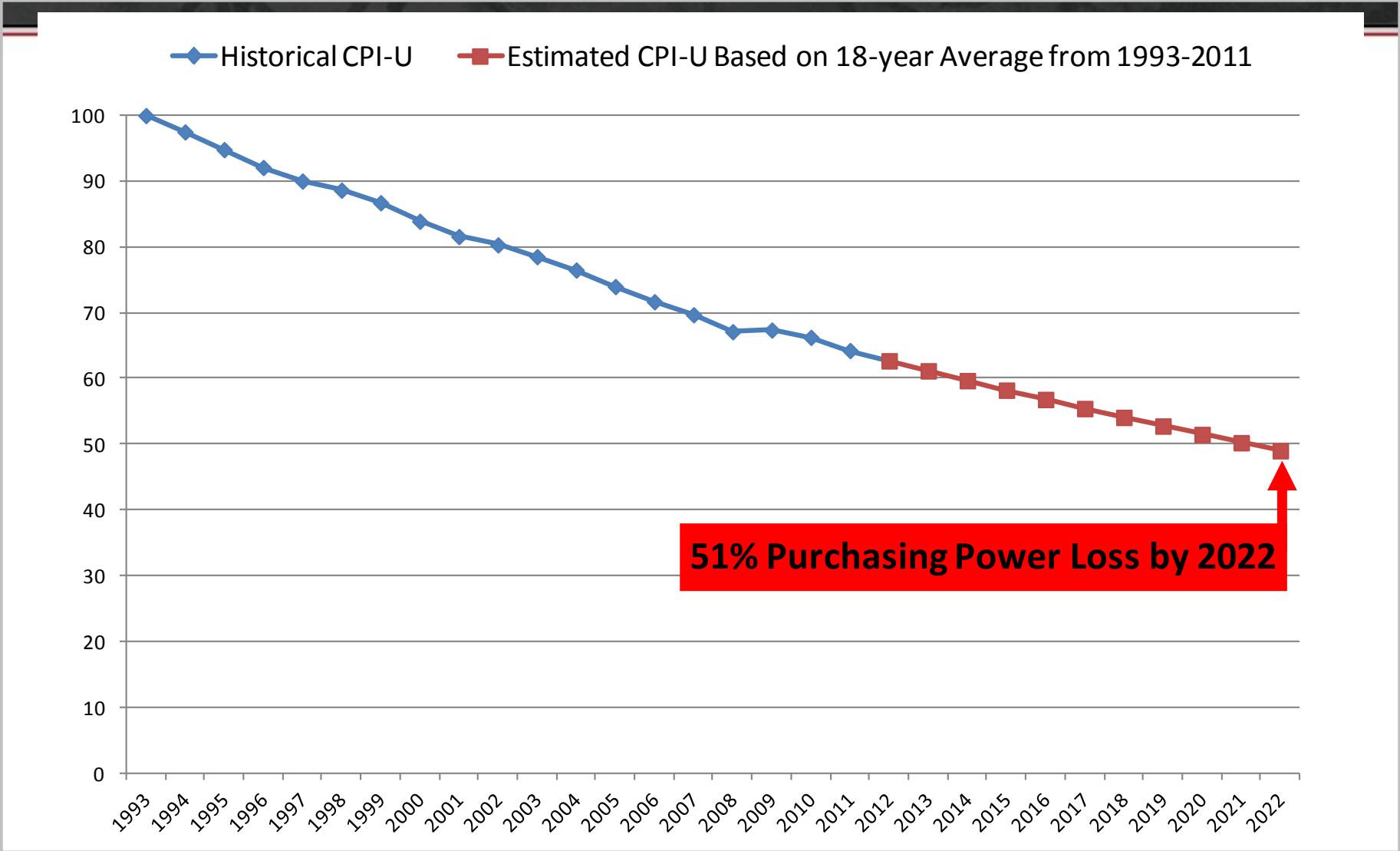
Highway and Bridge Improvement Backlog



National Highway Funding



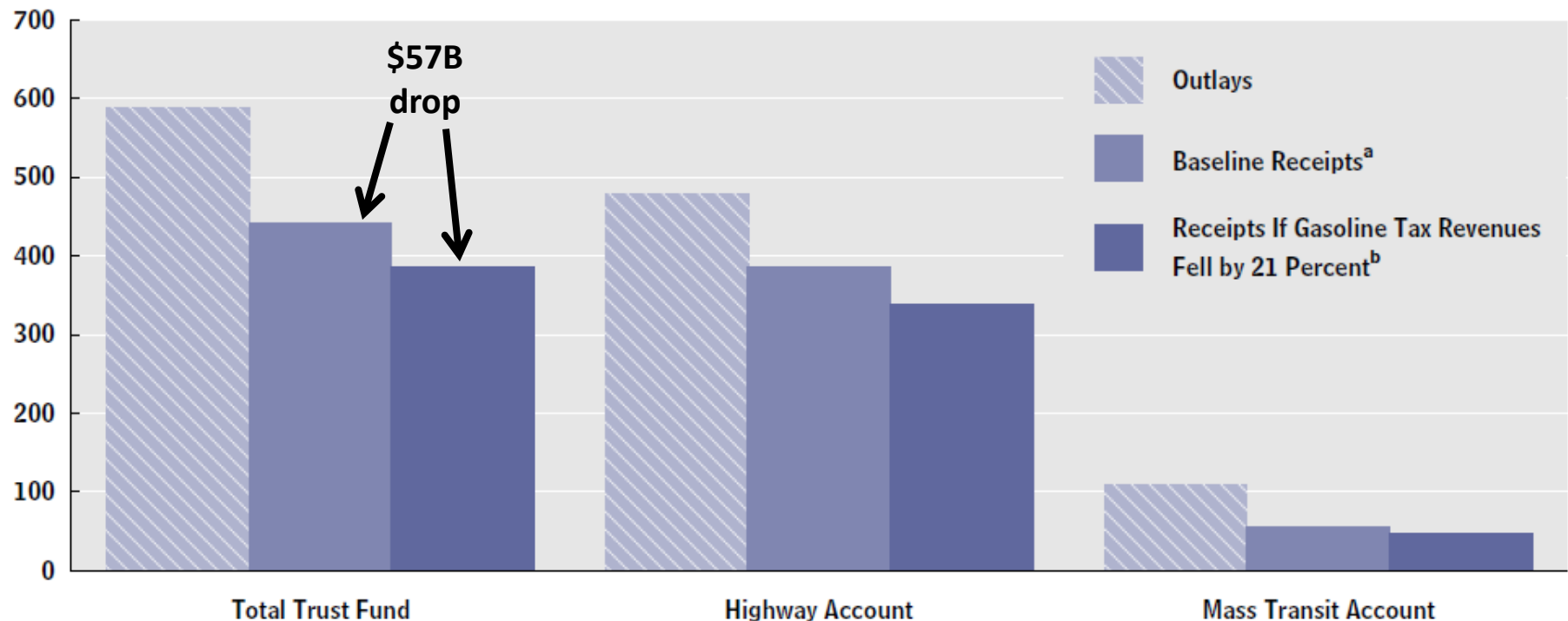
Purchasing Power Loss of Gas Tax Due to Inflation



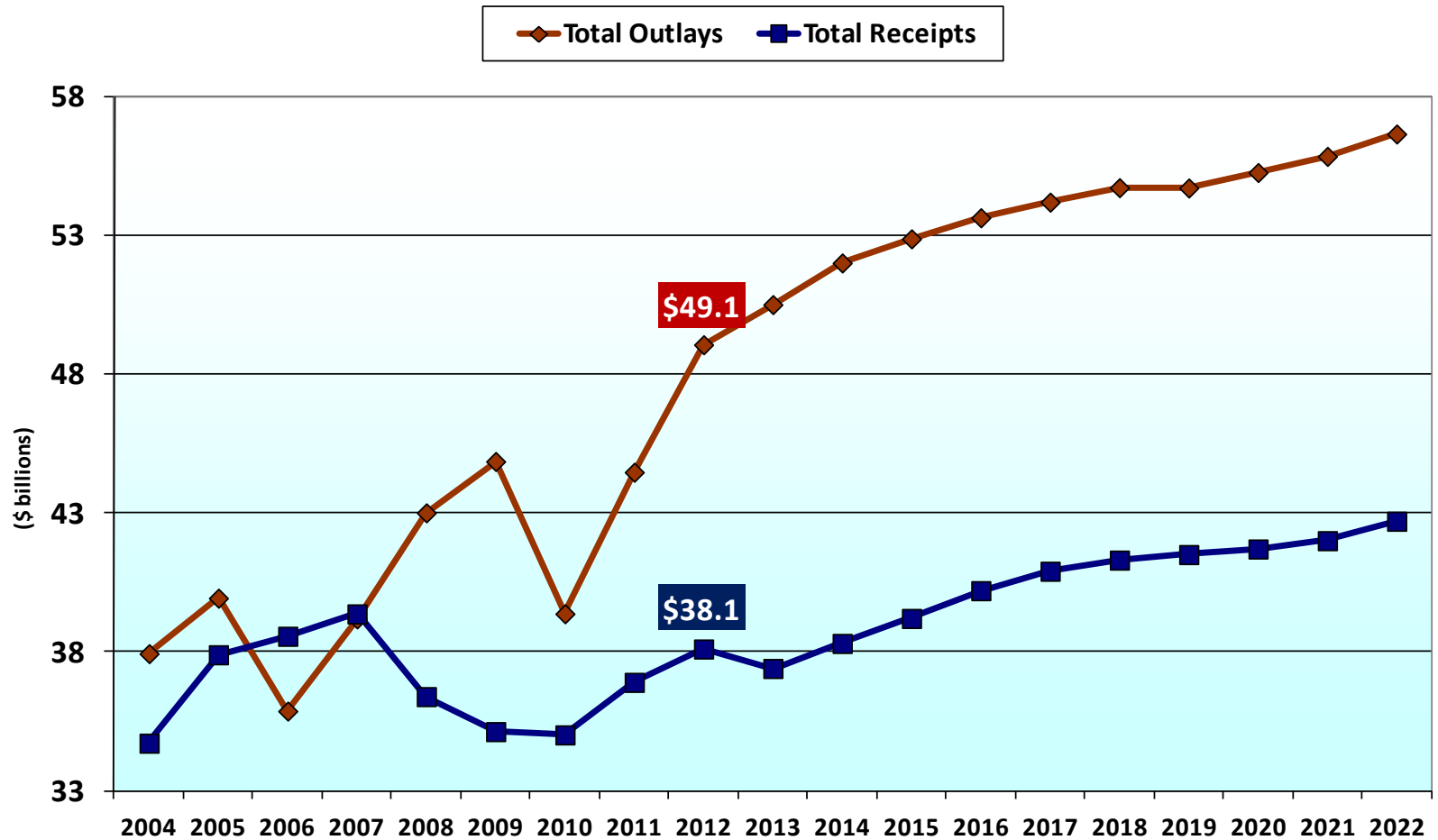
Impact of Reduced HTF Receipts From CAFE Standards

Projected Outlays and Receipts of the Highway Trust Fund, by Account, 2012 to 2022

(Billions of dollars)



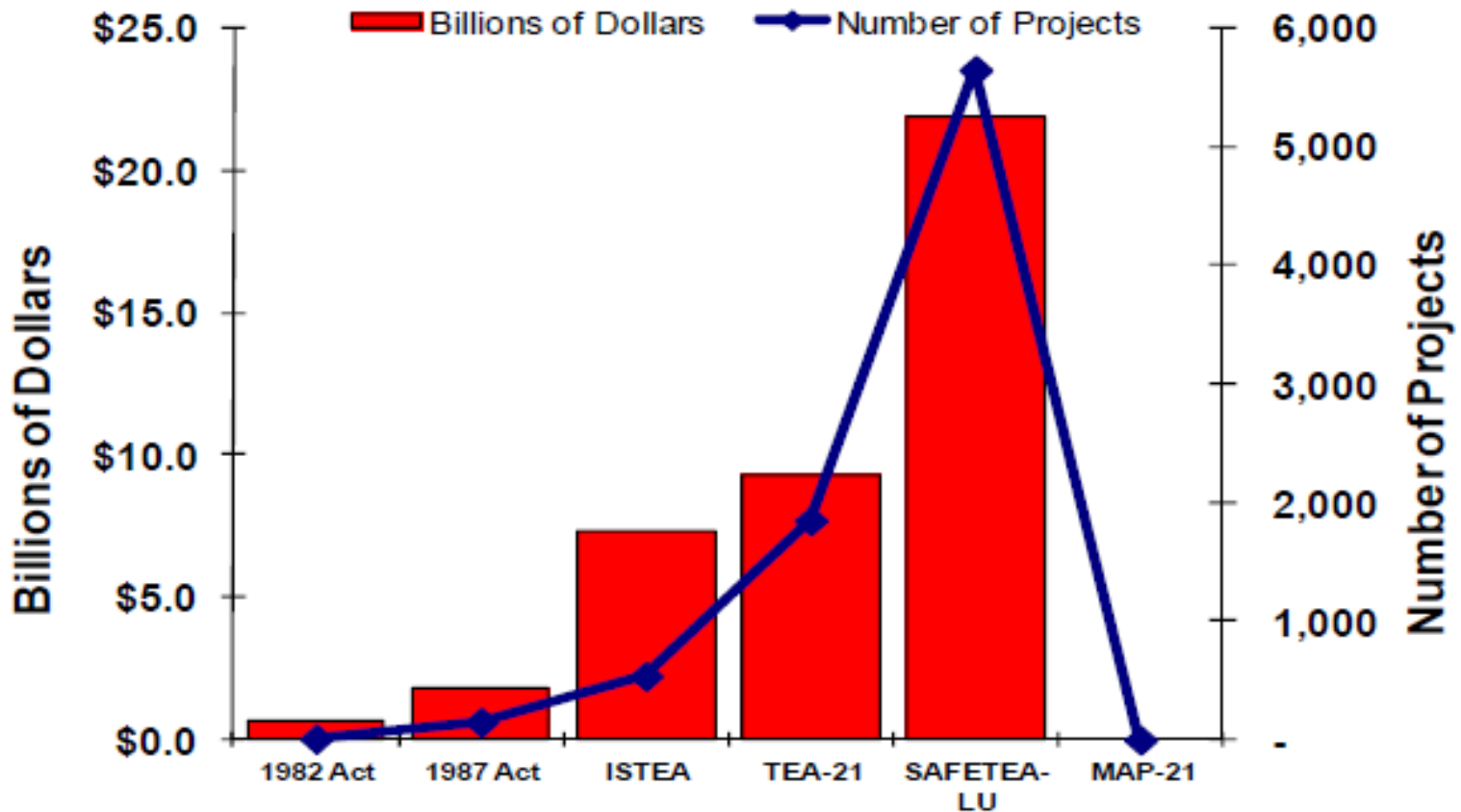
Highway Trust Fund Receipts and Outlays Discrepancy



Note: Excludes \$8.017 billion transfer from General Fund to Highway Account of HTF in September 2008; \$7 billion transfer from General Fund to Highway Account of HTF in August 2009; \$19.5 billion transfer from General Fund to Highway and Mass Transit Accounts of HTF in March 2010; \$2.4 billion transfer from Leaking Underground Storage Tank Trust Fund to HTF in June 2012; \$6.2 billion transfer from General Fund to Highway Account of HTF in October 2012; \$10.4 billion transfer from General Fund to Highway Account of HTF in October 2013; \$2.2 billion transfer from General Fund to Mass Transit Account of HTF in October 2013

Earmark History

MAP-21 Breaks the Earmarking Trend



Everyone's Commute To Work By 2035?





National Highway System Estimated Peak Period Congestion
(2020)

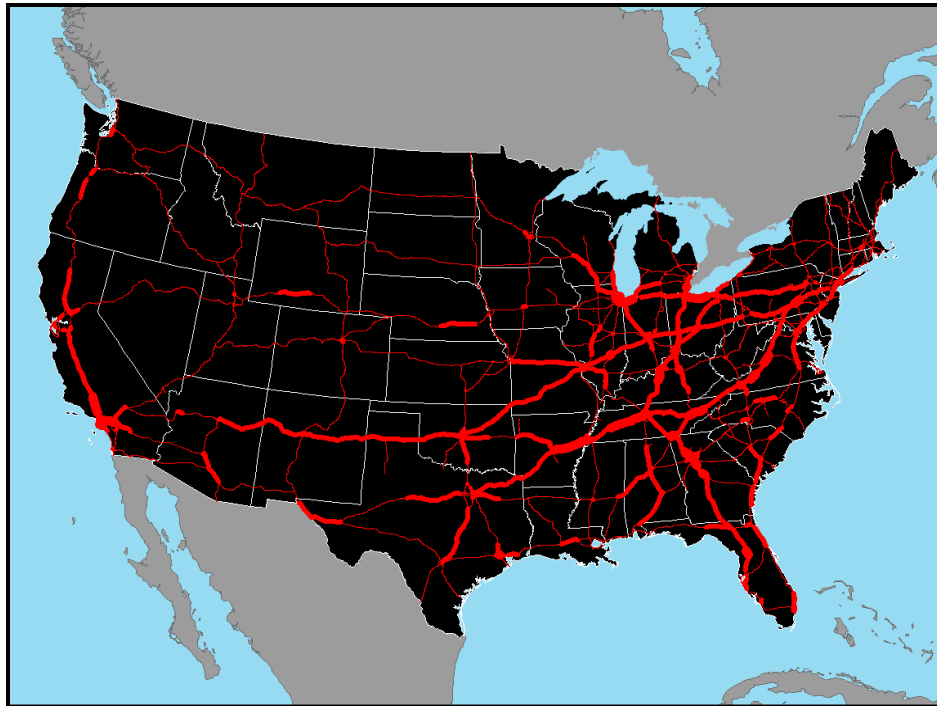
- NHS Highways**
- Below Capacity
 - Approaching Capacity
 - Exceeding Capacity



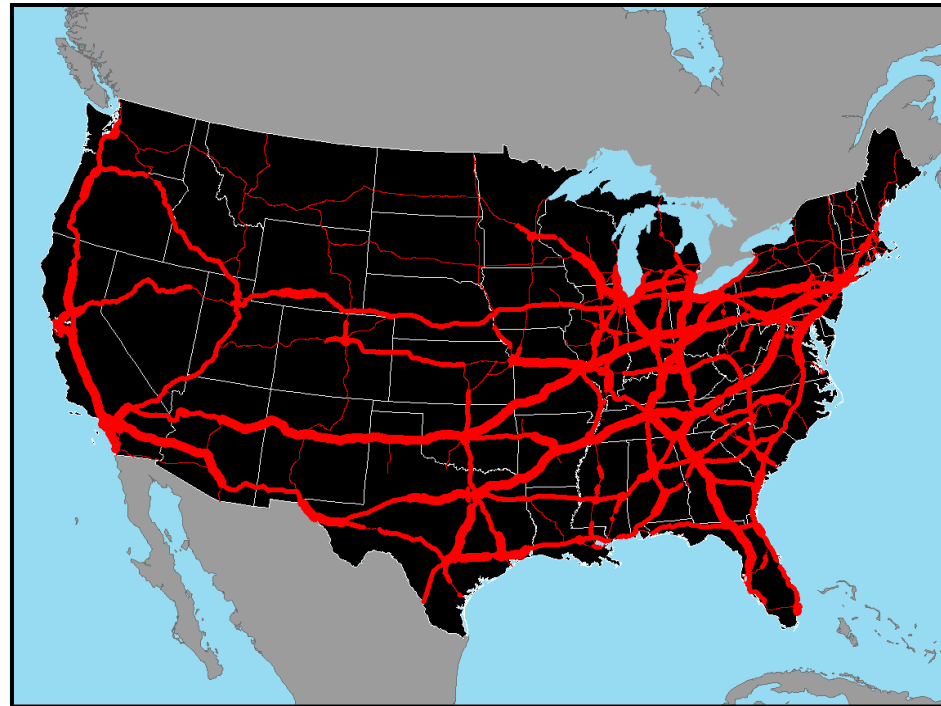
US Department of Transportation
Federal Highway Administration
Office of Freight Management and Operations
Freight Analysis Framework

Highway Congestion

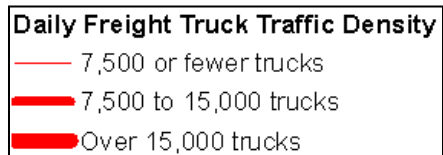
Forecasted Daily Freight Truck Volume



2012



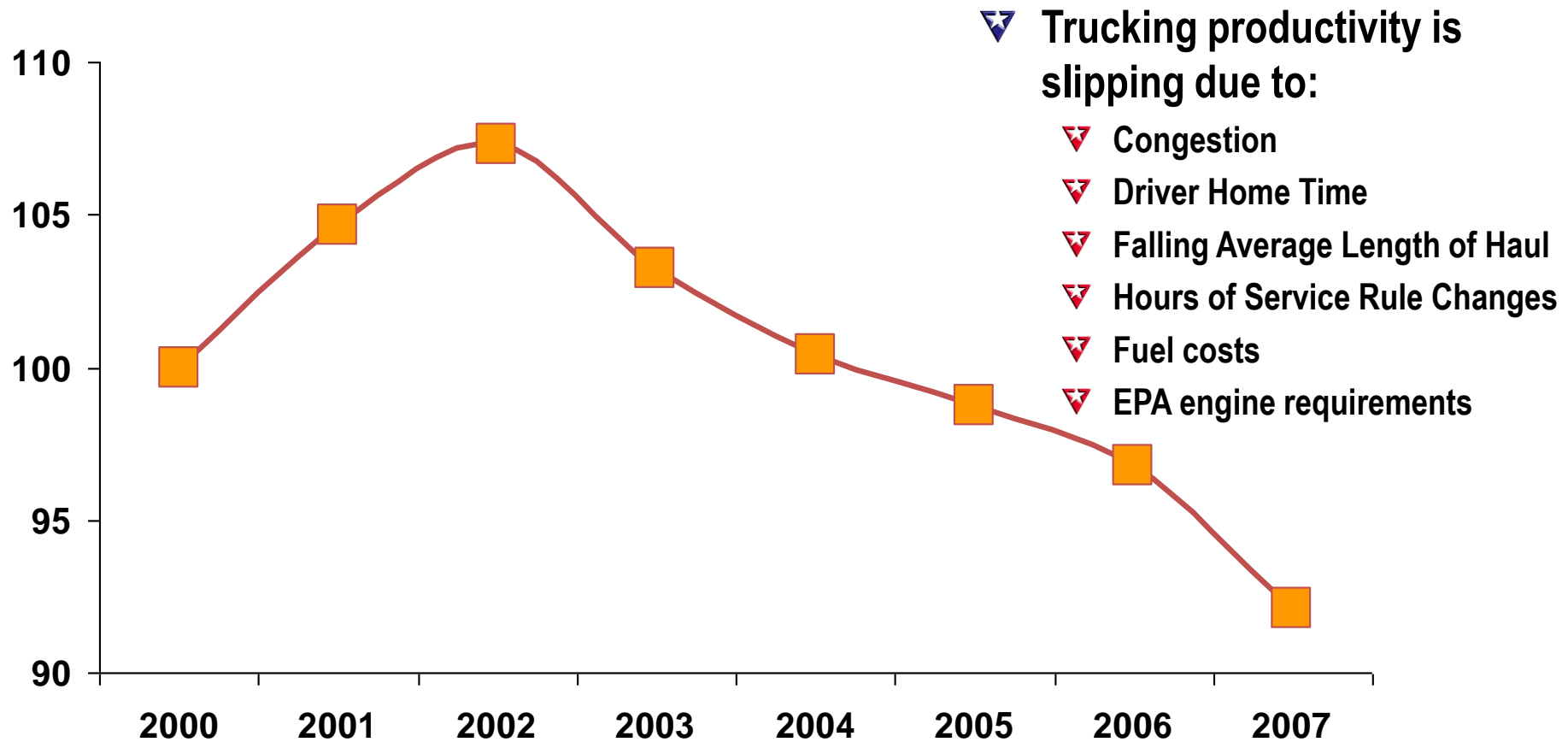
2035



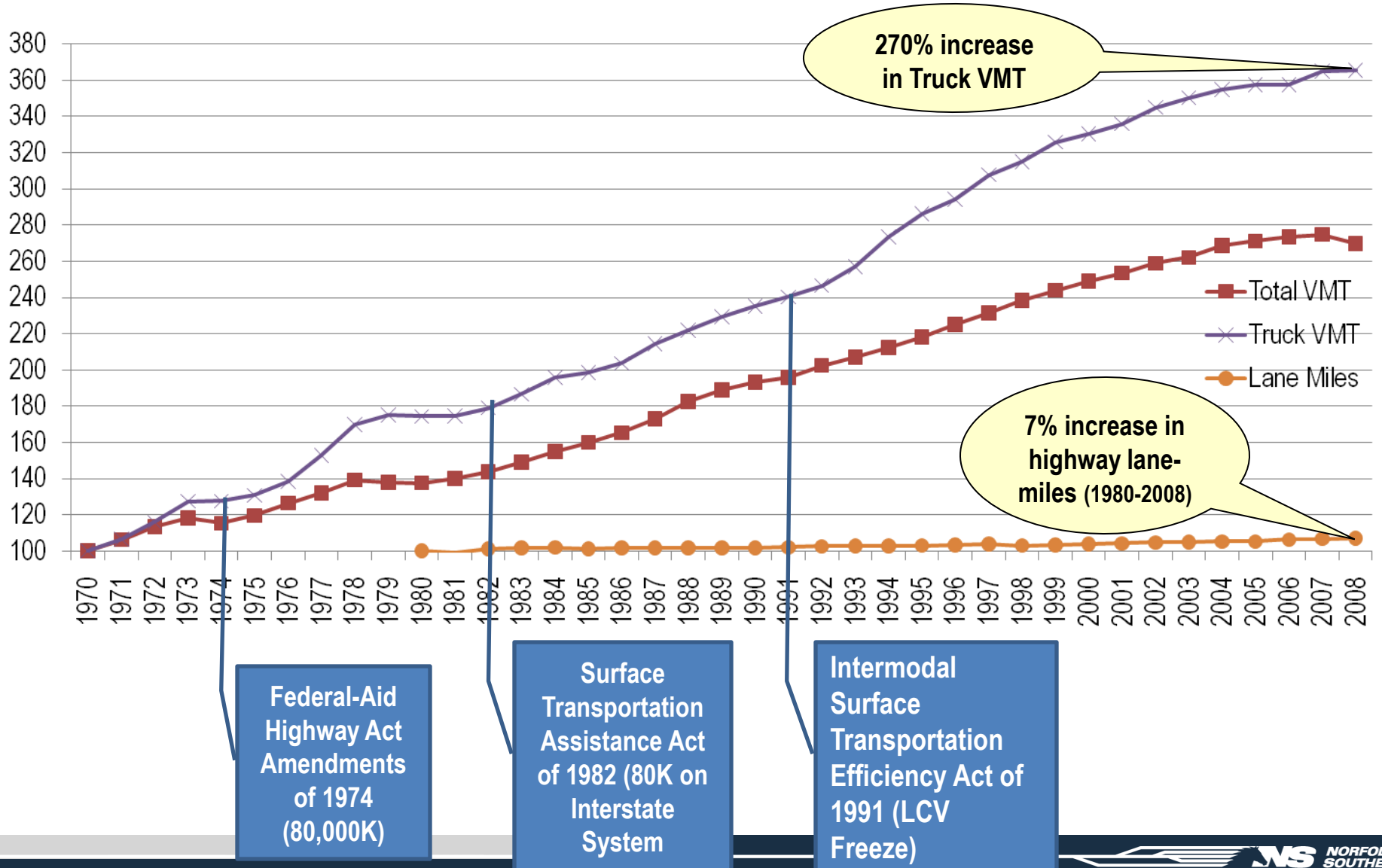


Truckload Productivity is Diminishing:

Index of Miles per Truck per Month: 2000 = 100

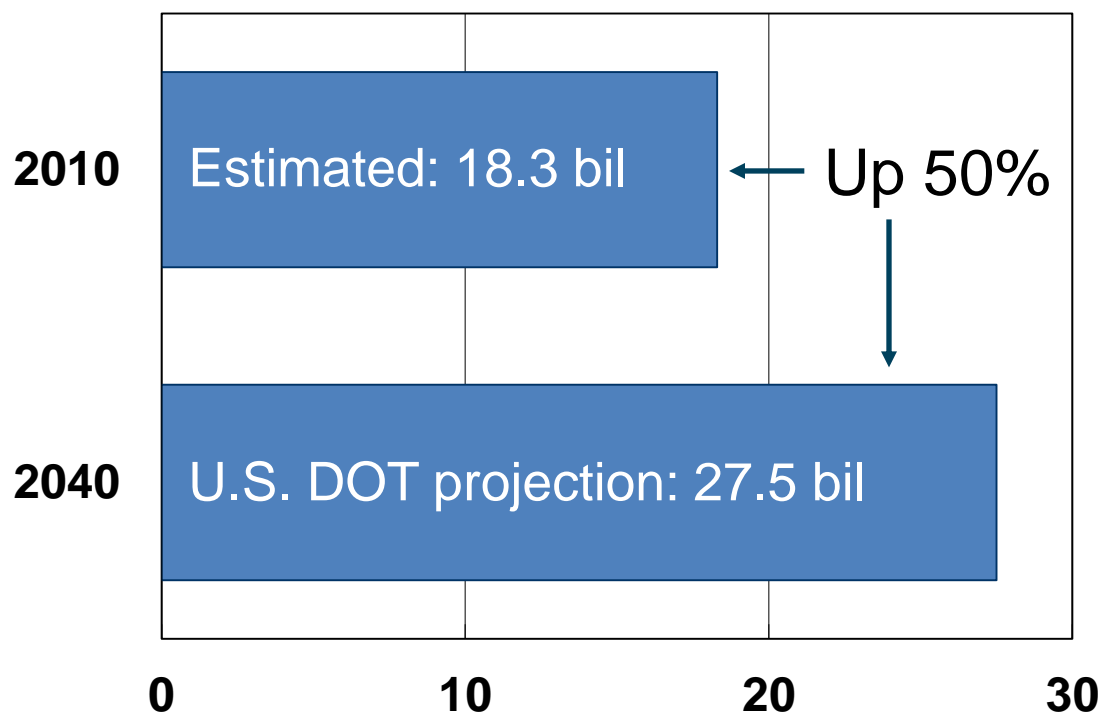


Truck VMT is Outpacing Highway Lane Capacity



Long-Term Demand for Freight Transportation Will Surge

Billions of Tons of Freight Transported in the U.S.

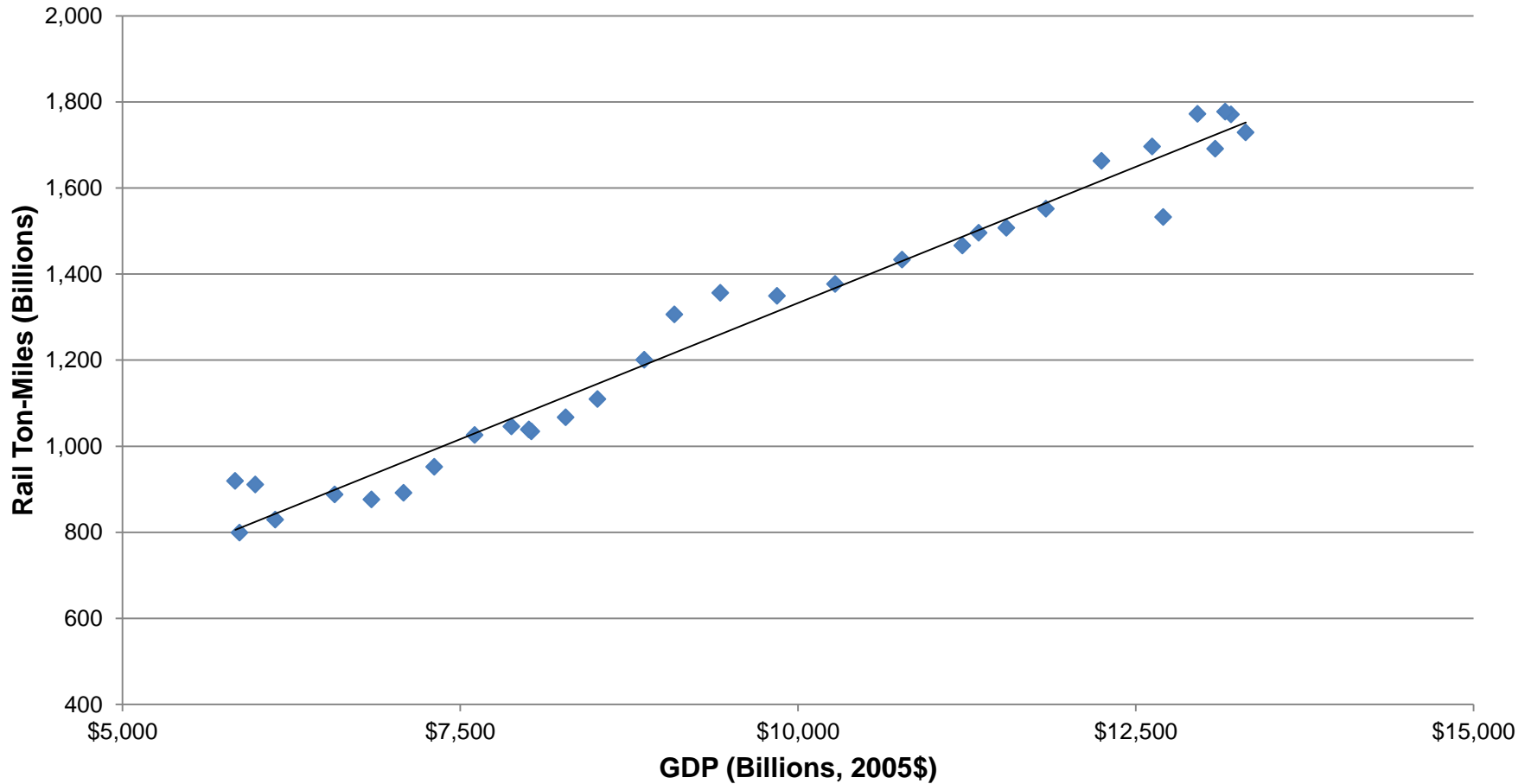


The U.S. DOT expects total U.S. freight movements to rise from around 18.3 billion tons in 2010 to 27.1 billion tons in 2040 – a 50% increase.

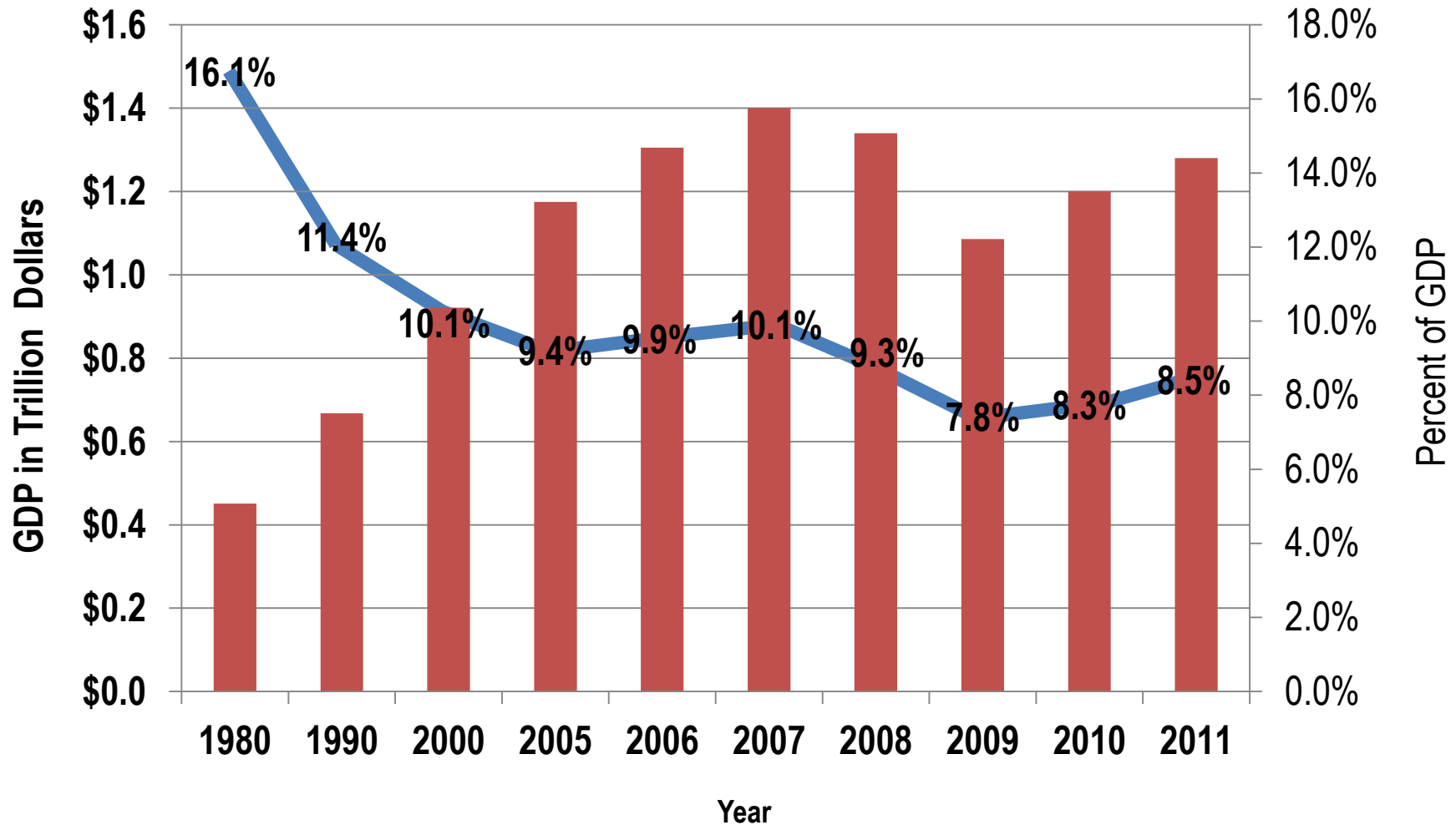
Source: FHWA - *Freight Analysis Framework*, version 3.2

Rail Ton-Miles v. GDP for the United States

1980-2011

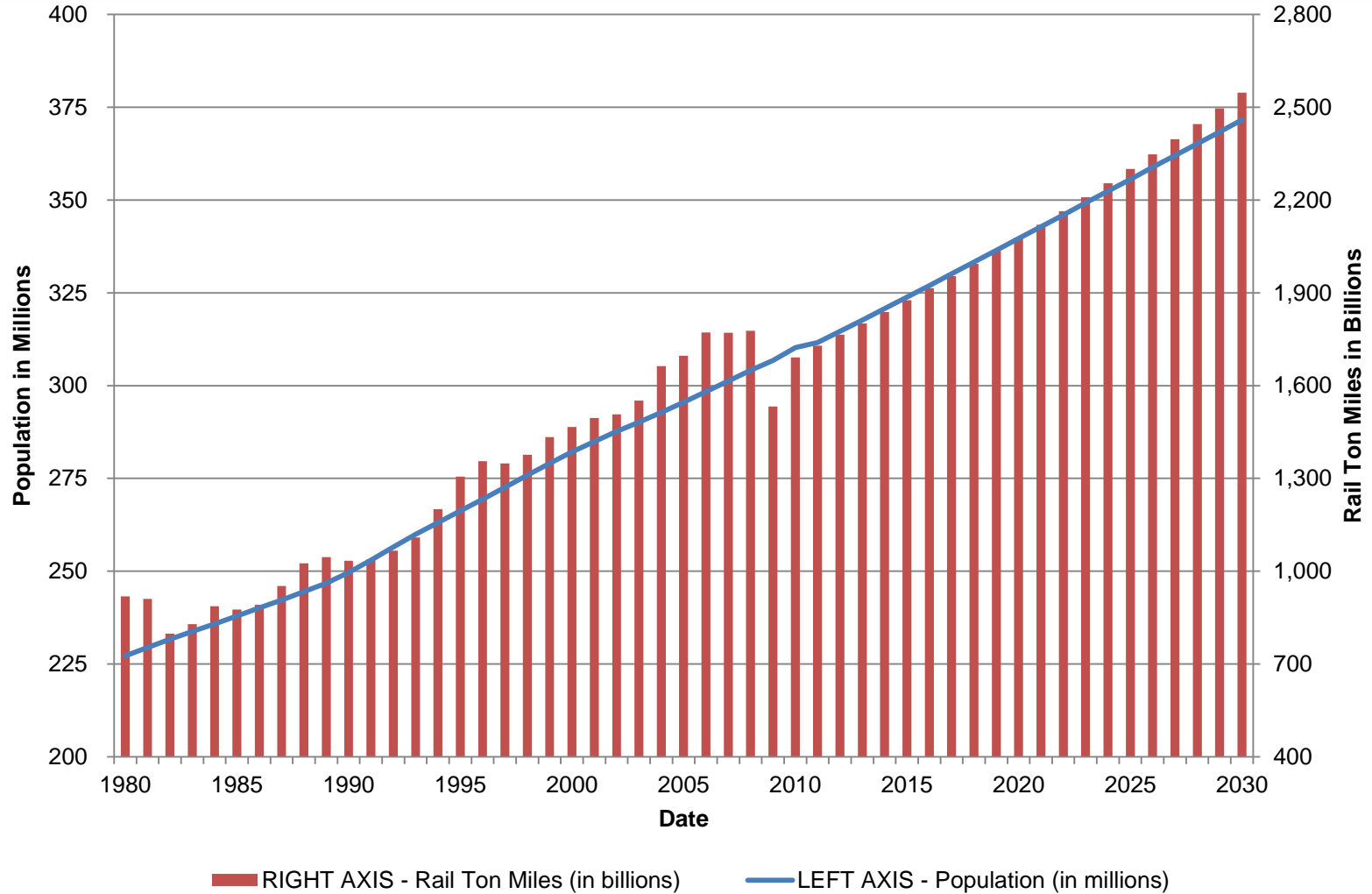


Logistics as a Percentage of U.S. GDP



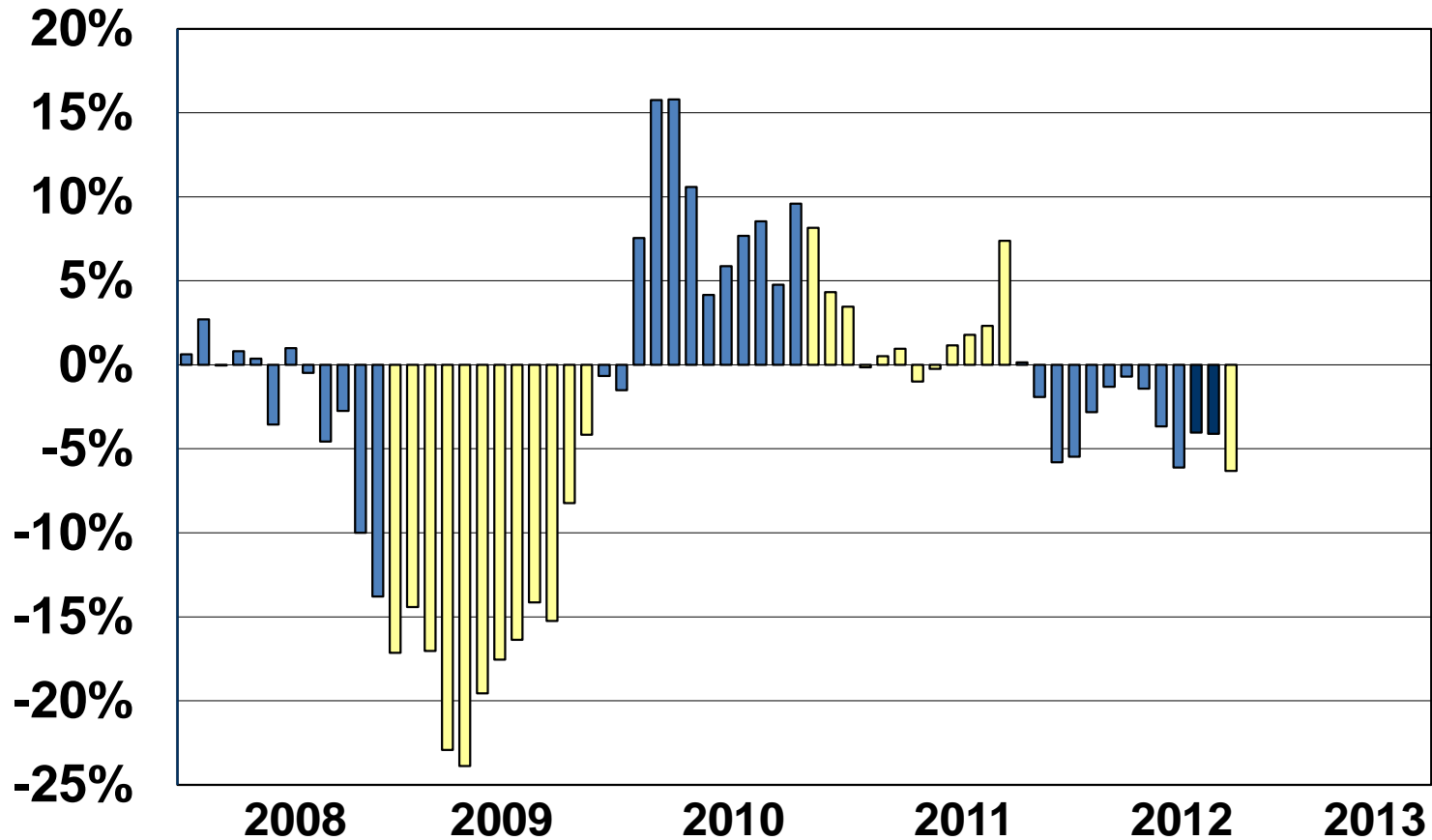
U.S. Population v. Class 1 Railroad Revenue Ton-Miles

Actuals 1980-2011; Projections 2012-2030



Total U.S. Rail Carloads

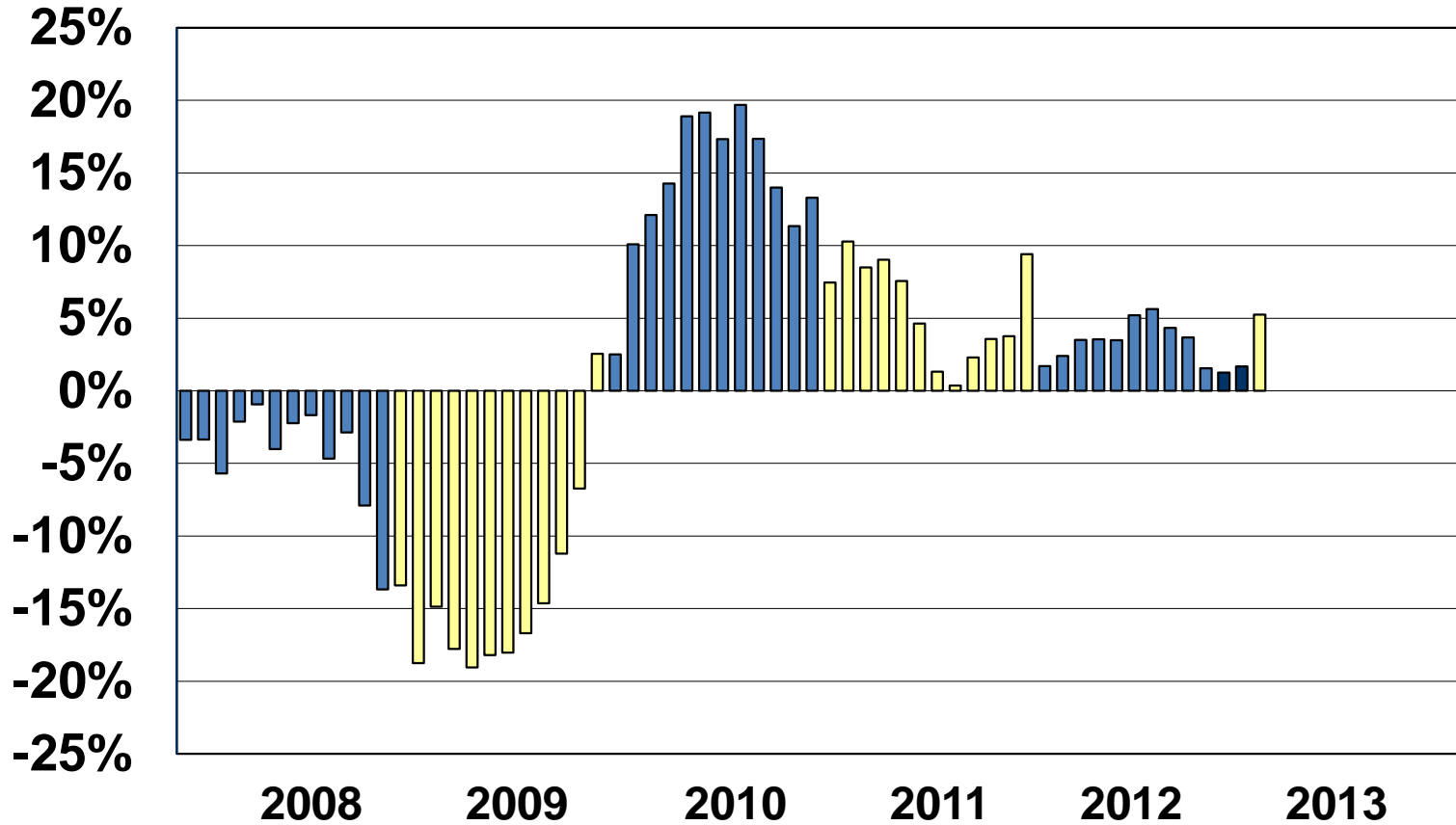
(% change from same month previous year*)



*Based on average weekly originations. Excludes U.S. operations of Canadian railroads. Source: AAR

U.S. Rail Intermodal Traffic

(% change from same month previous year*)



*Based on average weekly originations. Excludes U.S. operations of Canadian railroads. Source: AAR

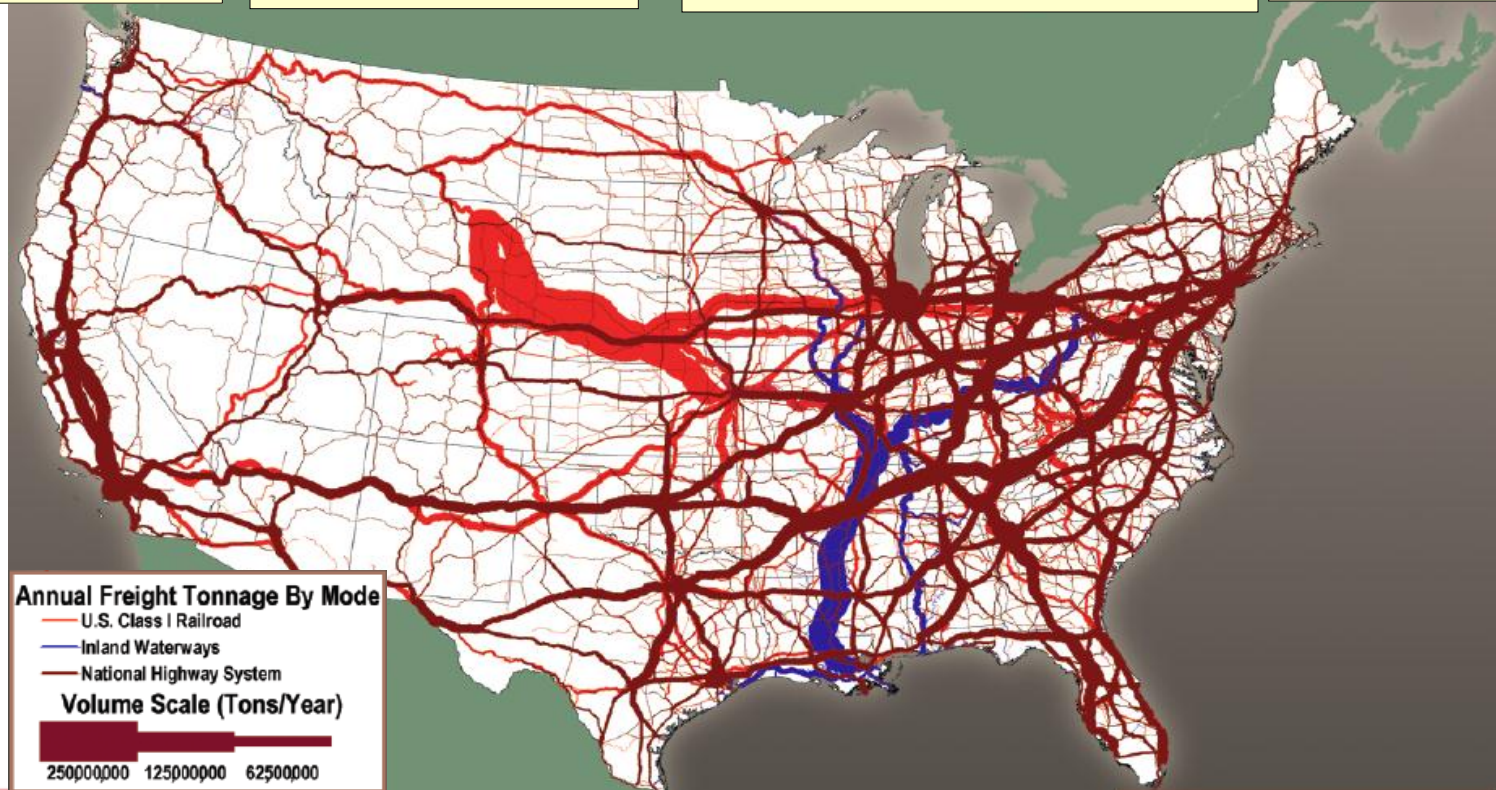
Economic Importance of the US Supply Chain 2011

Key to global competitiveness
9% of US GDP
(China \approx 20%)

\approx 8 million jobs involved in moving and handling freight

The supply chain represents \$1.3 trillion in goods and economic activity

A 1% change in supply chain costs = \$13 billion



Growth and Investment are critical to the future of the industry-Hope is not a strategy

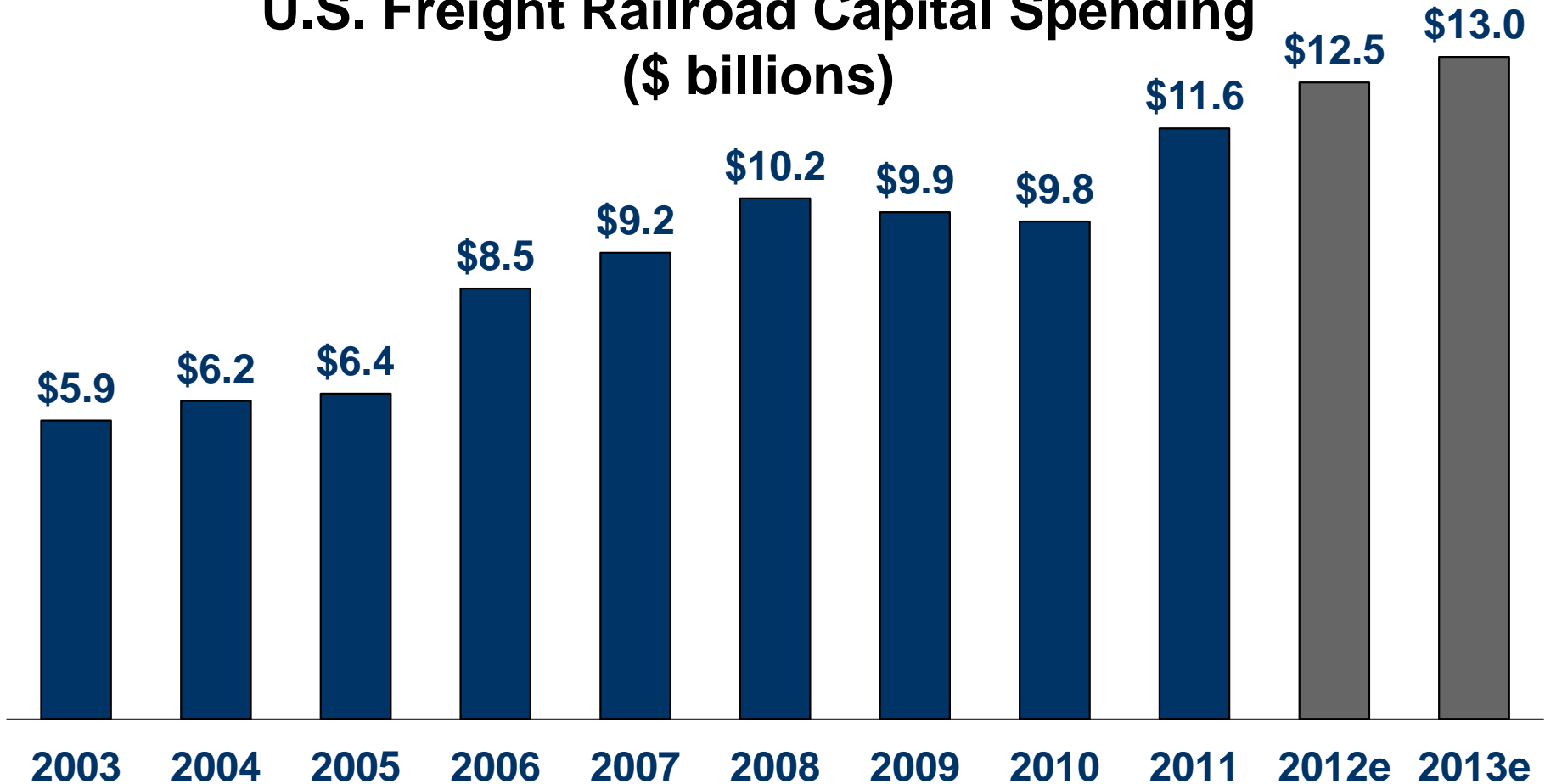
“As demand increases, the railroads’ ability to generate profits from which to finance new investments will be critical.

Profits are key to increasing capacity because they provide both the incentives and the means to make new investments.”

– *Congressional Budget Office*

Record Capital Spending Expected in 2013

U.S. Freight Railroad Capital Spending (\$ billions)



Data are for Class I railroads.

e – estimate

Source: AAR

Important Factors when considering investment options

MARKETS

- DEMAND FOR TRANSPORTATION SERVICES
- OPPORTUNITIES FOR GROWTH
- RESPONSE TO MARKET NEEDS

REVENUES

- VOLUMES
- COMPETITION
- PRICING

Economics of Capital Investments on Class I RR

COSTS

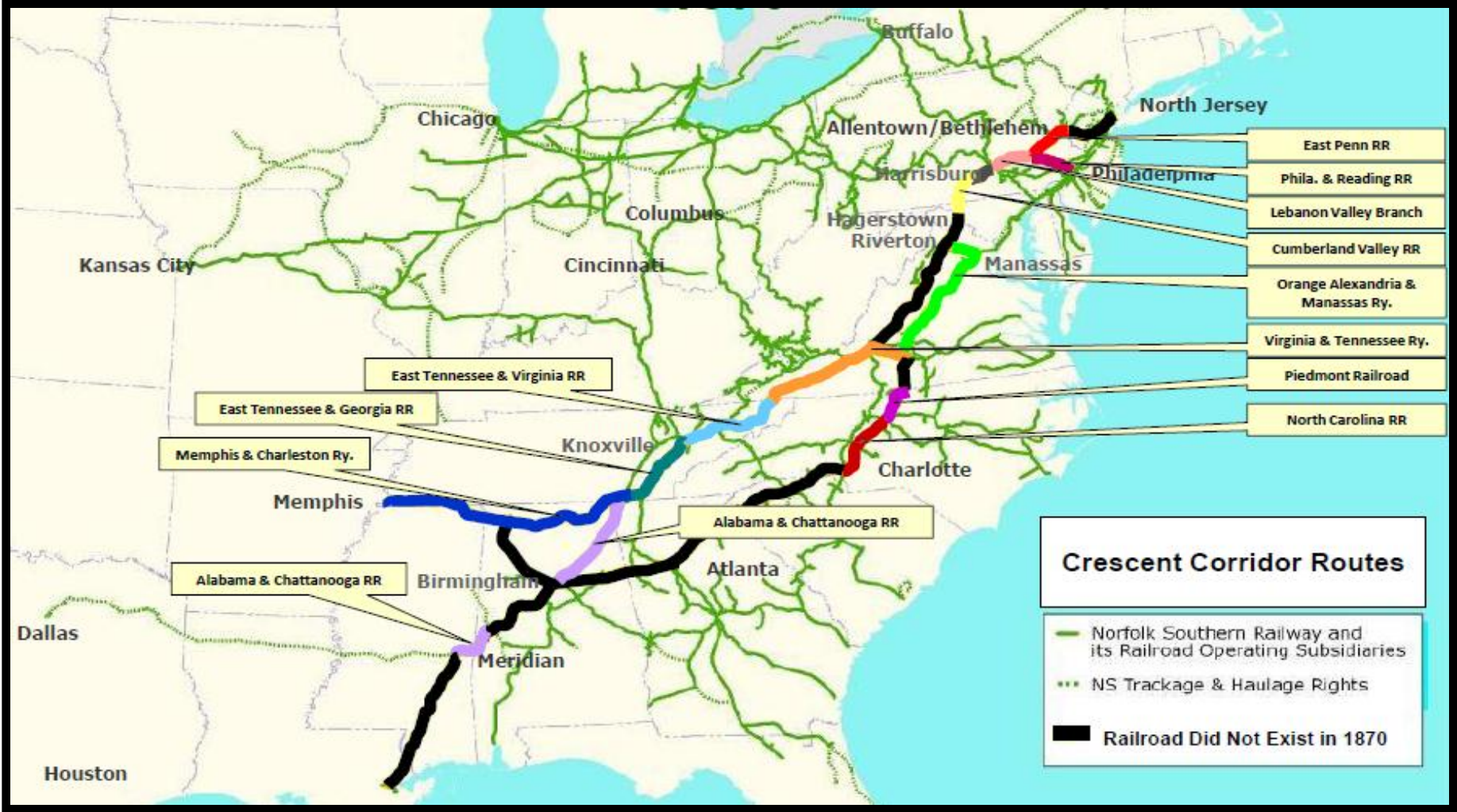
- ASSET AND EMPLOYEE
PRODUCTIVITY
- OPERATING EFFICIENCY

PROFITS

- REVENUES > LONG-TERM COSTS
- SUFFICIENT RETURN TO ATTRACT
INVESTMENT

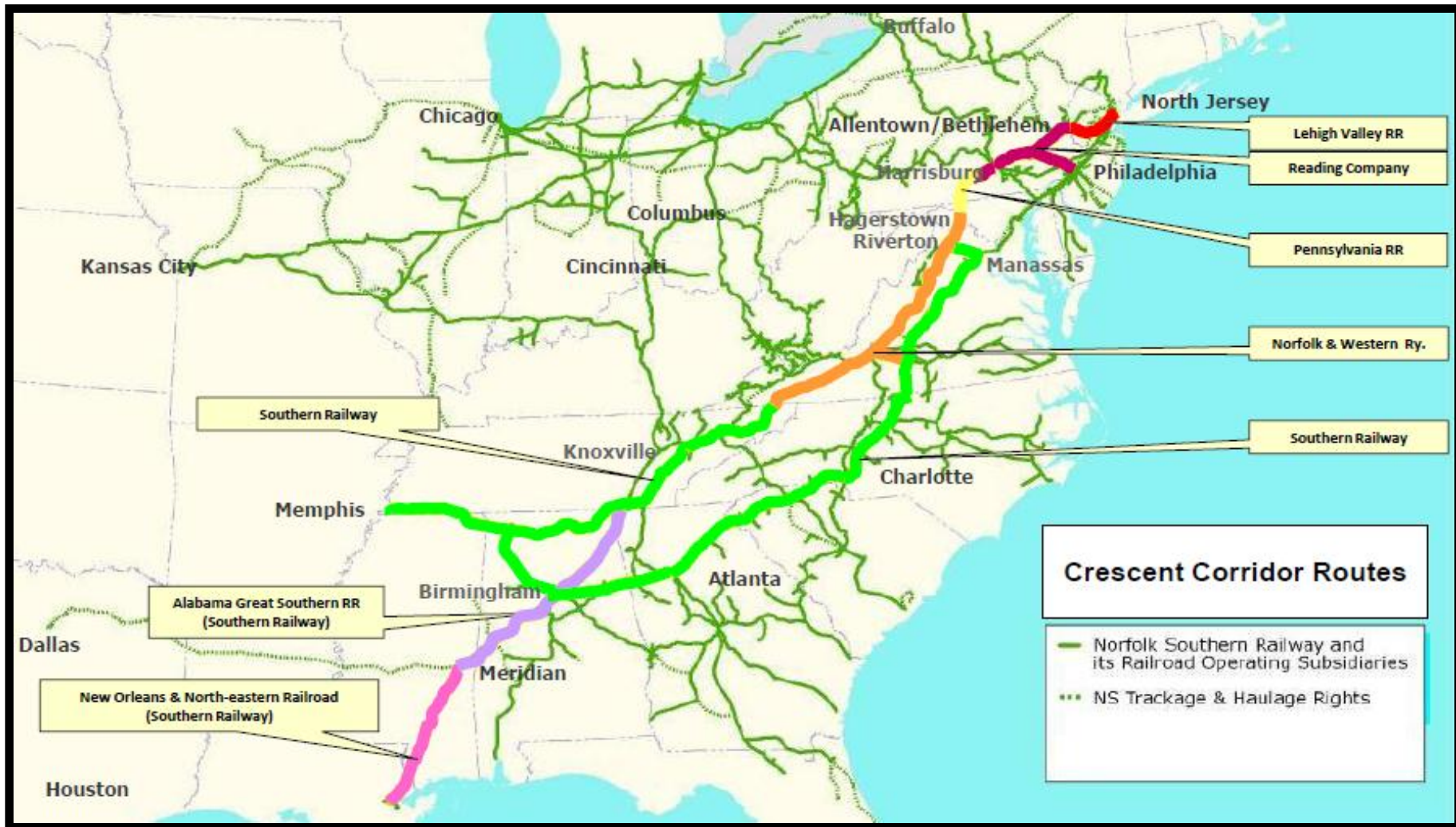
Past, Present & Crescent

Crescent Corridor Predecessor Railroads – 1870



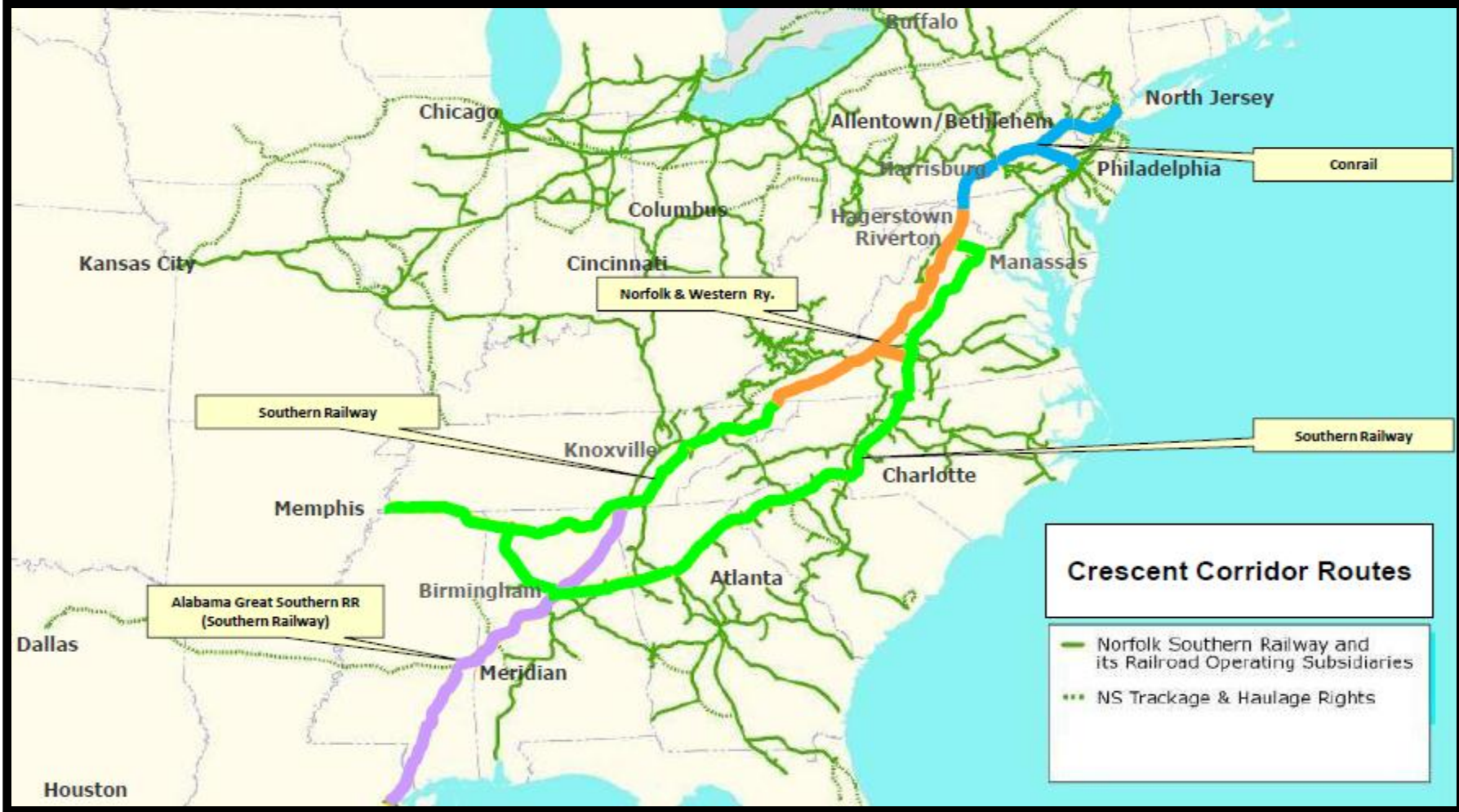
Past, Present & Crescent

Crescent Corridor Predecessor Railroads – 1950



Past, Present & Crescent

Crescent Corridor Predecessor Railroads – 1980



Past, Present & Crescent

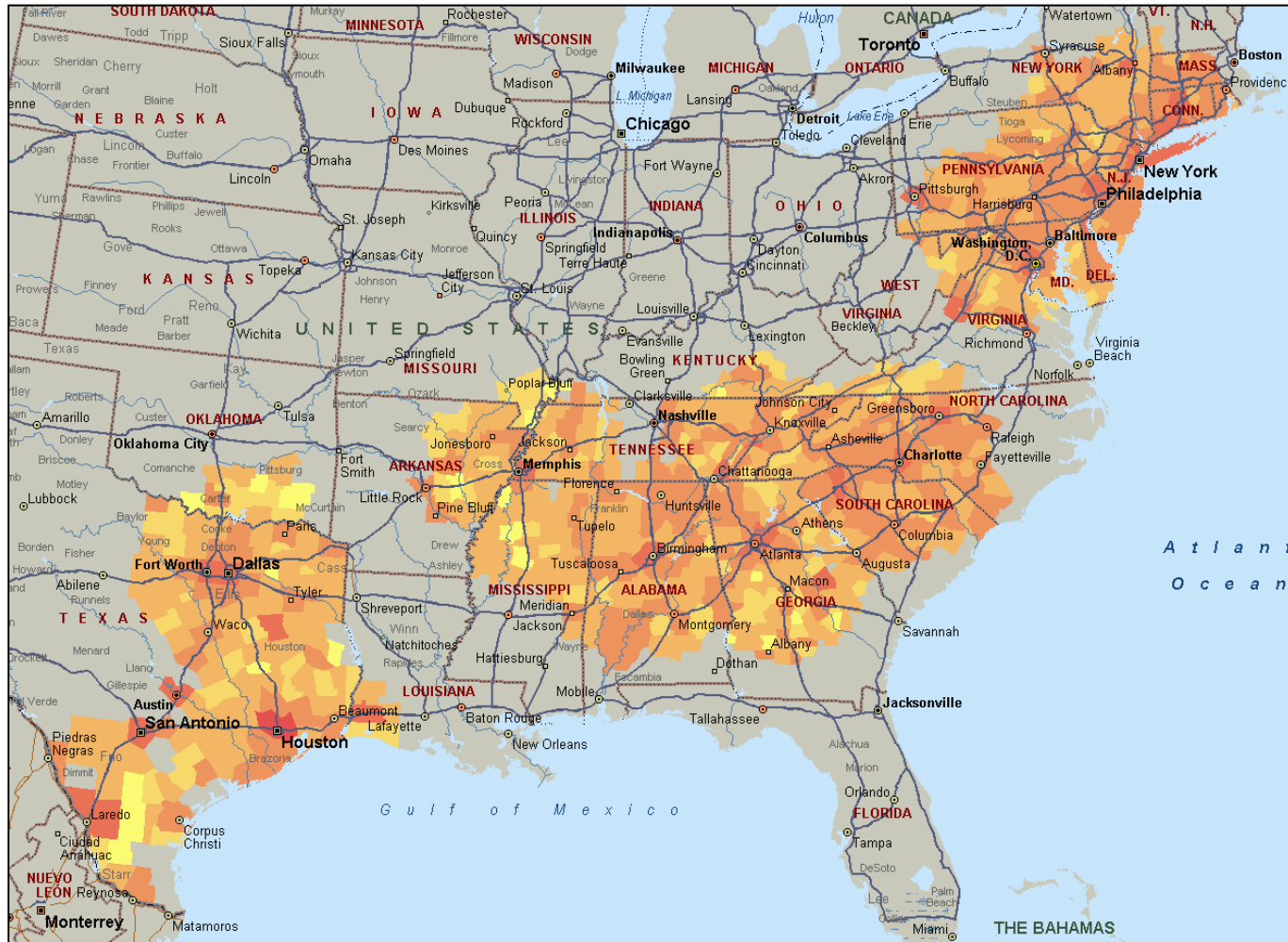
Norfolk Southern's Crescent Corridor – 2010



CRESCENT CORRIDOR AT A GLANCE

- Existing 2,500 mile intermodal rail network from New Jersey to Louisiana parallel to interstate highways (I-20, 40, 59, 75, 76, 77, 78, 81, 85, and 95)
- The nation's most direct intermodal rail route between the Northeast and South
- Possible only after Norfolk Southern's acquisition of Conrail, providing one seamless network into Northeastern markets

Market Analysis: Surface Freight Volumes



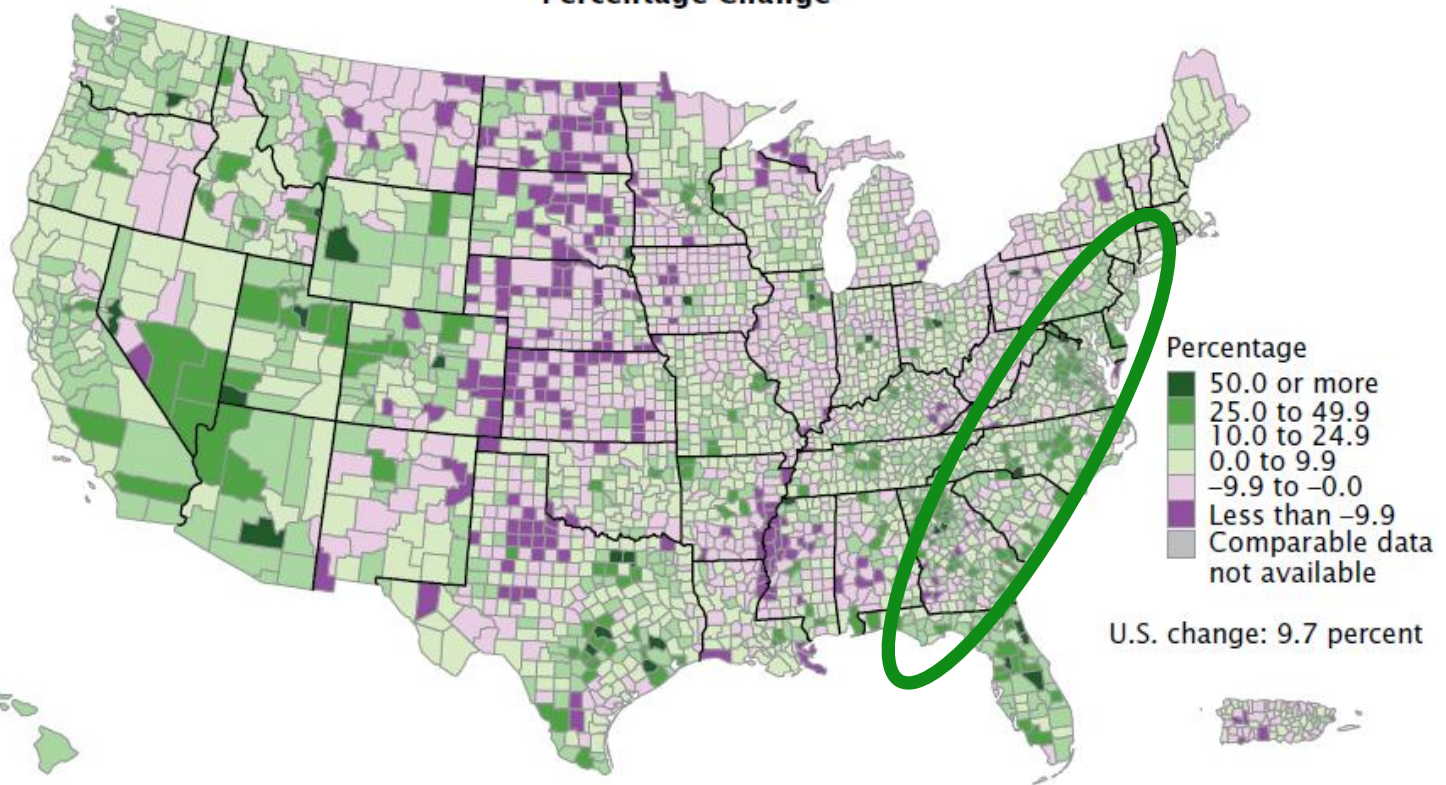
Market Analysis: Population Migration



Population shift from 2000 to 2010, shown as percentage

***Green** indicates growth, **Pink** indicates loss

Percentage Change

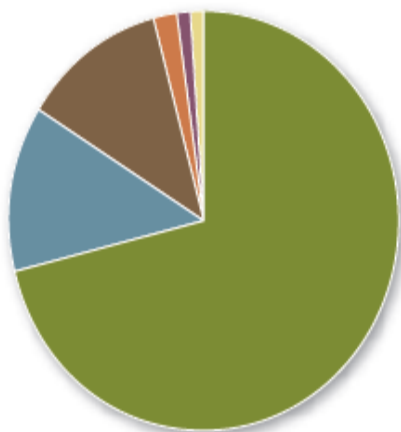


Source: U.S. Census Bureau, 2010 Census and Census 2000.

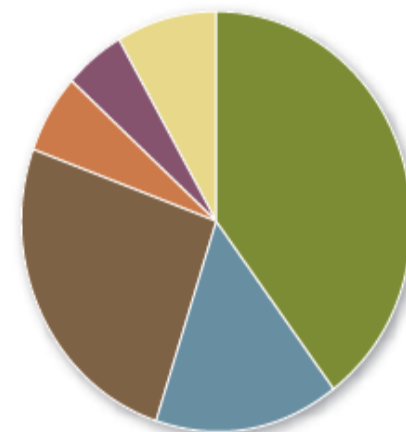
Crescent Corridor Market Opportunity

Dry-Van Lengths of Haul within Select Crescent States

2008 Transearch Dry-Vans in AL, GA, MD, NC, NJ, PA, TN, and TX

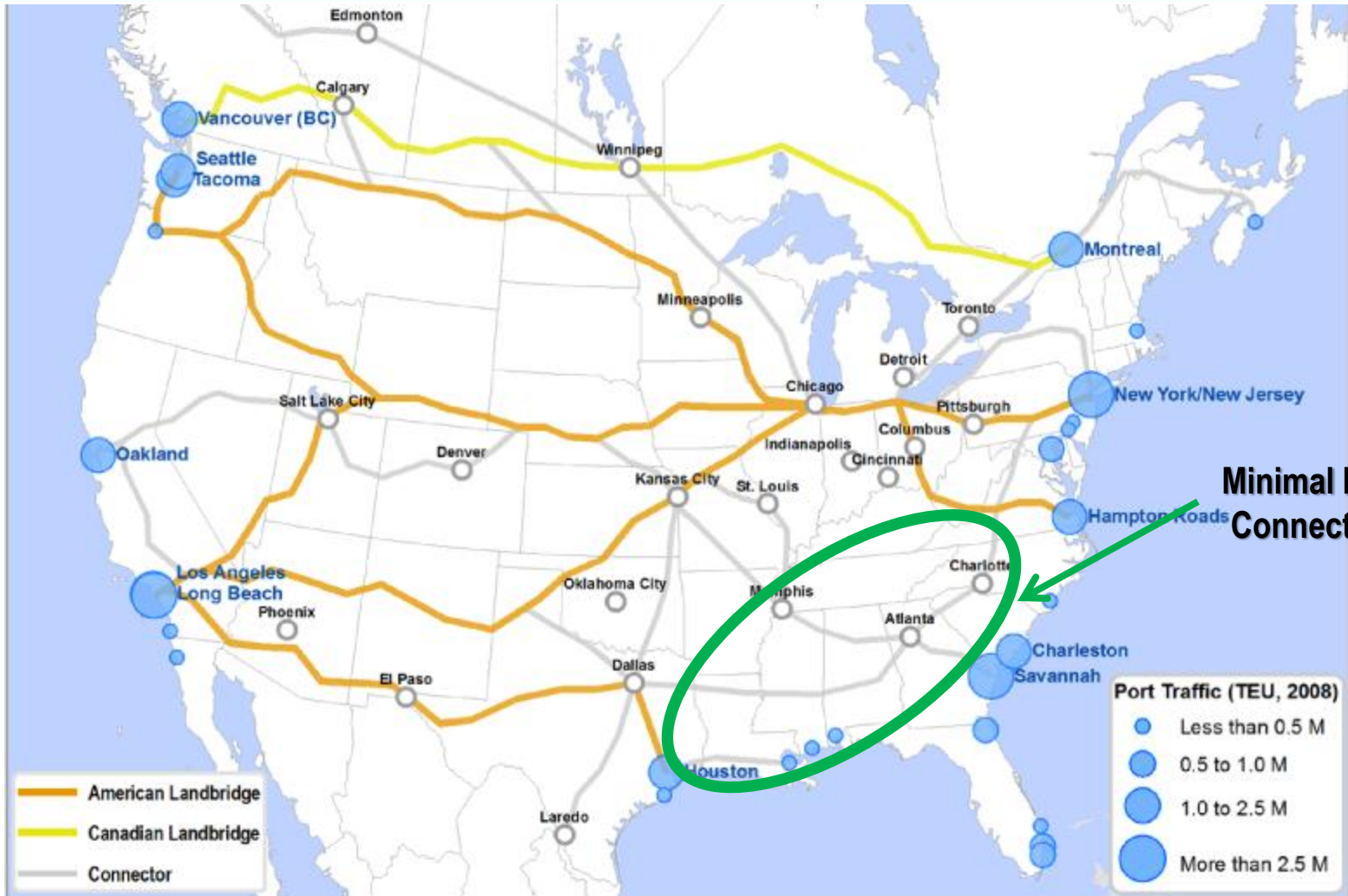


LOH	Dry-van loads	Percent of total	Weighted by VMT
0 to 100 miles	102,307,182	72%	39%
100 to 200 miles	18,926,475	13%	15%
200 to 400 miles	17,149,078	12%	25%
400 to 600 miles	2,312,247	2%	6%
600 to 800 miles	1,355,705	1%	5%
Over 800 miles	1,240,863	1%	8%

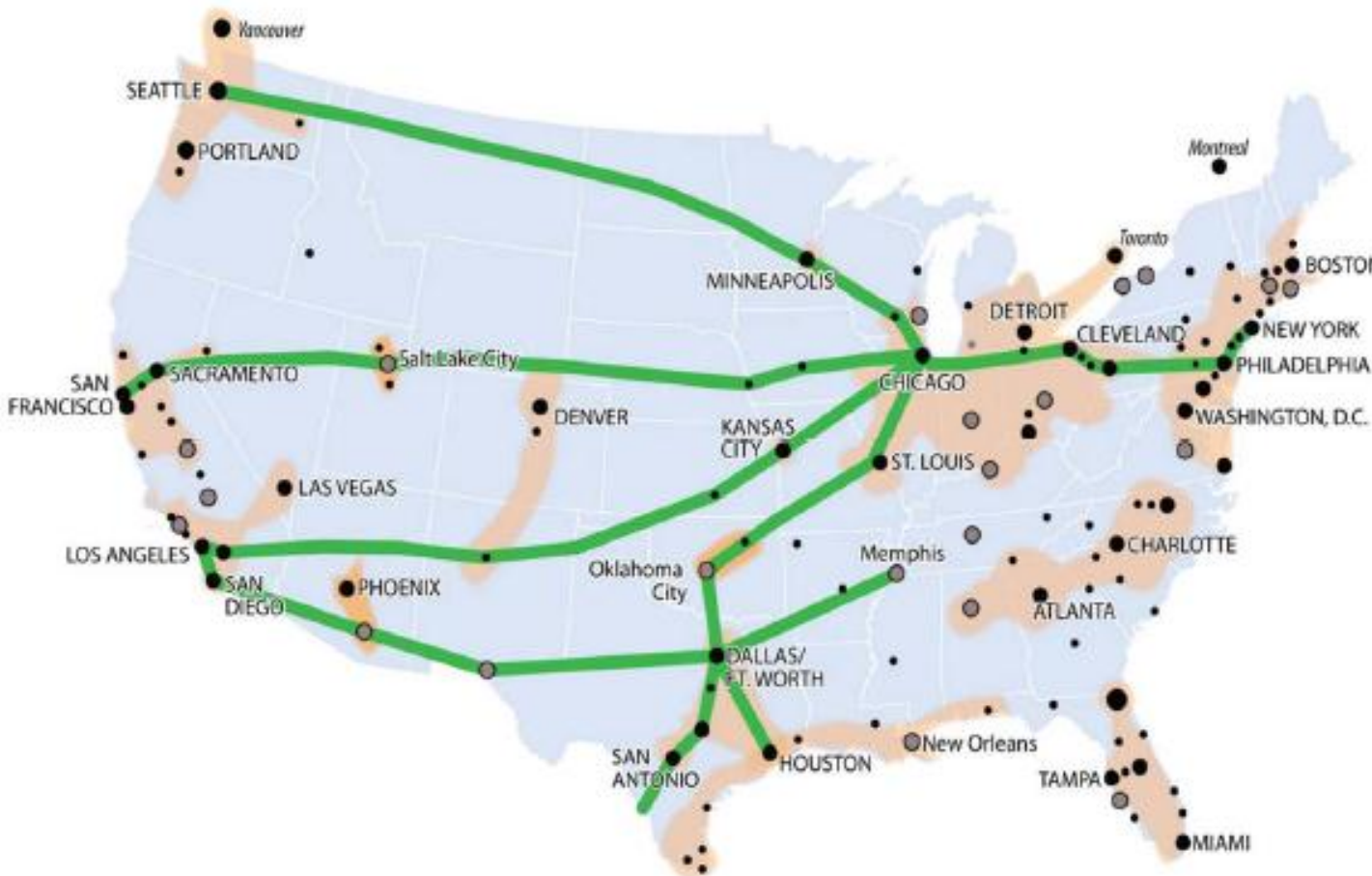


- Divertible Crescent Corridor long-distance freight which consist of distances of 500 miles and greater in select Crescent states including New Jersey, represent a modest share of the total number of dry-van truckloads on the road today—roughly **4%**—but comprise nearly **20%** of total dry-van truckload vehicle miles traveled.

Analysis of Current Rail Landbridges for Freight



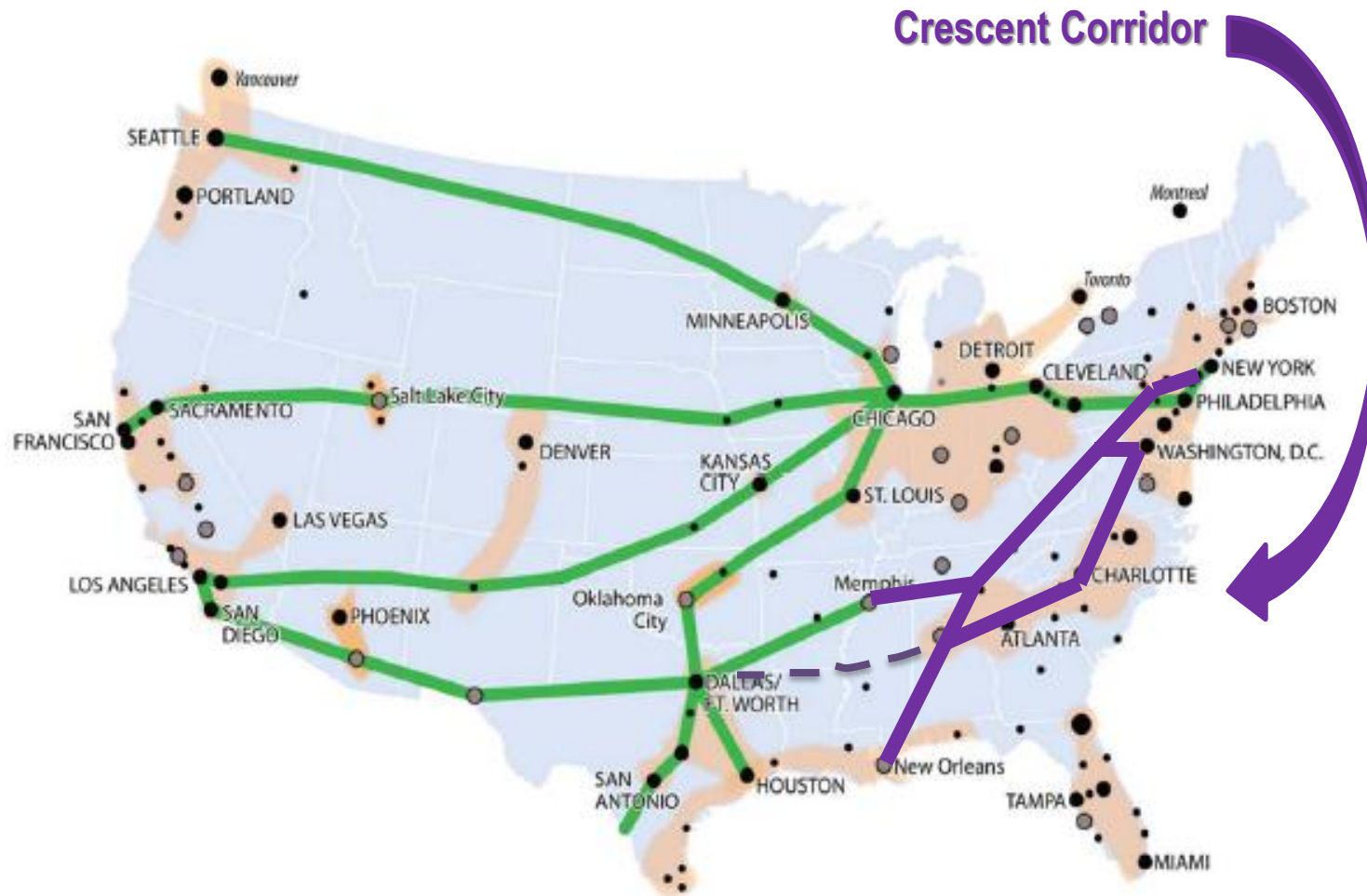
Top Intermodal Freight Rail Corridors



<i>Corridor (State to State)</i>	<i>Trailers/ Containers</i>	<i>Avg Length of Haul (miles)</i>
CA /IL	2,485,880	2,220
CA/TX	1,383,520	1,550
WA/IL	797,480	2,230
NJ/IL	544,840	950
PA/IL	498,920	750
OH/IL	457,240	360
TX/IL	448,000	1,170
CA/TN	382,000	2,100
CA/KS	312,320	1,775
CA/AR	297,080	2,025

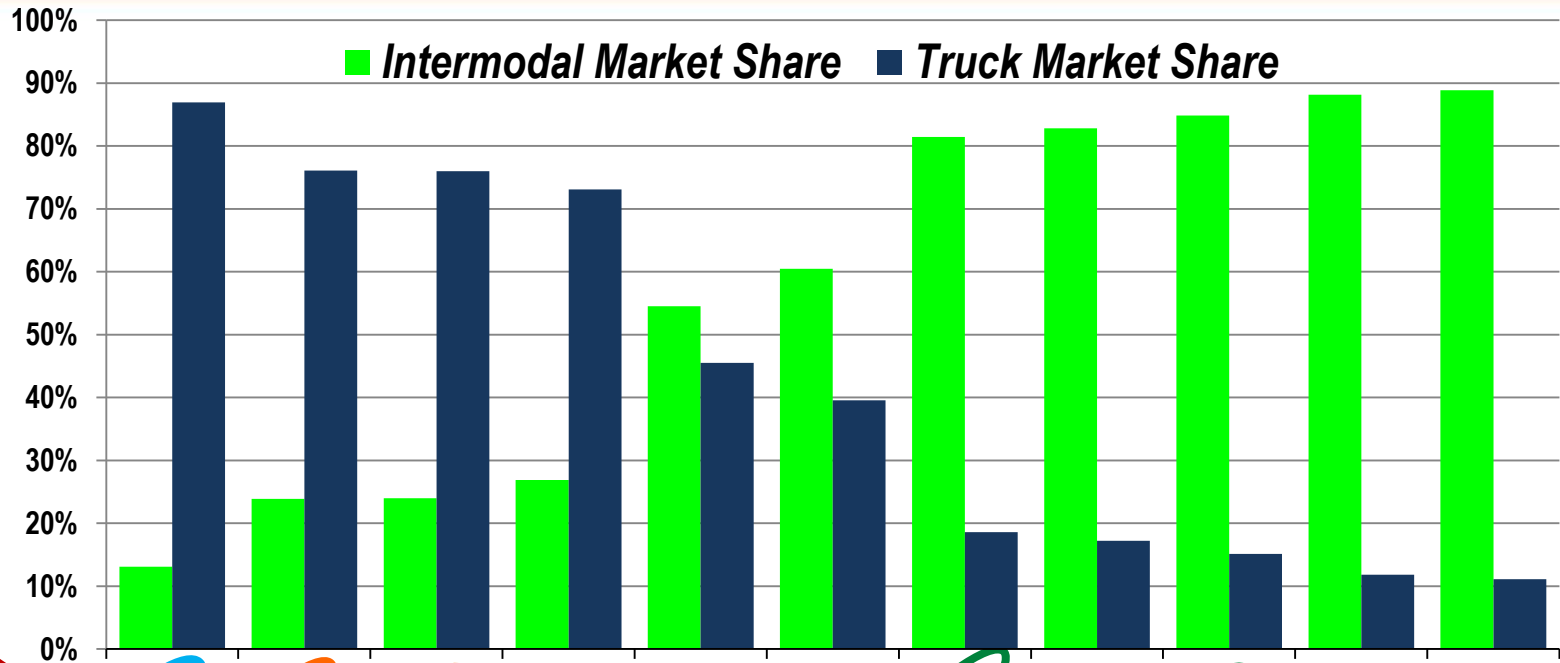
Crescent Corridor at Full Build? in 2020?

350,000 Units Annually ; 1.3 Million Units Annually



Key Principle #1 – Market Share

Opportunity for Rail Entrance in the Freight Transportation Market



**Meridian
Speedway
Corridor**

Dallas-Atlanta

Memphis-Northeast

Atlanta-Northeast

Birmingham-Northeast

New York-Chicago

Los Angeles-Dallas

Norfolk-Columbus

Los Angeles-Chicago

Norfolk-Chicago

Seattle-Chicago

Norfolk-Pittsburgh

Crescent Corridor

Heartland Corridor

Truck/Rail Intermodal Market Share 2007

Truck and Rail Intermodal in Markets 500 Miles and Greater

Mileage Blocks	Truck	Rail Intermodal	Total Market	Truck Share	Rail Share
500 to 749	17.8	1.2	19.0	94%	6%
750 to 999	10.1	2.3	12.4	82%	18%
1000 to 1499	7.7	2.0	9.7	79%	21%
1500 to 2000	3.7	2.1	5.8	63%	37%
>2000	2.8	4.9	7.7	36%	64%
Total	42.1	12.5	54.6	77%	23%

Millions of units

Source: Assessment of 2007 Commodity Flow Survey and 2007 Rail Carload Waybill Sample

Truck/Rail Intermodal Market Share 2035 Status Quo

Truck and Rail Intermodal in Markets 500 Miles and Greater

Mileage Blocks	Truck	Rail Intermodal	Total Market	Truck Share	Rail Share
500 to 749	22.0	1.5	23.5	94%	6%
750 to 999	12.4	2.8	15.2	82%	18%
1000 to 1499	9.4	2.5	11.9	79%	21%
1500 to 2000	4.6	2.7	7.3	63%	37%
>2000	3.4	6.0	9.4	36%	64%
Total	51.8	15.5	67.3	77%	23%

Millions of units

National Rail Plan

Source: Assessment of 2007 Commodity Flow Survey and 2007 Rail Carload Waybill Sample

Truck/Rail Intermodal Market Share

2035 50% Market Share

Truck and Rail Intermodal in Markets 500 Miles and Greater

Mileage Blocks	Truck	Rail Intermodal	Total Market	Truck Share	Rail Share
500 to 749	14.3	9.2	23.5	61%	39%
750 to 999	8.1	7.1	15.2	53%	47%
1000 to 1499	6.1	5.8	11.9	52%	48%
1500 to 2000	3.0	4.3	7.3	41%	59%
>2000	2.2	7.2	9.4	23%	77%
Total	33.6	33.6	67.3	50%	50%

Millions of units

Source: Assessment of 2007 Commodity Flow Survey and 2007 Rail Carload Waybill Sample

One example of the dramatic benefits of shifting to rail intermodal is illustrated by the fact that just one long-distance, double-stack train between Chicago and Los Angeles can save 75,000 gallons of fuel by replacing 300 trucks, each traveling 1,983 miles.

Source: *Comparative Evaluation of Rail and Truck Fuel Efficiency on Competitive Corridors*, ICF International, published by the Federal Railroad Administration (2009)

TRANSIT TIMES AT OPTIMAL SCHEDULES

- Average speed for network: 28 mph
- Min speed for network: 20.6 mph
- Max speed for network: 36.1 mph



Economic Impact – Fayette County Intermodal Terminal

KEY FINDINGS – NSRC FAYETTE COUNTY INTERMODAL ACTIVITY

Annual Economic Impact at 2020

NSRC Fayette Co. Intermodal Only	\$66.7 Million
At Risk and Benefited Industrial Expansions	<u>\$247.9 Million</u>
Total	\$314.6 Million

Cumulative Economic Impact 2009 – 2020

Intermodal Facility Only	\$0.86 Billion
At Risk and Benefited Industrial Expansions	<u>\$1.85 Billion</u>
Total	\$2.71 Billion

Employment Impact of NSRC Intermodal at 2020

	<i>Direct</i>	<i>Indirect</i>	<i>Total</i>
Proposed Intermodal	429	497	926
At Risk and Benefited Industrial	<u>2,413</u>	<u>2,847</u>	<u>5,260</u>
Total	2,842	3,344	6,186

Annual Payroll by 2020

Intermodal Facility Only	\$21.6 Million
At Risk and Benefited Industrial Expansions	<u>\$72.4 Million</u>
Total	\$94.0 Million

Clean, Green Relief for Congested Road



Benefits to Tennessee

**187,00 Annual Long-Haul
24 Million Gallons
265,000 Tons
\$81 Million**

**Trucks Diverted to Rail
Fuel Saved per Year
CO² Reduction per Year
Annual Congestion Savings**

Projected 2020 Interstate Highway Congestion

(Source U.S. Department of Transportation) *

- Congested
- Approaching Congestion
- Not Congested
- - - Norfolk Southern Crescent Corridor

* The DOT estimates that congestion will increase significantly by 2035.
Not all interstate highways or rail lines shown

Crescent Corridor Public Benefits

Long-Term Public Benefits

- Cambridge Systematics (CS) performed a thorough benefit-cost analysis of the Crescent Corridor for the TIGER II grant application.
- Based on benefit categories and factors specified by TIGER II guidance, CS concludes at full operation Crescent will ANNUALLY deliver:
 - **\$543 million** in Shipping Savings
 - **\$566 million** in Congestion Savings (*22.5 million hours of travel time savings*)
 - **\$146 million** in Safety Savings (*1,256 fewer heavy truck crashes*)
 - **\$147 million in Sustainability Savings**
(*162 million gallons of fuel saved & 1.8 million tons of CO₂ eliminated*)
 - **\$261 million** in Highway Maintenance Savings (*1.263 billion truck VMTs reduced*)

Intermodal Terminal Expansion Update



Facility Location	Groundbreaking Date	Completion Date	Annual Volume Capacity (Lifts)
Mechanicville, NY	July 2010	Spring 2012	70,000
Greencastle, PA	October 2010	Fall 2012	85,000
Memphis, TN	April 2011	Fall 2012	200,000
Birmingham, AL	June 2011	Fall 2012	100,000
Harrisburg, PA	Spring 2012	Spring 2013	65,000
Charlotte, NC	Spring 2012	Fall 2013	200,000



CRESCENT
CORRIDOR

SOUTHERN
infinite possibilities.

NS - \$58.9 Million
TIGER - \$52.5 Million
CMAQ/TDOT - \$14.2 Million

TOTAL - \$125.6 Million

Construction Time: 20 Months



Rossville Intermodal Facility



Highway 57 Bridge



Rossville Intermodal Facility





McCalla – Intermodal Facility

Birmingham Regional Intermodal Facility



Birmingham Regional Intermodal Facility





Greencastle



11.02.2011 10:30

Greencastle

Intermodal Area at CDIA

- Final Plan for new Intermodal facility at the Charlotte-Douglas Int. Airport



Transit Times Must be Truck Competitive

Targeted Schedules

Memphis *Harrisburg – 30 hours*

Memphis *Philadelphia – 43.3 hours*

E. Tennessee *New Jersey – 30 hours*

Additional Crescent Corridor Funding Needs

Rail Route Speed & Capacity Improvements

Speed Improvements

- Crescent Corridor route projects include improvements to curve alignments and grade crossings as well as the installation and/or replacement of signal systems.
- In turn, better curve alignments as well as earlier placed grade crossing detectors will provide higher intermodal train operating speeds, while new signal systems will enhance operating efficiencies by providing more continuous train movements.

**Super-elevated Curves = Faster
Train Speeds = Less Fuel
Consumption & More Truck
Diversions**



Additional Crescent Corridor Funding Needs

Rail Route Speed & Capacity Improvements

**More Intermodal Trains =
Less Capacity = Need for
Additional Capacity Investments**



Train Meet Point

Capacity Improvements

- Enhancements to Crescent include dozens of individual projects that will expand single mainline tracks to double tracks, add new passing sidings, and extend sidings.
- New and expanded passing sidings will allow longer, faster intermodal trains to meet and pass slower, less time sensitive freight trains (see image on the left), while double track segments will connect existing passing sidings together.

Since 2005 NS invested over \$1.5b in Network improvements Targeting Intermodal

- Meridian Speedway: \$300mm
 - Complete 2010
- Heartland Corridor: \$300mm
 - Complete 2010*
- Patriot Corridor: \$140mm
 - Complete 2010
- Crescent Corridor Ph 1: \$800mm
 - Completion 2013



Thank You

