

Finding Private Capital in Today's Economy

Shifting International Trade Routes
Tampa, January 23, 2009

Walter Kemmsies
Moffatt & Nichol Commercial Analysis Group

Moffatt & Nichol – Waterways, Ports & Transportation

- Founded 1945 - Long Beach, CA
- M&N combines the expertise of financial and economic specialists with more than 60 years of planning and engineering experience:
 - Coastal engineering
 - Port and waterside design
 - Terminal design for all types of freight and passenger movement
 - Urban waterfront & marina planning and design
 - Surface transportation connectivity
 - Railroads and capacity expansion
 - Pay-go highway improvements
 - Strategic development plans
 - Economic analyses of investment/privatization
 - Independent Market Consultant
 - Environmental issues/emissions modeling
- Locations
 - 26 offices throughout North America, Europe, Latin America and the Pacific Rim

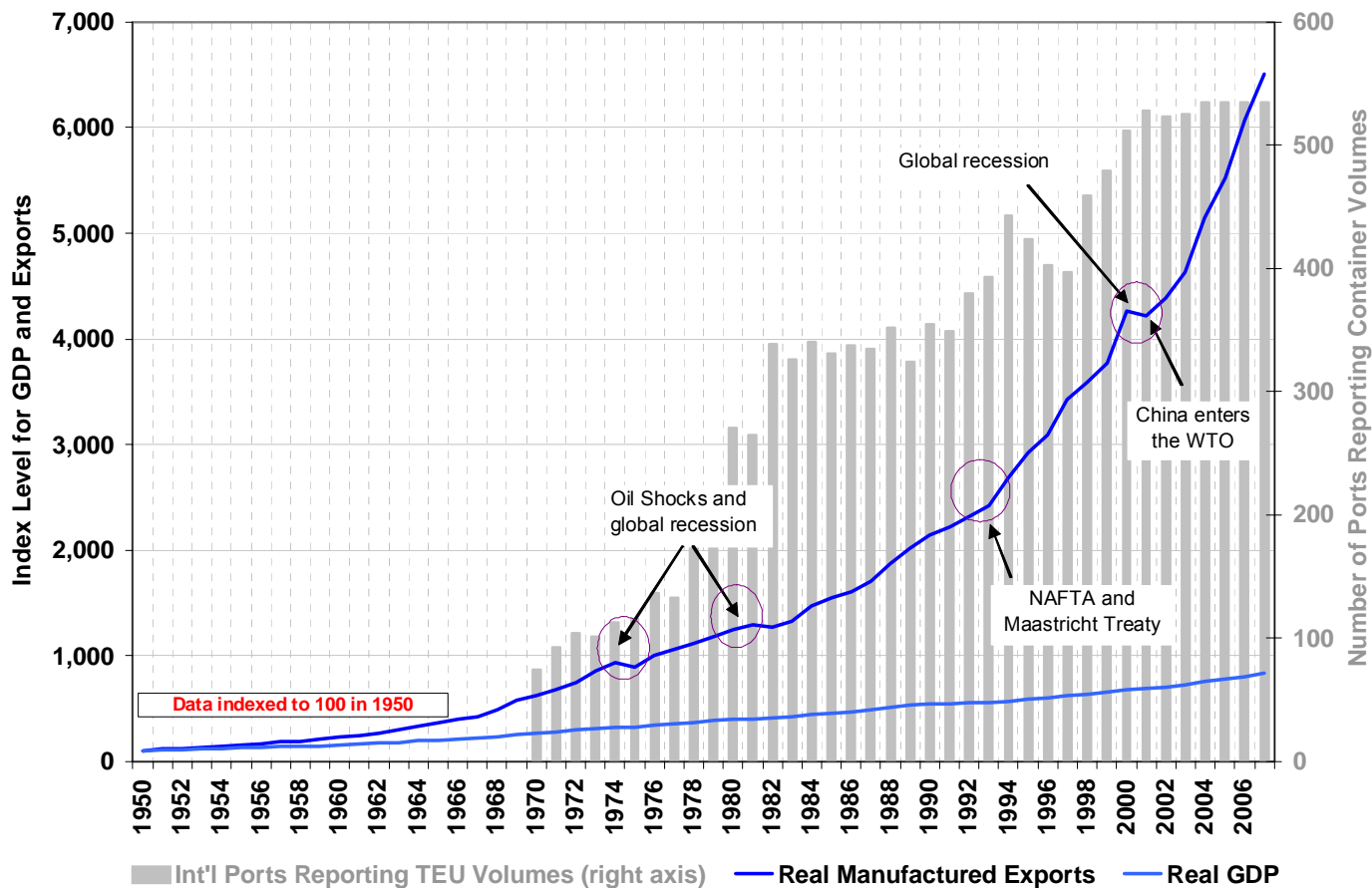


Outline

- **Ports are investing to**
 - Improve berth, yard, gate and intermodal capacity
 - Dredge in advance of the Panama Canal widening
 - Reduce their environmental impact
 - Balance their sphere of control with their sphere of influence
- **Demand for Capital**
 - Bridges and highways are in need of repair and expansion to reduce congestion
 - Energy infrastructure, particularly electricity and LNG terminals
 - Schools, prisons, emergency services also require funding
 - Not just brownfield but greenfield investment
- **Supply of Capital**
 - Between TARP, the bailout of AIG and the proposed stimulus package, the Federal government's debt will be at least \$1.6 trillion higher than in January 2008
 - All levels of government will require partnership with private equity funds and commercial operators to achieve even modest objectives

Influences on Port Growth

Global Manufactured Goods Trade Has Exceeded Global GDP Growth



Cyclical Drivers

Trade has grown faster than GDP.

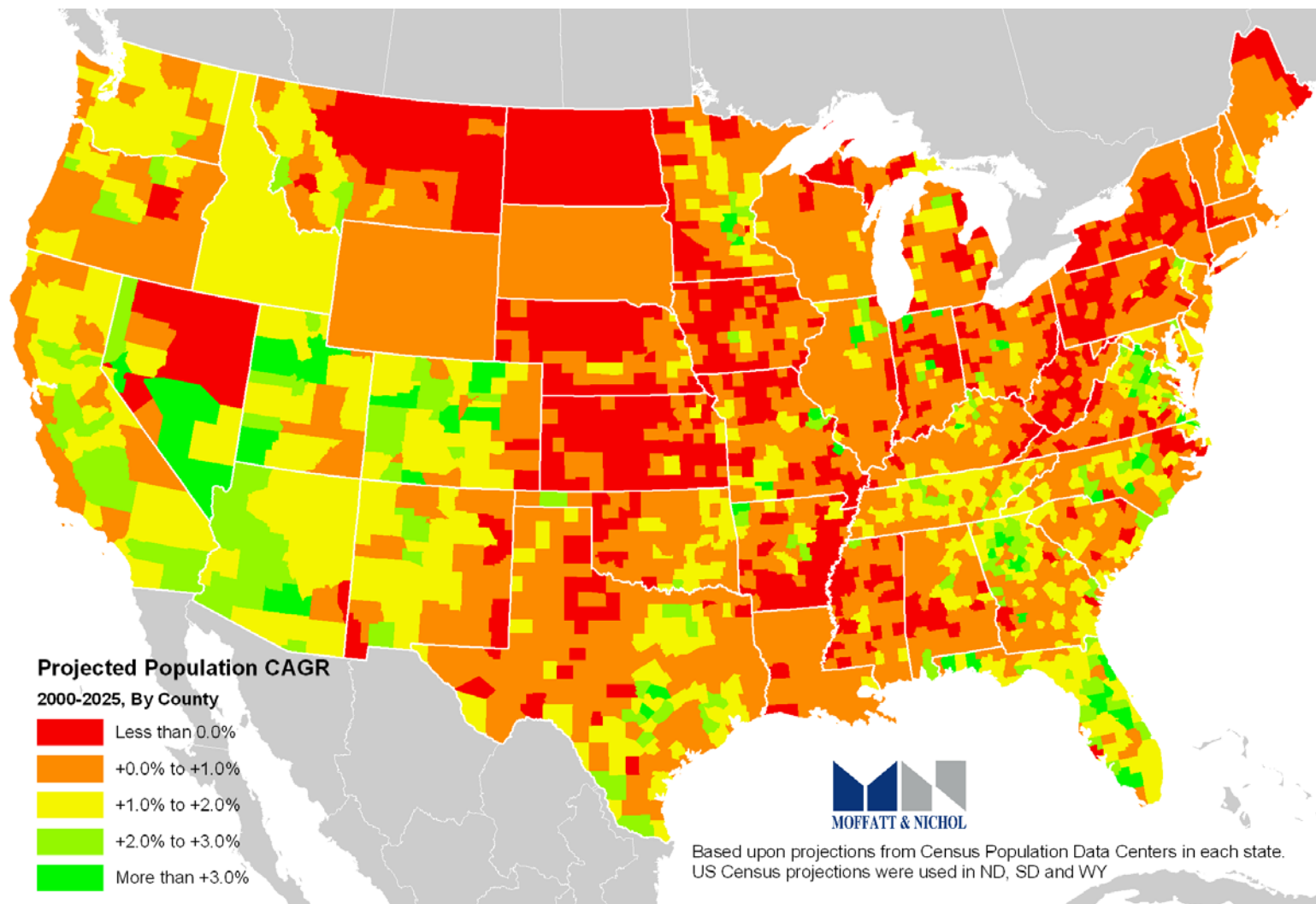
Macro shocks have not impacted trends

Structural Drivers

- Containerization
- Trade Agreements
- World Wide Web
- Offshoring

	Average Trade Growth	Average GDP Growth	Ratio of Trade to GDP Growth
1950 - 2007	7.6%	3.8%	2.0
1996 - 2007	6.6%	2.9%	2.3

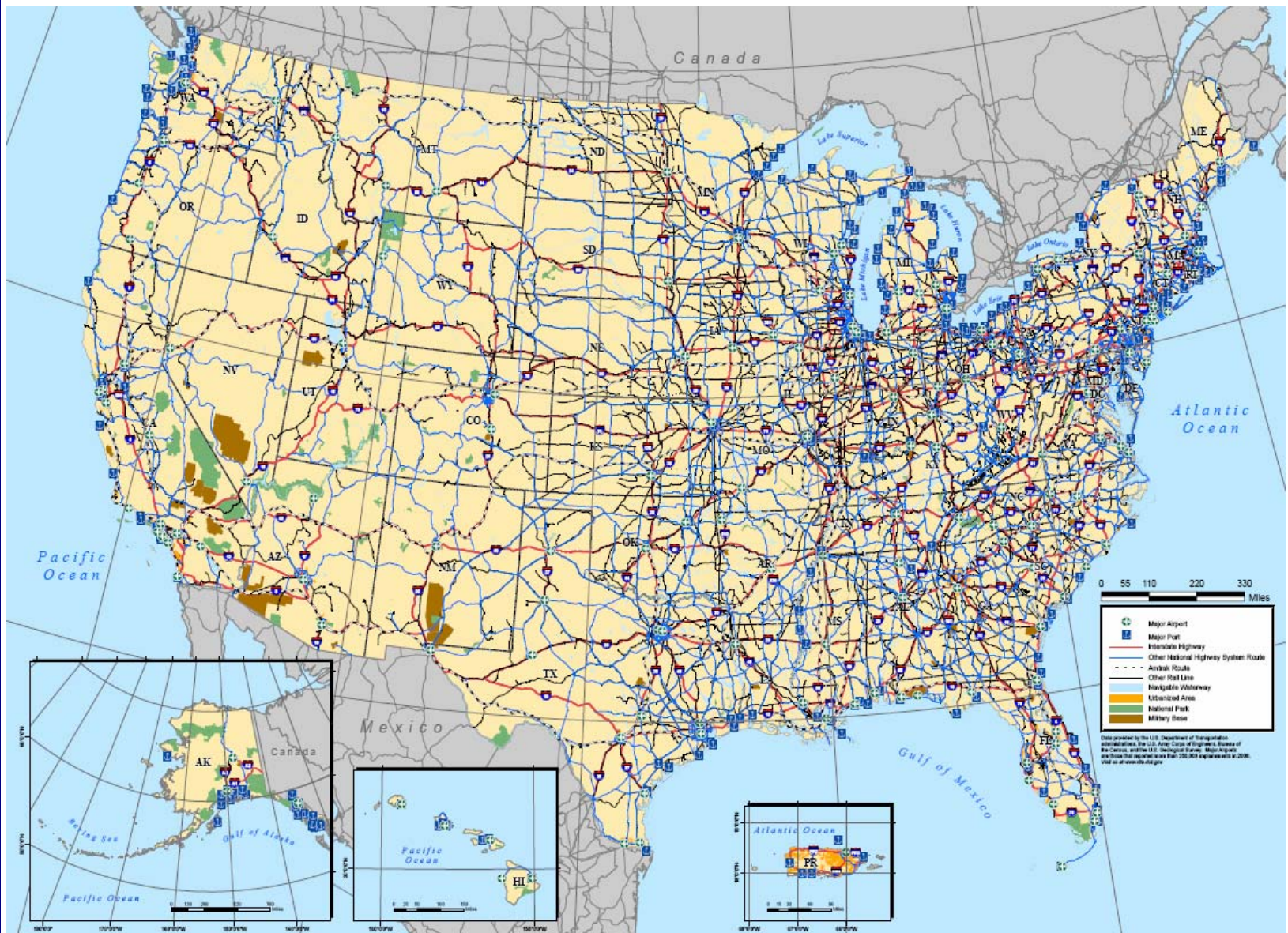
Regional Demographic Trends



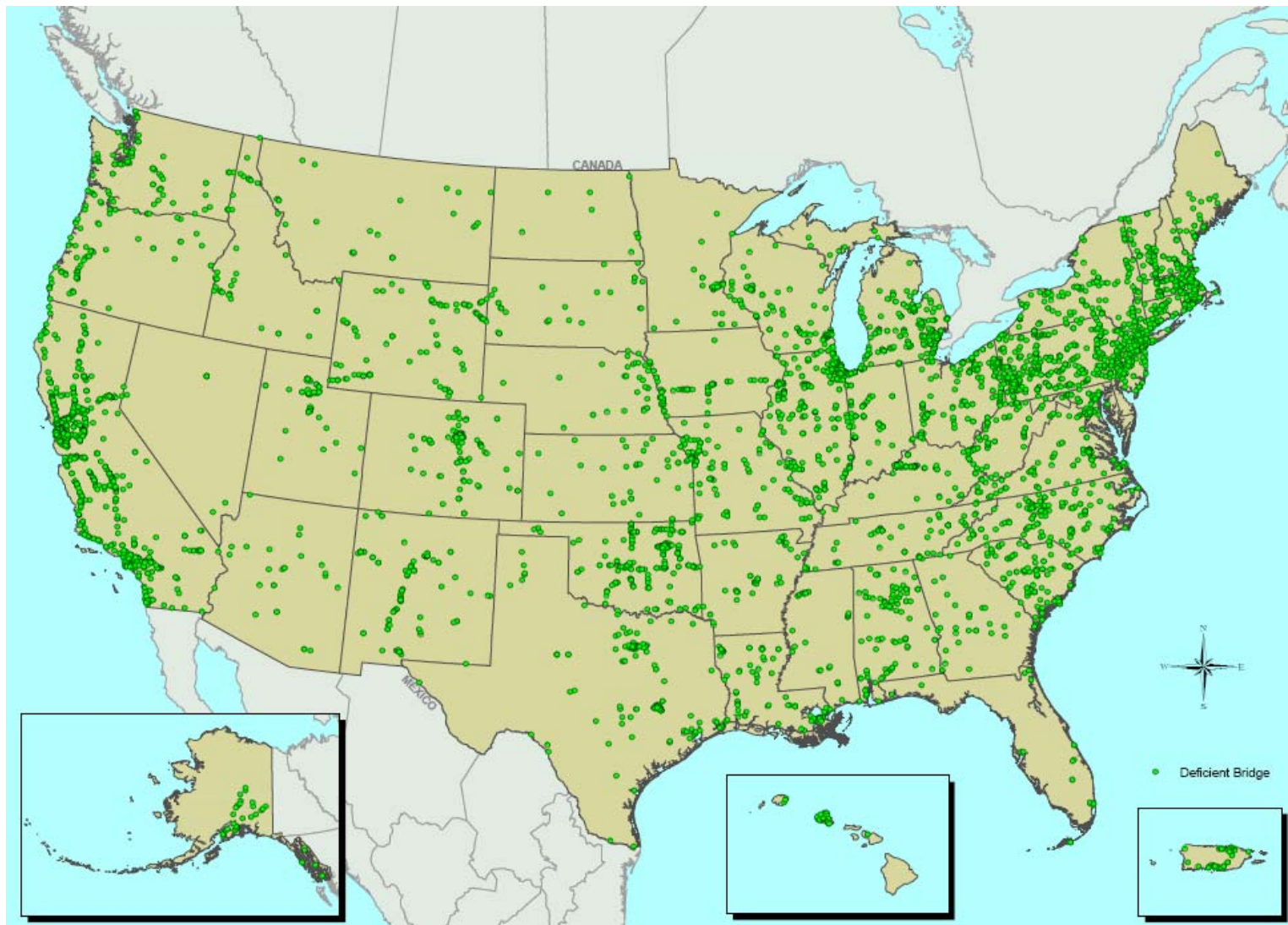
◆ **US population is moving to urban, coastal and Southern locations**

Demand for Funds

Major Transportation Facilities of the US

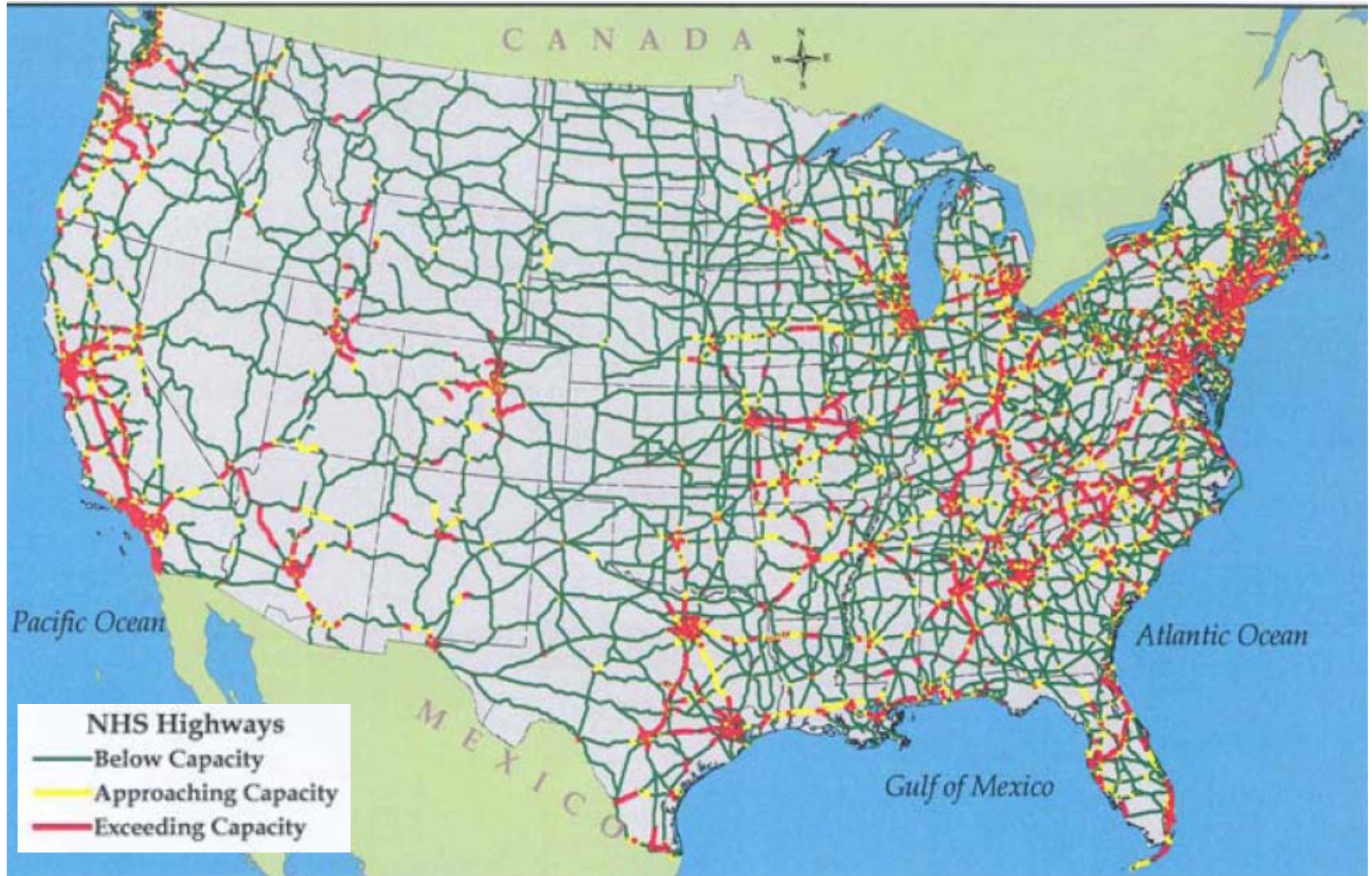


Structurally Deficient Bridges on the National Highway System



The price tag to repair and modernize the nation's 600,000 bridges is \$140 billion, according a new report by the American Association of State Highway & Transportation Officials in July, 2008

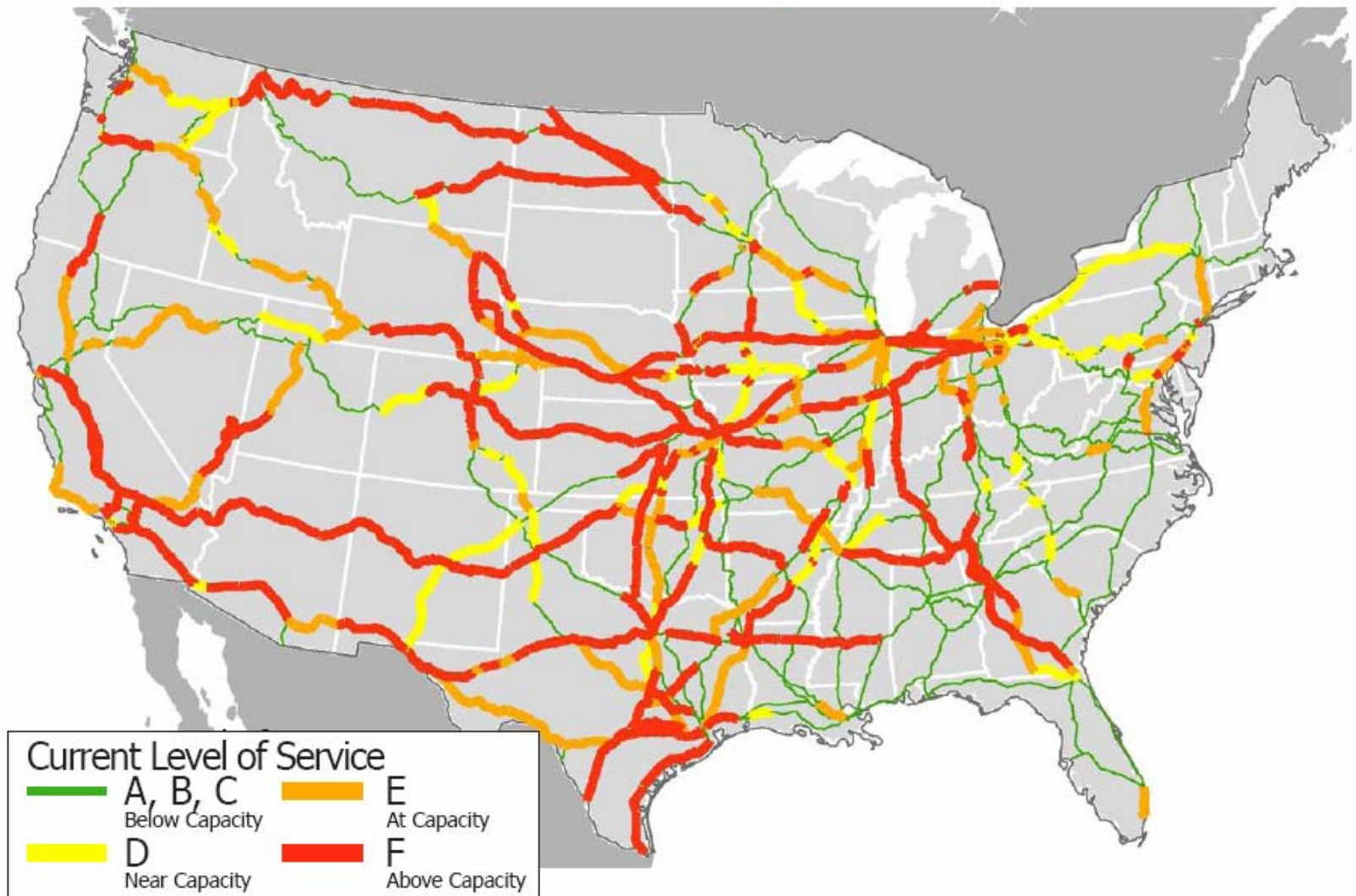
Potentially Congested Highways (2020)



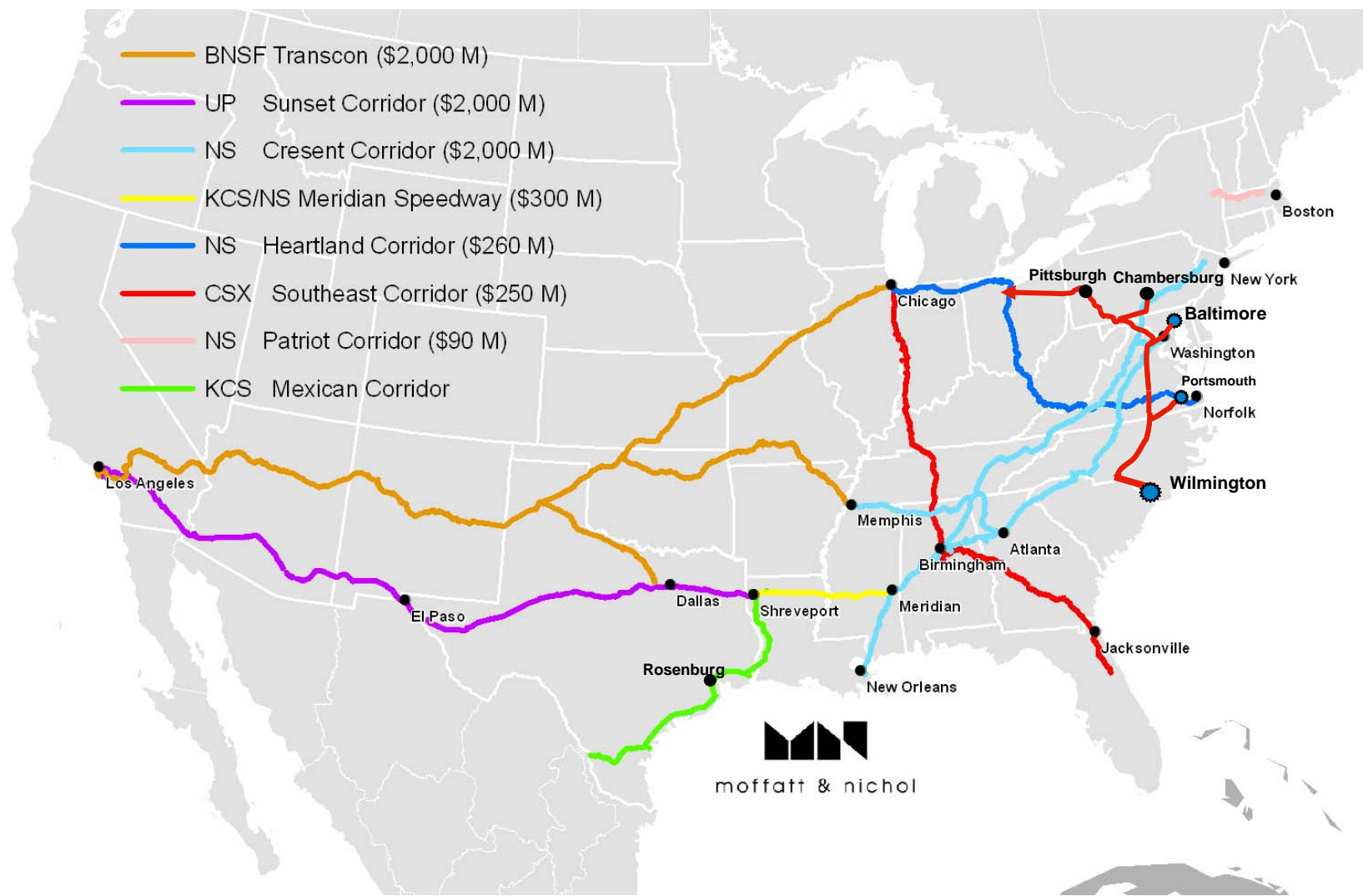
At the end of 2007, the US had 4,048,529 miles of public roads

Highways need expansion and may receive priority because freight doesn't vote but passengers do

Future Volumes Compared To Capacity in 2035 Without Improvements



Intermodal Rail Capacity Expansions



Railroads are investing in capacity, often supported with public sector funds

Intermodal Terminals and Distribution Centers

Intermodal is 60% international volumes

5~10% are transloaded

This segment of the supply chain is expanding

- Modest slowdown in 2007-2008
- Railroad investment in new, improved facilities
- Recent investment in Carrix and ITS by private equity
- Trends in rail costs vs. trucking costs, labor, etc.
- Environmental advantages

Railroads' Expansion of Intermodal Facilities <i>(thousands of lifts)</i>				
Location	Expected Completion	Railroad	Design Capacity	Additional Capacity
San Antonio, TX	2008	UP	250	150
Memphis, TN	2008	CN	250	100
Rosenberg, TX	2008	KCS	100	100
Kansas City, MO	2008	KCS	120	50
Titusville, FL	2009	NS	100	100
Memphis, TN	2009	BNSF	1,000	500
Chicago, IL	2009 – 2010	CN	750	500
Gardner, KS	2010	BNSF	1,000	600
South Dallas, TX	2010	BNSF	500	500
Joliet, IL	2010	UP	1,500	1,000
Long Beach, CA	2010 – 2011	UP	500	500
Long Beach, CA	2010 – 2011	BNSF	750	750
Denver, CO	2011	UP	250	150
Crete, IL	NA	CSX	1,000	1,000
Rosenberg, TX	NA	UP	300	200
Total			8,620	6,350

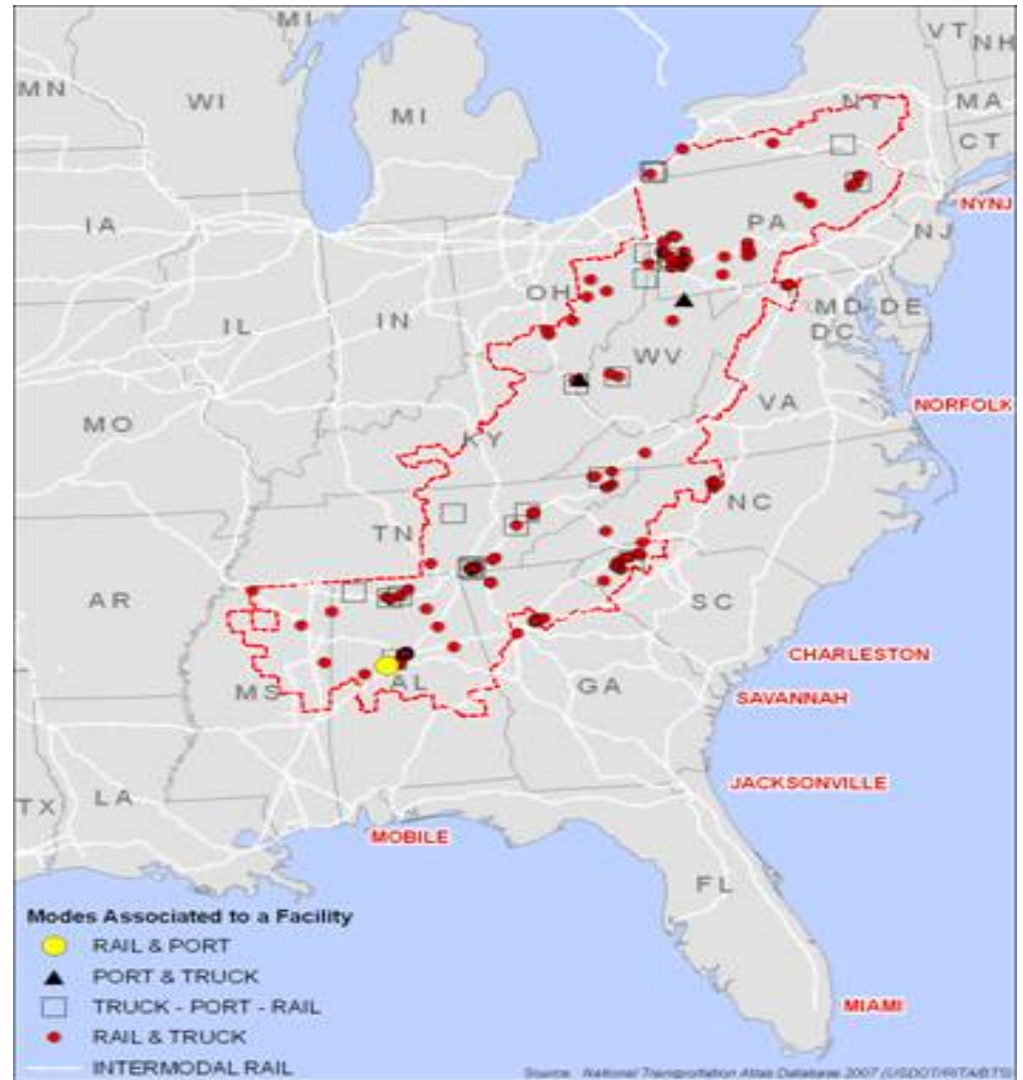
Inland Ports Also Seek Funding

Some regions of the US have not fully participated in the benefits of foreign trade

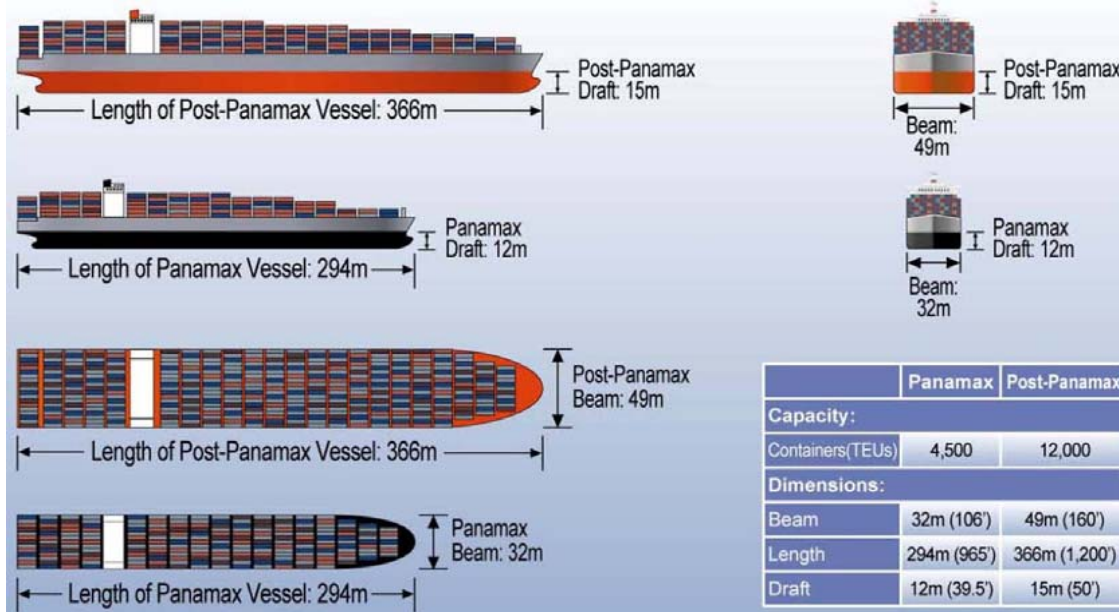
While the concept of inland ports are not feasible capacity expansion solutions for some ports, they make sense for rural regions

Inland ports are attracting both public and private sector funding

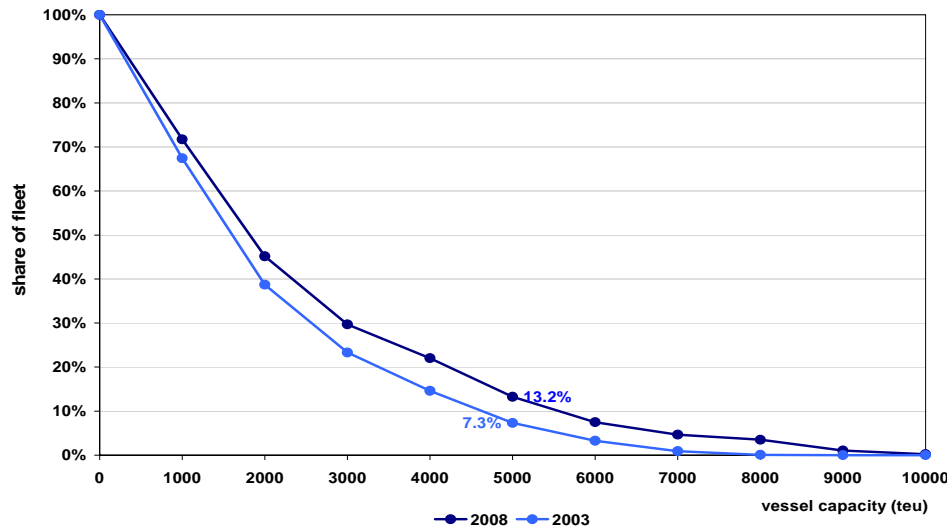
Appalachian Regional Commission Region



Panama Canal Expansion



share of fleet with capacity equal or greater than:



Ocean carriers have been ordering larger ships in advance of the Panama Canal Expansion

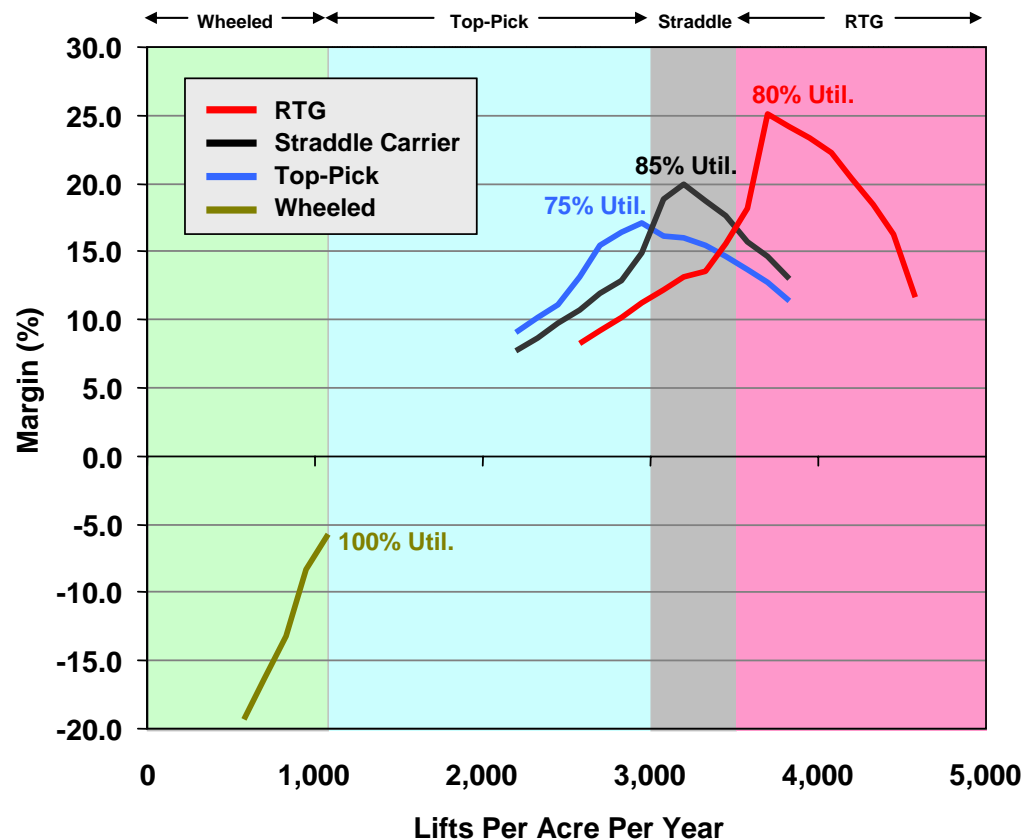
Many ports will require dredging and terminal capacity expansion to accommodate the larger ships

Container Terminal Capacity Expansion

Drivers of port/terminal capacity:



Operation Optimization



WHEELED

Best return for productivity range of 0 through ~1,000 lifts, most profitable at 100% utilization.

TOP-PICK

Best return for productivity range of ~1,000 through ~3,000 lifts, most profitable at about 75% utilization.

STRADDLE

Best return for productivity range of ~3,000 through ~3,500 lifts, most profitable at about 85% utilization.

RTG

Best return for productivity over 3,500 lifts, most profitable at about 80% utilization.

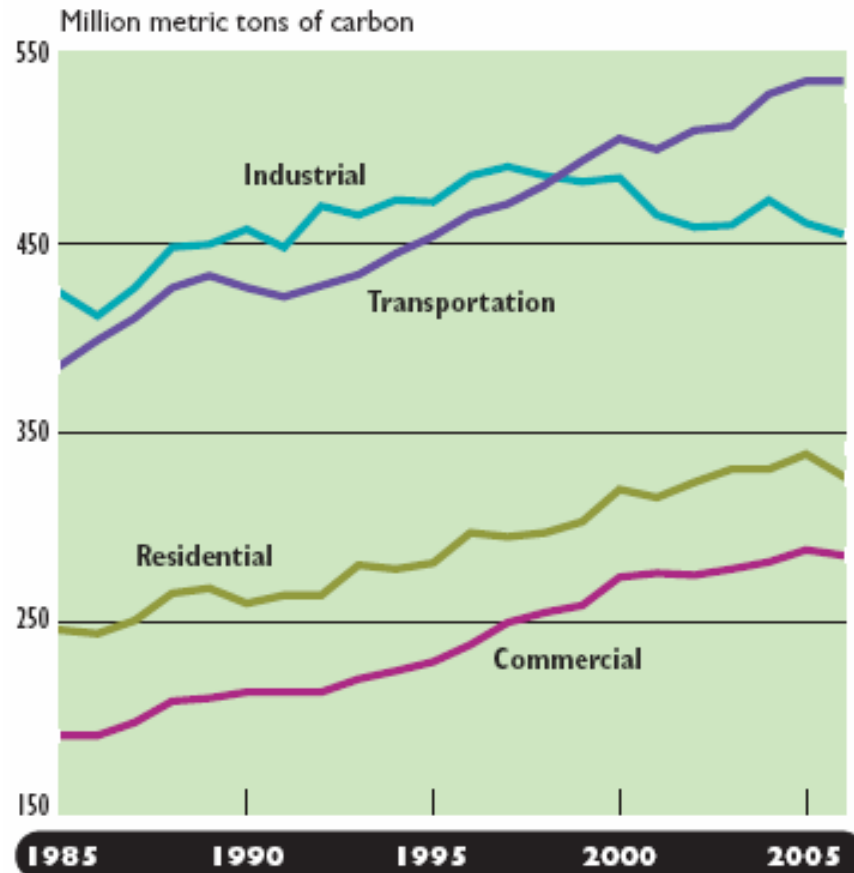
Environmental Issues Will Also Require Investment

Environmental issues are high on the political agenda

Private enterprise is increasingly embracing this issue

The Transportation industry stands out relative to other industries in terms of carbon dioxide emissions

US CO2 Emissions From Energy USE



LNG Terminals

Eight LNG terminals (7 import and 1 export) are already operational

There are about 40 LNG terminals that are either before the FERC or being discussed by the LNG industry for North America

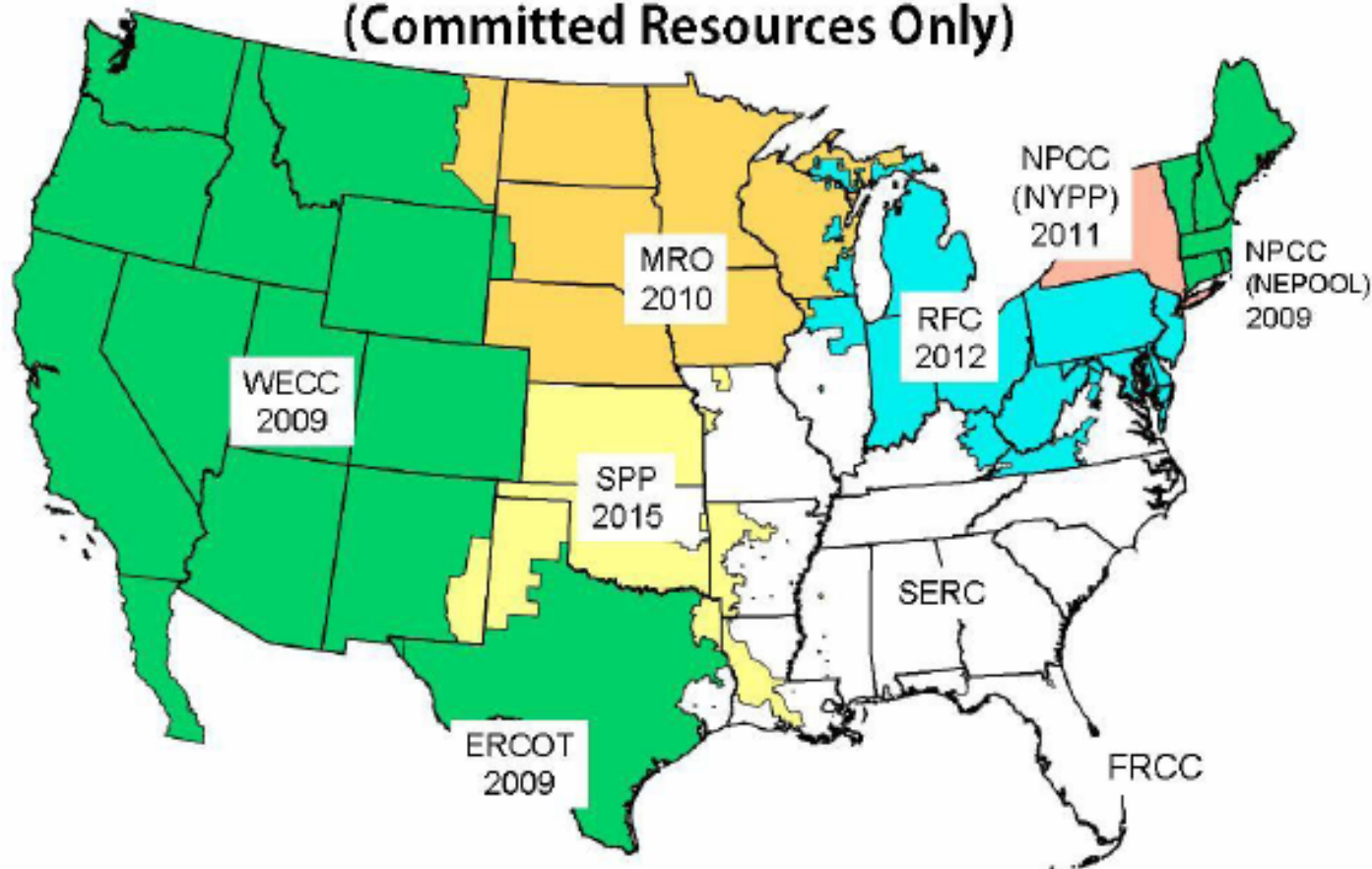
16 facilities are under FERC jurisdiction

Industry analysts predict that only 12 of the 40 LNG terminals being considered will ever be built



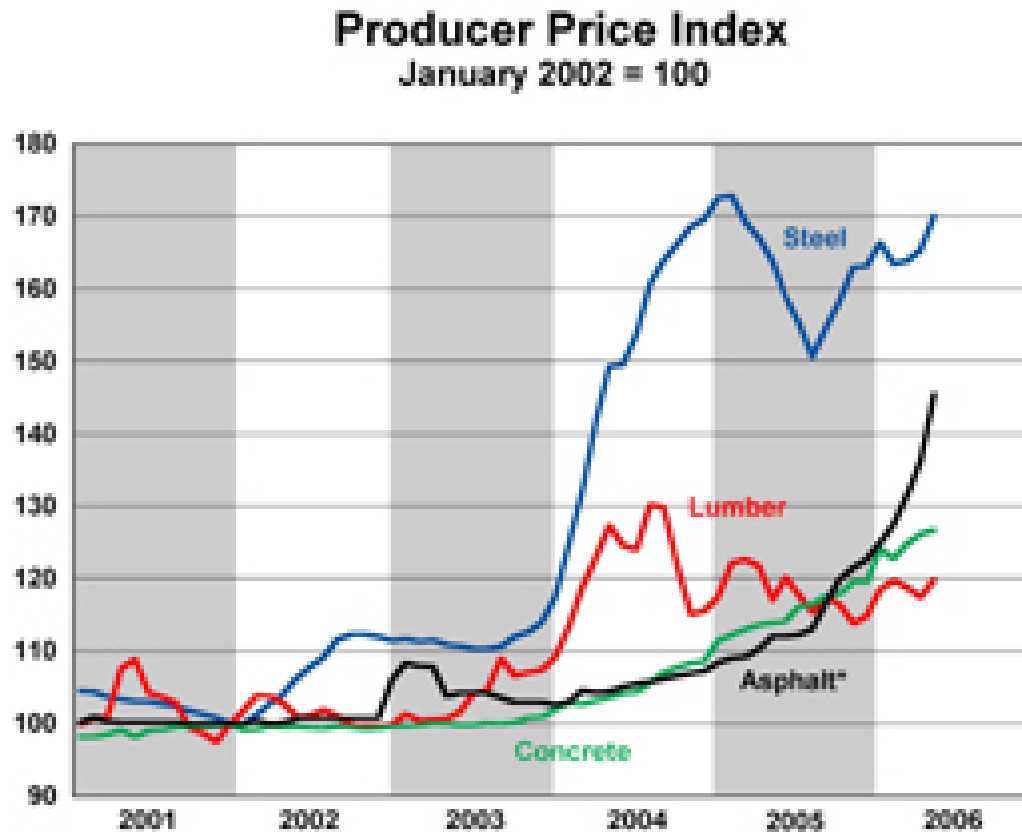
Electric Power Generation Investment Demand

Year When Resources Drop Below Target Capacity Margins (Committed Resources Only)



Electric power generation capacity needs to be increased, public funds may be provided in order to develop “greener” production

Higher Costs per Unit of Infrastructure

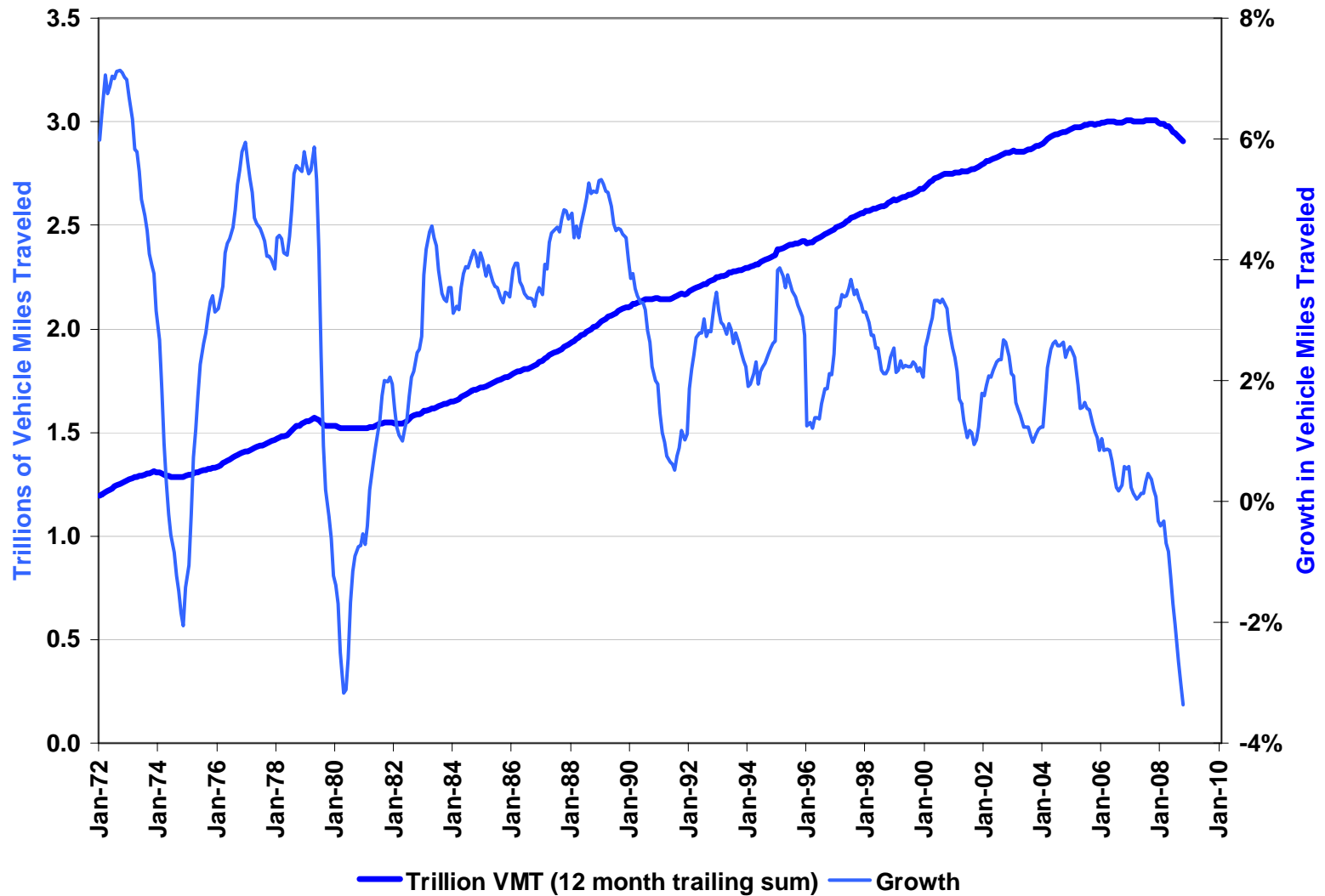


*BLS series "Paving Asphalt" through 2003 (discontinued) then "Asphalt Paving Mixtures and Block"

Source: Bureau of Labor Statistics

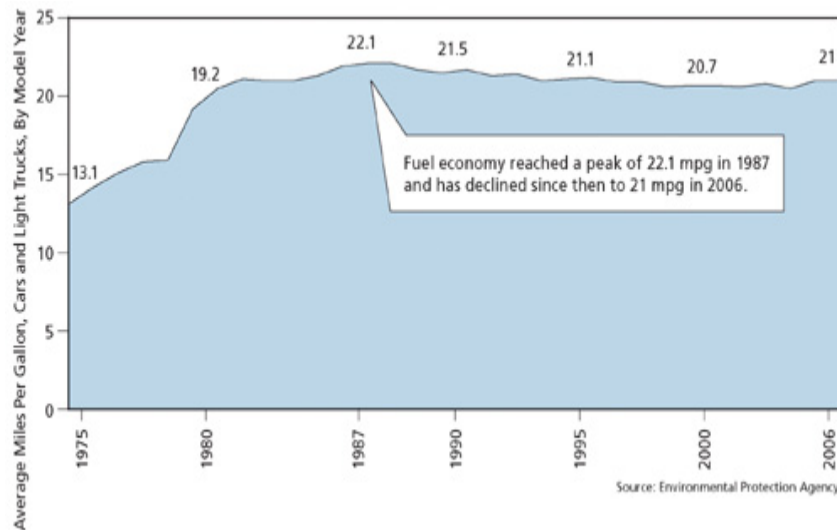
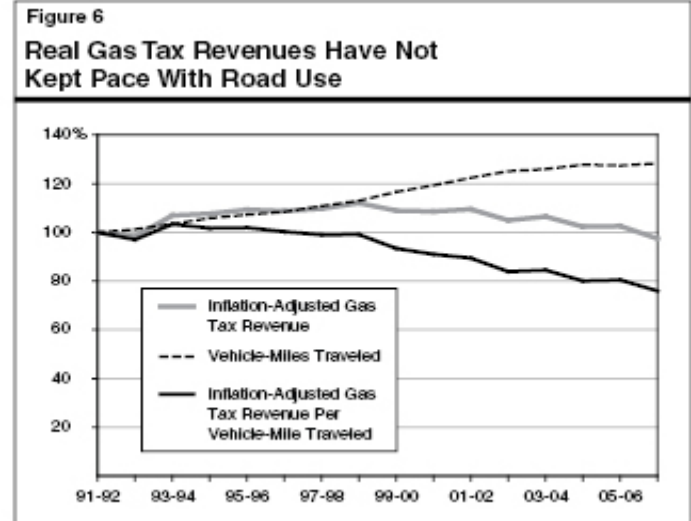
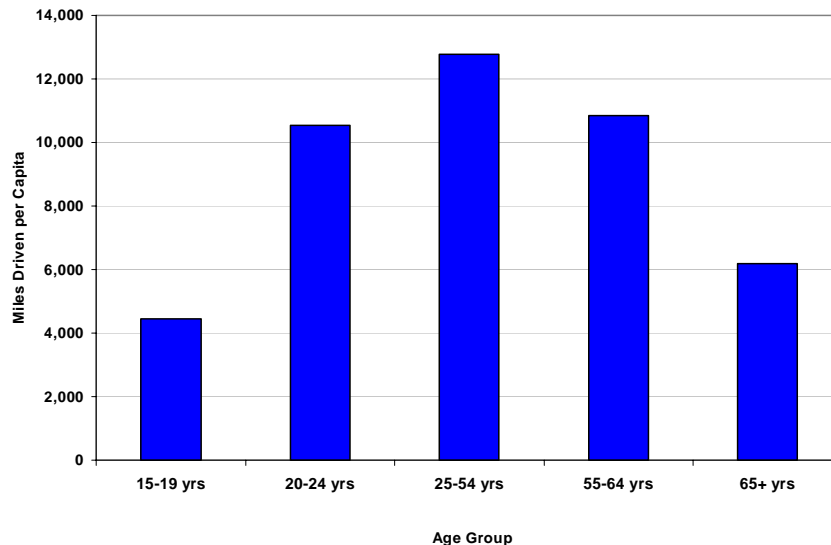
Supply of Funds

US Drivers Are Driving Less



With people driving fewer miles, excise taxes on gasoline have fallen

Less Driving As The Population Ages



The US population is aging, which along with improved fuel efficiency mandated by 2007 CAFÉ standards, implies that excise taxes on gasoline or on miles driven may be insufficient to fund highway expansion and maintenance

Summary

- **The port sector has a lot of investment ahead of it**
- **There is a lot of competition for infrastructure investment funds**
- **The public sector will not have sufficient funds**
 - **The private sector has to be tapped**
 - **More efficient funding mechanisms are needed**