



GLOBAL INSIGHT



**From Design to Delivery:
Gateways to Prosperity**

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The Demographics of Freight Growth

3rd NARC Freight and Goods Movement Summit



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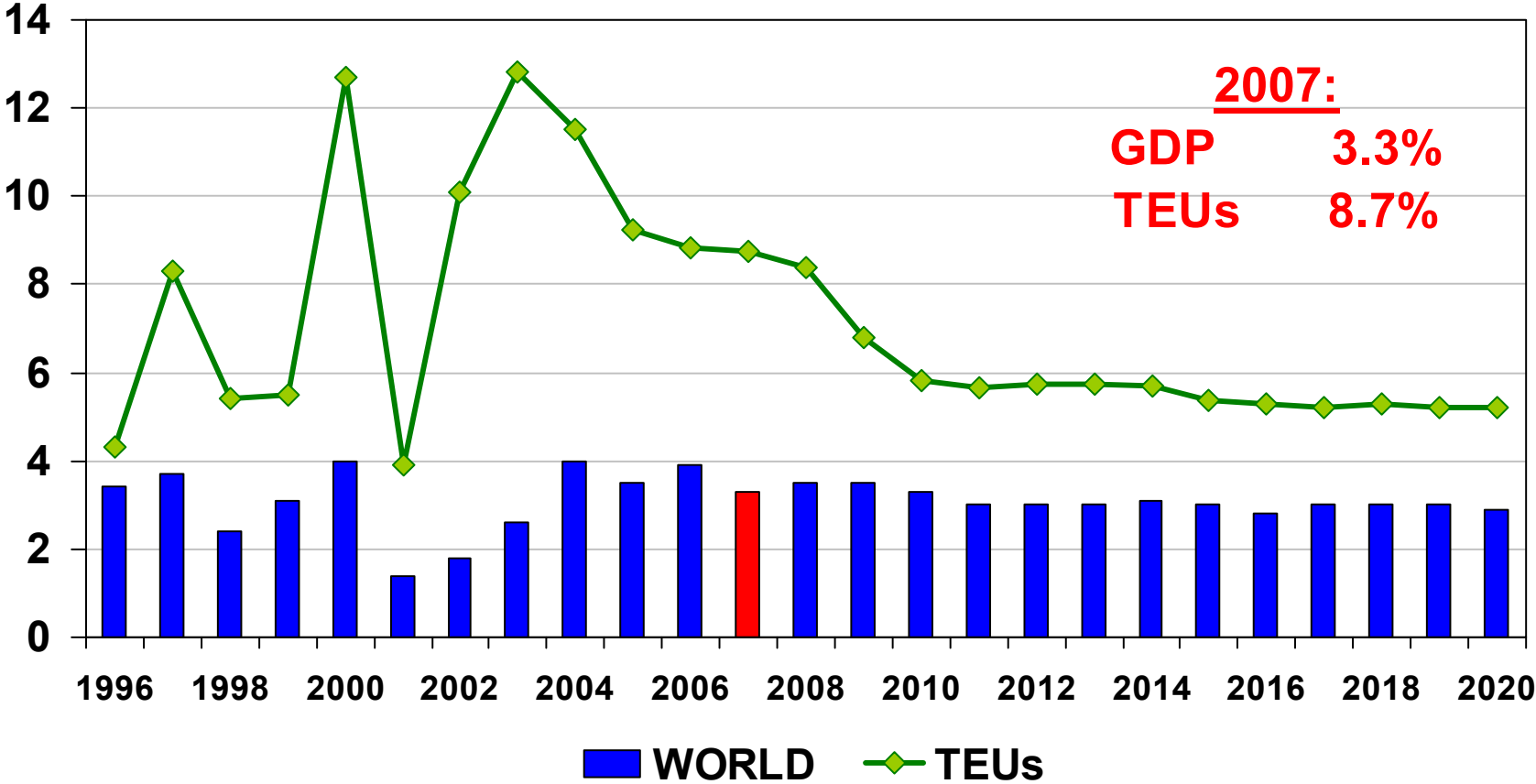
Freight Growth Driven by Globalization

Globalization's Impacts:

- **Reduced prices for traded goods and services; increased quality and variety of products available**
- **Importers benefit from foreign resources and labor**
- **Exporters benefit from larger, more open markets**
 - . . . *If* firms are world-class competitive**
- **Job growth in the transportation and distribution sector**
- **Accelerated development of trade partners' economies**
- **Shifts in economic geography, inside and out of the U.S.**
- **Environmental, safety and security impacts all change too**

International Freight Moved in Containers Is Growing Faster Than The World Economy

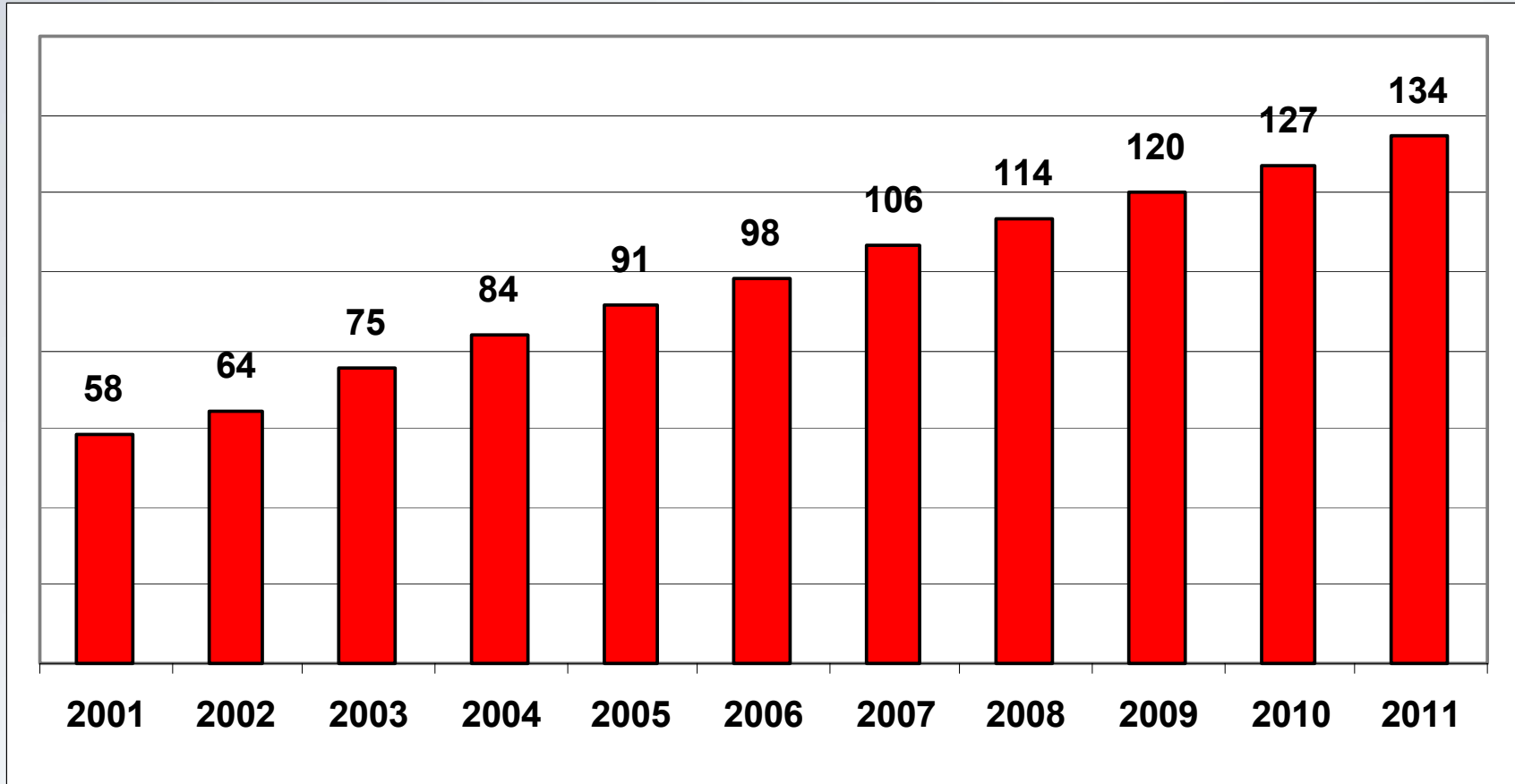
(Year-over-year percent change)



Source: Global Insight World Service and World Trade Service

Number of Global Shipments Continues to Climb

Containerized Trade, Million TEU, 2001 - 2011



Note: Fully loaded containers traded (without port handling double counting); Source: Global Insight

Global Economic Conditions Affect Freight

- **Macroeconomic factors at work affecting freight include:**
 - **Rising inflation, and not just high energy prices**
 - **Increased interest rates**
 - **Weaker U.S. dollar**
 - **A slump in U.S. housing markets**
- **Capital spending by business (thanks to strong corporate profits) and exports (thanks to a weaker dollar and a strong world economy) work to offset slower U.S. consumer spending and weak housing markets**
- **A further dollar exchange rate decline is expected to promote U.S. exports and dampen U.S. import demand, though over several years, not all in 2007**
- **U.S. continues to run a trade deficit, especially in goods trade**

Imbalanced U.S. Goods Trade is a Reflection of the U.S. Trade Deficit and Global Interdependency

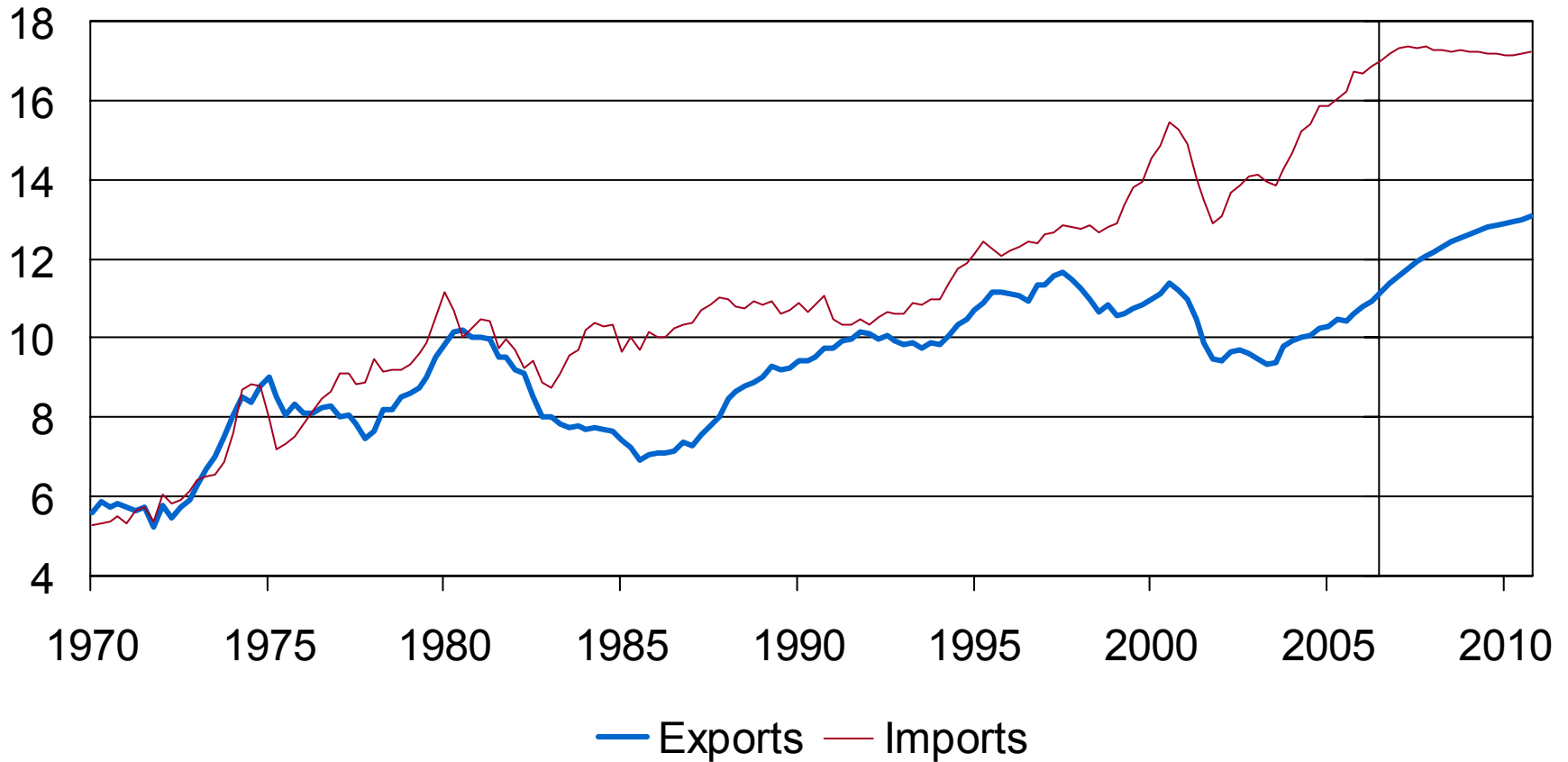
- **The U.S. is dependent on lending from foreigners to finance its huge trade deficit**
- **Trading partners are dependent on the U.S. consumer for the demand to keep them employed**
- **The global trade imbalance requires a global solution:**
 - **Higher U.S. savings, including federal deficit reduction and a cooling of housing and consumer markets**
 - **Faster domestic growth in Western Europe and Asia**
 - **U.S. dollar depreciation; Asian currency appreciation**
- **The trend is positive for reduction in the U.S. trade deficit, at least as a share of GDP**

The Outlook: Relentless Freight Shipment Growth

- **U.S. spending on imports has increased throughout the economic recovery since the 2001 recession, much of it as containerized imports from Asia, especially China.**
- **The 2002 W. Coast port lockout and the 2004 W. Coast port congestion increased East Coast seaport volume**
- **In 2007, U.S. goods import growth is expected to slow...
... however it will still exceed overall economic growth**
- **Even with overall growth slowing, new records will be set**

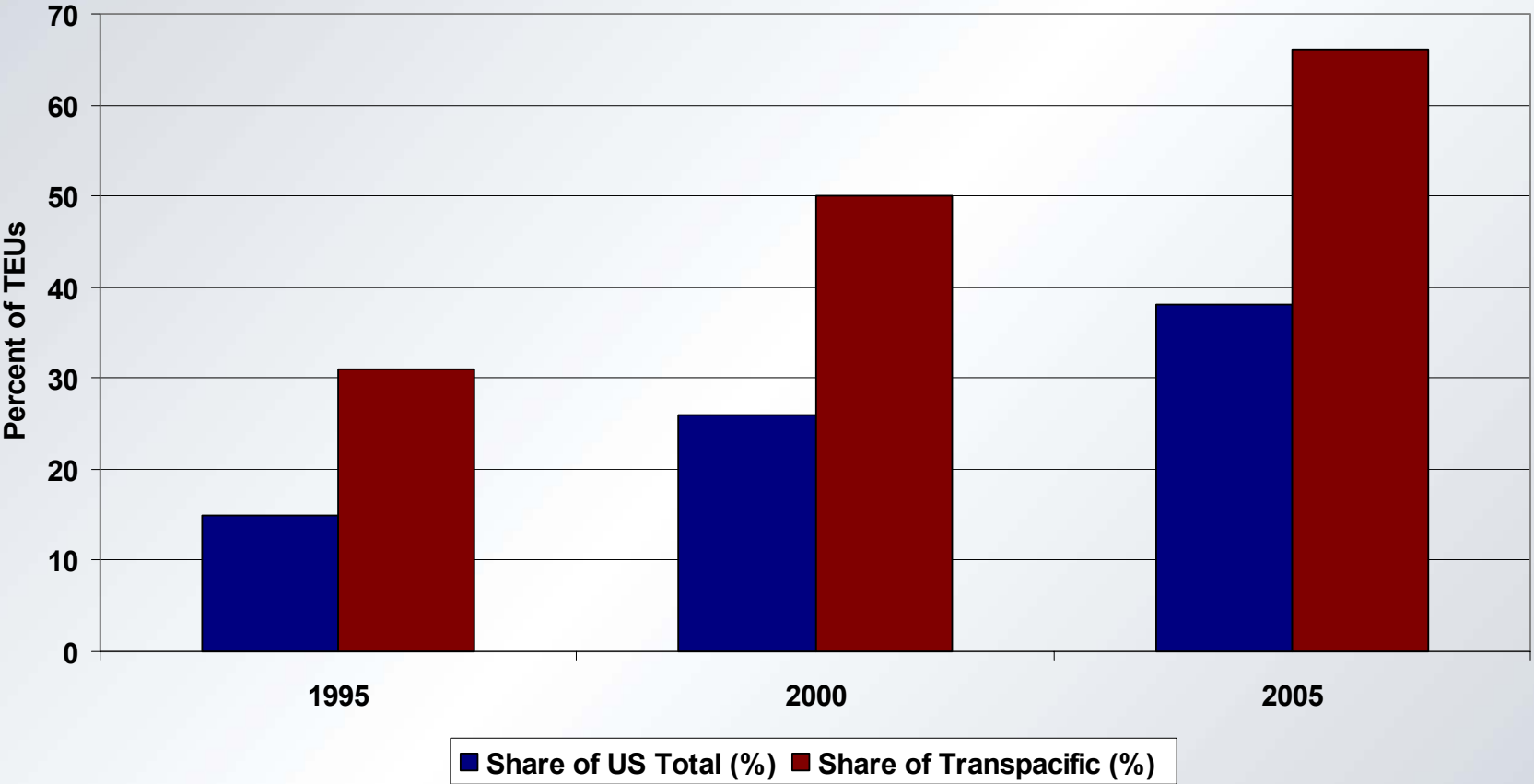
U.S. Import Growth Forecast is Slower as Domestic Demand Growth Slows

(U.S. Exports and Imports as Percent of GDP)



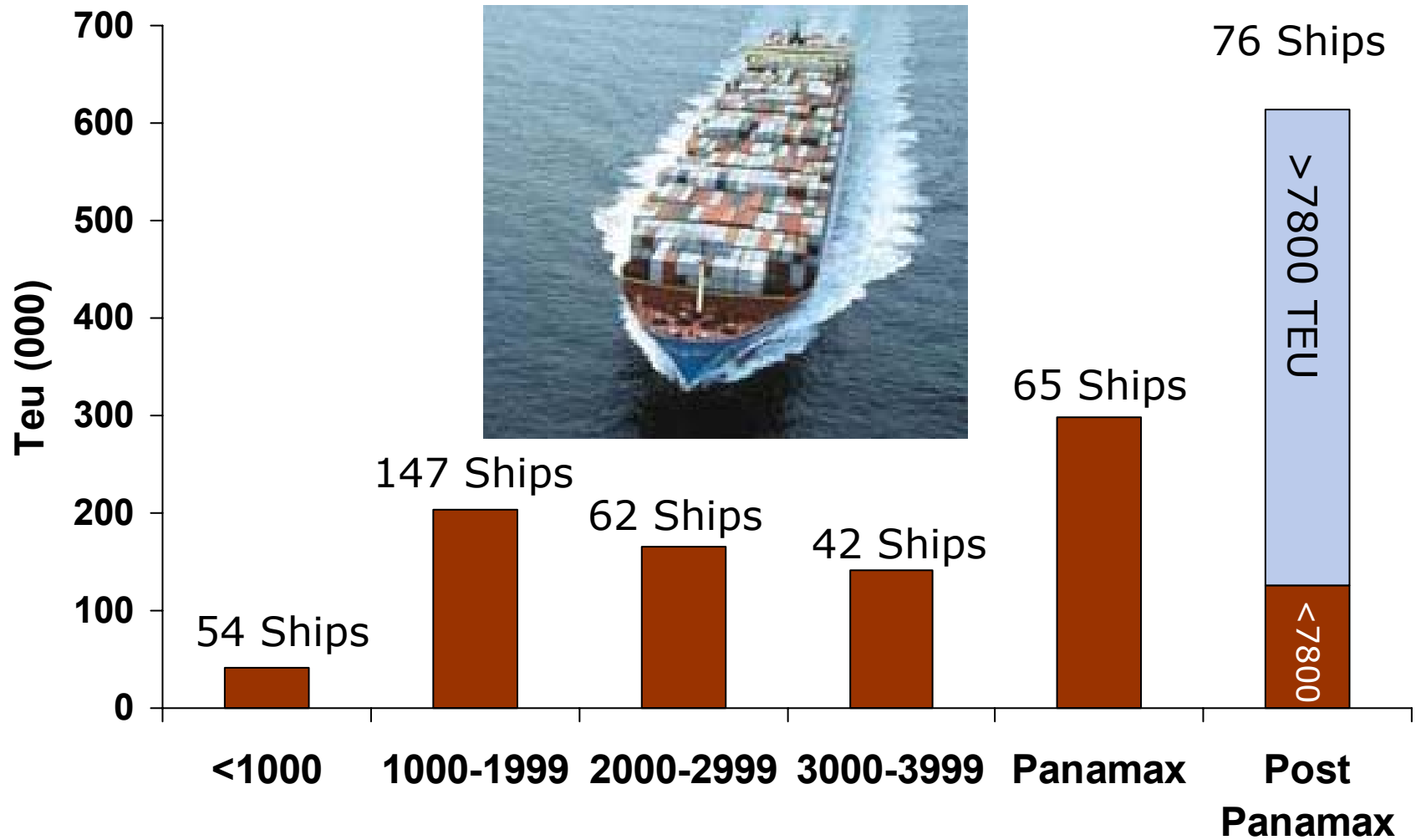
China's Role in U.S. Imports is Hard to Overstate

Percent of U.S. Containerized Import TEUs, 1995 - 2005



Note: Journal of Commerce PIERS

Ocean Containership Capacity is Being Added Quickly, Especially in Very Large Container Ships



Lower Unit Costs Reduce Delivered Costs, Encouraging More Trade

Impacts of Globalization on Freight (continued)

- **Increasingly demand-driven, time-definite shipments need more reliability and visibility; and security of transit**
- **Increasingly distributed, point-to-point, direct-to-customer shipments (e.g., Asia direct to store) can add volume at small ports and on secondary freight corridors**
- **Demand for more efficient shipping – more products per shipment to reduce re-handling; pre-blocking containers on ships in Asia for U.S. inland shipment; reducing emptys**
- **Overall, trade in lighter weight, higher value products outpaces growth in bulk commodity categories, meaning more air and ocean container trade, more expedited truck and more intermodal rail freight**

Globalization and the Domestic Freight System

Problem:

- **Global trade growth remains faster than the growth of U.S. domestic system capacity across airports, seaports, terminals, highways, railroads, trucking, warehousing and labor**

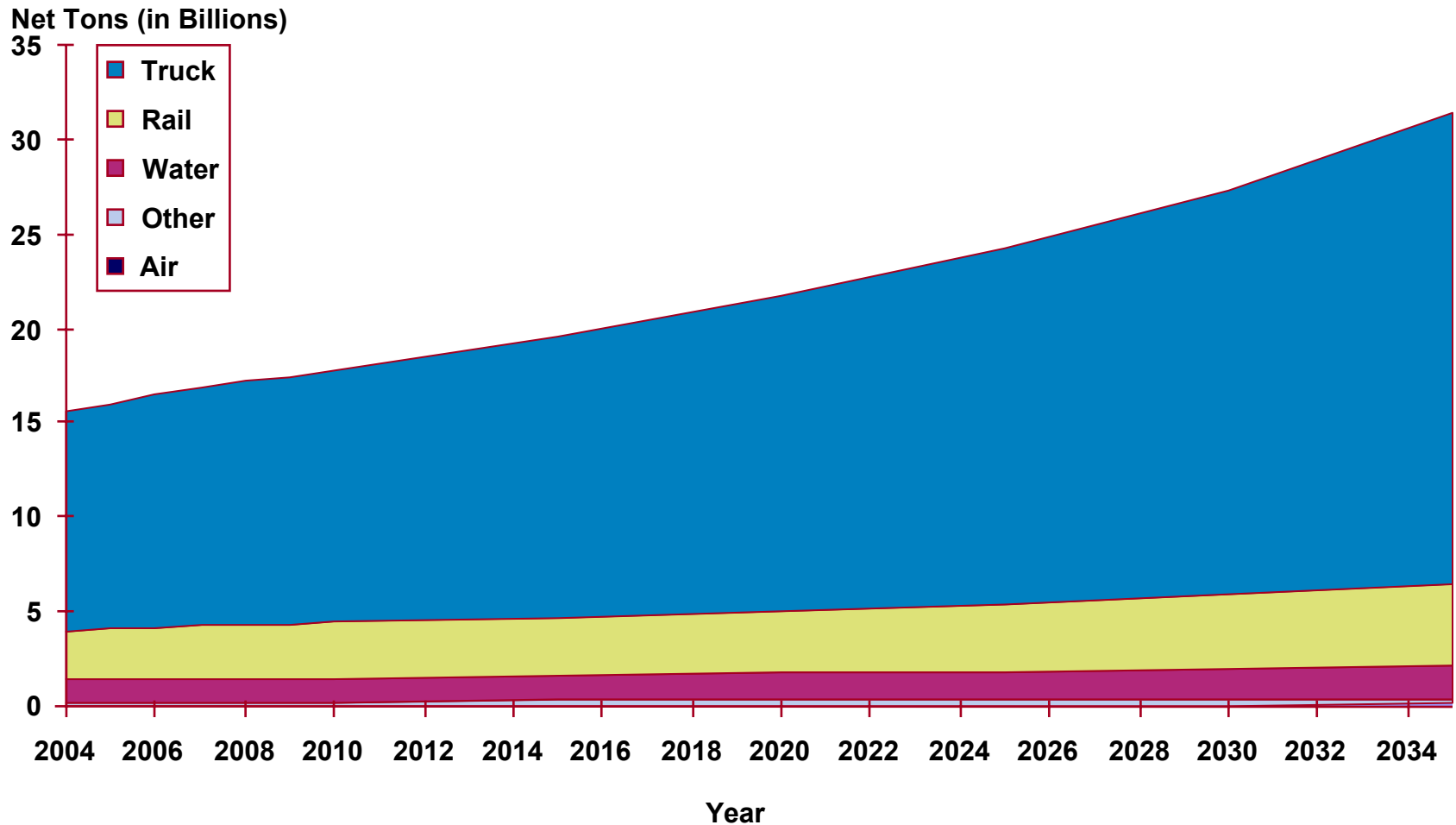
(Partial) Solutions:

- **International transportation will be increasingly integrated with domestic transportation; less W. Coast transloading; more “hub and spoke” (inland) distribution; more ‘bulk’ import DCs**
- **Smaller and more frequent shipments favors truck vs. rail; intermodal container vs. intermodal rail trailer**
- **Improved double-stack intermodal rail service captures more line-haul long-distance trucking**
- **However, sustained (regional) trucking growth swamps other domestic mode growth; truck remains the default solution**



Within the U.S. Modal Impacts are Uneven

U.S. Freight Tonnage by Mode, 2004 - 2035



Source: Global Insight, Inc.



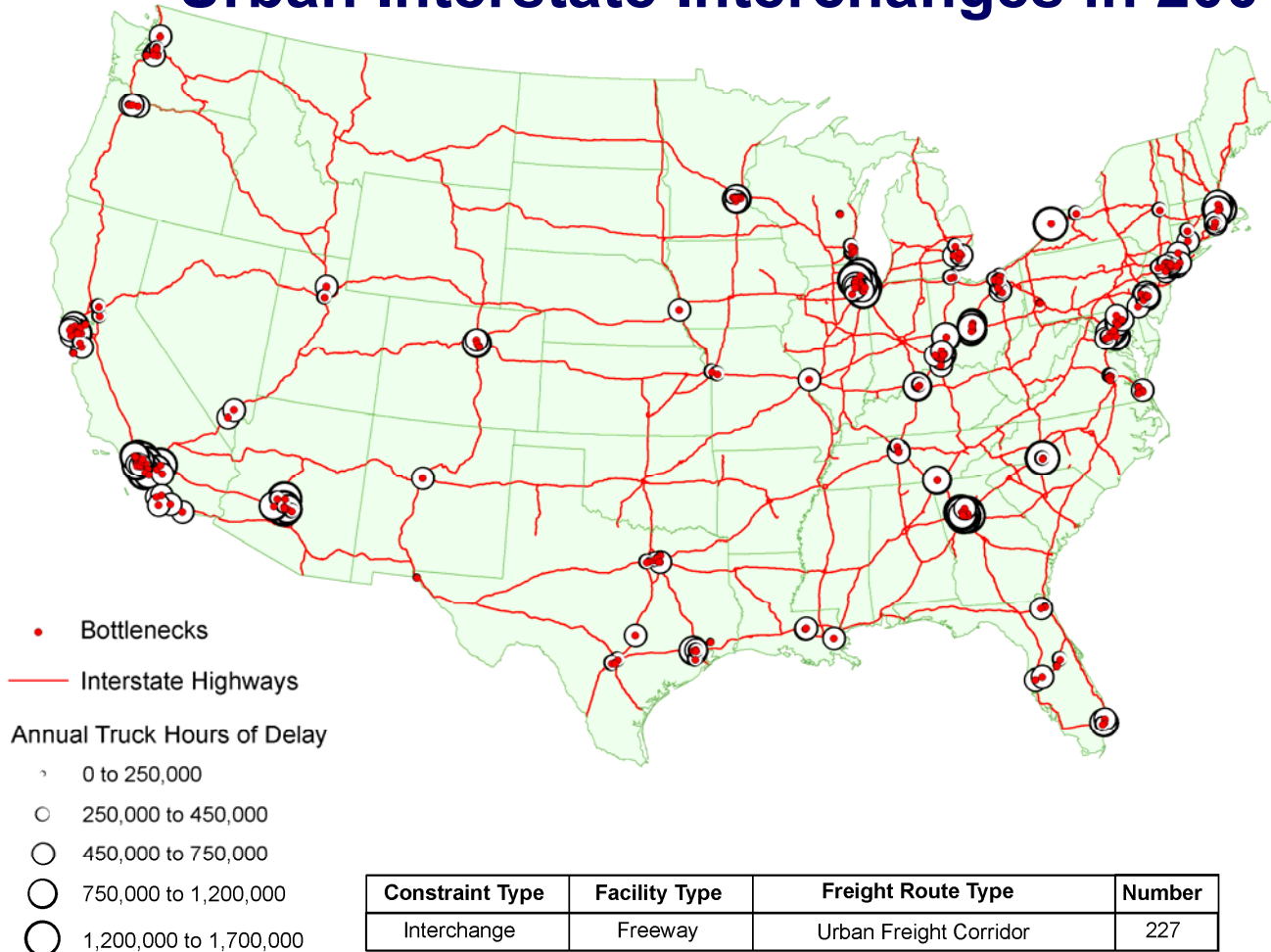
Consequences of Growth for Available Capacity

What are we likely to see?

- **Worsening congestion; urban slack capacity used up**
- **Deteriorating travel times and delivery time reliability**
- **Increasing costs (e.g., freight rates, ancillary fees, ...)**
- **More community opposition to growing freight activity**
- **Inadequate public finance and investment in freight infrastructure building, operations and maintenance**
- **Increasing mismatch in scope and scale of shipper and carrier networks and government jurisdiction / interests**

Increasing Delays: Highway Freight Bottlenecks

Urban Interstate Interchanges in 2004



Source: U.S. Dept. of Transportation, Cambridge Systematics

Railroad System Faces Significant Challenges

- **Inadequate capacity and service capabilities to handle any revolutionary additional share of highway cargo**
- **Railroads are already using pricing to maximize highest-margin freight (e.g., intermodal squeezing out carload, international squeezing domestic intermodal), subject to regulatory constraints and political realities**
- **Freight rail capital investment remains constrained despite recent profitability because private capital requires greater return than public expectations for (the same) rail networks**
- **Mismatch in geographic focus: class I railroads invest and manage inter-regionally; cities/states think more narrowly**

Workforce Issues

Workers still matter for getting shipments delivered

- **Demographics is working against the industry within U.S.**
- **Aging workforce with adequate opportunities from other professions offering a better quality of life for new entrants**
- **Worker shortages in segments of trucking, rail and maritime industry already exist and will not disappear**
- **Federal regulation of transportation labor for safety and security will only increase, further reducing available pool of qualified and interested workers**
- **Labor costs will go up which will promote substitution of capital (e.g. equipment, technology) for labor**



Potential Changes to Freight System

What might the public sector do?

- **New mileage-based or ton-mileage fees for highway use**
- **More toll roads, including potentially, truck-only lanes**
- **For all modes, ever tighter emissions limits, alternative fuel equipment mandates, new operating restrictions, new (e.g. carbon) taxes, and more user fees**
- **Further logistics workforce regulations (security / safety)**
- **Higher productivity equipment, including, potentially, higher truck size and weight, perhaps with user fees**
- **Subsidies / tax benefits for environmental reasons alone**

Bottom Line

- **Freight demand will continue to be shaped by globalization of production and logistics**
- **System performance challenges get tougher every year as capacity falls behind demand**
- **Public sector freight infrastructure challenges also become more pressing as jobs and the economy are at risk**



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Thank You

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Discussion

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