



# *Public Sector Role in Transportation Infrastructure Financing*

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# Development of Transportation Infrastructure

- Public Private Provision
  - Private: Rail, Pipelines
  - Public: Roads, Airports, Port facilities
- *Historic Pattern: Supply preceded and shaped demand*
- *Today: Respond to crises*



# Transportation & the National Economy

- 2.7% of GDP
- Drivers of Transportation Demand
  - Economic Activity
  - Population
  - Globalization





# The Growing Capacity/ Congestion Problems

- Affect both shippers and travelers
- TTI annual studies document the problem is getting worse
- In 2002, Congestion caused
  - 3.7 Billion hours of travel delay
  - 23 Billion gallons of wasted fuel consumption
- Travel during peak hours takes 40% longer than during off-peak
  - In 1982, it took 13% longer



# Growing Capacity/ Congestion Problem

- More than 2/3's of all travel during peak periods occurs in congested conditions
  - Compared to 1/3 in 1982
- Roughly 60% of major roads are congested at peak times
- Length of congested period has grown from 4.5 to 7 hours daily
- Travel time reliability and on-time arrivals are greatly reduced
  - And it will get worse



# Growing Capacity/ Congestion Problem

By 2025...

- Population will increase by 26%
- GDP will approximately double
- Total passenger travel will rise 72%
- Truck tonnage will grow 75% by 2020



# Traffic Growth Projections

- BTS Data & projections for transportation (all modes)
  - 1998: 15,271 million tons
  - 2010: *21,376 million tons*
  - 2020: *25,848 million tons*
- Thousands of miles of new and expanded roadways are needed
- Major trans projects take 10-15 years from conception to completion



# Growing Capacity/ Congestion Problem

- Problem not limited to highways
- Ports dealing with larger vessels and rapidly expanding international trade
- Air traffic has recovered from 9/11 but on-time statistics are at the lowest level since 1999
- Constrained rail capacity problem is of more recent vintage
- Economic regulation fostered excess capacity, especially for railroads



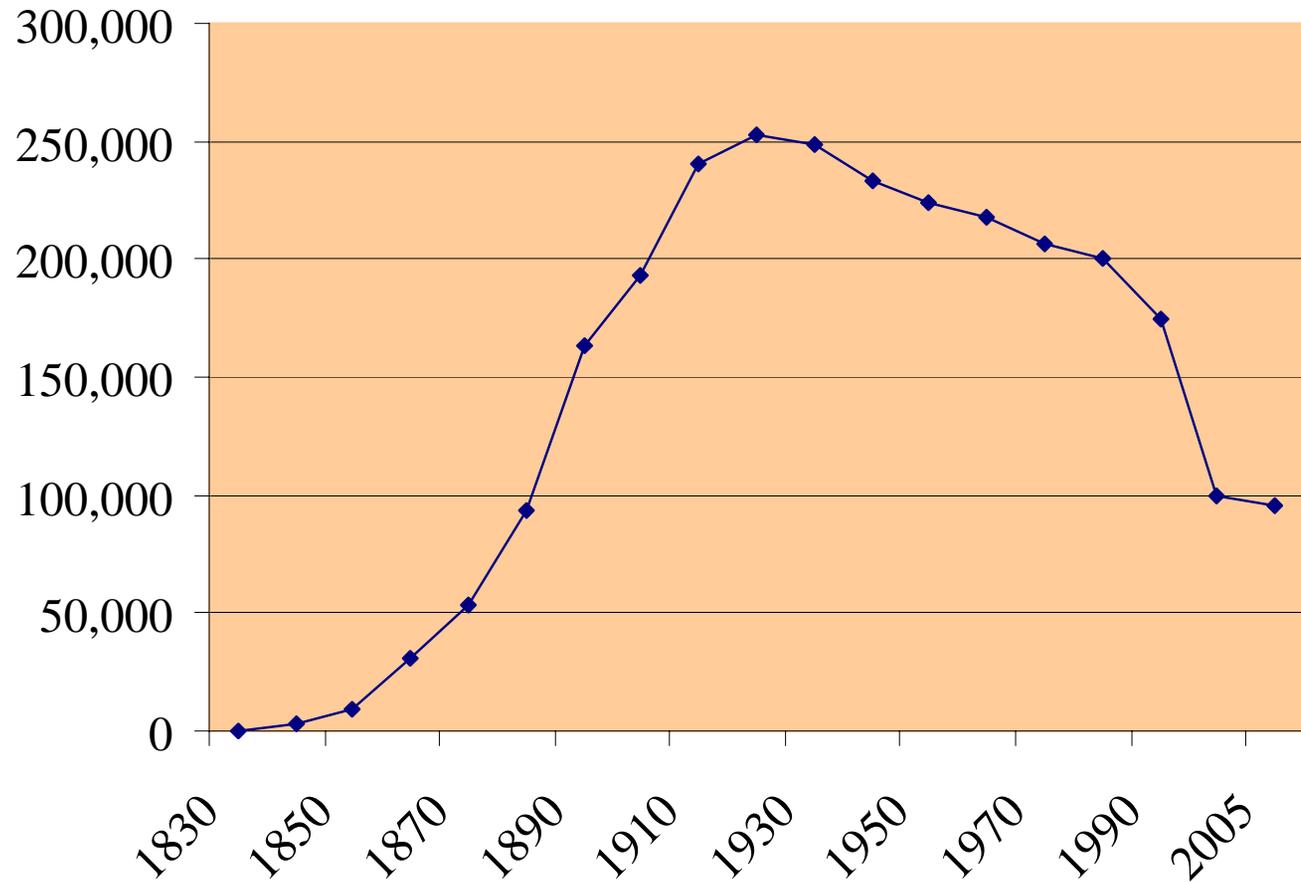
# The Developing Rail Capacity Crisis

Shrinking workforce and infrastructure partially offset by productivity improvement but... continuous increase in traffic begins to absorb “excess capacity”

- Network becomes more vulnerable to stochastic events
- A “perfect storm” or the rail version of global warming

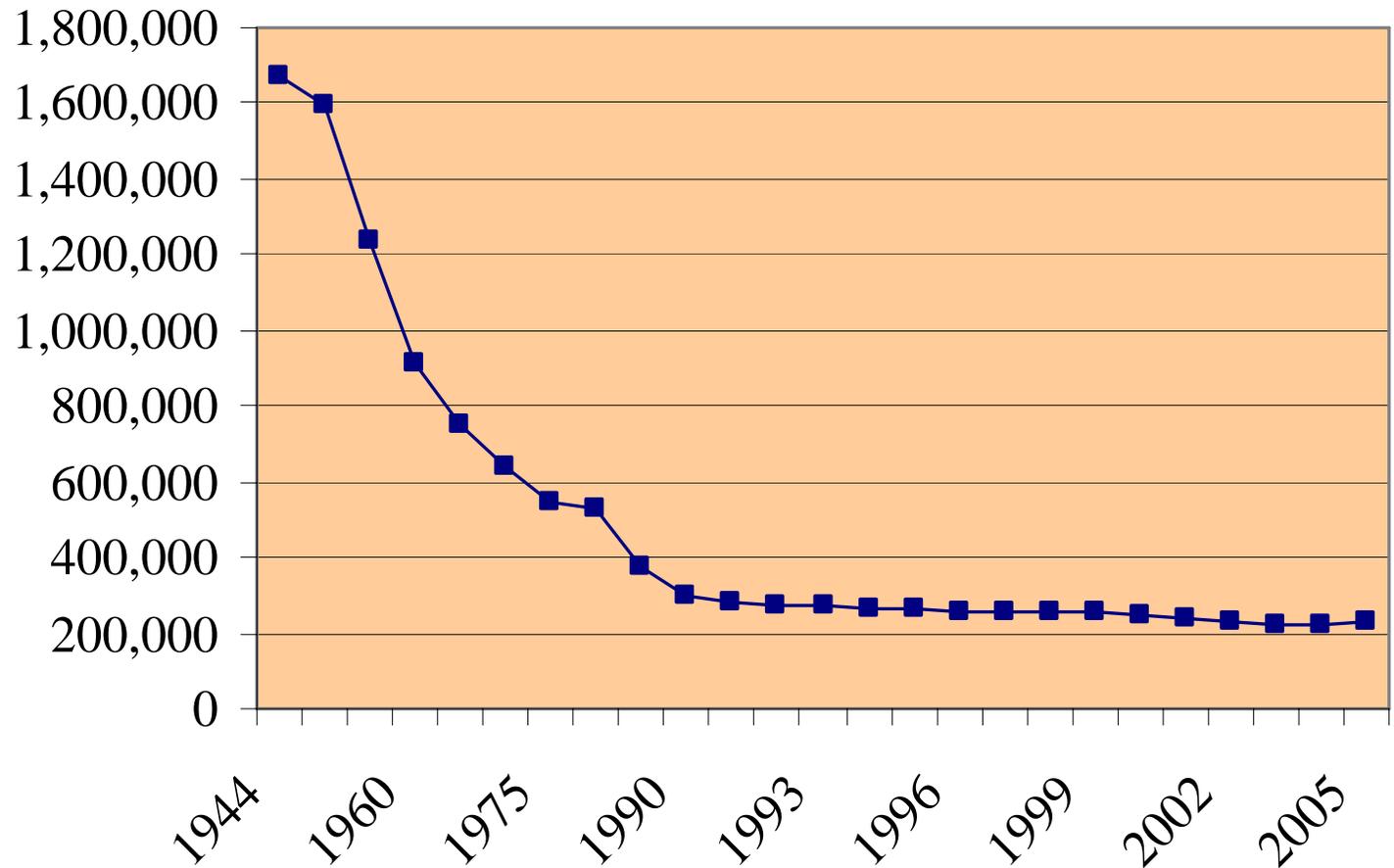


# Growth & Decline of Class I Railroad Mileage





# Railroad Employment 1939-2005



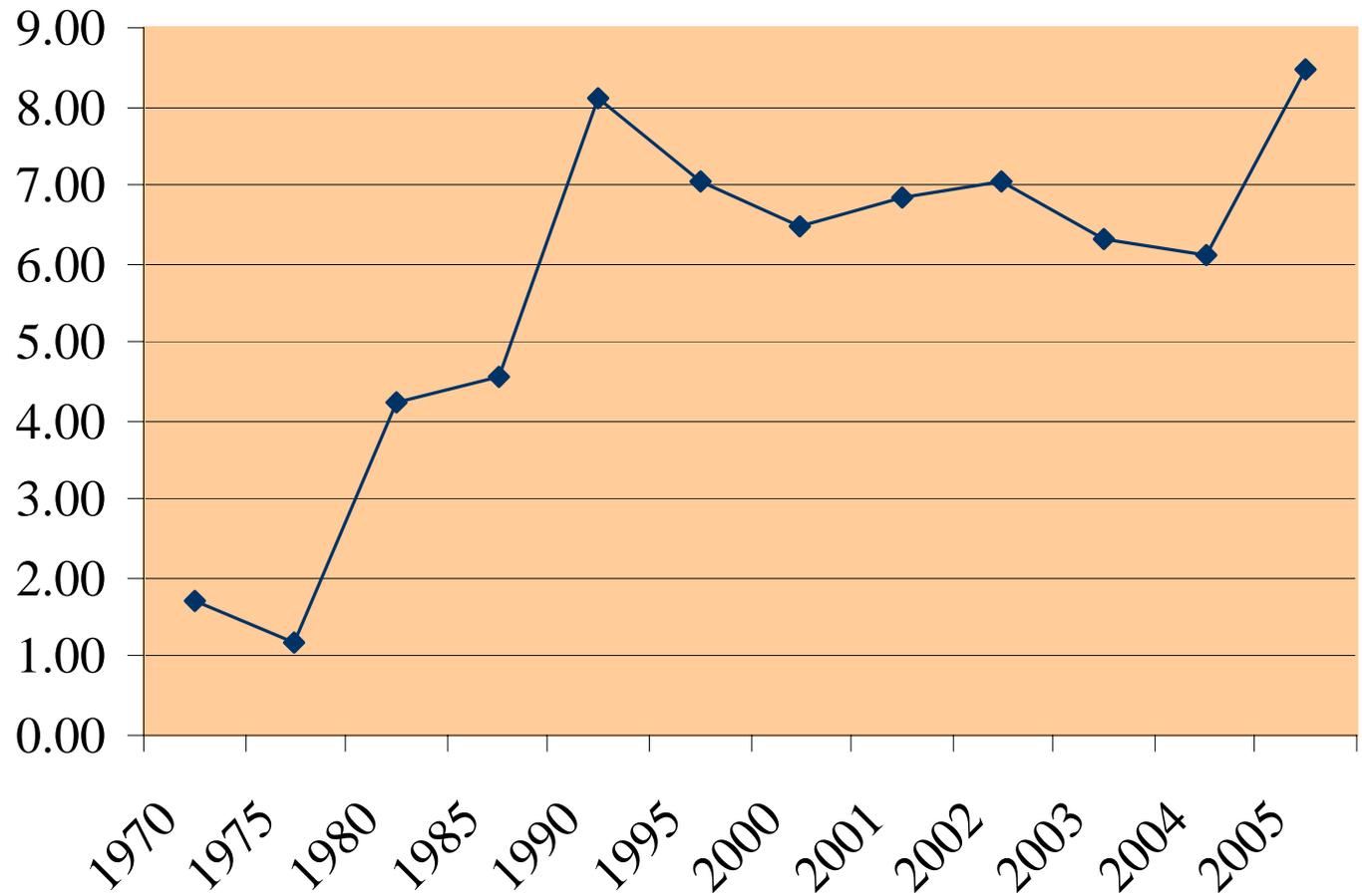


# The Genesis of the Railroad Capacity Problem

- Improved earnings yet most not “revenue adequate” as STB measures it
- Historically RR’s ‘punished’ by Wall Street for making capital investments
- RR’s often found that prior infrastructure investments failed to generate sufficient income
- L/T strategy to reduce size of workforce
- Added rail infrastructure is long-lived while demand increases can be short-lived



# Railroad ROI 1970-2005





# Railroad Industry Cost of Capital and ROI 1996-2005

|      | Cost of Capital | BNSF  | CSXT | NS    | UP   | KCS  | SOO   | GT    |
|------|-----------------|-------|------|-------|------|------|-------|-------|
| 1996 | 11.9%           | 8.6%  | 8.9% | 13.0% | 9.3% | 7.2% | 23.5% | 0.0%  |
| 1997 | 11.8%           | 8.4%  | 9.8% | 13.1% | 5.2% | 3.6% | 12.3% | 5.2%  |
| 1998 | 10.7%           | 9.7%  | 8.1% | 10.5% | 2.9% | 9.1% | 4.9%  | 3.0%  |
| 1999 | 10.8%           | 9.5%  | 3.8% | 5.2%  | 6.8% | 6.4% | 2.5%  | 25.4% |
| 2000 | 11.0%           | 8.8%  | 3.6% | 5.5%  | 6.9% | 6.3% | 5.6%  | 5.9%  |
| 2001 | 10.2%           | 7.1%  | 4.6% | 8.3%  | 7.6% | 7.0% | 5.9%  | 4.9%  |
| 2002 | 9.8%            | 6.4%  | 5.2% | 9.1%  | 8.6% | 6.5% | 5.7%  | 3.1%  |
| 2003 | 9.4%            | 6.2%  | 4.0% | 9.1%  | 7.3% | 3.7% | 0.01% | 4.5%  |
| 2004 | 10.1%           | 5.8%  | 4.4% | 11.6% | 4.5% | 8.3% | 3.3%  | 6.0%  |
| 2005 | 12.2%           | 10.3% | 6.2% | 13.2% | 6.3% | 5.9% | 8.9%  | 8.1%  |

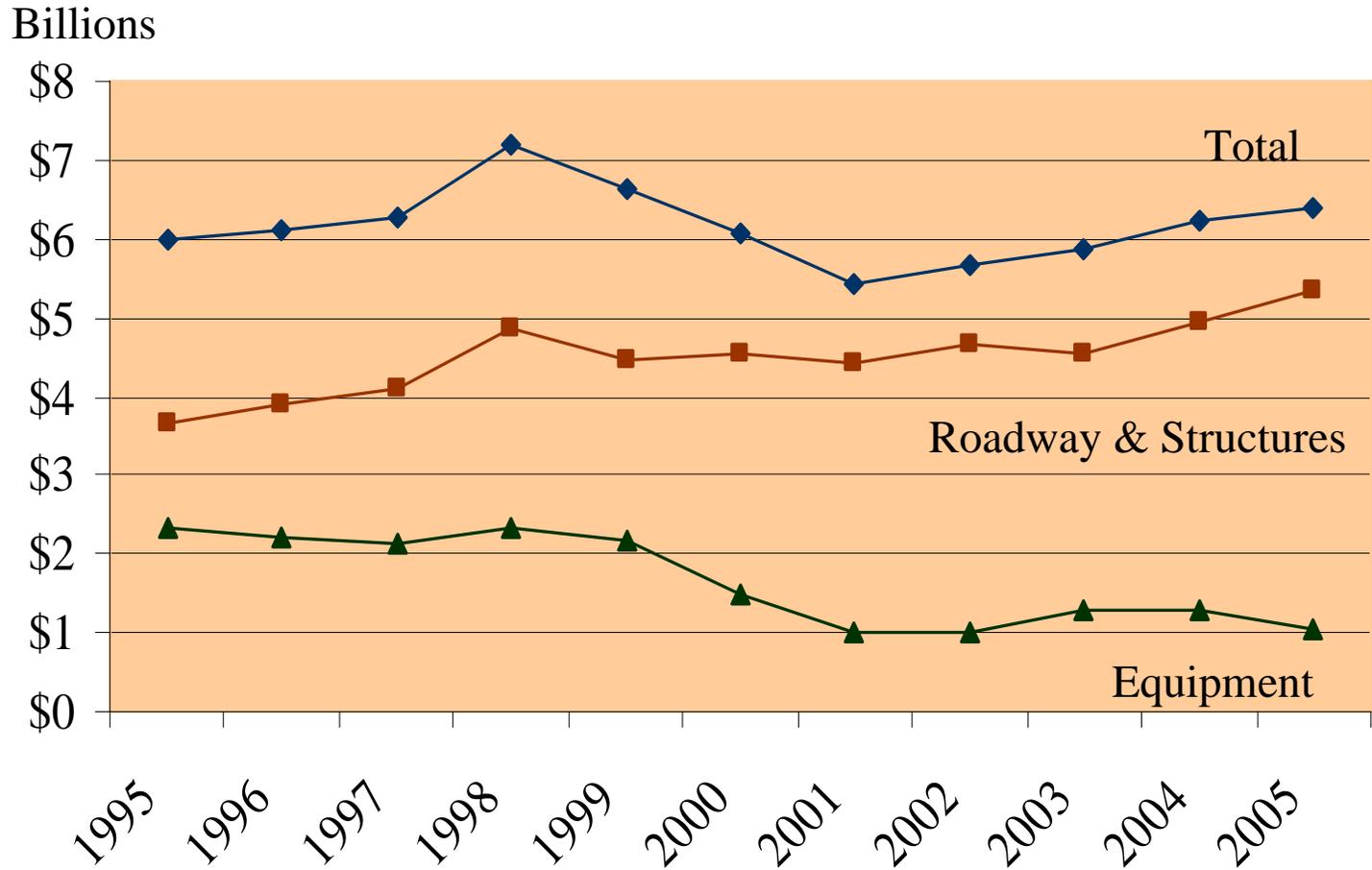


# Short-term Capacity Problems

- Expanding economy led to surge in imports
- Large grain harvests in 2003-2004
- Growth in export coal market
- Crew shortages due to wave of retirements
- Equipment shortages due to reduced purchases of cars and locals in early 2000's
- Cutbacks in capital spending programs
- Tight capacity in trucking industry

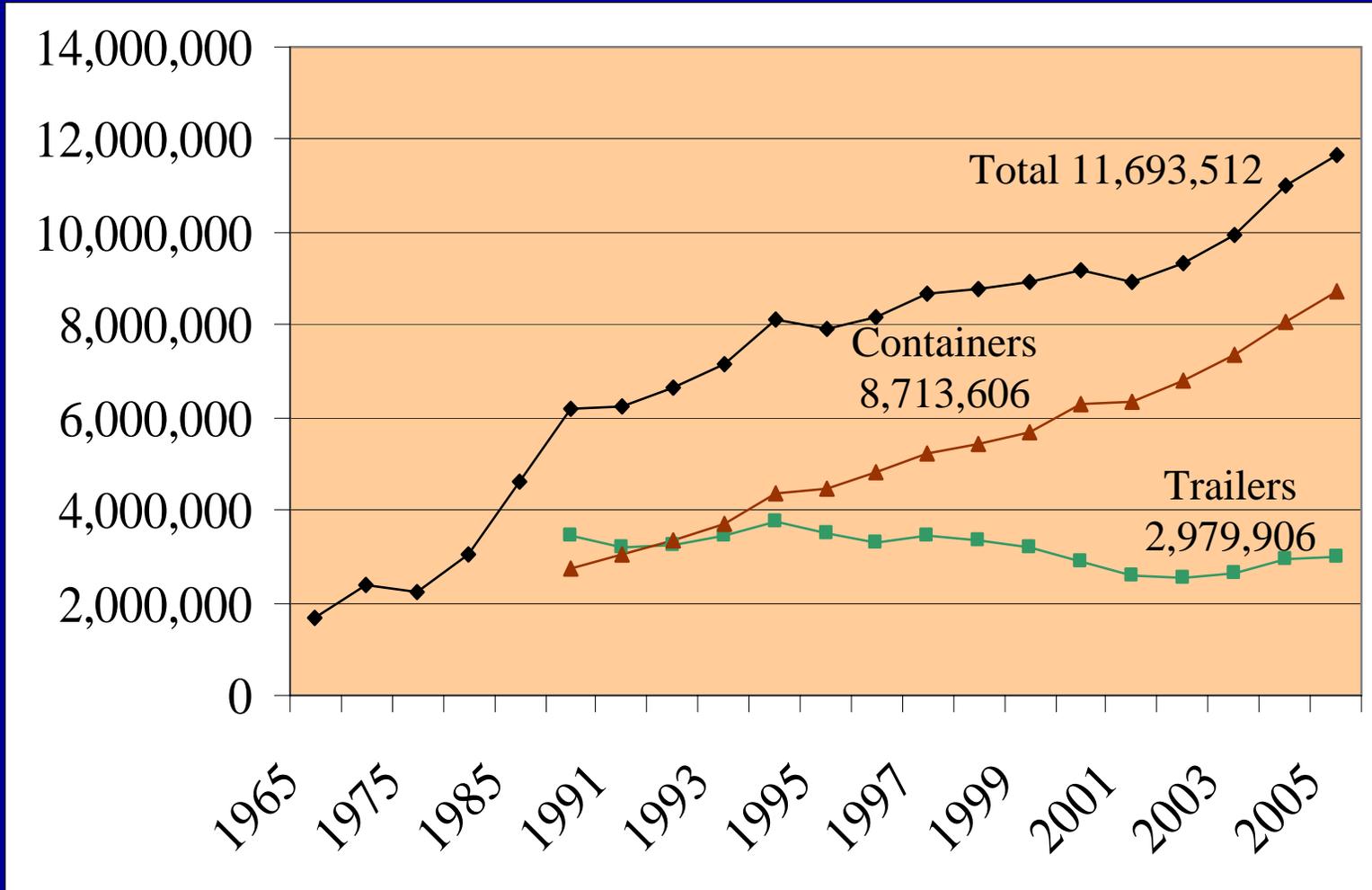


# Class I Capital Expenditures 1994 - 2005





# Intermodal Shipments 1965 - 2005





# Carrier Responses to Recent Capacity Problem

- More railcars and locomotives purchased and leased
- Accelerated hiring and training of crews
  - Railroad industry is creating 80,000 new jobs in the next five years\* but size of workforce is unlikely to change
- Some infrastructure expansion efforts
  - “Class I railroads invested 17.8 percent of their revenues in capital improvements, compared to an average of 3.7 percent for all manufacturing industries. Between 1991 and 2000, it is estimated that the railroads invested \$54 billion in their systems.”\*\*
- Price rationing of available capacity
- RR’s choosing who they will serve and the common carrier obligation

\*AAR

\*AASHTO



# Examples of RR Infrastructure Improvement Projects

- UP Los Angeles Basin – \$59 Million on 80 Miles of track in LA Basin in two years
- BNSF Coal Route – Adding 60 miles of 3<sup>rd</sup> and 4<sup>th</sup> main track on PRB Joint Line
- NS Locomotive Fleet – \$321 Million to purchase 53 locomotives
- CSX Charlotte Intermodal terminal – \$8 million in planned improvements will double capacity from 80,000 lifts to 160,000 annual lifts
- KCS Meridian Speedway – \$300 million joint venture with NS to increase capacity and improve service between Meridian, Miss. and Shreveport, La.



# Long-term Rail Capacity Constraint Factors

- Demand for freight rail projected to grow by 60-70% over next two decades
- RR's inability to earn cost of capital
- Pressure from Wall Street to reduce capital costs and improve ROI
- Long-term contracts limit RR pricing flexibility





# Approaches to the Transportation Congestion Problem

- Build more physical infrastructure
- Adopt technological innovations
  - *Can RR's do this and maintain profitability?*
- Better utilize existing facilities
- Promote shipper/traveler behavioral changes
- Public/Private Partnerships
  - All have potential but all have limits*



# Rail Capacity Investment

- RR's support limited public sector role
- Public/Private partnerships
  - Alameda Corridor
  - CREATE
- RR Trust Fund concept
- Investment Tax Credits
  - Short Lines 286K car issue
  - Class I access and limited fiscal capacity
- RIM and RIFF



# Role of Public sector in Transportation Infrastructure Development

- SAFETEA-LU – 2 years late, \$90 Billion short
- \$286.5 Billion over 6 years
  - 38% more than TEA-21 in 1998
  - Far short of \$375 Billion estimated need
- Contains rail title but far from intermodal legislation
- Expands the RIFF program to \$35 Billion, *makes shippers eligible*
- Administration supports Public/Private partnerships and privatization with user fee funding (i.e. tolls) of some highway infrastructure



# Obstacles

- Dollar resources
- Resistance to change
- Environmental Concerns
- Ineffective lobbying efforts to address freight transportation needs



# Need to Focus on Freight Issues & Intermodal Solutions

- Reauthorization of highway program is only 4 years away
- Aviation reauthorization will be addressed in this Congress
- Increase visibility of freight issues
- Install a comprehensive evaluation process (i.e. c/b analysis) within in the planning process
- Address limitations on federal funding that dedicates \$ to a single mode or non-freight purposes



Thank you. Questions?