

# Container on Barge: Implications for Infrastructure

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# Infrastructure Supply and Demand

- What are the infrastructure issues?
  - Terminals
  - Waterways
  - Locks and dams
  - Intermodal connections
- What are the capital equipment issues?
  - Vessels
  - Containers and chassis
- Is there really a market for COB?

# COB Infrastructure Drivers

- The private sector wants a system that is
  - Simple to use
  - Quality, reliable and
  - Cost advantaged
- The public sector encourages this in order to mitigate
  - Congestion
  - Air quality
  - Noise
  - Accidents and deaths
  - Fuel waste
  - All of the good, green reasons

# Differences in Public Drivers

## EU/US

- EU places a high value on public “green” drivers with
  - Taxes on trucks
  - Truck bans on Sundays
  - Marco polo program
    - 75 million euros/year
- US does not place the same value and has
  - Under-utilization of waterways for COB
  - Under-investment in locks and dams
- Why:
  - US does not integrate all-modes transportation planning

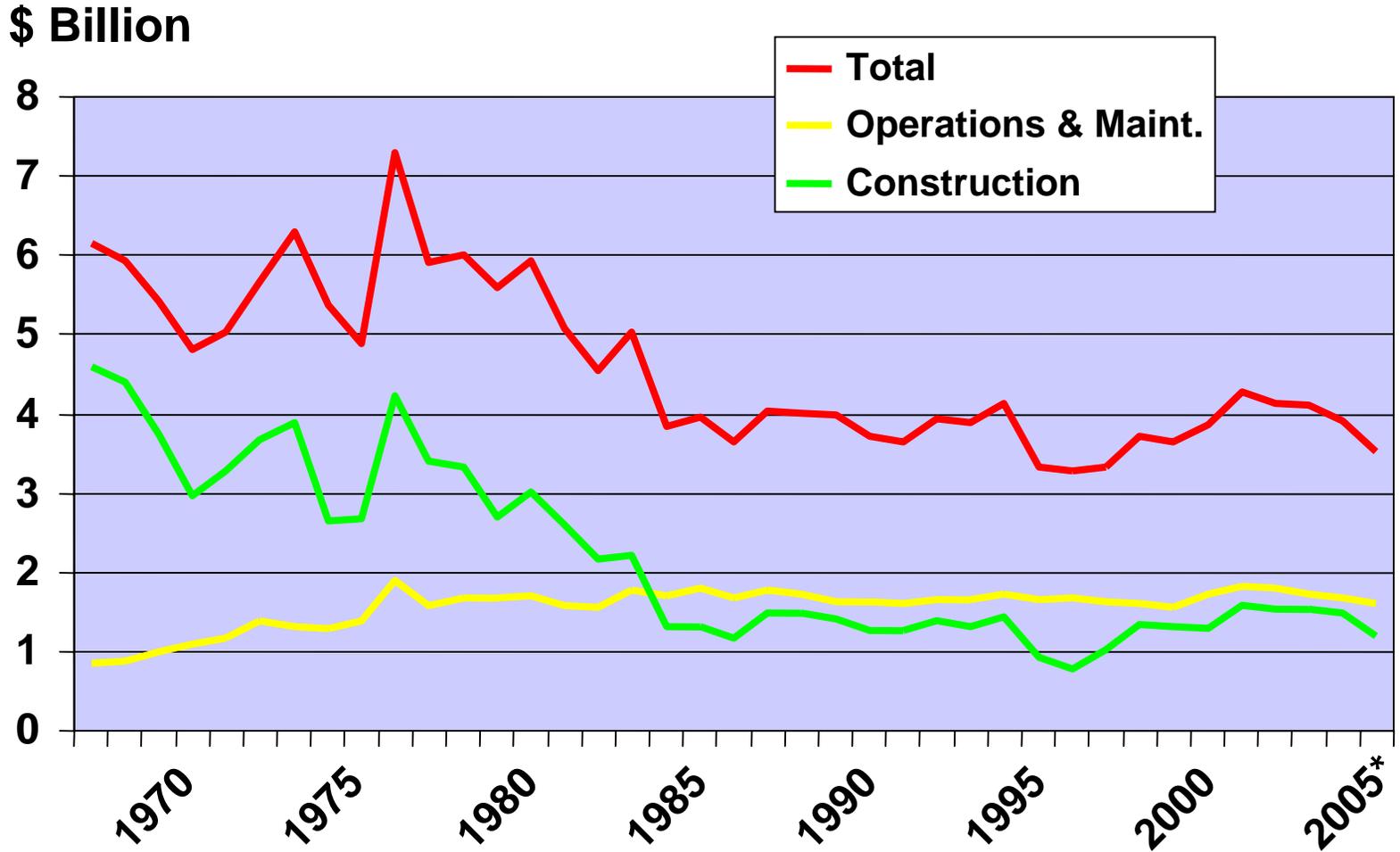
# Policy Changes That Could Drive COB Use of Infrastructure

- Eliminate the 2<sup>nd</sup> harbor maintenance tax on COB
- Tax incentives for
  - Shippers that use “green” transportation
  - Carriers and terminals that engage in research and development in “green” transport technologies
  - Inclusion of river terminal connections to national highway system (SAFETEA)

The Most Important  
Improvement Would be the Full  
and Prompt Funding of the  
Replacement and Maintenance of  
the Nations Locks and Dams

# Corps' Civil Works Appropriations

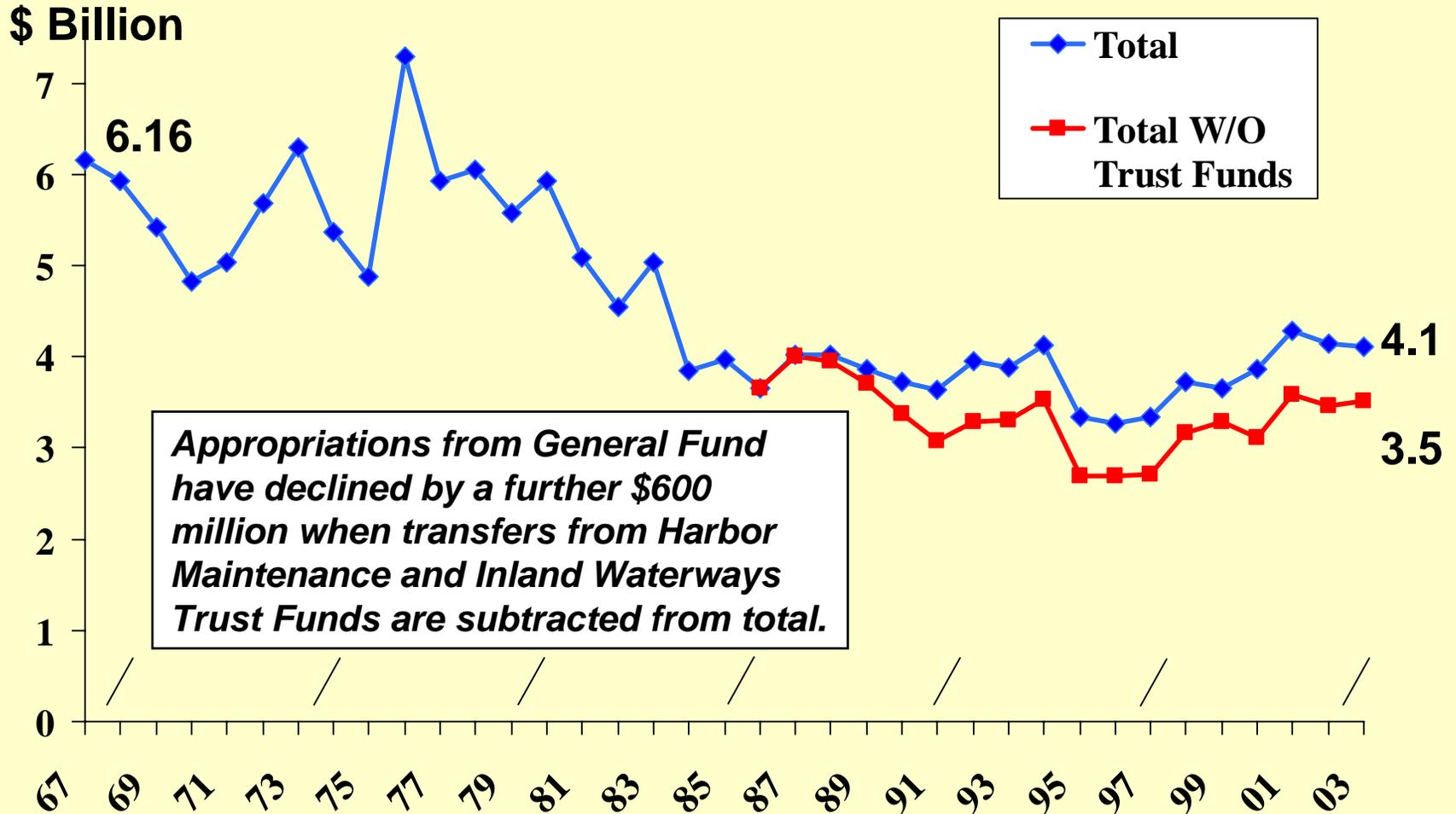
Constant (FY 96) \$ Billions



\*2005: Budget Request

# Civil Works Appropriations

## Constant (FY 96) \$ Bn – Less Trust Funds

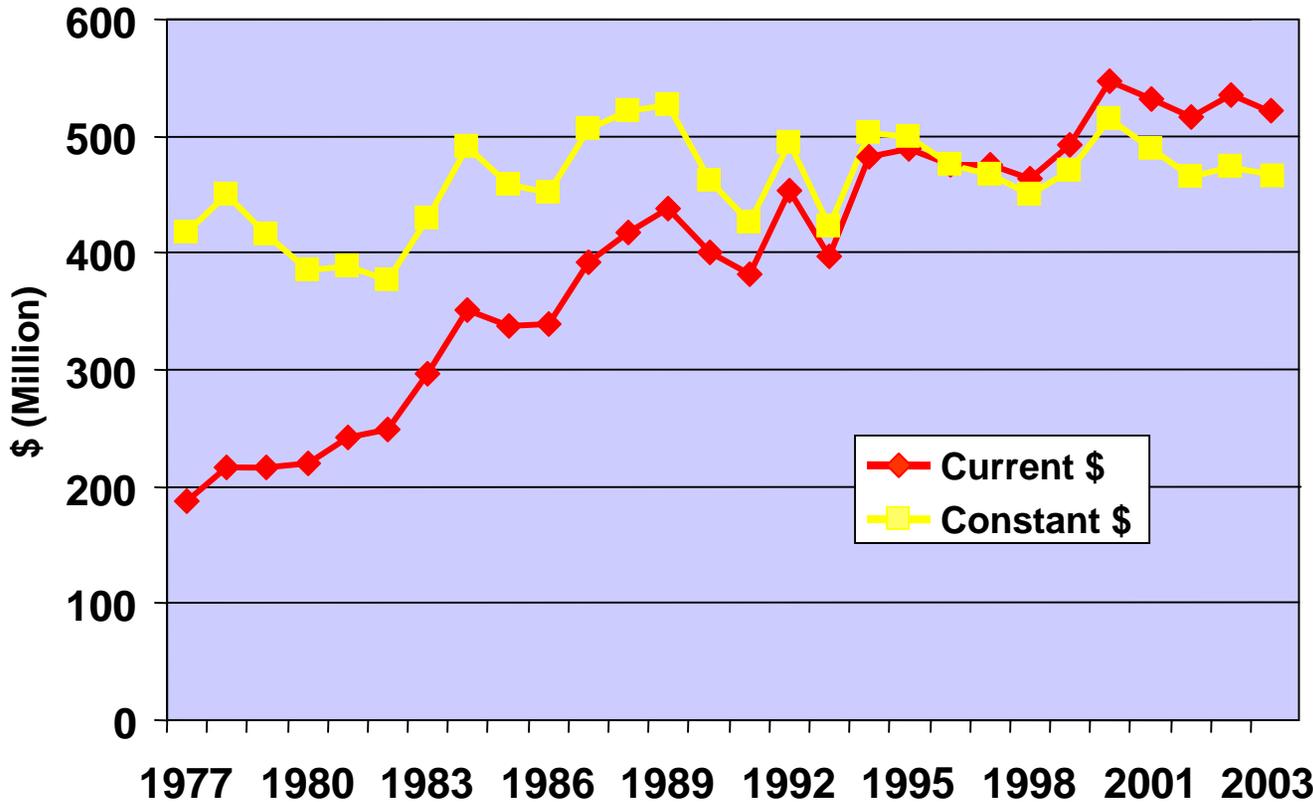


# Challenge: Inland Waterway O&M Trends

1977-2004 Current \$ and 1996 Constant \$ \*

**Challenge: Flat O&M funding in constant dollars, even as project portfolio grows and ages...**

Lock wall, Lower Mon 3



\* Fuel-Taxed Waterways Only

Lock wall deterioration, Chickamauga



# Challenge: Aging Water Resources Infrastructure

- Half of locks more than 50 years old
- Investments in water resources infrastructure have declined in real terms
- Result: more frequent closures for repairs, decreased performance and costly delays



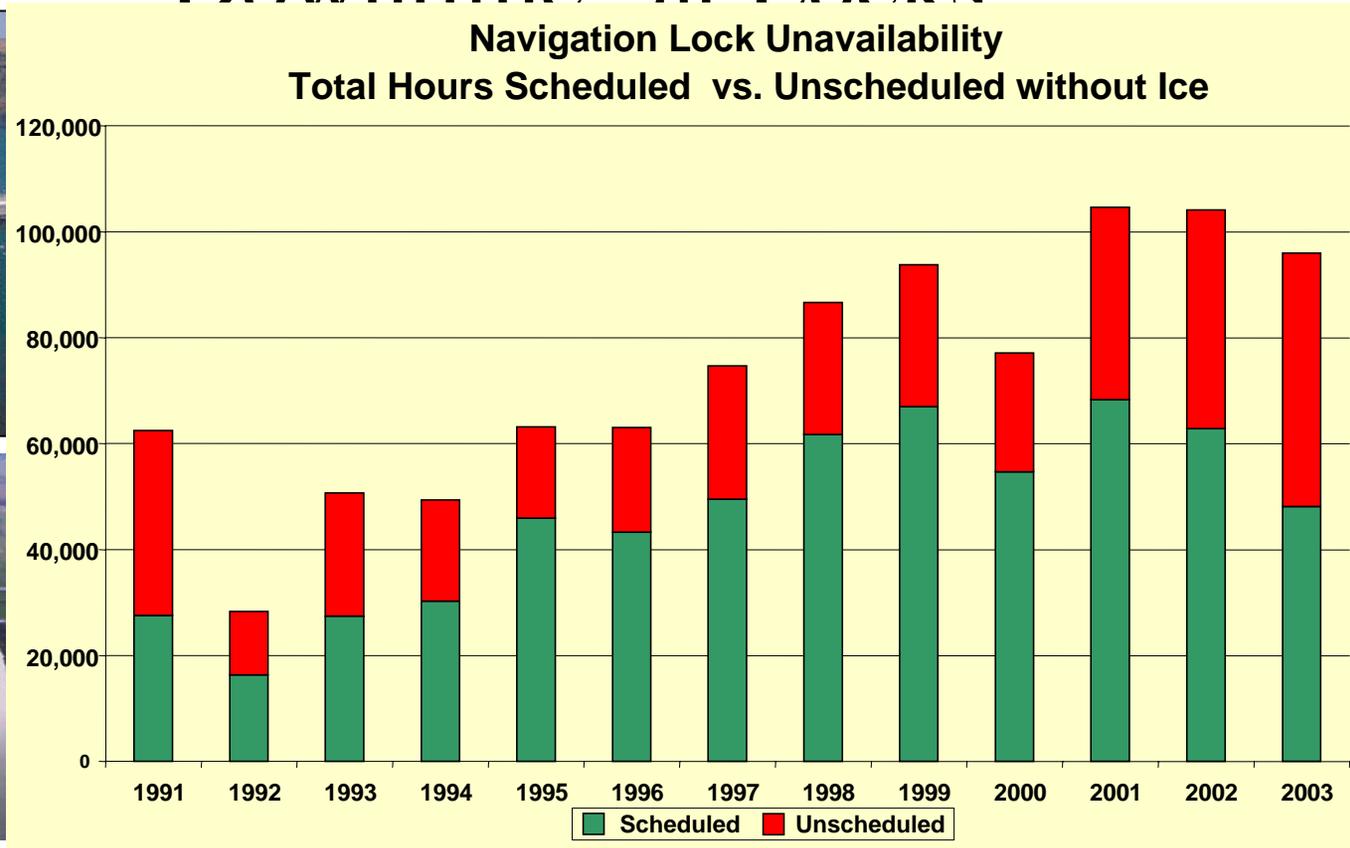
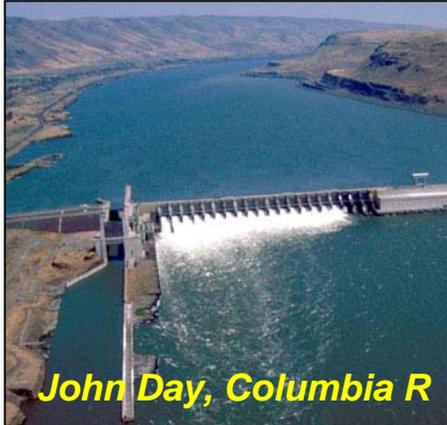
*Crumbling lock wall, Lower Mon 3, opened in 1907*

*Leaking spare miter gates, Upper Miss Lock 19*



*Concrete deterioration at Chickamauga could result in lock failure*

# Challenge: Aging Infrastructure + O&M Backlog = Increasing “Downtime” at Locks



- *John Day L&D, gate failure in 2002, delays*
- *Greenup L&D, gate deterioration extended lock closure by weeks in 2003, major delays*
- *Such incidents may become more common on an aging system with inadequate maintenance.*

***This erodes the effective capacity of the navigation system over time...***

# Other Types of Infrastructure Improvements

- Intermodal
  - Flyover connections from roads to terminals crossing rail tracks
- Technologies
  - Seapointe
  - Seaworthy
  - Real time depth information
  - Path tracking
  - SmartLocking

# Is There Really a COB Market We Can Expect to Capture?

- Overweight international cargo
  - Industrial chemicals
  - Minerals
  - Forest products
  - Metals
  - Waste products
  - Specialty grains
  - Hazardous cargoes
- Similar untapped domestic cargoes (including NAFTA)

# What Infrastructure Do Terminals Require

- A barge dock
- 2-3 acres of open, hardened storage area
- A 25+ ton crane
- A container forklift
- Basically, any terminal that used to handle steel has most of this equipment or can readily acquire it
- Some terminals would use assistance to mitigate past environmental problems

# Is There Sufficient Capital Equipment to Justify Investments

- Vessels
- Containers and chassis

# The Question of the Future

- Will the increasing cost of chassis and containers be more than offset by the increasing cost of congestion at the deep water terminals?

# The Answer

- COB will continue to grow incrementally on the Mississippi and Ohio rivers
- COB will grow dramatically depending upon the importance we place on the public benefits of “green transportation”
- If we don’t plan ...



*Old Transport - Before Steel*

*Painted by Orison MacPherson for Jones & Laughlin Steel Corporation*

Made in U.S.A.

- **Transport of Cargo**  
**Not Possible without**  
**System of Locks and**  
**Dams**

