## The Executive Committee Policy Session

# INLAND WATERWAYS
# Challenges and Opportunities

**June 12, 2009**

Dr. Craig E. Philip
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Ingram Barge Company

## Outline

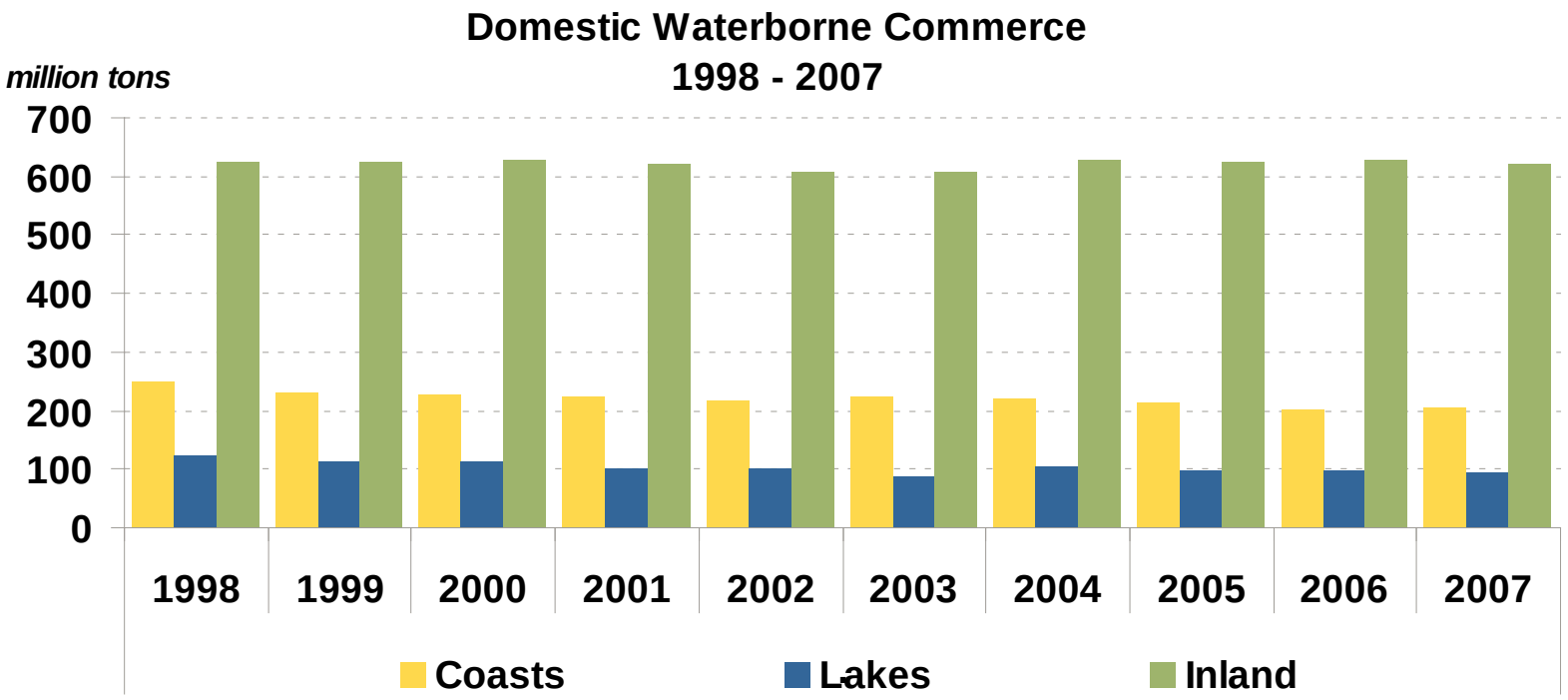
I. Profile of the US Inland Maritime System

II. Major Maritime Issues and Challenges

III. Opportunities to Leverage the Inland Maritime System

# The Domestic Marine Business

## …has three distinct segments, all served by Jones Act carriers



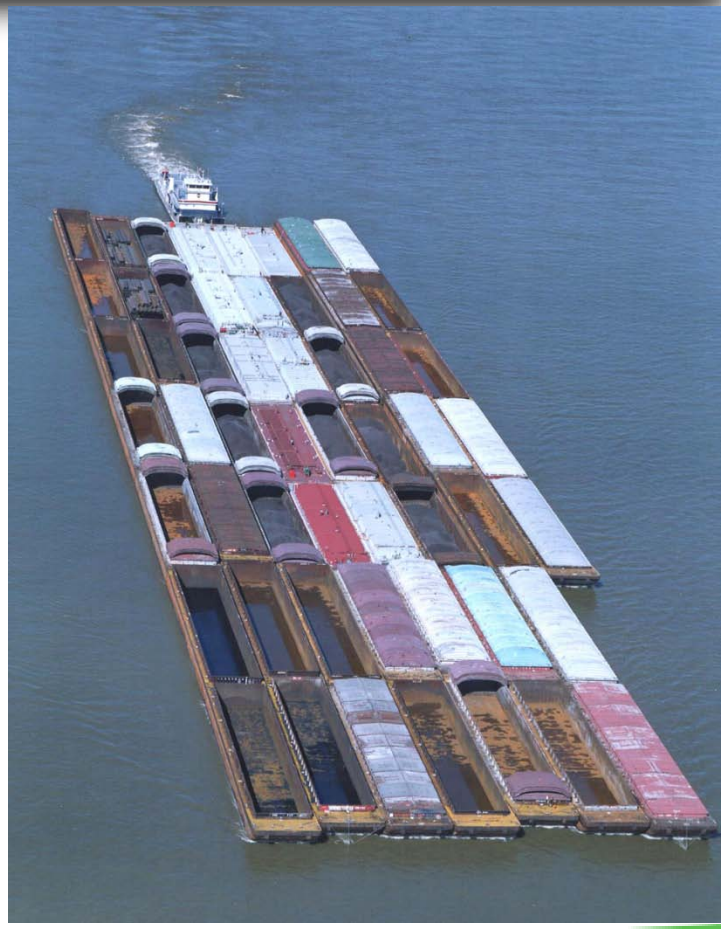
# An "Inland Marine Highway" for Freight Transportation


## Our "inland marine highways" move commerce throughout the nation's heartland and Pacific Northwest

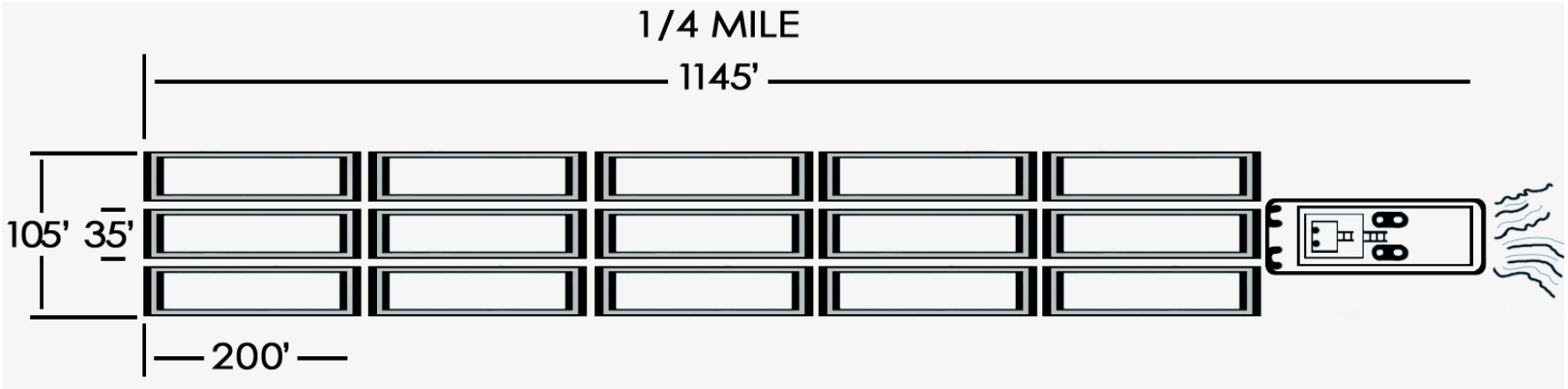
- 12,000 miles of commercially navigable channels
- 240 lock sites
- More than 20,000 barges and 2,000 towboats (the vast majority of the industry fleet)

**Barges are assembled into flotillas called "tows" and on non-locking waterways can become mind-numbingly large**

- Up to 52 barges
- 10,500 horsepower towboats
- 80,000 + tons



## Even on locking rivers, the real estate consumed by a tow is impressive




963'

# An "Inland Marine Highway" for Freight Transportation

## Moving the nation's commodities

Barges are ideal for hauling bulk commodities and oversized or overweight equipment:

- Coal
- Petroleum
- Iron & Steel
- Project cargoes
- Grain
- Chemicals
- Aggregates
- Intermodal containers

# An "Inland Marine Highway" for Freight Transportation

## Moving the nation's commodities

Waterways transport:

- more than 60% of the nation's grain exports
- about 22% of domestic petroleum products
- 20% of the coal used in electricity generation

# Competitive Landscape

In both hopper and tank barges, the top 6 carriers comprise approximately two-thirds of the industry capacity

| Dry Cargo (Carrier) | Number |
|---|---|
| Ingram Barge Company | 3,900 |
| American Electric Power | 2,978 |
| American Commerical Lines, LLC | 2,254 |
| ADM | 2,034 |
| Crounse Corporation | 948 |
| Cargill | 829 |

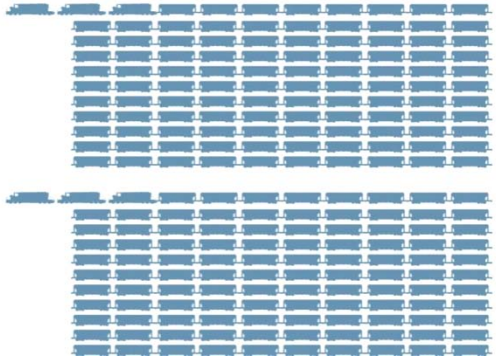
| Tank (Carrier) | Number |
|---|---|
| Kirby Corporation | 914 |
| American Commerical Lines, LLC | 392 |
| Canal Barge Co., Inc. | 206 |
| Ingram Barge Company | 200 |
| Marathon Petroleum | 183 |
| Florida Marine Transporters | 183 |

*Shipper owned carrier*

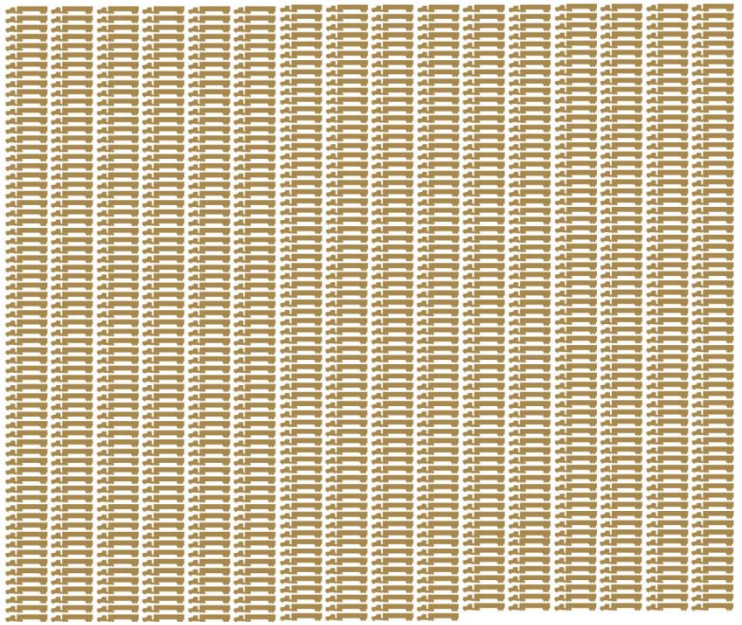
# One 15-Barge Tow Equals 216 Rail Cars or 1,050 Trucks

## One 15-Barge Tow

## 216 Rail Cars + 6 Locomotives



## 1,050 Large Semi Tractor-Trailers



# Easing Rail and Highway Congestion in Our Communities

Waterways provide great cargo capacity and move freight more safely than truck or rail.

In fact, they carry the equivalent of 58 million truck trips per year, with room to spare.

If waterborne cargo were diverted to highway or rail:

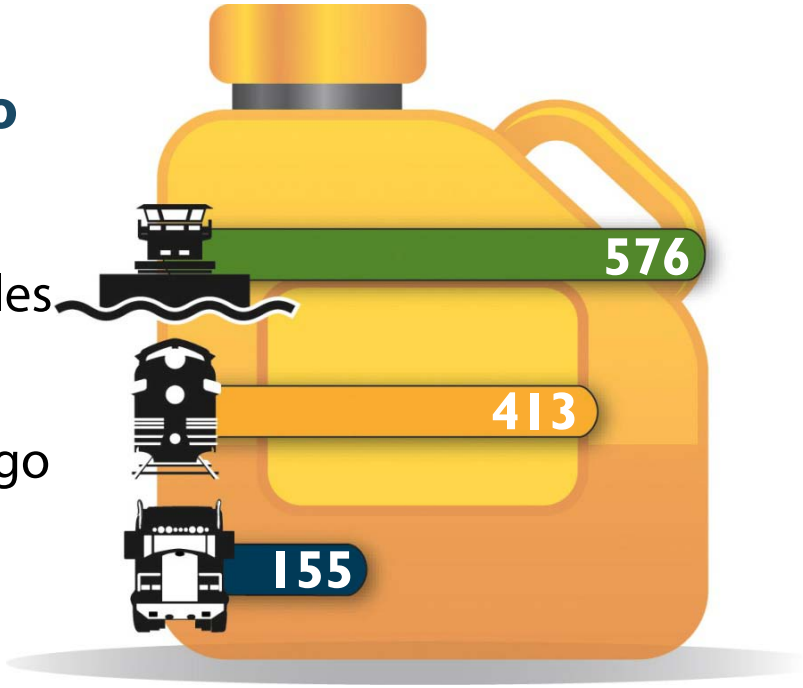
- Truck traffic would double on the interstates
- Rail tonnage would increase 25%

# Moving Freight Efficiently Throughout America

## Transporting freight by water is also the most energy-efficient choice

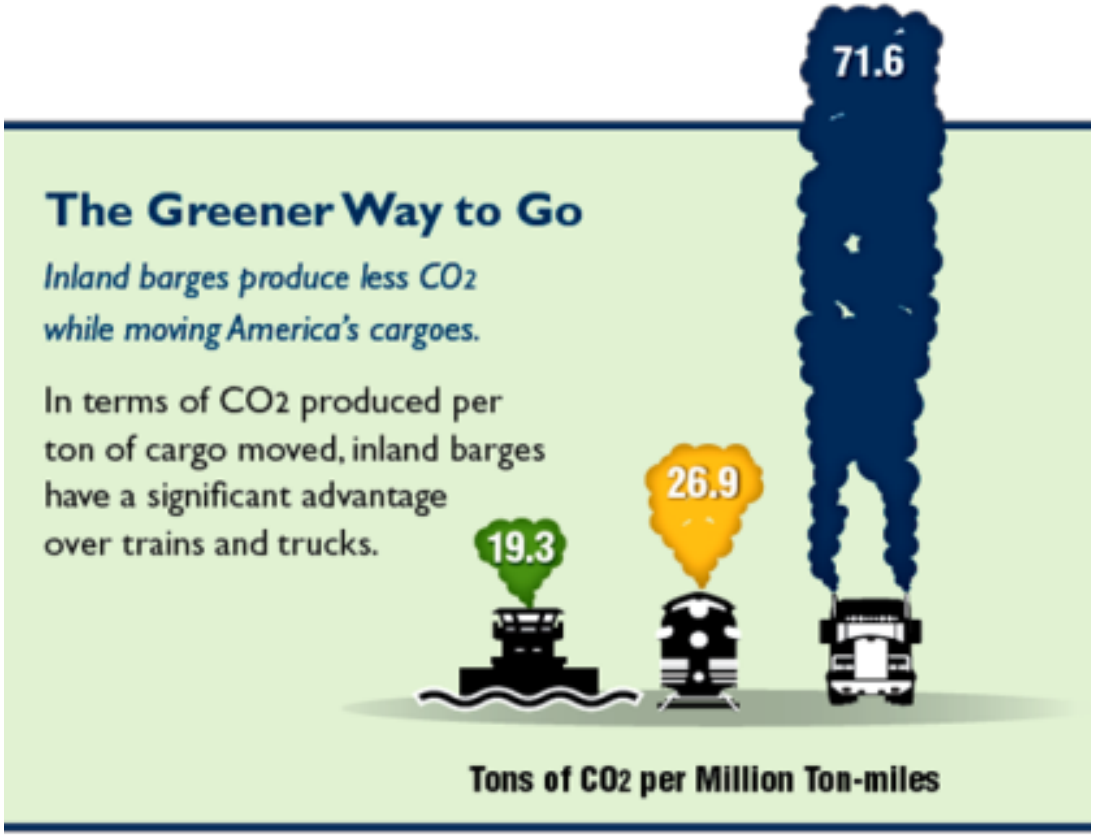
Barges can move one ton of cargo 576 miles per gallon of fuel

A rail car would move the same ton of cargo 413 miles, and a truck only 155 miles




Ton-miles Traveled per Gallon of Fuel

# Safeguarding Our Health and the Environment



## A Small Carbon Footprint

On an emissions per ton-mile basis:

- Rail emits 39% more $CO_2$
- Truck emits 371% more $CO_2$

If the 274.4 billion ton-miles of activity on American's inland waterways in 2005 were shifted to rail or truck…

- Rail transport would have generated 2.1 million additional tons of $CO_2$
- Truck transport would have generated 14.2 million additional tons of $CO_2$

# Safeguarding Our Health and the Environment

## Inland waterways transport generates fewer emissions than rail or truck per ton-mile

Barge transportation generates the lowest emissions as measured in grams per ton-miles in four standards tracked by the EPA:

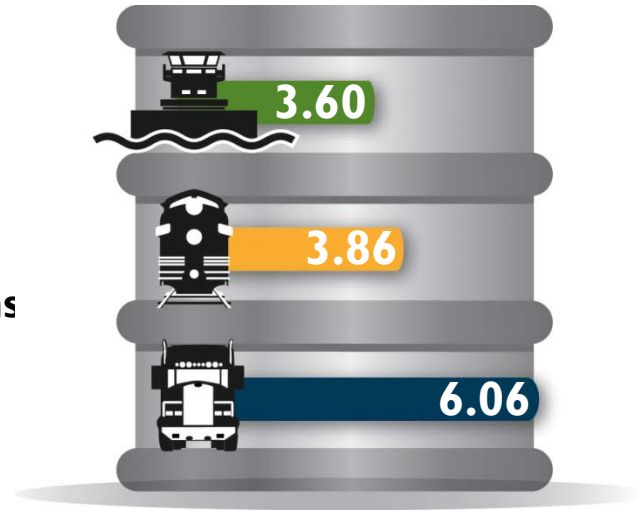
- Particulate matter (PM)
- Hydrocarbons (HC)
- Carbon monoxide (CO)
- Nitrogen oxides (NOx)

# Safeguarding Our Health and the Environment

## Inland waterways transport moves hazardous materials safely

Overall, spill rates remain low

Trucks lose 6.06 gallons per one million ton-miles, rail cars 3.86 gallons, and barges 3.6 gallons per one million ton-miles



## Outline

I. Profile of the US Inland Maritime System

II. Major Maritime Issues and Challenges

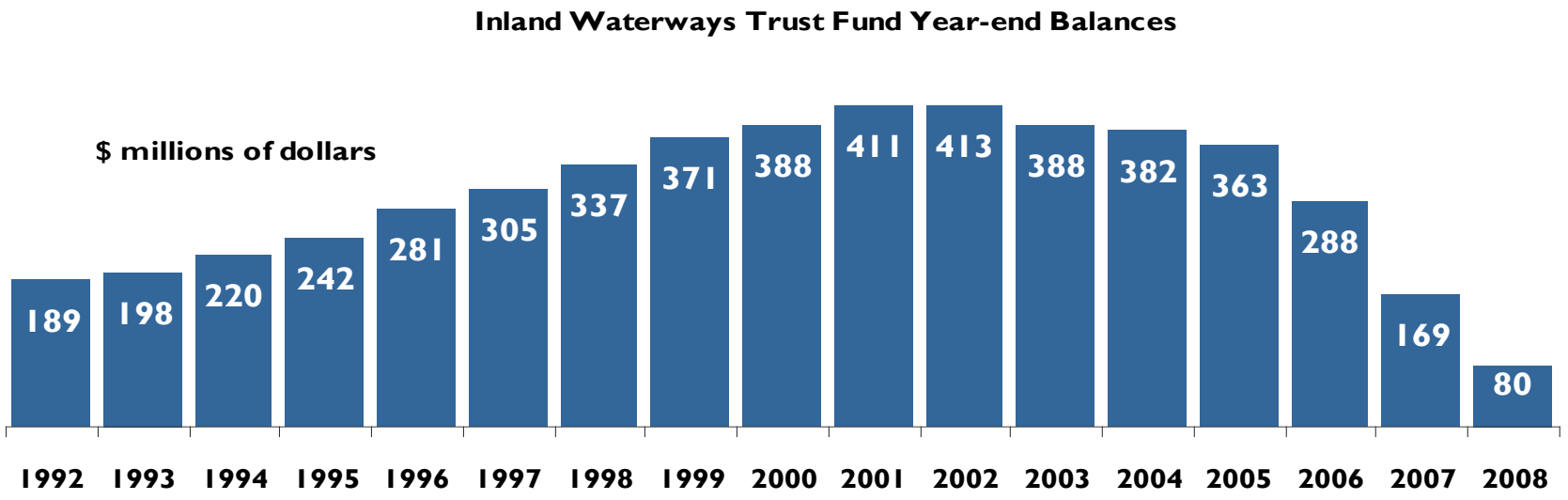
- **Infrastructure Renewal**
- Balkanized State Initiatives

III. Opportunities to Leverage the Inland Maritime System

## Infrastructure Renewal

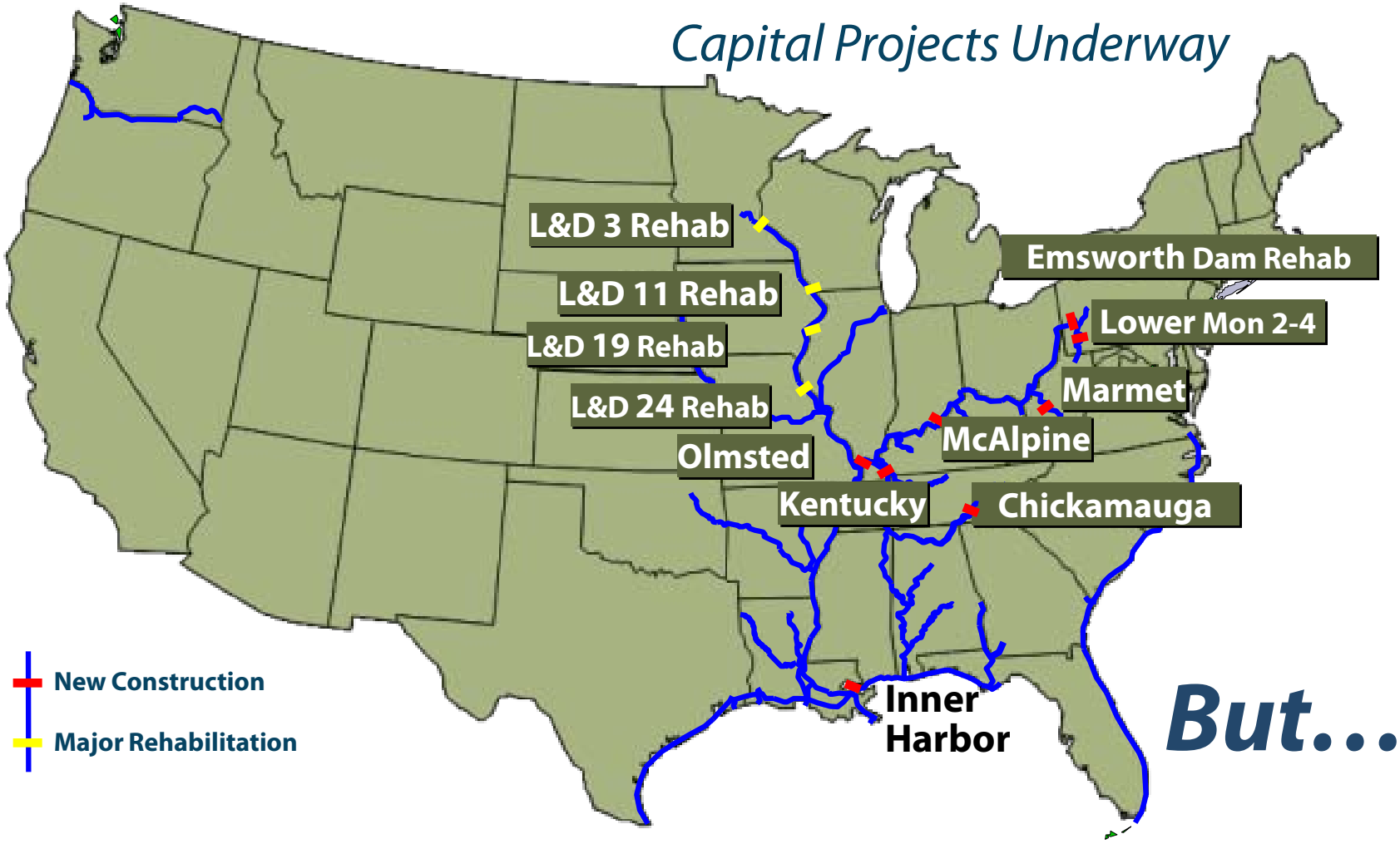
*Who will pay and can government continue to deliver?*

- Inland towing companies pay a diesel fuel tax ($0.20/gallon) into a trust fund intended to finance major work at locks/dams
- Project work is the exclusive responsibility of the Army Corps of Engineers
- Like other trust funds, the balance is approaching $0



# Inland Waterways Infrastructure

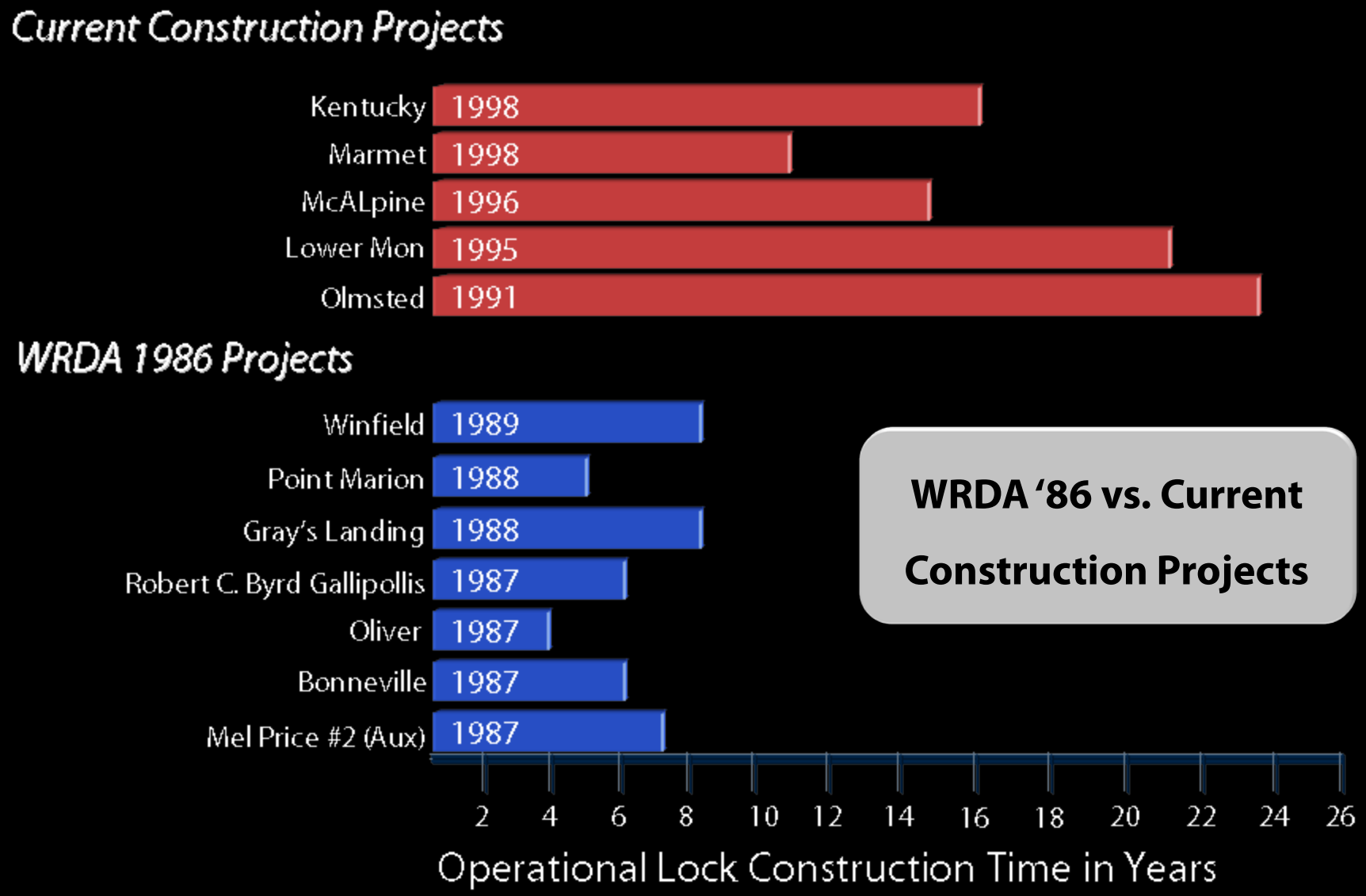
## There are plenty of projects in the pipeline



## Project costs and construction timelines have increased dramatically during the past ten years

- The 7 lock and dam projects authorized by WRDA 1986 averaged:
  - 6.3 years to build
  - a cost increase of 34% over the authorized amount
- The 5 projects authorized after WRDA 1986 estimated at:
  - 17 years to build
  - a cost increase of 93% over the authorized amount
- The 93% cost over-run represents more than $2.0 billion, half of which has been or will be paid by the barge industry under current law

# Project costs and construction timelines have increased dramatically during the past ten years



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## Balkanized State Initiatives

### Balkanized State Initiatives jeopardize the needs of an interstate system

- The system is successful because it crosses (or creates) state boundaries and serves interstate commerce
- Major state challenges have included:
  - Regulation of vessel operations
  - Oil spill response & prevention
  - Ballast water practice
  - Vessel discharge regulation under the Clean Water Act
- States have also sought to “tax” interstate movement and activities by various means

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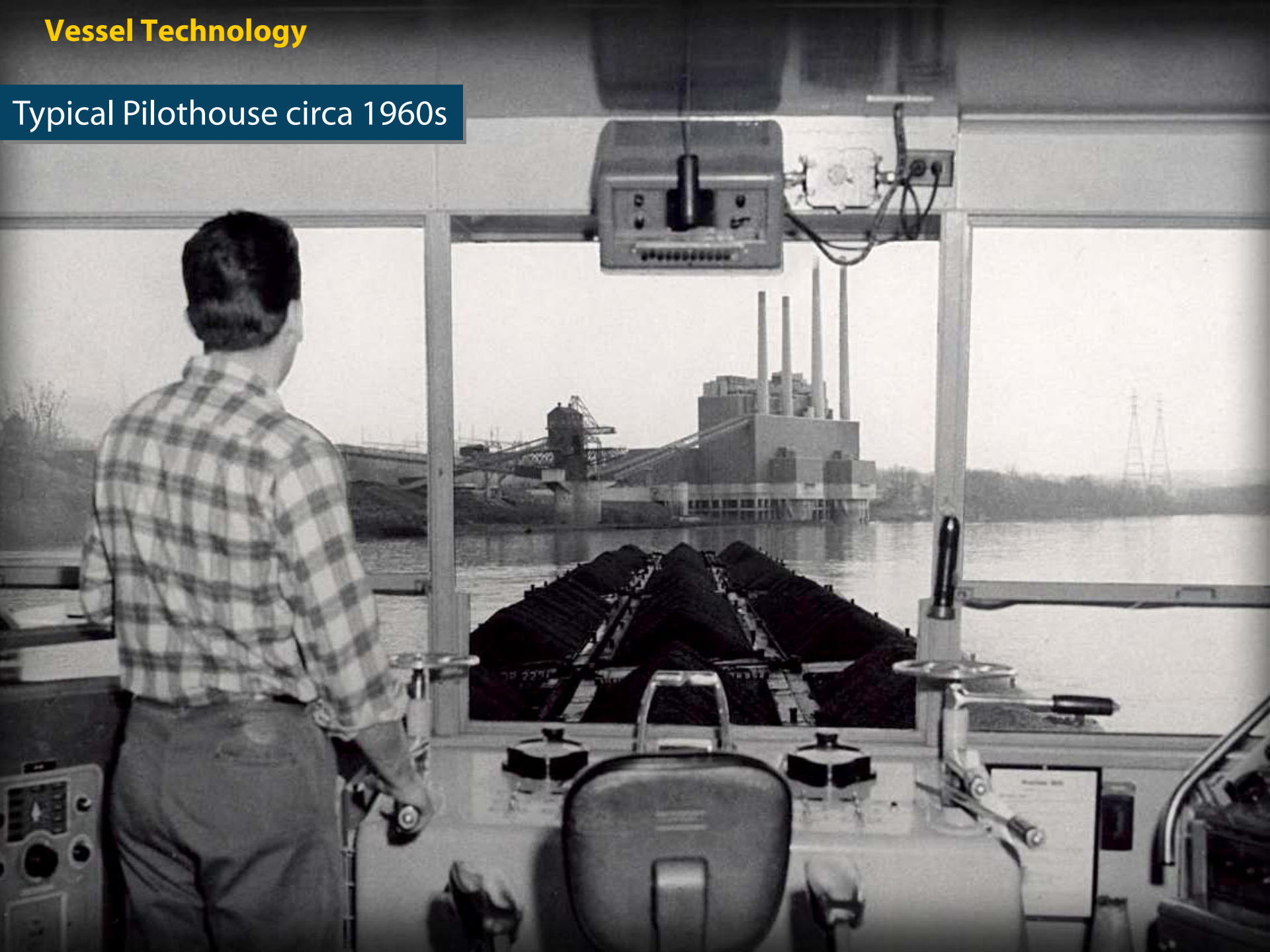
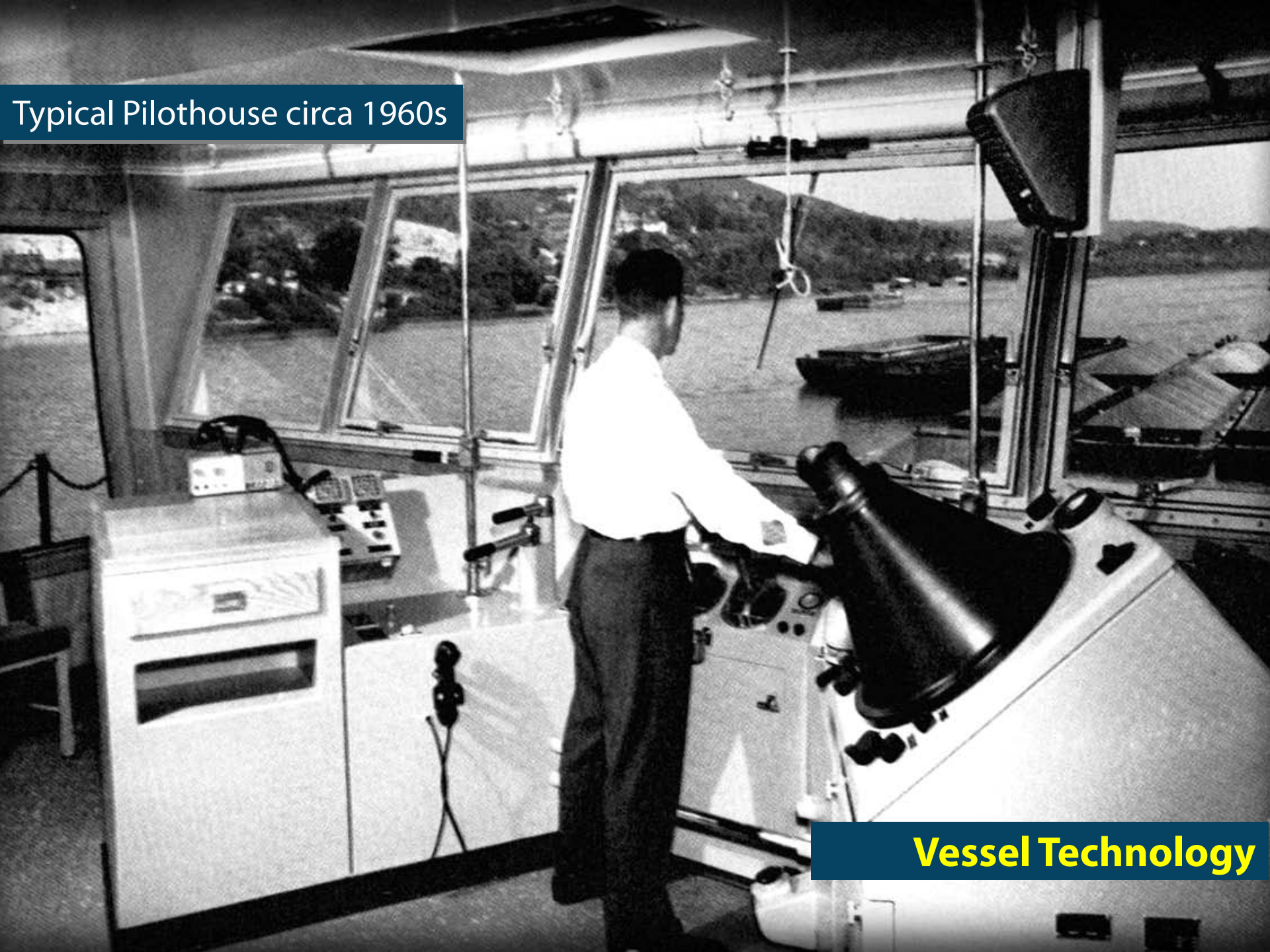
- **Continued use of technology to improve safety/ productivity/capacity**
- Infrastructure funding that fully reflects a consensus/ comprehensive solution
- Incentive for Shippers
- Pre-emption of state efforts that impede interstate commerce

# Typical Pilothouse circa 1960s

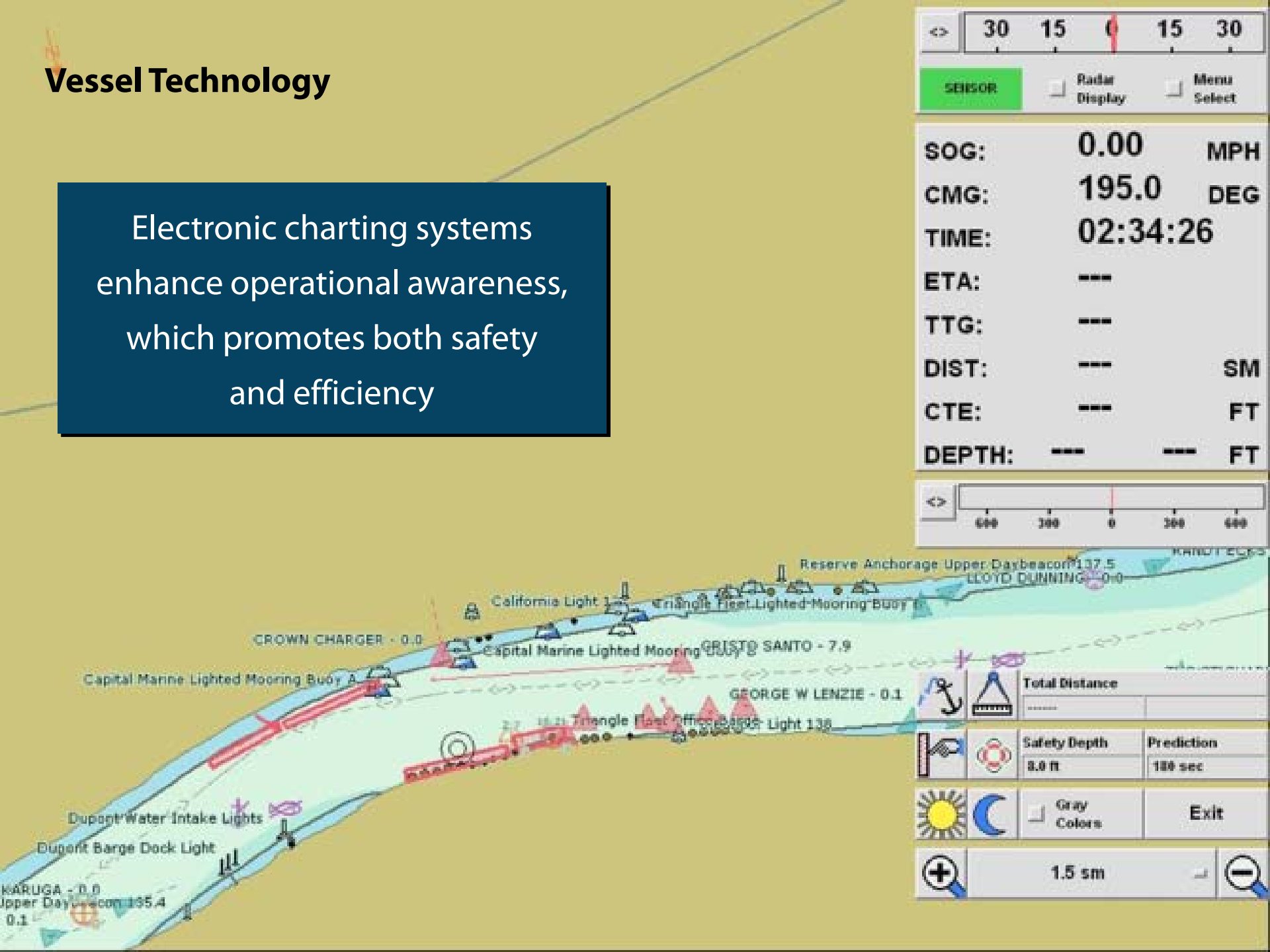



Typical Pilothouse circa 1960s
Vessel Technology


AIS
Electronic Charts
Office Mgt. Suite
Motion Detector
Voice Communications
Today's technology has transformed communication and information sharing
Vessel Technology

# Vessel Technology

Electronic charting systems enhance operational awareness, which promotes both safety and efficiency



Vessel Technology

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## Response to this pattern of failed execution and exhaustion of the trust fund needs to be a comprehensive solution

- **Industry** opposes any tax increase discussion until the project delivery model is fixed
- **Congress** wants to "fix the trust fund" and authorize more projects
- **Corps** wants to replace the diesel tax with a lockage "fee," set to triple receipts to the trust fund. Industry opposes the lockage fee because it unfairly apportions the tax and is too costly

## A comprehensive solution will include:

- Fixing the Project delivery system – less costly, more timely completion
- Dimensioning the long-term needs of the system
- Matches "*who pays*" with:

  "*who can pay*" (capacity)

  "*who should pay*" (all beneficiaries accounted for)

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## Incentive for Shippers

**Incentives for Shippers are needed to stimulate success of marine highways**

- The marine network today has plenty of capacity (uncongested links and adequate number of vessels)…
- In some cases, intermodal links may be needed to improve interface between surface and water modes
- What is needed, are shipper incentives to build and sustain demand long enough to justify new service startup

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## Preemption of state efforts that impede interstate commerce

### Examples of Recent Actions by the States

- **Some States added conditions to USEPA's NPDES Vessel General Permit**
  - Illinois and NJ attempted to prohibit graywater discharges from towboats
  - NY ballast water regulations more stringent than federal standards
- **Taxes**
  - WV levies taxes on fuel consumed by towboats in WV waters and on fuel sold in WV, even if sold "midstream" in the Ohio River
  - WV Senate Bill 411 - would authorize WV cities to levy barge mooring tax
- **Massachusetts Oil Spill Prevention Act**
  - Imposed manning/escort requirements for certain vessels operating in Massachusetts waters; conflicted w/ USCG manning/escort regulations

## Preemption of state efforts that impede interstate commerce

### Solutions?

- **Vessel Discharges**
  - James Hanlon, then-Director of EPA's Office of Wastewater Management, testified to Congress in June 2008: "[T]he NPDES program does not currently provide an appropriate framework for managing [vessel] discharges … [Such] discharges … would be more effectively and efficiently managed through … national, environmentally sound, uniform discharge standards."
  - AWO currently pursuing legislation to:
    - Remove vessel discharges from regulation under the NPDES program.
    - Give EPA the authority to establish standards and regulations for the control of vessel discharges.
    - Preempt the establishment of vessel discharge control measures by the States.

## Preemption of state efforts that impede interstate commerce

### Solutions?

- **State taxes on towboats/barges**
  - Might need federal or state legislative fixes
  - Litigation? Some state taxes may be unconstitutional
    - Interstate activities must have a "substantial nexus" to the State
    - Tax must be "fairly apportioned" to the amount of time the particular vessel spends in the State
    - Tax must be "fairly related" to the services provided by the State

- **Mass. Oil Spill Prevention Act**
  - Litigation in federal court resulted in a preliminary injunction against the manning and tug escort provisions of this law, as those provisions were viewed to be preempted by federal law