



# OHIO DEPARTMENT OF TRANSPORTATION

TED STRICKLAND, OHIO GOVERNOR

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**Ohio River as Underutilized Transportation Asset for  
Shipping Commodities to Global Markets**

**Eric T. Neff**



# The Ohio River as Underutilized Transportation Asset for Shipping Commodities to Global Markets

- Ohio is a **Maritime State!**
- ODOT - Office of Maritime & Freight Mobility
- Why Ship via Inland Waterways?
- The Ohio River – a Closer Look
- Challenges and Opportunities Going Forward



# Ohio is a Maritime State!



Ohio is a Maritime State!



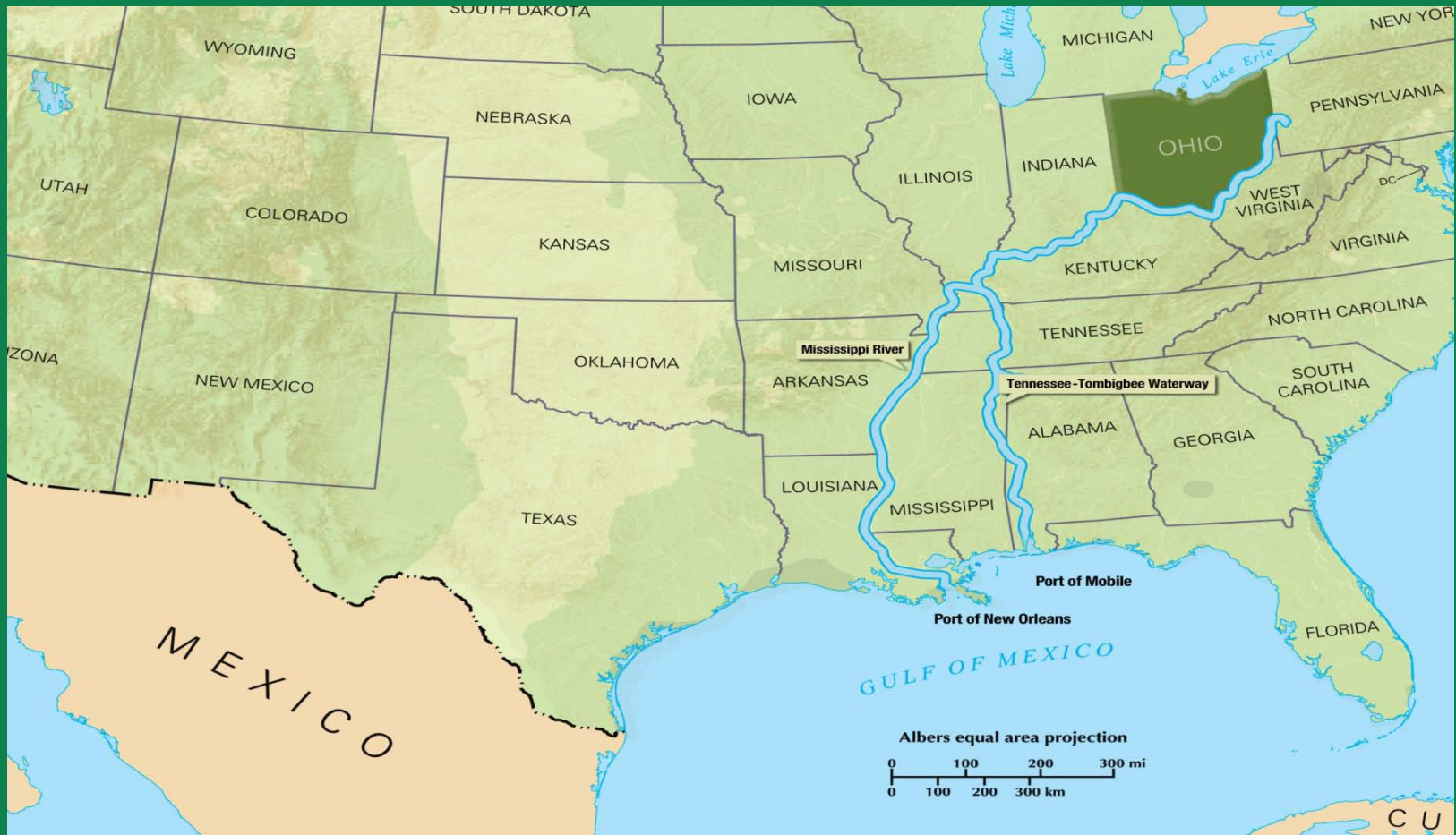
# Ohio's Lake Erie Ports Provide Access to the Atlantic Ocean



Ohio is a Maritime State!



# Ohio's River Terminals Provide Access to the Gulf and Pacific Ocean via the Panama Canal



Ohio is a Maritime State!



# Ohio's Office of Maritime & Freight Mobility Introduction

The objectives of this Office are to promote methods of integrating and exploiting Ohio's vast transportation resources in moving goods & people efficiently into and out of Ohio to support a global economy.

- **Educate** – Ohio is a Maritime State
  - Ohio's Maritime Ports are economic development engines
- **Promote**
  - Statewide & National Advocacy
  - Maritime as a full partner with all modes of transportation
- **Staff Introduction** - Office of Maritime & Freight Mobility
  - Administer Projects & Studies
  - Support Ports & inter-modal centers for goods movement



# Office of Maritime & Freight Mobility

## Educate and Promote



### Ohio is a Maritime State

- Great lakes & Ohio river
- Benefits of water transportation
- Global & domestic markets – *“trucks can’t drive to China”*
- Transportation plays a role in economic recovery
- Ports are multi-modal economic development centers



# Office of Maritime & Freight Mobility

## Educate and Promote



- Freight
  - Requires **ALL** modes of transportation to work together as a system
    - Results of a system approach
      - Increased efficiencies
      - Lower costs
      - Reduces redundancies while providing choices
      - Leads to Ohio being more attractive to business and industry



# Office of Maritime & Freight Mobility

## Staff



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# Why Ship via Inland Waterways?



Why Ship via Inland Waterways?



# 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%

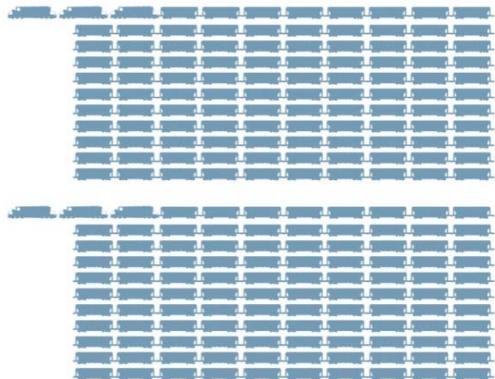


# One 15-Barge Tow Equals 216 Rail Cars or 1,050 Trucks

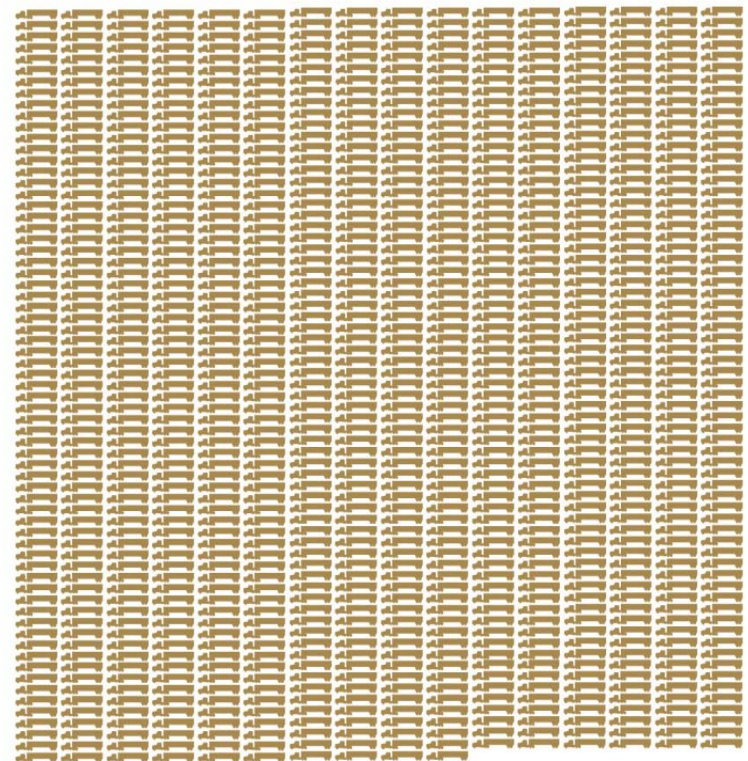
One 15-Barge Tow



216 Rail Cars + 6 Locomotives



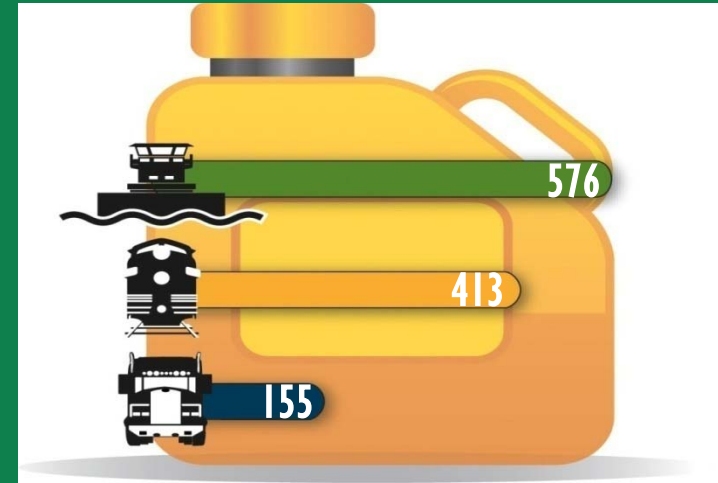
1,050 Large Semi Tractor-Trailers



Why Ship via Inland Waterways?



# Increased Energy Efficiency

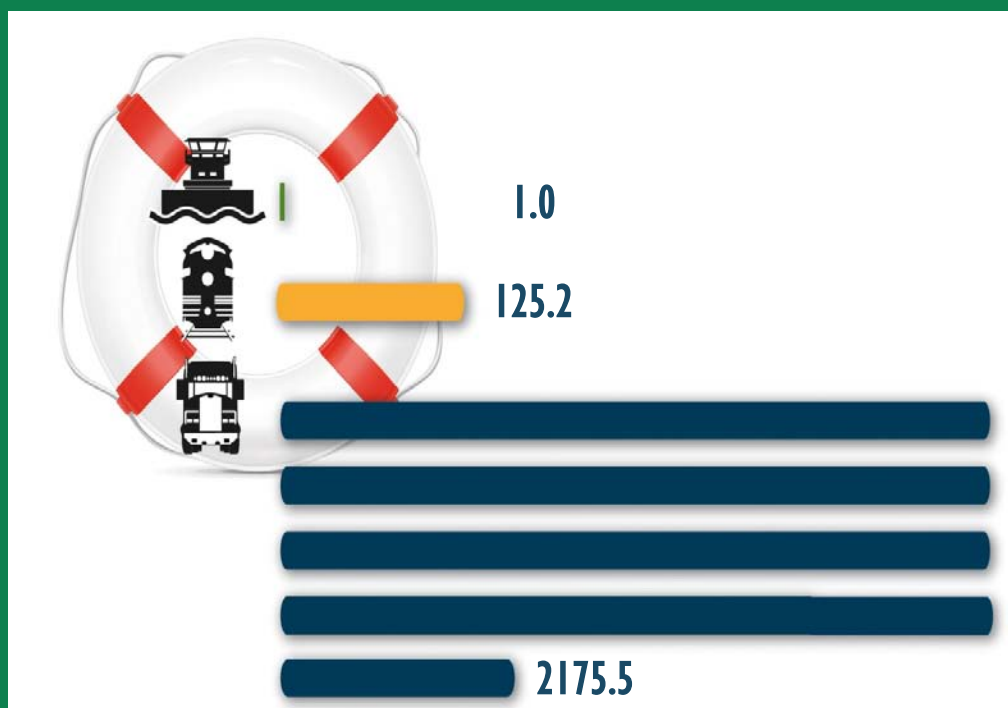


- Transporting freight by water is also the most energy-efficient choice.
  - Barges can move one ton of cargo 576 miles per gallon of fuel. A rail car would move the same ton of cargo 413 miles, and a truck only 155 miles.



# Safeguarding Our Health and the Environment

Inland waterways transport has a low injury record compared to rail or truck.

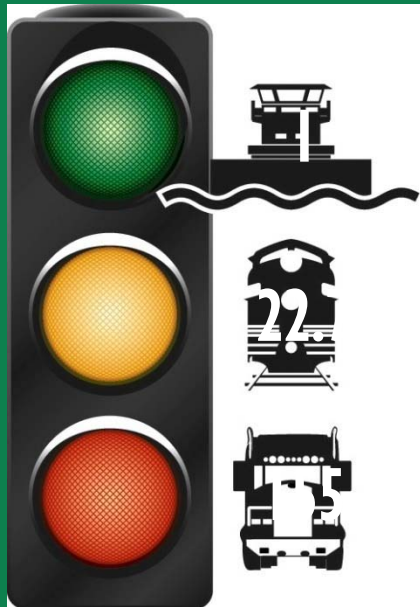


- For each injury involving barge transportation, there are 125.2 injuries related to rail and 2,171.5 truck-related injuries.



# Safeguarding Our Health and the Environment

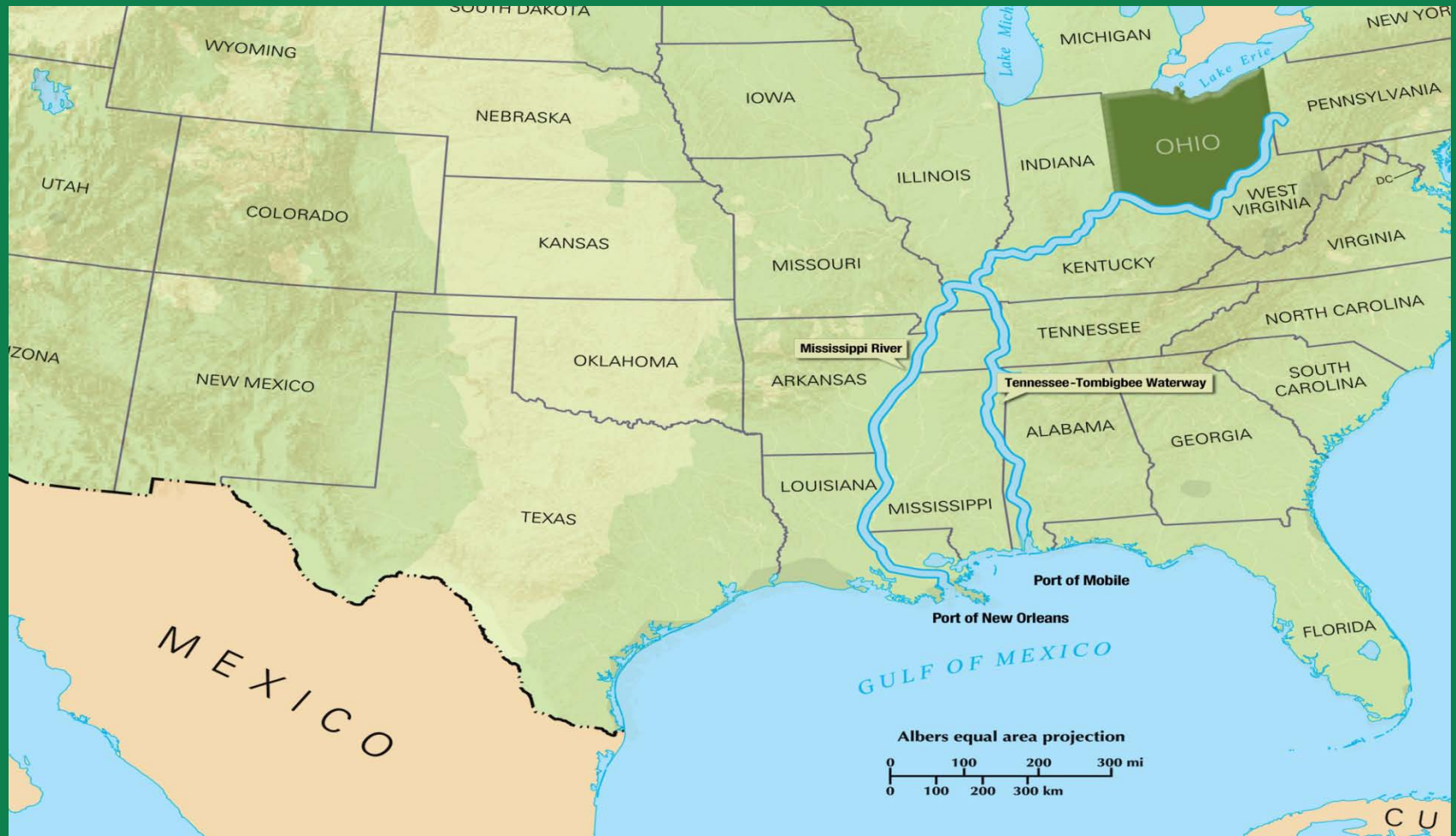
Inland waterways transport has a low fatality record compared to rail or truck.



- For each barge transportation fatality, there are 22.7 fatalities related to rail and 155 truck-related fatalities.



# The Ohio River – a closer look



The Ohio River – a closer look

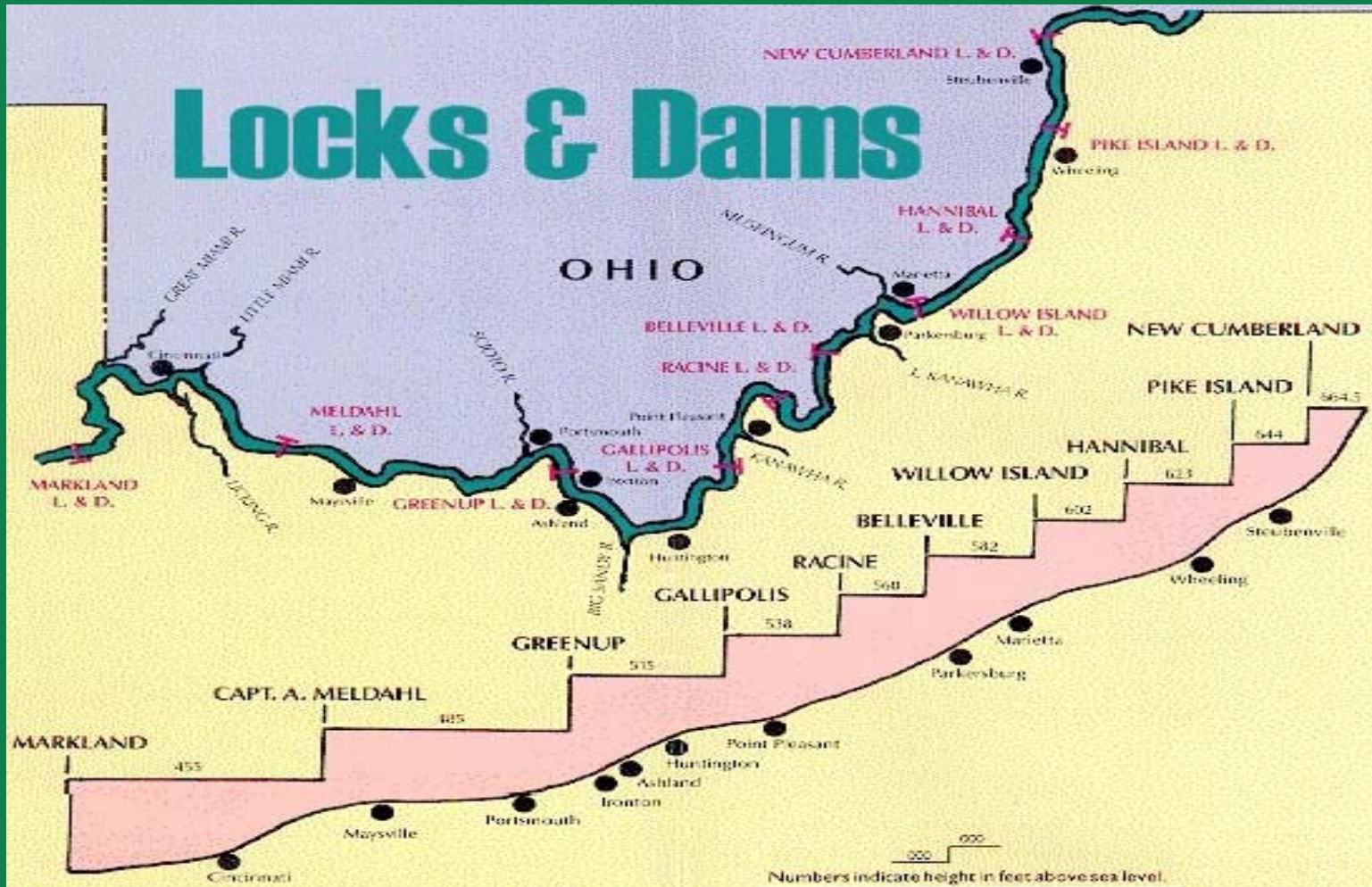


# The Ohio River – a closer look

- The Ohio River is the largest tributary, by volume, of the Mississippi River. The Ohio River begins Pittsburgh, PA and ends in Cairo, IL and it is approximately 981 miles long
  - 451 miles of the Ohio River are in Ohio
- The Ohio River was a naturally shallow river that was artificially deepened by series of dams. The dams raise the water level and have turned the river largely into a series of reservoirs or pools



# Ohio Locks and Dams



The Ohio River – a closer look



## Key Commodities on Ohio River

Coal is major commodity shipped on Ohio river..

- From river mile 41 through 492 the Ohio River carries mostly coal, but other valuable commodities such as aggregates, petroleum, iron, steel and chemicals are also transported by barge
- In 2006, over 64 million tons of commodities (mostly coal, petroleum, Iron Ore & Steel Products and aggregates) moved to, from, and within Ohio. These commodities had a combined value of more than \$5.4 billion. Coal made up just over than 73% of this tonnage, followed by aggregates at 5.7%.



# The Details.....

<u>Commodity</u>	<u>Shipped</u>	<u>Received</u>	<u>Within</u>	<u>Total</u>	<u>Value</u>	<u>% / \$</u> <u>Value</u>	<u>% / Ton</u>
Coal	9,044,850	30,525,189	7,654,465	47,224,504	\$1,804	33%	73%
Petroleum	859,508	2,295,636**		3,155,144	\$525	10%	5%
Aggregates	772,860	2,557,058**		3,329,918	\$88	2%	5%
Grain	1,892,083**		0	1,892,083	\$293	5%	3%
Chemicals	97,981	2,691,680**		2,789,661	\$1,015	18%	4%
Ores/Minerals**		934,822	0	934,822	\$78	1%	1%
Iron/Steel	609,367	3,077,608	0	3,686,975	\$1,383	25%	6%
Other	<u>66,368</u>	<u>1,534,882</u>	<u>51,658</u>	<u>1,652,908</u>	<u>\$313</u>	<u>6%</u>	<u>3%</u>
<b>TOTALS</b>	<b>13,343,017</b>	<b>43,616,875</b>	<b>7,706,123</b>	<b>64,666,015</b>	<b>\$5,499</b>	<b>100%</b>	<b>100%</b>



# Terminals on the Ohio River



The Ohio River – a closer look



## Its NOT all Coal though..

- Cincinnati Bulk Terminals / Port of Cincinnati has the ability to move bagged minerals, palletized goods and steel cargo such as flat rolled products, long products, wire rod and slabs economically and efficiently.
- Just to the East, Cincinnati Barge and Rail Terminals offers similar services.
  - Both facilities are multi-modal offering on-site access to rail and nearby highway systems



# Its NOT all Coal though..



- ***Mountaineer Industries*** (MPR) has a multi-year contract to move steel from Gerdau Steel in Beaumont, TX to the Northeastern U.S., Ontario and Quebec via the Mississippi and Ohio Rivers, rail and over-the-road trucks. The empty barges will then take scrap steel back to Texas.



## And, A Truly Multi-Modal Move..



*An Ocean Vessel  
on the Ohio River!! -*  
Aries rocket components  
(40 ton/18'diameter) built  
by NASA Glen were  
loaded in Wellsville onto  
an ocean going vessel  
capable of river transit for  
delivery to Cape  
Kennedy in Florida.



# *Challenges* and Opportunities Going Forward

- Challenges include
  - An Aging Inland Waterways infrastructure
    - System of Locks and Dams at end of design life
  - Workforce Availability
  - Perceptions about Container on Barge (COB) Feasibility
    - Not a Silver Bullet – no Ohio River community will be come a prospering inland COB facility overnight
    - Hint – look to Europe



# Challenges and *Opportunities* Going Forward

- **National Transportation Network Congestion is an Opportunity to expand Ohio River usage**
  - Double stacking rail routes (Heartland Corridor / National Gateway)
  - More lanes on the highway system
  - Panamax ships to carry more containers per ship (more next..)
  - National initiatives to double US exports in the next 5 years
  - Global economies demanding more on the network
- **What else can we leverage? Water...**
  - Capacity: US inland waterways currently operate at only 30% of capacity so they are in the best position to cost effectively absorb a substantial amount of such cargo increase
  - Marine Highway Corridors – Ohio ODOT is lead for both the M-90 and M70 Marine Highway Corridors



# Challenges and *Opportunities* Going Forward

And yes, Container on Barge....

- Panama Canal Expansion Project (2014)
  - double the capacity of the Canal by 2014
    - Heartland Corridor / National Gateway
  - Ohio River connects to deep water ports of New Orleans, LA and the Mobile, AL
- Congestion and an increased focus on ***true costs (including externalities)*** of freight transportation will likely push emphasis on River transportation including COB possibilities



# Some Food for Thought – where COB is Reality..



# Challenges and *Opportunities* Going Forward

- In closing, Inland River transportation ***makes sense*** and as such the Ohio River remains an Underutilized Asset for Shipping Commodities to Global Markets – why?
  - ***It Reduces Congestion*** on other modes
  - ***Provides Energy Efficiency***: It is very unlikely fuel prices will remain steady much less decline
  - ***Is Environmentally Efficient*** – On the critical issue of air quality, waterways are a valuable solution
  - ***Provides Environmental Safety*** - Inland waterways transport moves hazardous materials safely
  - ***Promotes Human Safety*** - When it comes to the issue of health and safety, the ratio of waterways-related *injuries and fatalities* are much lower than the other modes



# Office of Maritime & Freight Mobility



## Thank you

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**That's all Folks...**



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