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## **WATERWAYS REMAIN SUPERIOR FOR ENERGY EFFICIENCY, LOWEST EMISSIONS, CONGESTION RELIEF AND SAFETY**

Washington, DC -- The National Waterways Foundation (NWF) has commissioned an update of its study comparing selected impacts of utilizing inland waterways barge transportation to highway and rail transportation. ***A Modal Comparison of Domestic Freight Transportation Effects on the General Public: 2001–2019 (January 2022)*** was conducted by the Texas A&M Transportation Institute's Center for Port and Waterways. Originally conducted and peer reviewed in 2007, the study was also previously updated in 2011 and 2017 when data sets were available.

The 2022 update addresses cargo capacity, congestion, emissions, energy efficiency, safety and infrastructure impacts.

Specifically, the [study](#) ([accompanying graphics](#) can be used with credit to the NWF):

underscores the environmental impacts of the three modes, with inland waterways transport generating far fewer emissions of greenhouse gas emissions (GHG), hydrocarbons, carbon monoxide and nitrous oxide than rail or truck per-million-ton-miles:

- **Of GHG emissions (metric tons produced per million ton-miles), barges emit 15.1 tons (vs. 15.6, 2014), while railroads emit 21.6 tons -- 43% more than barge transportation -- (vs. 21.2, 2014), and trucks generate 140.7 tons or 833% more than barges (vs. 154.1, 2014). See study, page 8.**

highlights significant infrastructure impacts if waterborne freight were diverted to highways or rail:

- **Approximately 2 inches of asphalt would have to be added to the pavement of 119,885 lane-miles of rural interstate, given the higher levels of expected 20-year truck loadings and assuming an even truck traffic distribution over the national highway system. See study, page 15.**
- A hypothetical diversion of grain shipments from water to the current rail system would mean **rail may not accommodate the shift, which would equate to 2.3 times the current number of grain carloads on both the UP system and the CN network in the U.S. See study, page 15.**

compares cargo capacity of trucks, trains and inland waterways barges:

- One 15-barge river tow has the same capacity as 1,050 trucks and 216 rail cars pulled by six locomotives. To fully appreciate this, the study notes that **one loaded, covered hopper barge transporting wheat carries enough wheat to make a one-**

**pound loaf of bread for every man, woman, and child living in Oklahoma in 2019.**

- **A loaded liquid tank barge with 27,500 bbl (US liquid barrel) of gasoline carries enough product to satisfy the current annual gasoline demand of approximately 3,072 people.** See study, page 4.

addresses the amount of cargo currently transported on major rivers and waterways (2018) and underscores traffic congestion impacts:

- **That waterway cargo is equivalent to more than 43 million truck trips annually on the nation's roadways in lieu of water transportation.** The hypothetical diversion of current waterways freight traffic to highways would add 867 trucks to the current 960 trucks per day per lane on a typical rural interstate. The percentage of trucks in **average annual daily traffic would rise 11%** (from 17% to 28%). These additional truck trips would cause the weighted average daily trucks per lane on certain interstate segments to rise to 138% of current levels nationwide. See study page 5.

shows the energy efficiency of waterways commerce:

- **Barges can move cargo 675 ton-miles** per gallon of fuel (vs. *647 miles/gallon, 2014*), **trains can move it 472 miles** (vs. *477 miles/gallon, 2014*), and **trucks can move it 151 miles** (vs. *145 miles/gallon, 2014*). See study, pages 8-9.

determines that barges are safer to people and the environment (after adjusting for differences in cargo quantity moved by each mode via ton-miles of freight traffic):

- For **one (1)** person injured in a barge accident, **96 are injured in rail accidents** (vs. *81, 2014*) and **1,145 are injured in truck accidents** (vs. *878, 2014*).
- For **one (1) barge related death**, there were **26 rail deaths** (vs. *21.9, 2014*) and **121 trucking deaths** (vs. *99.9, 2014*). See study, pages 10-12.
- Spills of more than 1,000 gallons per-million-ton-miles are **very low for barges at 2.3** spills per-million-ton-miles (vs. *2.1, 2014*), **rail at 6.6** spills per-million-ton-miles (vs. *6.0, 2014*) and **trucks at 5.5** spills per-million-ton-miles – more than double the amount of barge spills -- (vs. *6.0, 2014*). See study, page 14.

“While our society is intermodally connected, this study’s rail, truck and inland waterways transportation modal comparison underscores the many benefits and advantages of moving cargo by water,” said Matt Woodruff, Chairman of the National Waterways Foundation. “The inland waterways mode is simply the most energy efficient, safe, and environmentally sound surface mode to transport our nation’s critical commodities.”

*The mission of the National Waterways Foundation is to develop the intellectual and factual arguments for an efficient, well-funded and secure inland waterways system. Visit [www.nationalwaterwaysfoundation.org](http://www.nationalwaterwaysfoundation.org)*