

# *the* **WATERWAYS JOURNAL**

## **Modal Comparison Data Upgrade Is Welcome**

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### **EDITORIAL**

“It can’t be repeated too often: even though water transportation can and will get greener and improve its carbon emissions, it is already by far the greenest mode of transportation by the ton-mile, even in its current state, because of its inherent energy efficiencies.

Just as the release of the Corps of Engineers’ work plan and other funding streams that benefit ports and the inland waterways is focusing renewed attention on the importance of water transportation and infrastructure, the National Waterways Foundation—the research arm of the inland waterways industry—has published an update of its groundbreaking study comparing selected impacts of the various modes.

The study, titled “[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 Ports and Waterways. Originally conducted and peer reviewed in 2007, the study was previously updated in 2011 and 2017 when new datasets became available.

The 2021 update addresses cargo capacity, congestion, emissions, energy efficiency, safety and infrastructure impacts. Specifically, the study underscores the environmental impacts of the three modes, with inland waterways transport generating far fewer emissions of greenhouse gas emissions, hydrocarbons, carbon monoxide and nitrous oxide than rail or truck per million-ton-miles.

The gap between the modes remains stark. In the new, adjusted data comparing GHG emissions (metric tons produced per million ton-miles), barges emit 15.1 tons (vs. 15.6 in 2014), while railroads emit 21.6 tons, or 43% more than barge transportation (vs. 21.2 in 2014), and trucks generate 140.7 tons or 833% more than barges (vs. 154.1 in 2014).

The study also found that a hypothetical diversion of grain shipments from water to the current rail system would strain the rail system, requiring up to 2.3 times the current number of grain carloads on both the Union Pacific system and the Canadian National rail network in the U.S.

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 single loaded liquid tank barge with 27,500 barrels of gasoline carries enough product to satisfy the current annual gasoline demand of approximately 3,072 people.