

# GLMRIS-BRANDON ROAD

GREAT LAKES MISSISSIPPI RIVER INTERBASIN STUDY-BRANDON ROAD

## Overview of Information Utilized in the Navigation Economic Analysis

The navigation economic analysis estimated the impact of each alternative on navigation at Brandon Road Lock.

Aside from the 'No New Federal Action' and 'Nonstructural' alternatives, each alternative includes structural aquatic nuisance species (ANS) controls that are expected to result in changes to standard Brandon Road Lock operations. The impacts were estimated for all project phases, including: construction; operation & maintenance, repair, and rehabilitation & replacement.

Changes to current Brandon Road Lock operations were estimated using best-available engineering information.

Changes to standard operations were estimated based on the current level of design with the goal of minimizing impacts to navigation.

- As the study continues, additional engineering analysis and design will be completed with the goal of reducing the duration of impacts.
- Opportunities will be explored to schedule construction (and closures) concurrently with other operation & maintenance activities for locks in the Illinois Waterway.

**Tentatively Selected Plan:** Estimated changes to current Brandon Road Lock operations during each project phase

**Construction:** Scheduled 40-day lock closure; and scheduled intermittent short-term lock closures

**Operation:** Increased transit time for lock flushing

**Maintenance, Repair, Rehabilitation, & Replacement:** Scheduled, Intermittent short-term lock closures to replace electric barrier equipment.

The navigation economic analysis leveraged information provided from navigation stakeholders.

Information was obtained from GLMRIS and GLMRIS-Brandon Road survey efforts, a safety workshop, and the NEPA scoping process. A brief description of input obtained during these efforts is presented below:

Utilized Industry Input

**2011 GLMRIS Survey** – The 2011 survey was administered to shippers and carriers that use the Chicago Area Waterway System (CAWS), who collectively represented 99% of CAWS traffic for years 2007-2009. Amongst other questions, respondents were asked to identify how changes in waterway availability/operations would affect their ability to remain profitable.

**2016 GLMRIS Brandon Road Survey** – The 2016 survey responses were used to validate use of the robust 2011 GLMRIS survey. The 2016 survey was provided to a subset of 2011 survey participants. Results from each survey effort were compared to identify variations in responses. The comparison found the responses were consistent.

**Navigation Safety Workshop** –Users of Brandon Road Lock provided information about navigation procedures and operations near Brandon Road Lock, and concerns about transiting electric barrier safely if located close by.

**NEPA Scoping** – Additional mooring cells were added in response to input from the navigation community; and key safety concerns were reiterated about transiting an electric barrier.

The navigation economic analysis leveraged information provided from navigation stakeholders.

Data sources and models utilized in the GLMRIS-Brandon Road navigation economic analysis include:

Data	<b>Lock Performance Management System</b> – historical lockage frequencies and durations
	<b>Waterborne Commerce Statistics</b> – historical tonnage data by commodity type (coal, petroleum, etc.)
Models	<b>Waterway Analysis Model</b> – estimate how project alternatives would affect transit times
	<b>Navigation Investment Model</b> – estimate costs of additional resources (towboats, trip time, fuel, etc.) required to transport commodities through Brandon Road Lock, and if alternate routes/modes would be more cost-effective.

Best-available engineering information, industry input, and economic data & models were leveraged to estimate the impact of project alternatives on navigation at Brandon Road Lock.



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