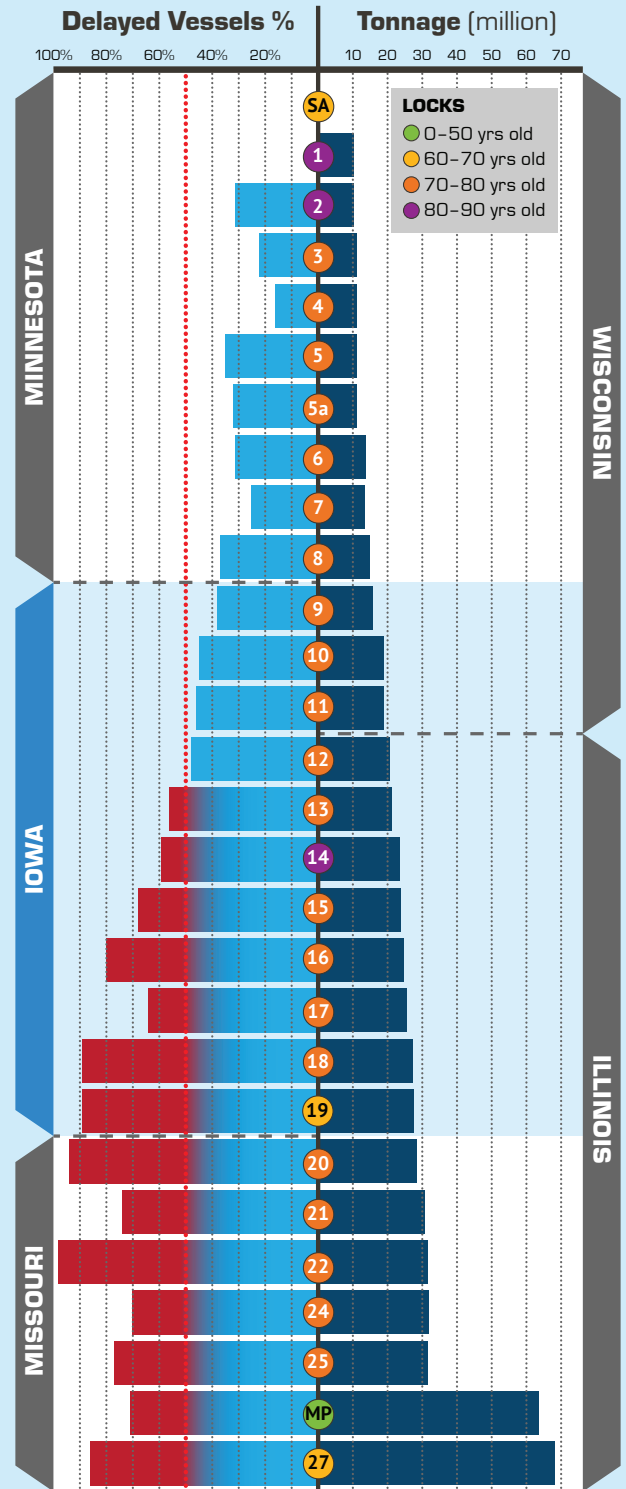


The Iowa Department of Transportation (Iowa DOT) completed a U.S. Inland Waterway Modernization Reconnaissance Study (Reconnaissance Study) in April 2013 that provided recommendations to improve infrastructure and legislation for the Upper Mississippi Inland Waterway (UMIW). With several recommendations from the Reconnaissance Study coming to fruition, the Iowa DOT continued planning efforts in 2017 and 2018 through additional analyses of the UMIW infrastructure, pilot project scenarios and their economic impacts, and governance and alternative financing options. Throughout these analyses, the Iowa DOT emphasized collaboration with the United States Army Corps of Engineers (USACE) and other agencies, DOTs, and industries related to freight transportation through one-on-one interviews and a stakeholder summit. Each analyses culminated into a cohesive and implementable report for the Iowa DOT to promote an improved UMIW.



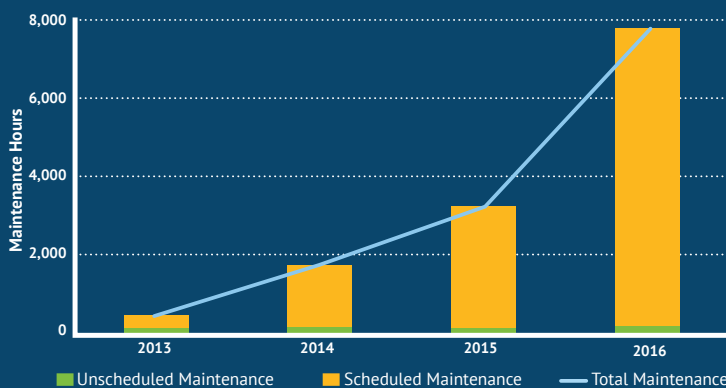
UPPER MISSISSIPPI LOCKS & DAMS ANNUAL VOLUME OF TRADE VS. DELAYS



2016 calendar year USACE data

LOCK OUTAGE MAINTENANCE HOURS

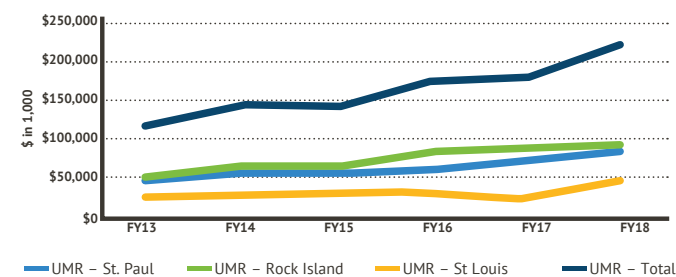
Old locks require increasing maintenance.



INFRASTRUCTURE UPDATE

The UMIW contains deficient infrastructure and is in need of modernization due to age and/or lack of funding to provide timely improvements. As such, the system continues to have increased risks of major service interruptions if the underlying deficiencies are not addressed.

UMIW OPERATIONS AND MAINTENANCE FUNDING, FY13 – FY18



GENERAL INVESTIGATIONS



CONSTRUCTION / INLAND WATERWAYS TRUST FUND (IWTF)



OPERATIONS AND MAINTENANCE



FUNDED

*Currently, only the Operations and Maintenance budget is being consistently funded. This budget funds daily lock and dam operations and risk based maintenance.

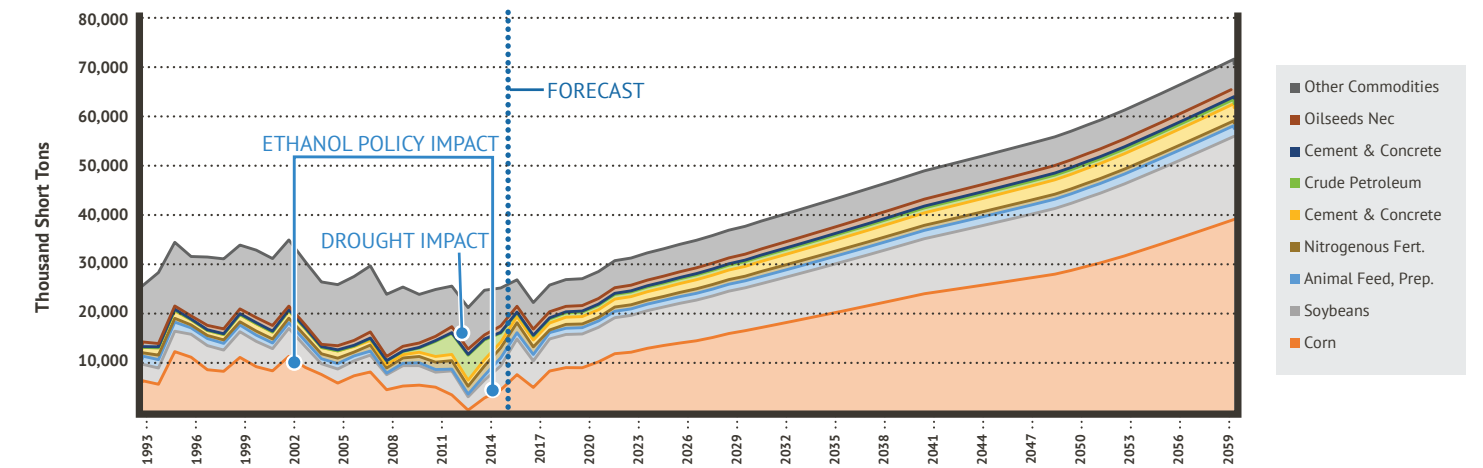
PILOT PROJECT SCENARIOS & ECONOMICS ANALYSIS SUMMARY

Three system upgrade pilot project scenarios were developed to maximize an array of benefits to the UMIW in order to capitalize on the momentum of the Reconnaissance Study. These pilot projects will improve the reliability, capacity, and efficiency of the existing system.

Pilot Project	Description	Net Present Value (Millions 2018\$)	Benefit-Cost Ratio	Gross Regional Product, Average Per Year (Millions 2018\$)
<p>Micro Upgrade</p>	A micro (small-scale) navigation efficiency improvement is a stand-alone pilot project that can easily be replicated at additional sites such as a mooring cell.	\$6.2	3.52	\$0.5
<p>System Reliability Improvements</p>	A system reliability improvement pilot project that would reset the design life and enhance the reliability of the lock chambers is re-energizing the Major Rehabilitation Program on the UMIW.	\$368	1.25	\$125
<p>Large-Scale Upgrade</p>	A large-scale navigation capacity and efficiency improvement project on the UMIW that would expand lock capacity and improve lock efficiency.	<p>USACE is currently (FY 2019) performing an economic update for the Navigation and Ecosystem Sustainability Program (NESP). Refer to USACE update for more details.</p>		

REGIONAL BARGE COMMODITY FLOWS (IOWA, ILLINOIS, MINNESOTA, WISCONSIN, AND MISSOURI)

Waterway commodity flows are anticipated to more than double by 2060 (assuming stable climate conditions and trade policies) based on stable ethanol production freeing gains in corn yields for export and global demand for soybeans tracking with overall population growth in developing countries.



Source: U.S. Army Corps of Engineers' Lock Performance Monitoring System (LPMS) for historic data; Informa Economics IEG for forecast information

GOVERNANCE AND ALTERNATIVE FINANCING ANALYSIS

Iowa DOT and USACE could develop a government-to-government partnership under Iowa and Federal Law, such as:

- 1 State-Federal**

Under existing authority, the most likely options for improving the UMIW are:

 - ✓ Iowa DOT transfers funding to USACE; USACE plans, designs, and constructs improvements.
 - ✓ Iowa DOT receives Section 408 approval to implement projects; USACE incorporates completed projects into the UMIW.
- 2 State-Port Authority-Federal**

Organized under port authority code Chapter 28J, a regional, multi-state port authority could partner with private business to promote economic expansion and also target revenue capture from a larger subset of direct project beneficiaries for operations, maintenance and improvements of UMIW infrastructure.
- 3 State-Port Authority-Private-Federal**

A P3/P4 governance framework could assist with increasing the reliability of funding and attract private capital to the UMIW but could be difficult to implement.

The inclusion of navigation as an authorized purpose of a Port Authority would provide the opportunity for more partnerships. Revenues would have to be generated to fund the local share of navigation improvements. Some ideas that have been explored include:

- Fuel tax from non-commercial industry
- Charging tolls to non-commercial vessels
- Assessing fees for water use
- Hydro power revenue
- Regional sales or property tax

UMIW SUMMIT

Iowa DOT hosted an in-depth Summit on Friday, June 8, 2018 where stakeholders learned about present issues and future uses for the UMIW. Approximately 45 stakeholders attended the Summit, including representatives from state Departments of Transportation, USACE, elected officials, industries related to freight transportation, and special interest groups, to provide their input on the future of the UMIW.

The Summit brought together a diverse set of stakeholders, allowing for valuable and lively discussions that will ultimately help Iowa DOT move forward with future improvements to the UMIW.

RESULTS

BREAKOUT SESSION #1

Define and Prioritize Issues Within the System

Fully funded individual projects rather than segmented, yearly funding



Funding for Major Rehabilitation projects



BREAKOUT SESSION #2

Feasible Alternative Financing Options

Regional Port Authority concept



Create hydropower



RECOMMENDATIONS

ACTION

BENEFITS

SPECIFIC RECOMMENDATIONS FOR IOWA

Use a State-Federal Public-Public (P2) project partnership agreement (PPA) and/or contributed funds to implement the mooring cell Micro Upgrade scenario at L&D 14.

Demonstrates progress on implementing improvements and the importance of non-federal/Federal partnerships, as well as providing high return on minimal investment, and can be easily replicated.

Establish a regional cooperative working group with other UMIW states to expand and promote the Micro Upgrade scenario.

Leverages additional small investments in a low cost and environmentally beneficial way to improve efficiency of the UMIW.

Update State of Iowa port authority statutes for the ability to enter into USACE partnership agreements and develop financing tools for improvements.

Provides the opportunity to create a special purpose unit of government that is inherently vested in promoting an improved navigation system.

Evaluate an additional economic scenario that focuses on new markets, technologies, and innovation for transporting goods on the UMIW, such as container traffic or new commodities.

Current economic analysis focuses on expansion of existing commodities only. Consideration of potential new uses could potentially improve the benefit cost ratios or modify desired improvements.

FEDERAL/REGIONAL RECOMMENDATIONS

Encourage Congress, the Administration, and USACE to fund and complete necessary implementation guidance for WRRDA 2014 Sections 2004a, 2004b, and 5014.

Provides the necessary study and recommendations to Congress to move forward with the previously authorized programs for using new sources of revenue and partnerships on USACE related water resource programs.

Explore implementation of the first increment of mooring cells identified in NESP as a separable element or split delivery model.

Allow NESP to gain traction and move forward on navigation and environmental improvements. The use of the split delivery model has proven successful in moving forward USACE risk reduction projects.

Engage with regional stakeholders to consider establishment of a broader UMIW port or navigation authority to promote navigation improvements.

Provides for an Upper Mississippi River commission or authority to advocate for navigation improvements.