IOWA DOT

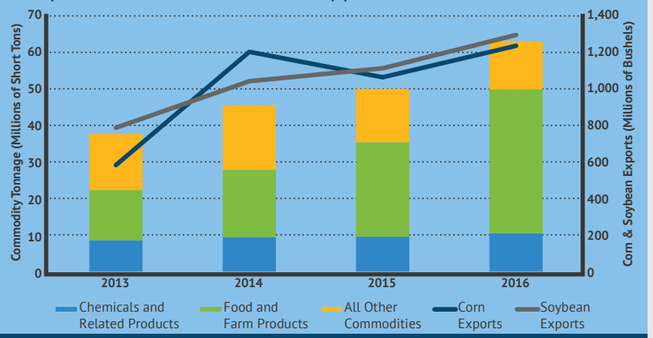
UPPER MISSISSIPPI INLAND WATERWAY INFRASTRUCTURE

PARTNERSHIPS TO TRANSFORM A VITAL TRADE CORRIDOR TO THE HEARTLAND

LOCK DELAYS COST TIME & MONEY

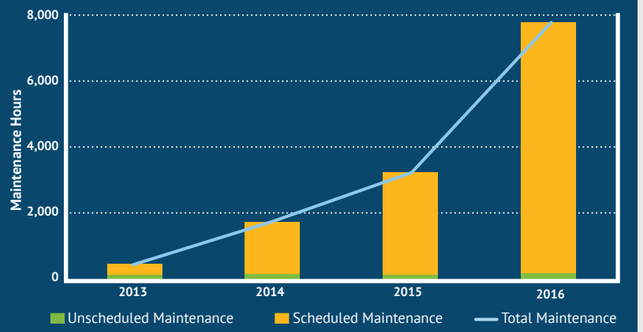
MISSISSIPPI RIVER USAGE

Exports and use of the Mississippi River is on the rise.



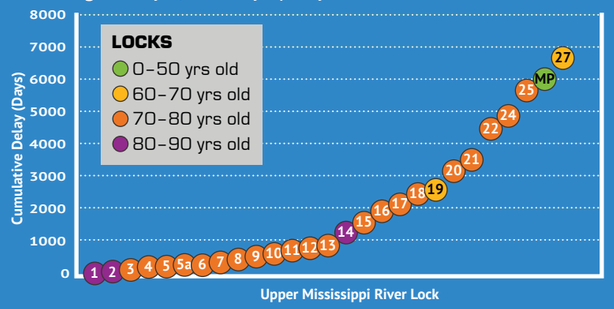
LOCK OUTAGE MAINTENANCE HOURS

Old locks require increasing maintenance.



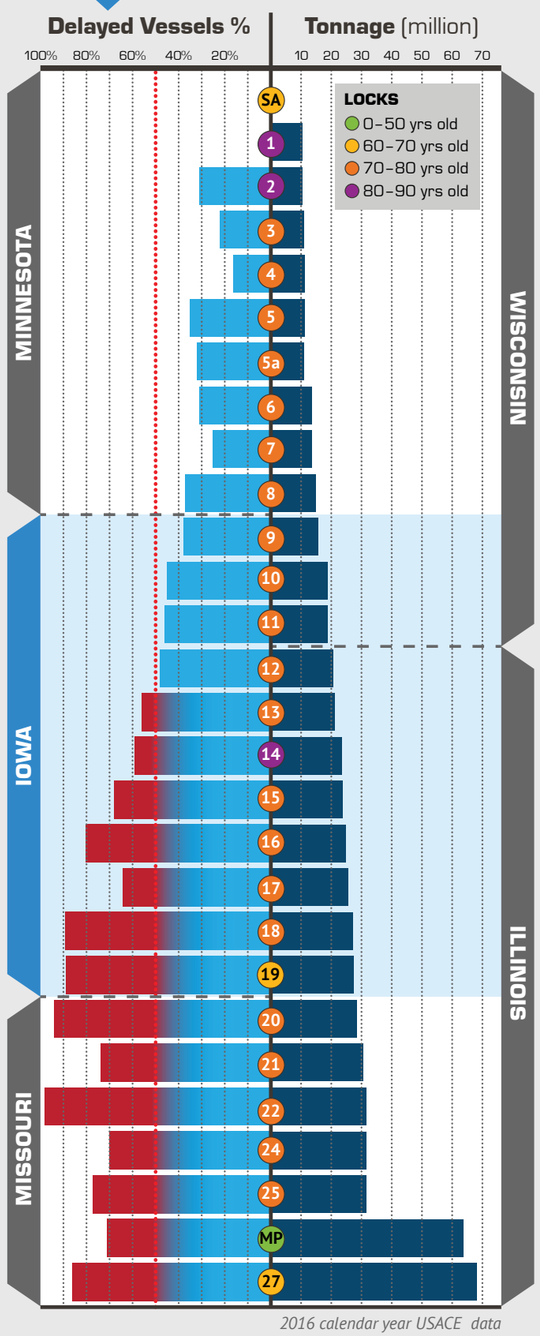
2016 CUMULATIVE LOCKAGE DELAYS

Without improvements to existing 1930s design, processing times along the Upper Mississippi River Inland Waterway will remain unchanged and lead to costly congestion and delays, totaling nearly 7,000 days per year.



UPPER MISSISSIPPI LOCKS & DAMS

ANNUAL VOLUME OF TRADE VS. DELAYS



2016 calendar year USACE data

IOWA DOT
GETTING YOU THERE

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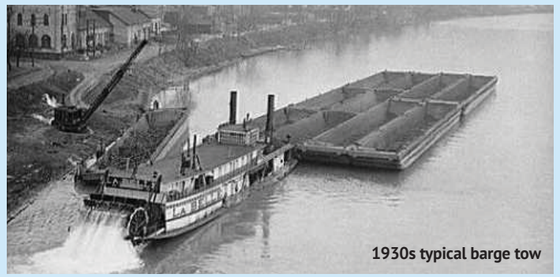
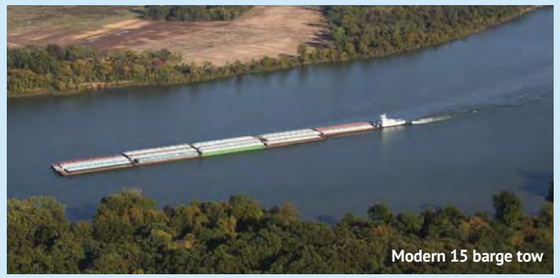
PARTNERSHIPS TO TRANSFORM A VITAL TRADE CORRIDOR TO THE HEARTLAND

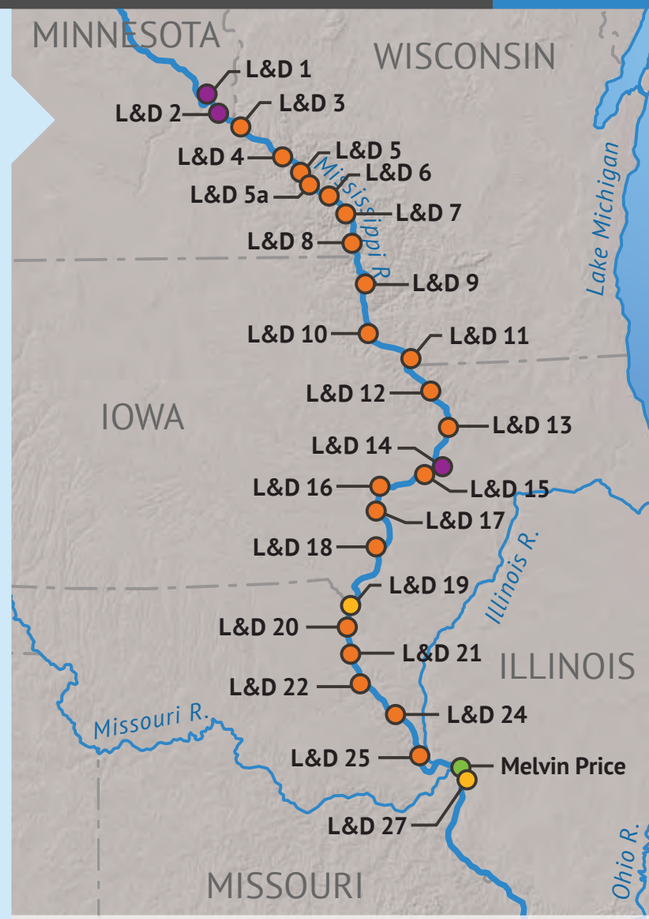
The Upper Mississippi Inland Waterway (UMIW) provides the five state region with low cost, critical connections to domestic and international markets. Recent studies and shipping data provide strong evidence that use is increasing along with costly delays and congestion. Progress is required in five areas to maintain the competitiveness of the UMIW. These include Partnerships, Legislation, Financing, Infrastructure Improvements and Competitiveness. The UMIW was built for the 1930's tows and needs modernization to serve current traffic as a reliable and efficient trade corridor that connects the heartland to global markets. By taking action, we can create more jobs, capture more market share, grow the economy and enhance America's prosperity.



1930s typical barge tow



Modern 15 barge tow



NOTE: Generally built with a 50-year design life, most locks are 20–30 years past their original design life.

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Prepared by Iowa Department of Transportation

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FUNDING FOR THE FUTURE

ACTION	BENEFITS
Congress funds Section 2004 A & B of Water Resources Reform and Development Act of 2014 – Inland Waterway Studies	Engage waterway stakeholders to establish a capital or bond fund by ring fencing a portion of the inland waterway trust fund to save money and speed implementation.
Congress funds Section 5014 of Water Resource Reform and Development Act of 2014 – Water Infrastructure Public-Private Partnership Programs	Establish a pilot program to leverage inland waterway trust fund and federal appropriations with non-federal dollars to improve federal return on investment to enhance waterway infrastructure.
Congress appropriates implementation of Navigation and Ecosystem Sustainability Program (NESP)	The NESP program modernizes the UMR Waterway Lock and Dam System and enhances the river's ecosystem.
Congress creates enhanced Farm Bill provisions to fund a grant/loan program for inland waterway improvements	According to the Farm Bureau, one of every three acres is exported. Reducing shipping cost in the inland waterway results in prosperity and jobs for rural America.
Congress implements regulatory reform to streamline environmental permitting and approvals	Allow local sponsors to utilize all or portions of previously approved environmental documents without costly delays due to re-evaluation.
Establish Regional Waterway Authority as local project sponsor	Provides means to establish partnerships and alternative financing for waterway improvements.

UPPER MISSISSIPPI INLAND WATERWAY BENEFITS

Waterways provide a low cost, high volume intermodal option to move grain and bulk materials to international markets.

MOVE **MORE,** WITH **LESS**

1 BARGE
1,750 DRY TONS

16 RAIL CARS

70 TRUCKS

ECOSYSTEM BENEFITS

NESP authorized Upper Mississippi River improvements are also good for the environment. The NESP authorization requires comparable progress in meeting both navigation and ecosystem goals.

- ✓ Habitat restoration
- ✓ Restoring backwater habitats
- ✓ Pool level management
- ✓ Floodplain forest restoration
- ✓ Island restoration

OTHER BENEFITS

- ✓ Water supply
- ✓ Energy production cooling water
- ✓ Recreation
- ✓ Flood management

PILOT SCENARIOS

REDUCE CONGESTION

Pilot project for efficiency, reliability and safety improvements at a single lock, such as a mooring cell.

[Illustrated example below.]

INCREASE SYSTEM RELIABILITY

Major maintenance or rehabilitation across several locks or entire system.

INCREASE SYSTEM CAPACITY

Large-scale upgrades, such as a second lock chamber or extending an existing 600 foot lock to 1,200 foot lock.

THE TIME FOR PROGRESS IS NOW

PARTNERSHIPS

LEGISLATIVE ACTION

FINANCING

INFRASTRUCTURE IMPROVEMENTS

COMPETITIVENESS

POTENTIAL **DEMONSTRATION PROJECT**

A **MOORING CELL** is used to secure barges that are waiting due to a lock chamber that is already in use, referred to as an exchange lockage. Without a mooring cell, towboats rest barges along shore, tie off to trees or use engines to maintain position in the channel, stirring up sediments. A mooring cell provides waiting barges a closer, more environmentally friendly, and safer location to wait for access to the lock chamber. This reduces the time involved to navigate to the lock once the exiting tow clears.

PROTECTING RIVER & SHORELINE HABITATS

- ✓ Reduced riverbank erosion
- ✓ Reduced damage to shoreline vegetation
- ✓ Reduced turbidity impacts

ECONOMIC BENEFITS

- ✓ Reduced towboat fuel consumption
- ✓ Reduced CO_2 emissions
- ✓ Reduced delay times, which reduces costs
- ✓ Enhances worker safety

Courtesy of United States Army Corps of Engineers.

AS AN EXAMPLE...

Lock 14 experiences about **800 upbound exchange lockages** per year

A mooring cell at Lock 14 would **save 17 minutes** per exchange lockage or **220 hours** or **9 days** per year!

Installing a mooring cell at Lock 14 would cost around **$2 Million**