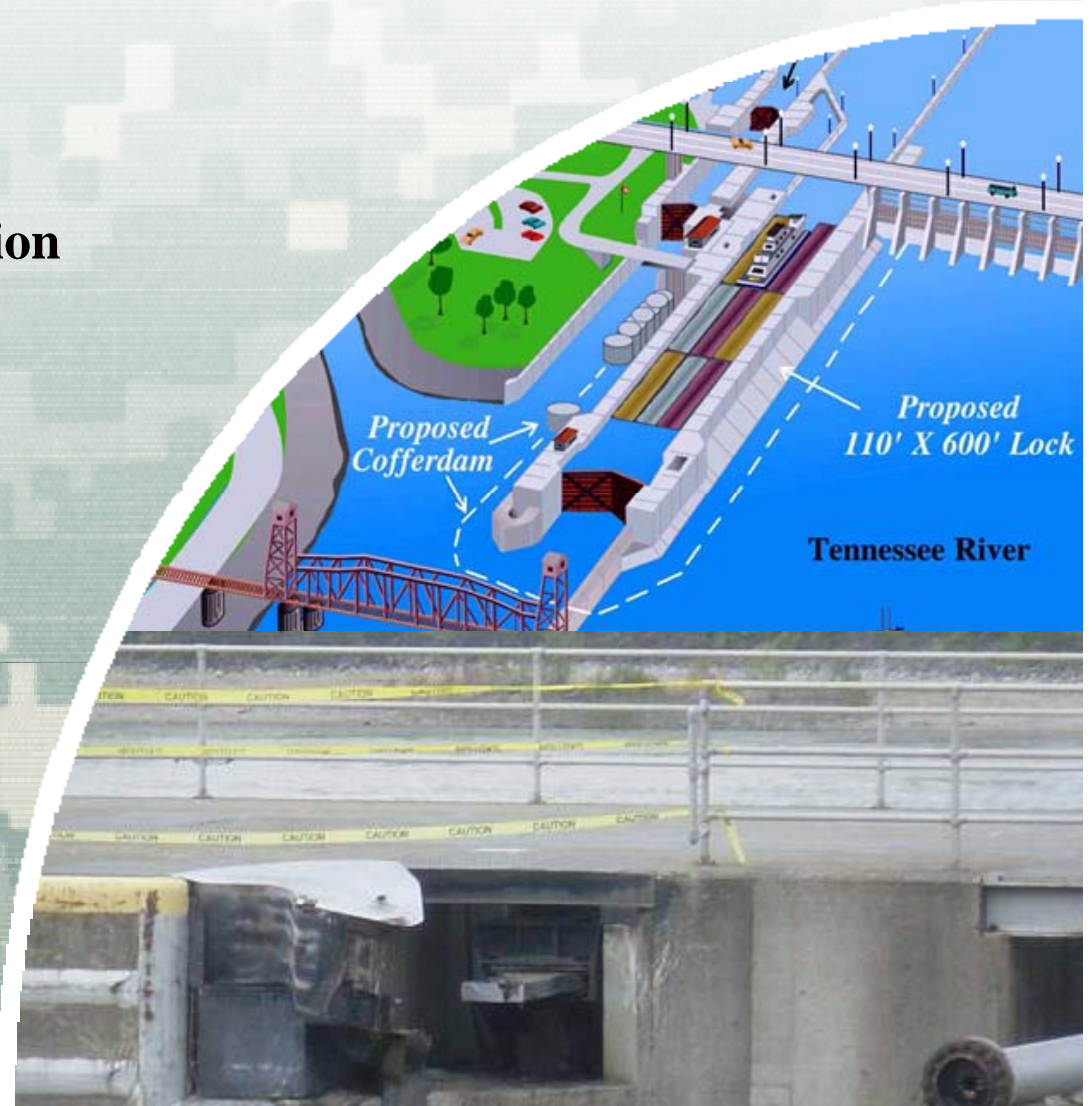


# Ohio River Navigation System Risk-Informed Development

MG John Peabody  
Commander  
Great Lakes and Ohio River Division



US Army Corps of Engineers  
**BUILDING STRONG**

# Topics

Value: Navigation Benefits

Status: System Risks

Initiatives: Development Actions

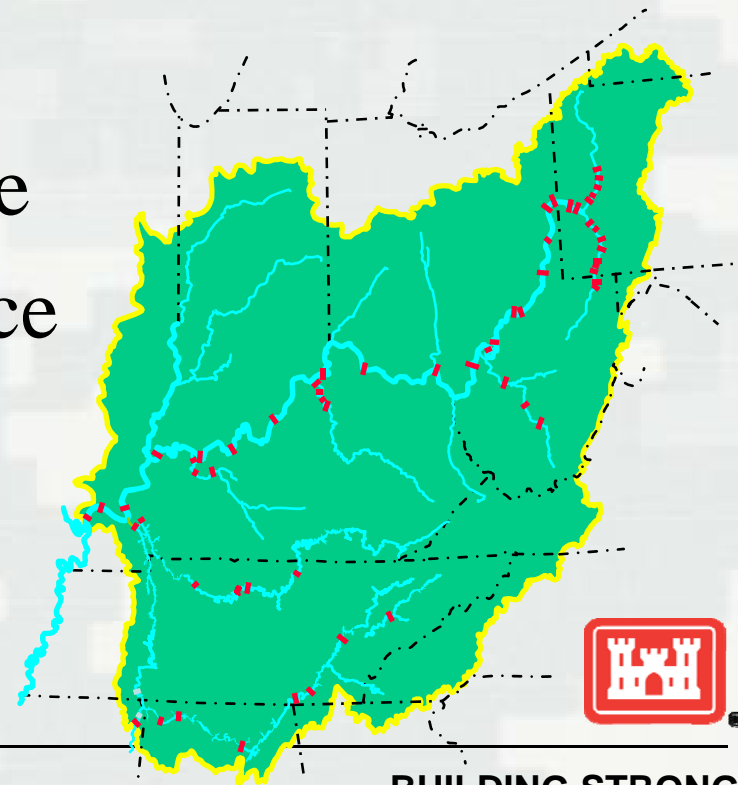
Target: Optimized Performance



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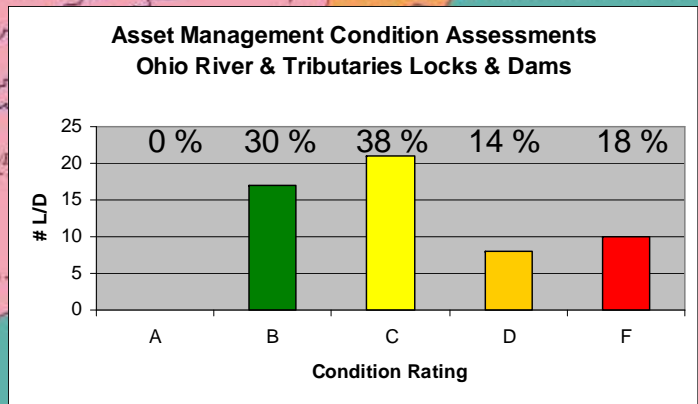
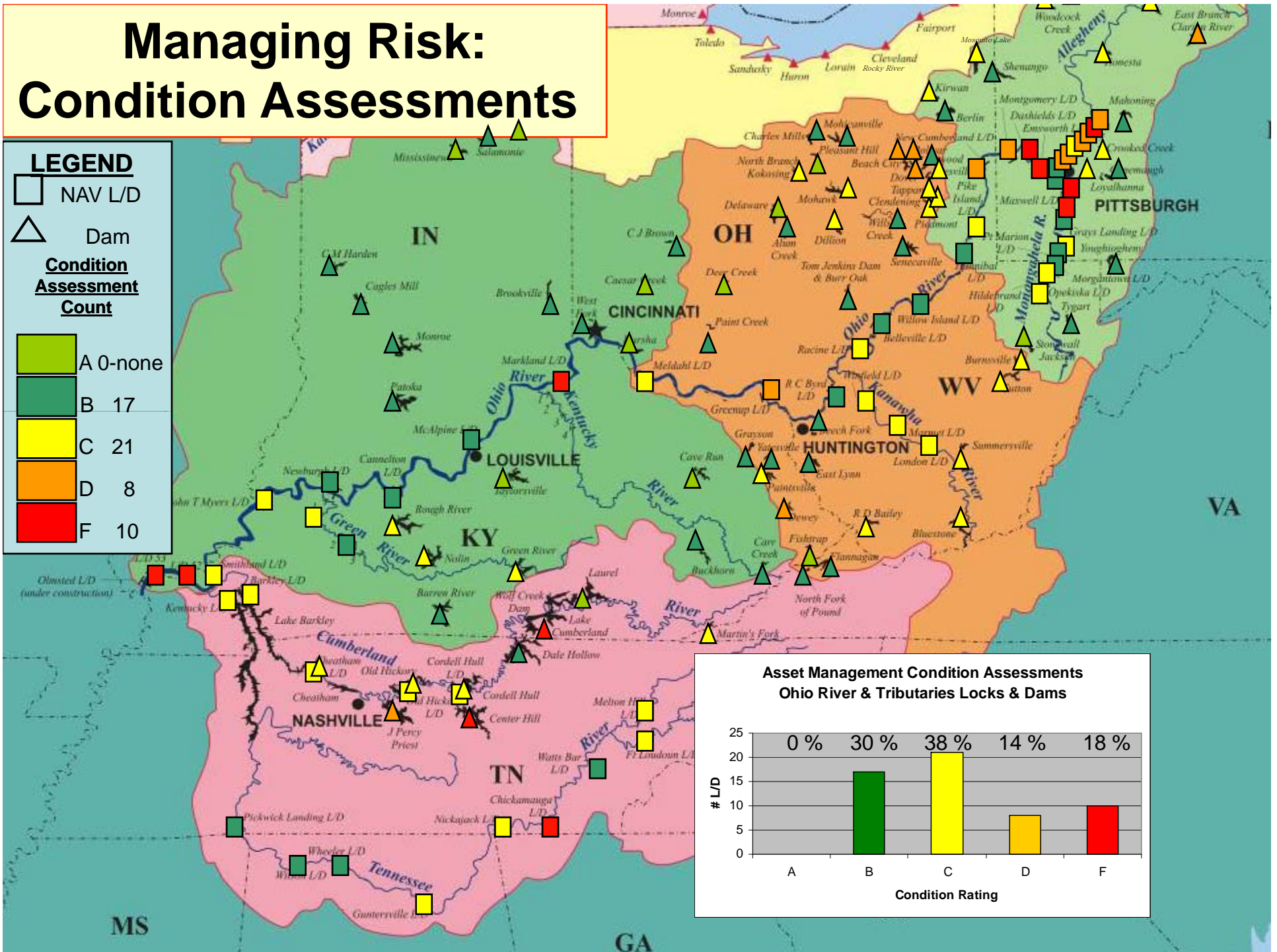
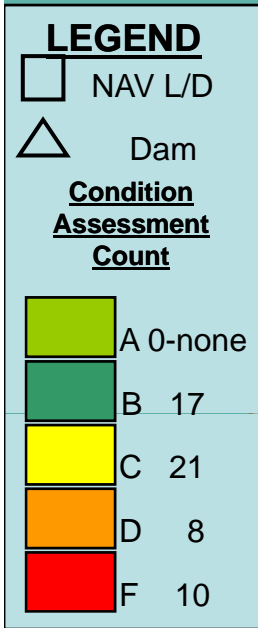
# System Value

- Value of investments
- National Economic Benefits
- Air pollution avoidance
- Road congestion avoidance
- Construction cost avoidance



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# Managing Risk: Condition Assessments



# System Outages Follow Low Ratings...

Greenup - 2003



Markland - 2009



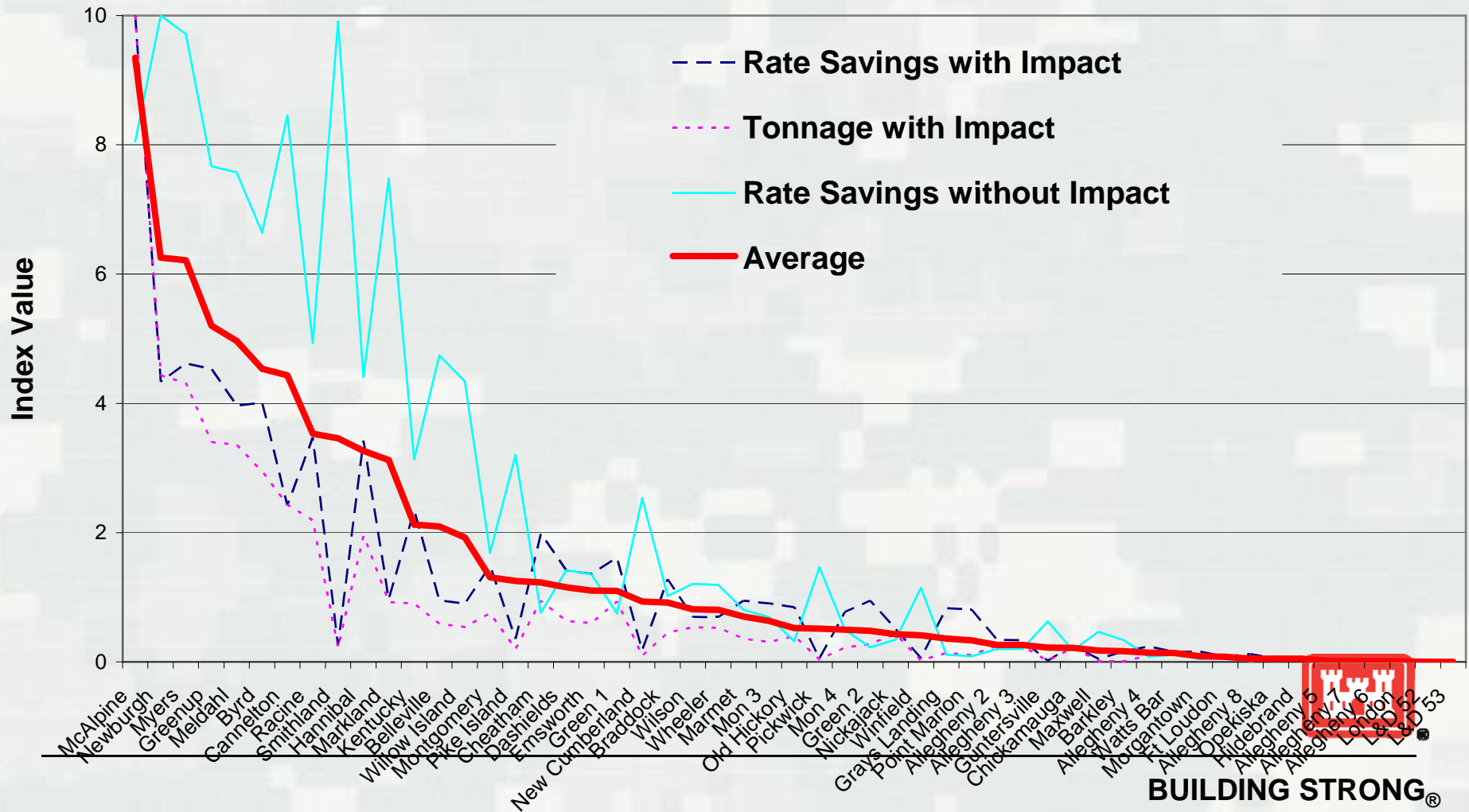
What cost???



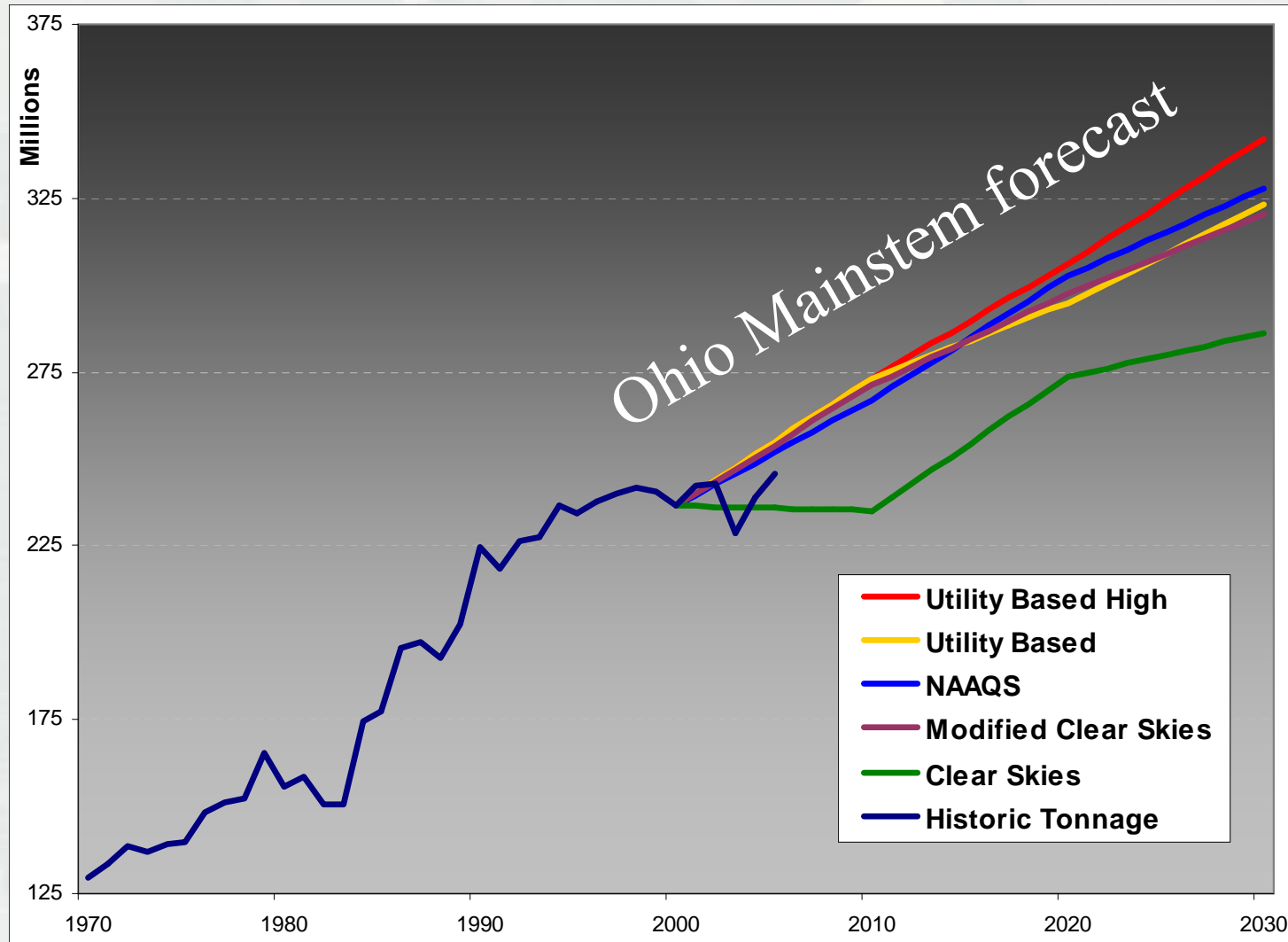
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# System Economic Impacts

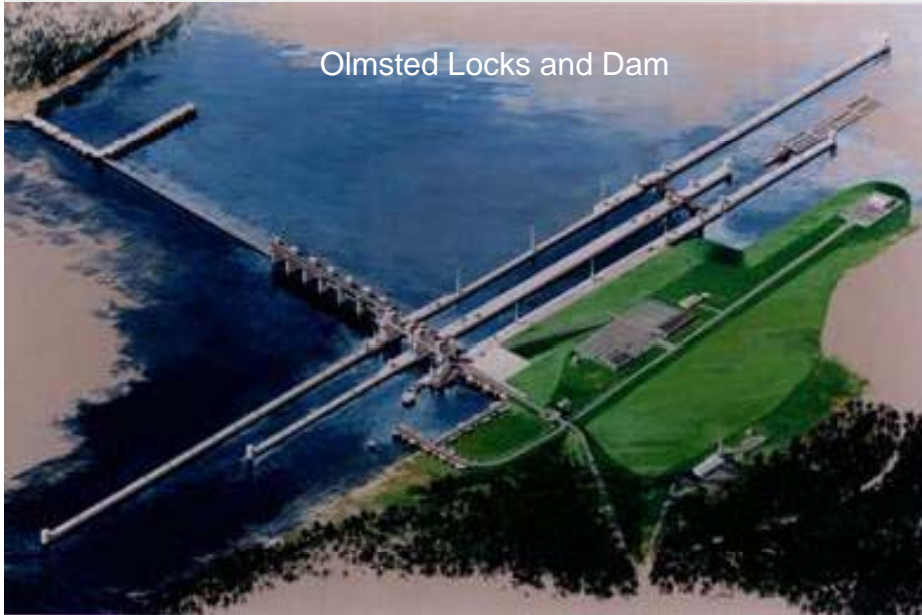
## Rate Savings and Tonnage as Performance Measures



# Traffic Forecast – Ohio Mainstem



# Projects Under Construction



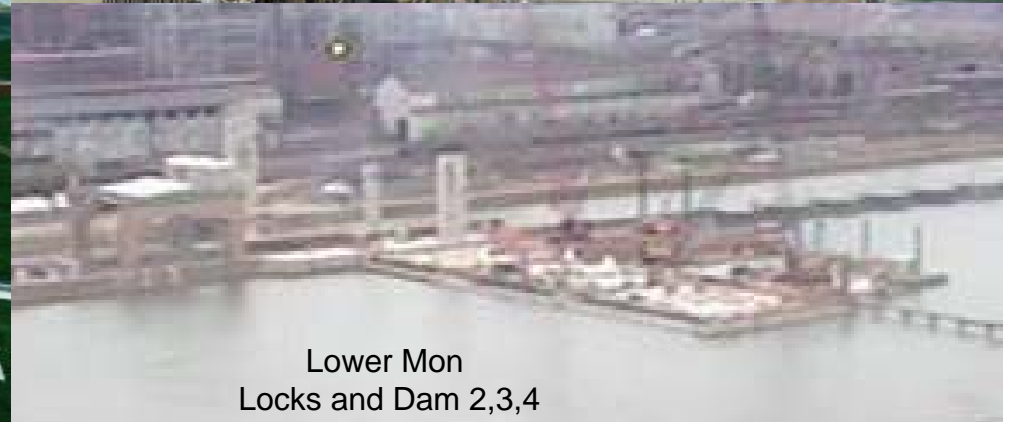
Olmsted Locks and Dam



Chickamauga Lock



Kentucky Lock and Dam



Lower Mon  
Locks and Dam 2,3,4

# Stimulus for Construction

Locks & Dams 2, 3, & 4, Monongahela River, PA	\$84,000,000
Chickamauga Lock, TN	\$57,500,000
Kentucky Lock, Tennessee River, KY	\$55,700,000
Emsworth L&D (Rehab)	\$19,000,000
Markland Locks & Dam, KY & IN (Rehab.)	\$10,135,000
John T. Myers Lock and Dam, IN	\$8,300,000
Olmsted Locks & Dam, IL & KY	\$4,906,000
Robert C. Byrd Locks & Dam, WV & OH	\$69,000
<b>TOTAL CONSTRUCTION</b>	<b>\$239,610,000</b>



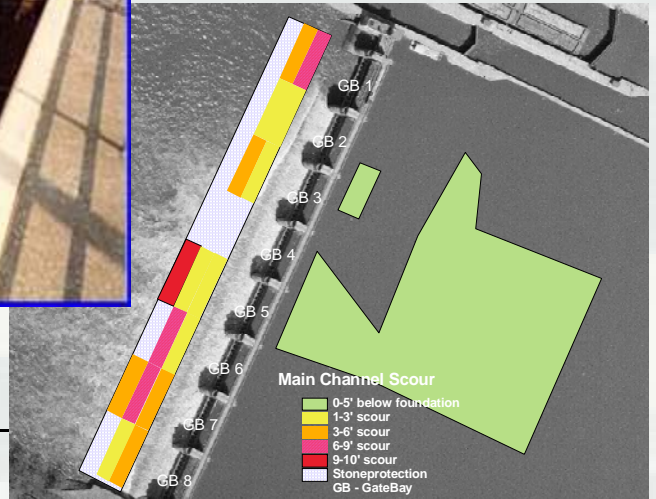
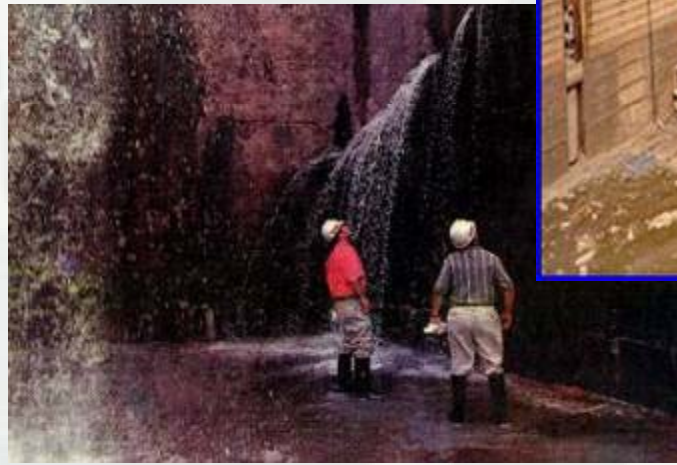
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# Future Program with Current Revenues

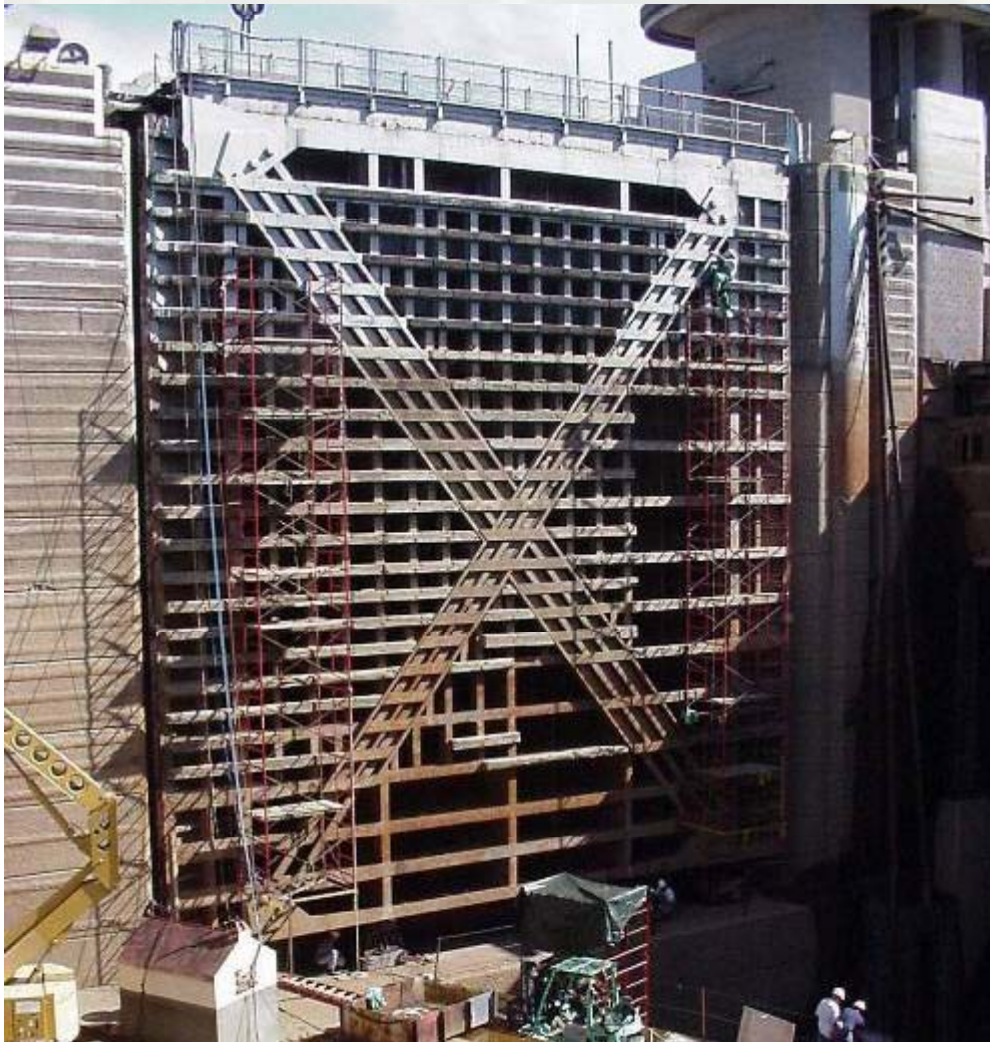
Current Program \$170M/YR - Projects completed with efficient schedule																													
Project	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
OLMSTED LOCKS AND DAM, OHIO RIVER, IL & KY																													
EMSWORTH LOCKS AND DAM, OHIO RIVER, PA (Dam Safety)																													
MARKLAND LOCKS AND DAM, KY & IN (MAJOR REHAB)																													
<b>TOTAL Efficient Funding</b>	136	145	136	148	145	134	67	50	28	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Current Program \$170M/YR - Projects completed with constrained schedule																													
LOCKS AND DAMS 2, 3 AND 4 - MONONGAHELA RIVER, PA																													
INNER HARBOR NAVIGATION CANAL LOCK, LA																													
KENTUCKY LOCK ADDITION, TN RIVER, KY																													
CHICKAMAUGA LOCK, TN																													
<b>TOTAL Constrained Funding</b>	8	25	33	21	24	34	102	118	140	166	170	167	167	168	169	169	168	168	165	167	72	89	167	169	148	155	126	121	49
<b>TOTAL Program</b>	144	170	169	169	169	168	169	168	168	166	170	167	167	168	169	169	168	168	165	167	72	89	167	169	148	155	126	121	49



# Reliability Maintenance Initiatives



# Key Projects Maintenance

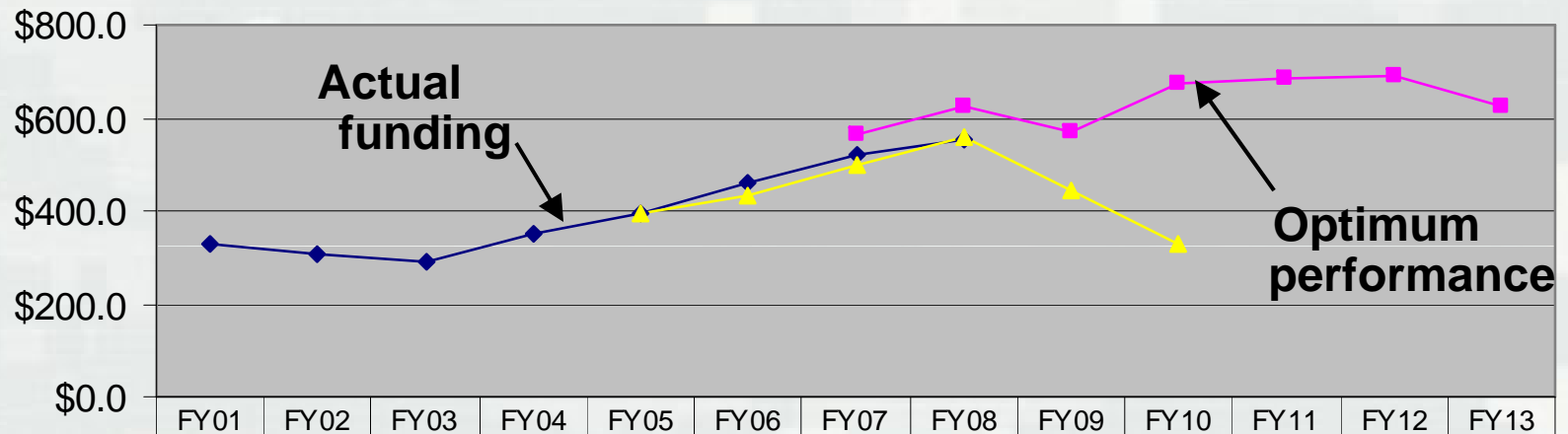


A step in the System  
Gate Replacement  
Program



# Performance Optimization

Ohio River & Tributaries Navigation Total  
\$Millions



	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13
Actual Funding	\$326.3	\$304.8	\$292.4	\$351.9	\$393.5	\$461.5	\$520.8	\$552.3					
Optimum Funding							\$566.1	\$624.3	\$569.2	\$674.1	\$686.8	\$691.9	\$622.6
President's Budget					\$394.2	\$432.4	\$496.2	\$559.0	\$441.3	\$328.2			



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# Key Emphasis Points

- Establish a robust Capital Projects Business Model
- Achieve reliability with optimized approach
- Plan for system optimum recapitalization
- Convey a strategy to effectively reduce risks

