Inland Marine Transportation System

Investment Strategy

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Program Manager
11 August 2009

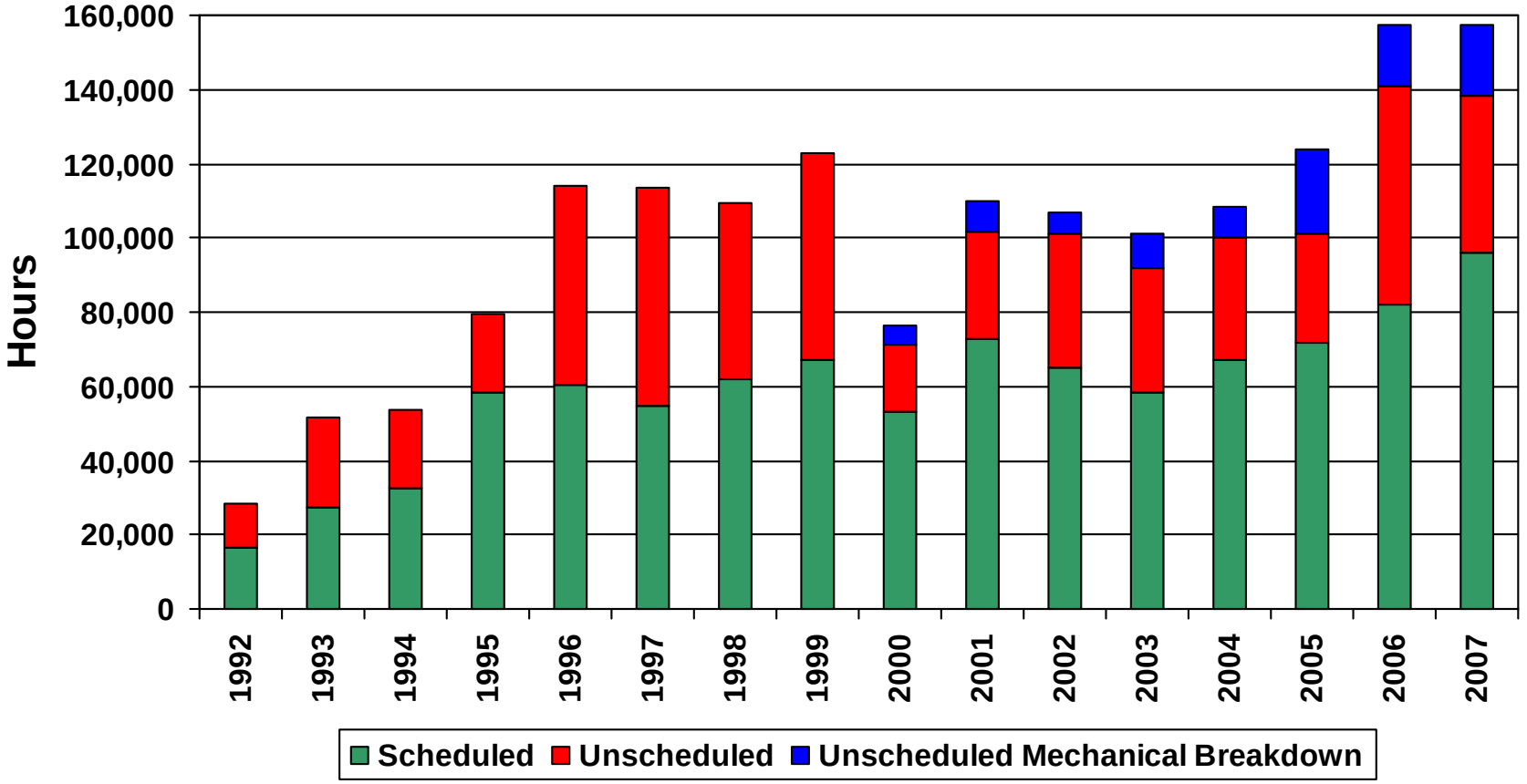
Inland Marine Transportation System (IMTS) Investment Strategy

- History
- IMTS Investment Strategy Team
- Next Steps

IMTS History

- **Aging Infrastructure**

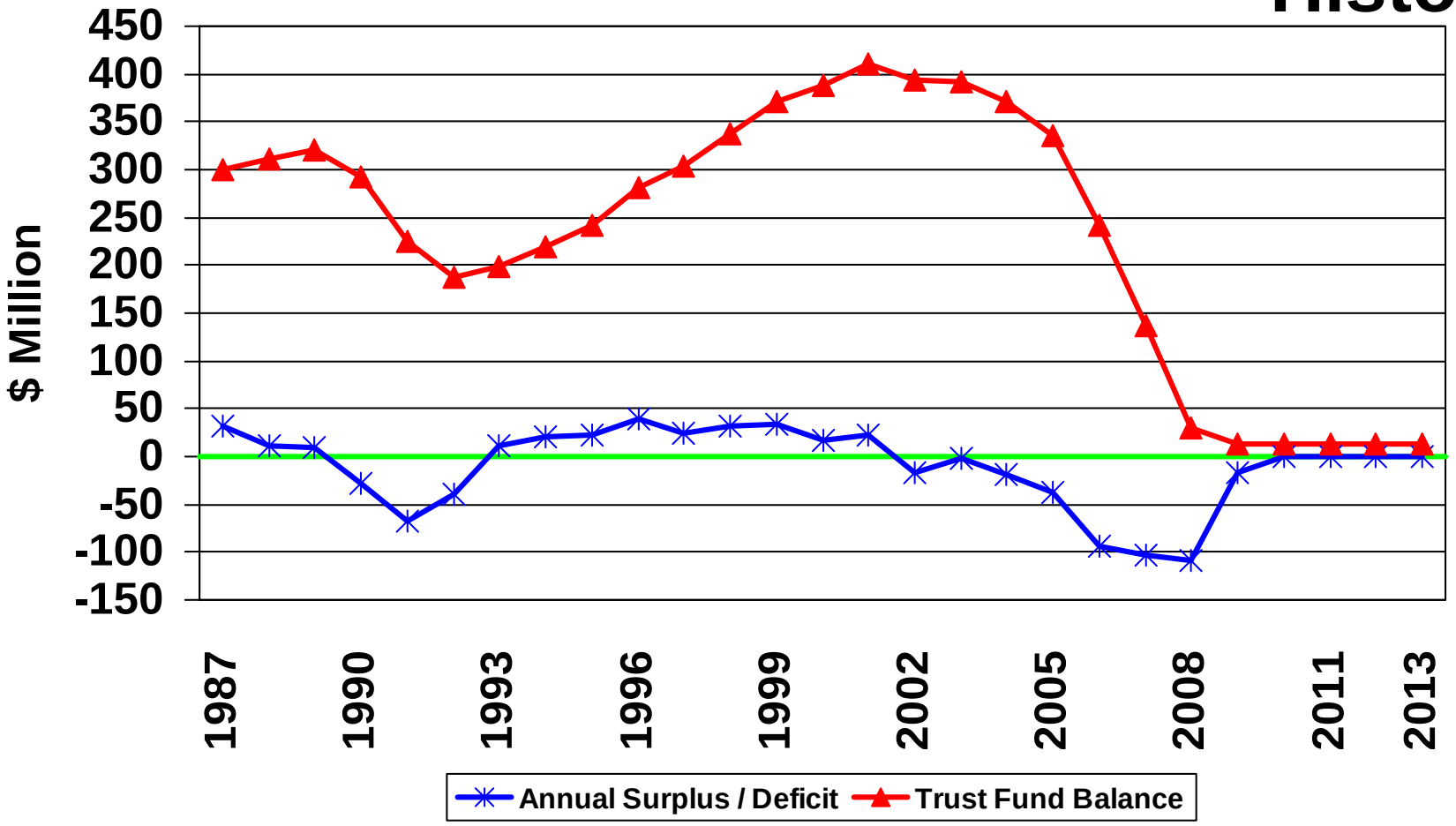
IMTS History



IMTS History

- Aging Infrastructure
- **IWTF**

IMTS History



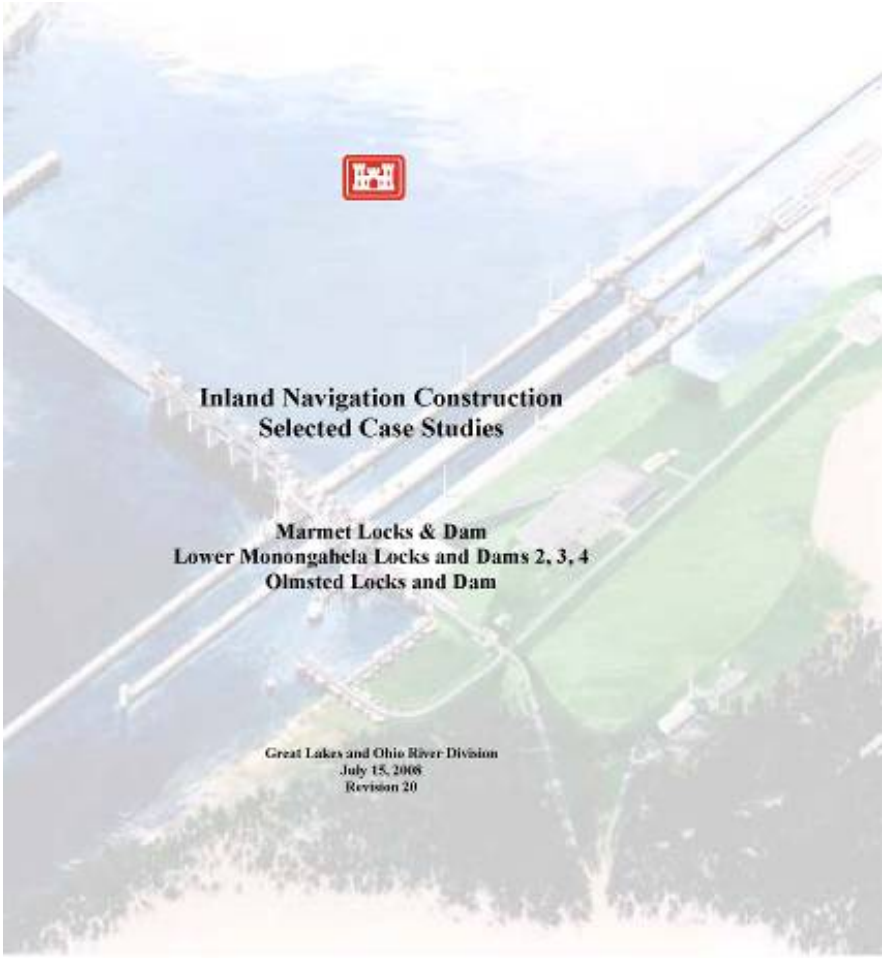
IMTS History

- Aging Infrastructure
- IWTF
- **Cost Increases**

IMTS History

- Aging Infrastructure
- IWTF
- Cost Increases
- **Case Study**

IMTS History



IMTS History

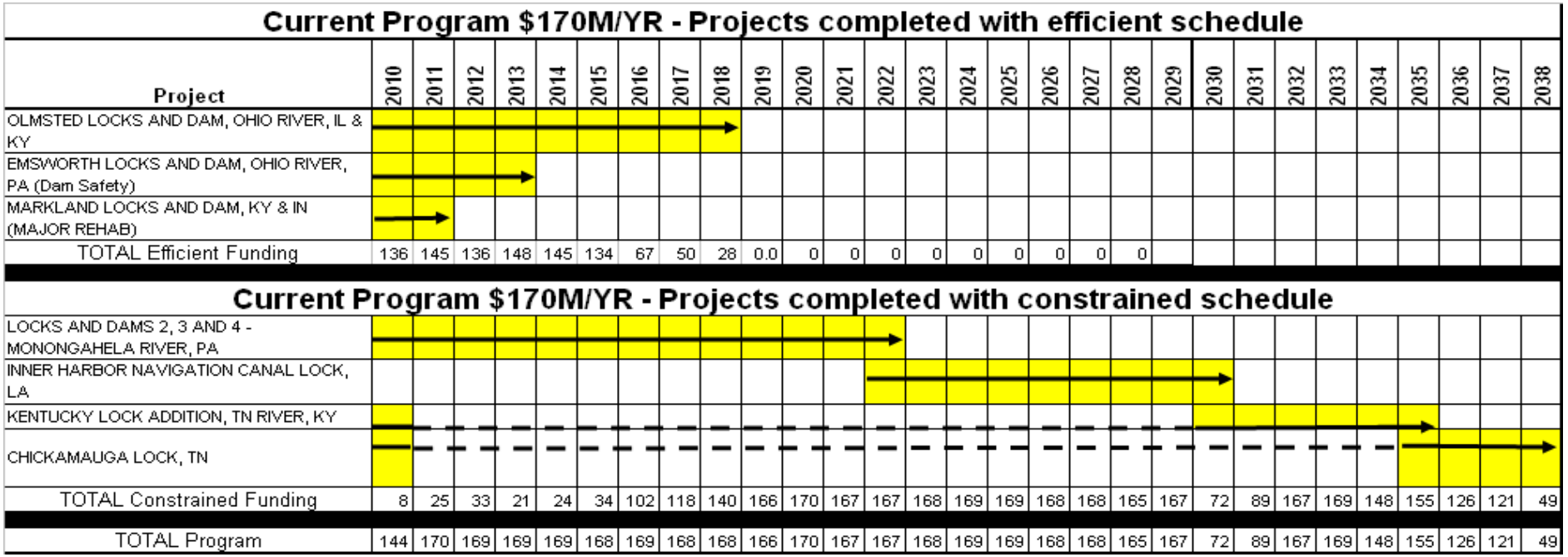
- Aging Infrastructure
- IWTF
- Cost Increases
- Case Study
- **User Fee Proposal**

Inland Marine Transportation System History

- IWTF and general revenues fund major rehabilitation and new construction
- IWTF revenues are about $85M/yr
- Total available for new construction $170M /yr
- Funds committed to current ongoing construction
- No new construction in the immediate future

IMTS Investment Strategy Team

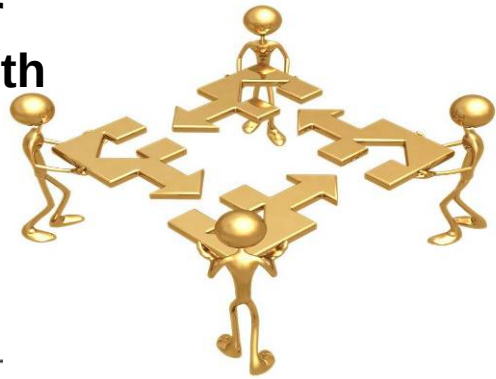
Future Program with Current Revenues



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)																													
TOTAL Efficient Funding	136	145	136	148	145	134	67	50	28	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																													
TOTAL Constrained Funding	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
TOTAL Program	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

IMTS Investment Strategy Team
Program Management Team

- Program Manager: Jeanine Hoey
- IWUB: Royce Wilken/Steve Little
- HQ USACE:
  - Operations: Jim Walker, Jeff McKee, Mike Kidby
  - Programs: Mark Pointon, Mary Anne Schmid, Sandy Gore
  - Planning: TBD (vice Worthington)
  - Asset Management: Jose Sanchez
- Cost Engineer: Mike Jacobs
- Divisions:
  - LRD: Bill Harder
  - MVD: Steve Jones
  - NWD: Eric Braun
  - SAD: Wynne Fuller
  - SWD: Glenn Proffitt
- IWR: David Grier
- ERDC: John Hite
- Economists:
  - Wes Walker
  - Keith Hofseth



IMTS Investment Strategy Team

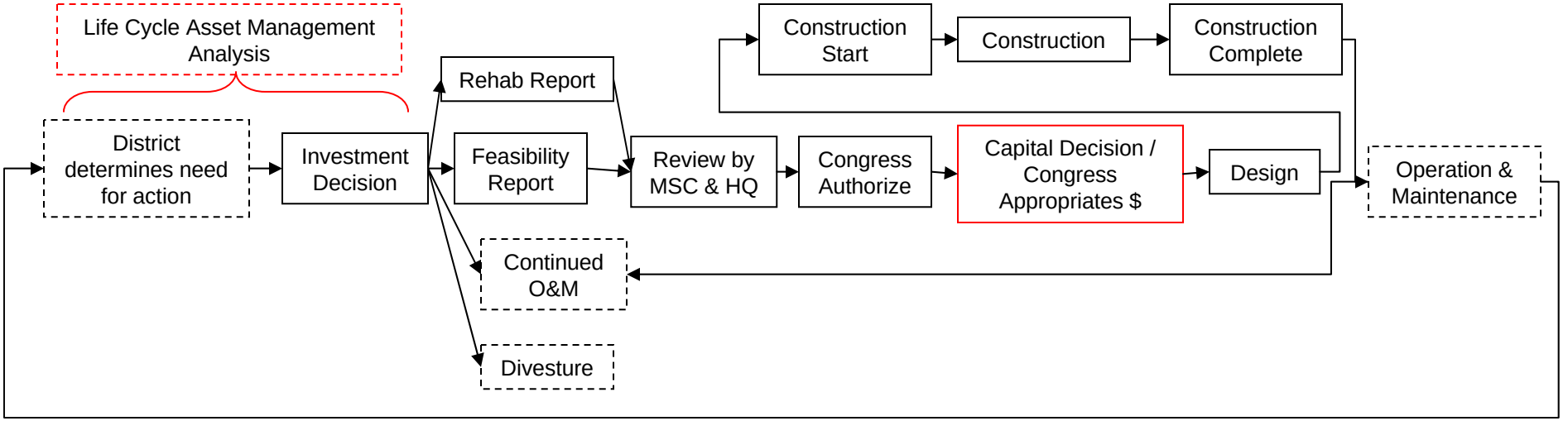
Goals

- **Waterways should be planned and managed as systems**
  - **Prioritize work**
  - **Fund priority work efficiently**
  - **Maximize system benefits within funds provided**
- **Project acquisition plan should be based on efficient project funding once a project commitment is made.**
- **Realistic risk-based estimates of project costs and schedules at completion of feasibility reports.**

IMTS Investment Strategy Team
Status

- **White Paper**

Future Capital Projects Business Model



- Goals
  - Timely and efficient planning process guided by a sound IMTS investment plan
  - Facilities will be assessed for continued structural, operational and economic viability
  - Priorities set to provide best overall return for the program
  - Program management
  - Investment Plan supported through an appropriate mechanism
  - Realistic, achievable, 80% confidence level, risk-based estimates of project costs and schedules at the completion of the Feasibility report.
  - Intensive project management to ensure efficient, cost effective, timely completion
  - Evaluate actual benefits to confirm feasibility report predictions

IMTS Investment Strategy Team

Status

- White Paper
- **Project List**

Unconstrained Program for Inland Marine Transportation System Construction (includes reductions for stimulus funded projects and FY10 amounts are President's Budget amounts)

Rough Order of Magnitude Estimate, October 1, 2008 price levels

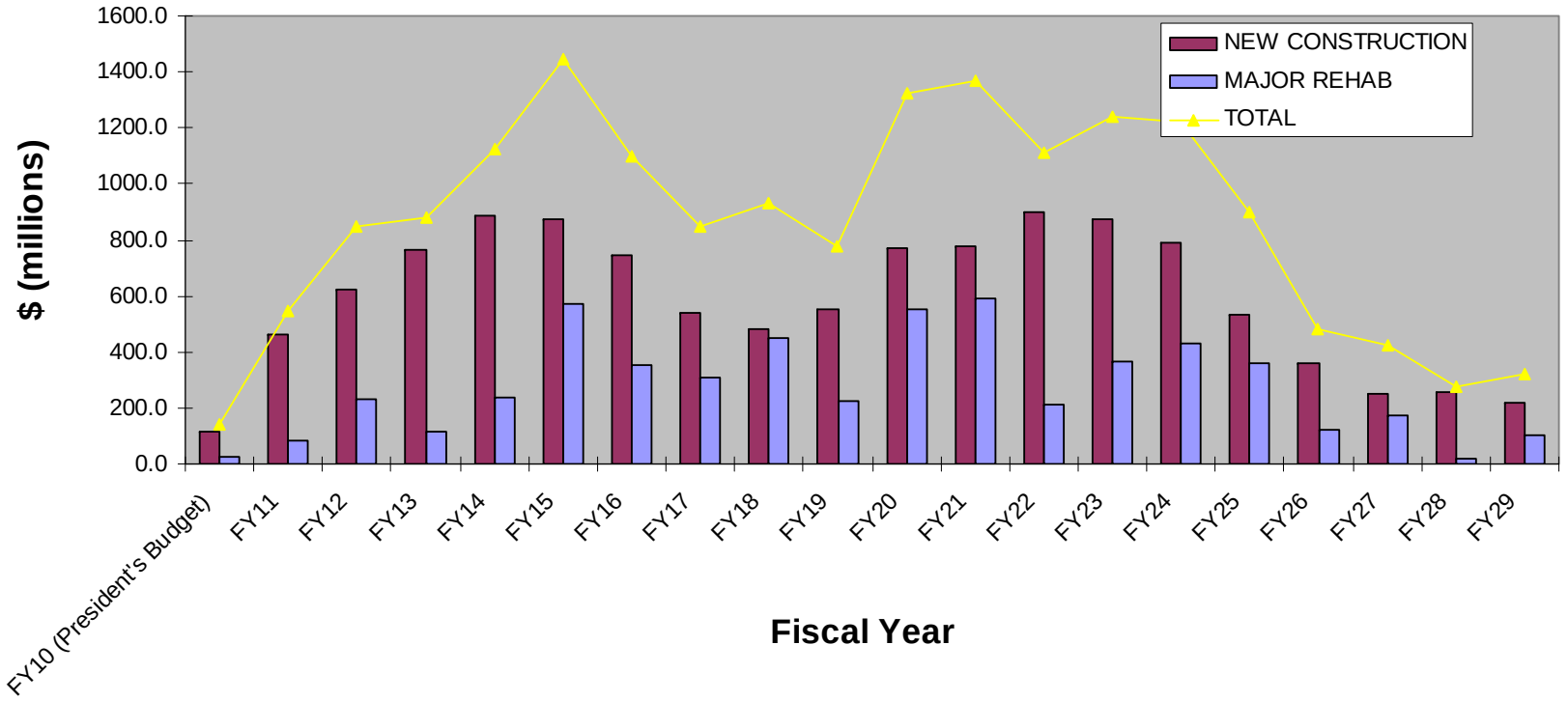
Division	District	Official Authorization Name (possible future)	Sub-Project Name	Waterway	Lock / Dam / Channel	Authorized	Cost Estimate: Risk-based Estimate	Cost Estimate: Detailed Estimate	Cost Estimate: Rough Order of Magnitude Estimate	Authorized Cost Estimate	Current Cost Estimate	Total Remaining Cost[1]	FY10 (President's Budget)	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Phase 1 (Projects currently under construction) Unconstrained Schedule																																
NEW CONSTRUCTION																																
LRD	LRN	CHICKAMAUGA LOCK, TN	Chickamauga Replacement Lock	Tennessee River	L	X						194.5	1.0	55.5	60.0	56.0	22.0	0.0														
LRD	LRN	KENTUCKY LOCK ADDITION, TN RIVER, KY	Kentucky Lock Addition	Tennessee River	L	X						360.8	1.0	36.8	49.4	111.9	90.3	57.3	14.1	0.0												
LRD	LRP	LOCKS AND DAMS 2, 3 AND 4, LOCKS - MONONGAHELA RIVER, PA	Lower Mon 2,3,4 Locks Features	Monongahela River	L	X	X			340.4		721.9	6.2	112.0	132.0	79.0	96.1	64.2	83.3	47.2	29.9	41.0	29.0	2.0								
LRD	LRP	LOCKS AND DAMS 2, 3 AND 4, DAMS - MONONGAHELA RIVER, PA	Lower Mon 2,3,4 Dam Features	Monongahela River	D	X	X			216		179.3	0.0	0.0	0.0	0.0	29.9	53.8	45.7	25.8	20.1	4.0										
LRD	LRL	OLMSTED LOCKS AND DAM, OHIO RIVER, IL & KY	Olmsted L/D Construction	Ohio River	D	X	X					877.5	109.8	132.0	126.0	135.0	133.0	119.0	58.0	42.0	22.7											
MVD	MVN	INNER HARBOR NAVIGATION CANAL LOCK, LA	IHNC	Gulf Intracoastal Waterway	L	X						1300.0		50.0	150.0	200.0	200.0	200.0	200.0	200.0	100.0											
MAJOR REHABILITATION																																
LRD	LRP	EMSWORTH LOCKS AND DAM, OHIO RIVER, PA (Dam Safety)	Emsworth Major Rehab	Ohio River	L	X	X					45.5	25.0	10.3	6.0	4.2																
LRD	LRL	MARKLAND LOCKS AND DAM, KY & IN (MAJOR REHAB)	Markland Lock Major Rehab	Ohio River	L	X						3.6	1.0	2.6																		
Phase 2 (Projects currently authorized) Unconstrained Schedule																																
NEW CONSTRUCTION																																
LRD	LRH	GREENUP LOCKS AND DAM, OHIO RIVER, KY & OH	Greenup Lock Extension construction	Ohio River	L	X						242.2		19.5	14.8	29.1	49.6	78.7	50.5													
LRD	LRL	JOHN T. MYERS LOCK AND DAM	Auxiliary Lock Extension	Ohio River	L	X						315.4		12.8	23.6	34.0	56.5	92.0	96.5													
MVD	MVS	LD 25 UPPER MISSISSIPPI	1200' Lock Addition	Mississippi River	L	X						347.7		1.7	1.7	2.0	1.9	2.0	5.3	14.5	28.0	74.2	93.7	93.7	28.9							
MVD	MVR	LD 22 UPPER MISSISSIPPI	1200' Lock Addition	Mississippi River	L	X						266.9		1.9	1.8	1.8	1.4	1.3	9.0	23.7	40.1	78.3	84.8	22.8								
MVD	MVS	LD 24 UPPER MISSISSIPPI	1200' Lock Addition	Mississippi River	L	X						332.2								4.0	6.2	8.0	20.0	35.0	90.0	90.0	79.0					

IWUB Capstone Projects

IWUB High Priority Projects

IWUB Priority PED (Future Projects)

Inland Marine Transportation System
Unconstrained Investment Need
Fully Funded (3%/year)



IMTS Investment Strategy Team
Status

- White Paper
- Project List
- **Criteria**

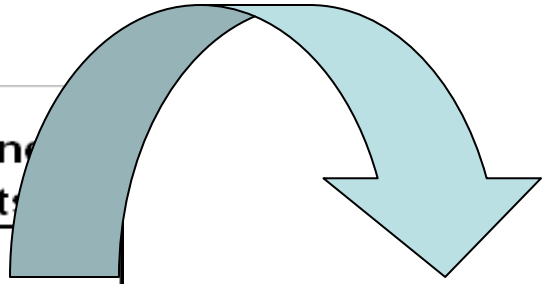
Criteria

Criteria	Primary Criteria	Option A Weight	Option B Weight	Option C Weight	Option D Weight	Data needs	Remarks
Safety Risks	Y	50	40	30	30		life, limb and property - factors of safety
Dam Safety Action Classification (DSAC) Rating			N/A	N/A	N/A	DSAC Rating	Option B,C - DSAC considerations are separate and an overiding factor, ng app maining proje
DSAC 1 (35)							
DSAC 2 (25)							
DSAC 3 (10)							
DSAC 4 (5)							
Other safety considerations							subjecti by writt
Risk and Reliability	Y	20	25	30	0		
Condition Assessment							
Structural Consequences of Failure							what, ho
Economic Return	Y	20	25	30	60		
Benefit to Cost Ratio (BCR)						some data	no data i through f
Net Benefits						some data	no data i through f
Economic Impact						data exists for locks	closure c
Annual Ton-miles						data exists	segment
Other	Y	10	10	10	10		
Operational Problems that Affect Navigation Efficiency							i.e. outdr
Legal Requirements							
Environmental Societal Benefits							accident environm congesti reductior
Transportation Mode Cost Avoidance							alternativ and rail c
Capacity of Existing Infrastructure compared with Forecasted Demand							capital ir
TOTALS		100	100				
Sequencing/Optimization Factors							
Funding Availability							
Inland Waterways Trust Fund balance							
Total Project Cost							
Balance to Complete							
Project Schedule							
New Start Project							
Project Underway							
Project Completing							

Criteria to Prioritize Inland Marine Transportation System Projects

Criteria	Final Option	Interim Option
Risk and Reliability		35
Dam Safety Action Classification (DSAC) Rating: DSAC 1 - 35, DSAC 2 - 20, DSAC 3 - 10, DSAC 4 - 5		
Condition Assessment (Locks): F - 35, D- 20, C- 10, B - 5		
Economic Return	100	55
Net Benefits	60	35
Economic Impact	40	20
Other		10
Physical Completion		10
TOTALS	100	100

Criteria



Criteria to Prioritize Inland Marin
Transportation System Project

Criteria	Final Option	Interim Optio
Risk and Reliability		35
Dam Safety Action Classification (DSAC) Rating: DSAC 1 - 35, DSAC 2 - 20, DSAC 3 - 10, DSAC 4 - 5		
Condition Assessment (Locks): F - 35, D- 20, C- 10, B - 5		
Economic Return	100	55
Net Benefits	60	35
Economic Impact	40	20
Other		10
Physical Completion		10
TOTALS	100	100

Criteria to Prioritize Inland Marine Transportation System Projects

Criteria	Final Option	Interim Option 1	Interim Option 2	Interim Option 3
Risk and Reliability		35	35	35
Dam Safety Action Classification (DSAC) Rating: DSAC 1 - 35, DSAC 2 - 20, DSAC 3 - 10, DSAC 4 - 5				
Condition Assessment (Locks): F - 35, D- 20, C- 10, B - 5				
Economic Return	100	65	65	65
Net Benefits	30	25	15	10
BCR	10	10	10	5
RBRCR	20	10	20	30
Economic Impact	40	20	20	20
TOTALS	100	100	100	100

IMTS Investment Strategy Team
Status

- White Paper
- Project List
- Criteria
- **Project Delivery Process**

Project Delivery Process

- Risk-based cost estimates
- Independent External Peer Reviews
- Project Management Certification
- Project Partnering Agreements
- Milcon Model
- Acquisition – Early Contractor Involvement
- Design Centers
- Lessons Learned
- IWUB concurrence on new starts
- IWUB status briefings

Milestones

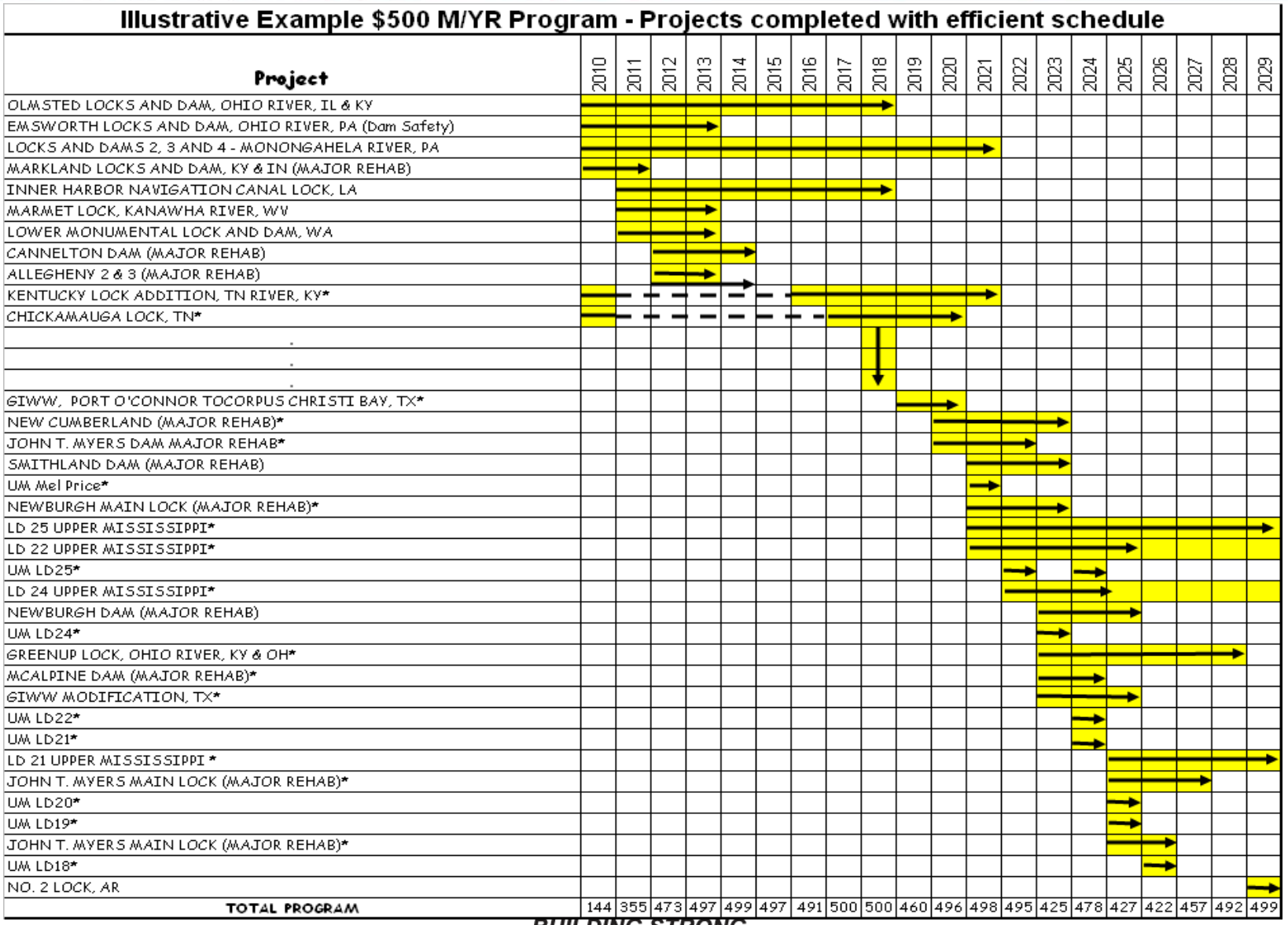
- Board Meeting #59 - 18 November 2008: Establish Inland Marine Transportation System (IMTS) Investment Strategy Team and Charter
- Board Meeting #60: White Paper, Project Management Plan, National Criteria
- Board Meeting #61: Cost engineering confidence levels and timing, develop preliminary priority list and draft outline of Investment Strategy
- Board Meeting #62: Presentation of revenue alternatives, draft legislative language and draft Investment Strategy. Discussion and agreement of Investment Plan, revenue requirements and legislative language.

Next Steps

Task
Project list - Incorporate revisions from quality reviews
Analyze and determine interim option weights
IMTS BOD Input
Develop final prioritized project list
Develop process improvement recommendations
Review Construction Program funding level options
Review revenue options
Recommend Program level and revenue plan
Draft Long-term Capital Investment Plan, Revenue Plan and Implementation Plan
Review Long-term Capital Investment Plan, Revenue Plan and Implementation Plan
Present Long-term Capital Investment Plan, Revenue Plan and Implementation Plan
Pursue Implementation

← Complete 31 December 2009

Illustrative Example $500 M/YR Program - 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
OLMSTED LOCKS AND DAM, OHIO RIVER, IL & KY																				
EMSWORTH LOCKS AND DAM, OHIO RIVER, PA (Dam Safety)																				
LOCKS AND DAMS 2, 3 AND 4 - MONONGAHELA RIVER, PA																				
MARKLAND LOCKS AND DAM, KY & IN (MAJOR REHAB)																				
INNER HARBOR NAVIGATION CANAL LOCK, LA																				
MARMET LOCK, KANAWHA RIVER, WV																				
LOWER MONUMENTAL LOCK AND DAM, WA																				
CANNELTON DAM (MAJOR REHAB)																				
ALLEGHENY 2 & 3 (MAJOR REHAB)																				
KENTUCKY LOCK ADDITION, TN RIVER, KY*																				
CHICKAMAUGA LOCK, TN*																				
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.																				
GIWW, PORT O'CONNOR TOCORPUS CHRISTI BAY, TX*																				
NEW CUMBERLAND (MAJOR REHAB)*																				
JOHN T. MYERS DAM MAJOR REHAB*																				
SMITHLAND DAM (MAJOR REHAB)																				
UM Mel Price*																				
NEWBURGH MAIN LOCK (MAJOR REHAB)*																				
LD 25 UPPER MISSISSIPPI*																				
LD 22 UPPER MISSISSIPPI*																				
UM LD25*																				
LD 24 UPPER MISSISSIPPI*																				
NEWBURGH DAM (MAJOR REHAB)																				
UM LD24*																				
GREENUP LOCK, OHIO RIVER, KY & OH*																				
MCALPINE DAM (MAJOR REHAB)*																				
GIWW MODIFICATION, TX*																				
UM LD22*																				
UM LD21*																				
LD 21 UPPER MISSISSIPPI *																				
JOHN T. MYERS MAIN LOCK (MAJOR REHAB)*																				
UM LD20*																				
UM LD19*																				
JOHN T. MYERS MAIN LOCK (MAJOR REHAB)*																				
UM LD18*																				
NO. 2 LOCK, AR																				
TOTAL PROGRAM	144	355	473	497	499	497	491	500	500	460	496	498	495	425	478	427	422	457	492	499