The Upper Mississippi River Basin Association (UMRBA) held a two-day summit focusing on four themes related to commercial navigation on the Upper Mississippi: infrastructure investment needs and opportunities, creating an intermodal transportation network, the potential for public-private partnerships (P3s), and strengthening the influence of ports and terminals. Based upon discussions at the summit, UMRBA Board members plan to continue working with various state agencies interested in waterway transportation to advance mutual priorities for enhancing the system’s reliability and efficiency, in collaboration with the river’s various stakeholders.

Ernie Perry of Mid-America Freight Coalition facilitated the two-day summit.

**July 9, 2014 Overview**

Objectives for the first day (July 9) were to a) facilitate dialogue among Upper Mississippi commercial navigation stakeholders about key issues and opportunities for action and b) provide the Upper Mississippi states with information needed to develop a comprehensive strategy for enhancing the river’s commercial navigation system.

July 9 was attended by 97 individuals, including state and federal agency leadership, key industry representatives, and other river stakeholders. The attendance list is provided on pages 13-15 of this document.

Below is a summary of the presentations and major discussion points the four major themes:

**Upper Mississippi Investment Needs and Opportunities:** The status of, and priorities for, investment on the Upper Mississippi’s navigation system, including how the 2014 Water Resources Reform and Development Act will help advance those priorities

- Four Revolutions and America’s Response by Brig. Gen. Peter DeLuca — Brig. Gen. Peter DeLuca emphasized that America must leverage its extensive interior navigable waterway system in order to maintain and strengthen its economic advantage and geopolitical dominance. Infrastructure makes delivery of domestic stability, global stability, and security possible. The Mississippi River basin serves as the basis of America’s economic and geopolitical power that is furthered by exterior ports, harbors, and sea approaches. Brig. Gen. DeLuca said America is facing four major revolutions, including explosive growth in agricultural and hydrocarbon production, the return of manufacturing, and accelerating impacts of climate change. However, America is not adapting to those revolutions and spending in water infrastructure has markedly decreased since the 1930s. Whereas per capita spending in Corps-facilitated infrastructure investments was about $70 per person in 1930 and $56 per person in 1960, we are now only spending $18 per person or less. America is now realizing the negative implications of insufficient investment, including a two-fold increase in scheduled lock outages. Brig. Gen. DeLuca asserted that America must be more serious about performance-based budgeting. USACE generates $15 billion in annual fees, amounting to more than $50 billion in annual direct national economic development (NED) benefits, but only receives an average of $5 billion to $6 billion in annual appropriations. Brig. Gen. DeLuca advised that America must
consider supplemental financing options, such as grant-making models, system-wide P3 options, and a modified Tennessee Valley Authority model for the entire inland waterway system.

- **Commodities by Col. Mark Deschenes** — Col. Mark Deschenes provided an overview of the Upper Mississippi waterway system geography and of commodities shipped on the river, to give a sense of its importance to the region’s and nation’s economies. There are 580 manufacturing facilities, terminals, grain elevators, and docks that ship and receive tonnage in the basin, with grains dominating traffic. Other major commodities include cement, coal, and petroleum products. While tonnage has experienced recent declines due to the recession, the tonnage and value of commodities transported remains significant to the nation.

- **State of the Infrastructure by Col. Mark Deschenes** — Col. Mark Deschenes provided a visual presentation of the Upper Mississippi’s deteriorating lock infrastructure. Maintenance priority needs for the Mississippi Valley Division are more than $1 billion. Of this amount, needs on the Upper Mississippi total $873 million, with $714 million in the Rock Island District. The priorities include replacement of lift and miter gates, dam scour repair, and bulkhead slots. While the maintenance backlog has increased substantially over time, funding for maintenance has been stable and has not kept up with inflation. Costs continue to escalate as these needs remain unfunded. Col. Deschenes explained the Mississippi Valley Division’s Asset Management Strategy for prioritizing maintenance performed based on impacts to condition and risk.

- **Navigation and Ecosystem Sustainability Program by Col. Mark Deschenes** — Col. Mark Deschenes discussed how the Navigation and Ecosystem Sustainability Program’s (NESPs) 2007 authorization provides for efficiency improvements through mooring cells and switchboats and a second 1,200-foot lock chamber at seven of the most congested lock sites on the Upper Mississippi. The additional lock chamber meets standard lock sizes, providing quicker lockages, and would provide redundancy at those sites by eliminating single points of failure.

- **Inland Waterways Users Board Priorities by Martin Hettel** — Martin Hettel discussed the Inland Waterways Users Board’s (IWUB’s) priorities for new lock construction and major rehabilitation of the nation’s inland navigation system that require cost share monies from the Inland Waterway Trust Fund (IWTF). Qualifying that these are his own estimates, Hettel provided completions dates for the top priority projects, pre- and post-WRRDA 2014 as well as with the proposed nine cent per gallon increase in the fuel tax. Post-WRRDA 2014, construction of the first of NESPs’s seven 1,200-foot lock projects would first start in 2035 and all seven would be completed in 2053. This accelerates NESP construction by seven years over pre-WRRDA 2014. With a nine cent per gallon fuel tax increase, NESP’s lock construction would begin in 2029 and be completed in 2047, an acceleration of six years over the post-WRRDA timeframe.

**Panel Discussion**

Mike Klingner noted the importance of forecasting water levels for flood risk reduction and navigation. In response to a question about WRRDA’s forecasting provisions, Brig. Gen. DeLuca explained that the Act includes a directive for USACE to update forecasting technology on the Mississippi River and its tributaries. WRRDA 2014 also requires USACE to evaluate the system’s response during drought conditions. USACE is currently engaged in interagency discussions on this. Brig. Gen. DeLuca expressed support for probabilistic forecasting. Other participants recognized the need for better forecasting to improve the system’s reliability.

In response to a question from Dan Mecklenborg, Hettel said his construction projections assume lock construction is completed in three years. Mecklenborg said it is prudent for Congress to restart appropriations to NESP so that plans will be ready for lock construction when IWTF funding becomes available. Hettel said $17 million in annual appropriations for planning, engineering and design (PED) is necessary to move forward on NESP. In response to a question, Brig. Gen. DeLuca
said USACE has some discretion on spending additional funds for navigation improvements. But NESP construction funding would be a new start, and USACE does not have the sole discretion to initiate new starts. Dru Buntin noted that NESP is at risk of deauthorization if it does not receive funding by the end of FY 2016. Brig. Gen. DeLuca explained that partners do not have the attention of leadership in the Administration or Office of Management and Budget, and therefore staff have been able to make decisions about Upper Mississippi navigation investment such as the inclusion of NESP in the President’s budgets. He recalled the effectiveness of industry in getting high-level attention to Mississippi River infrastructure needs during the 2012 drought. Col. Deschenes stressed the need for continued education to Congressional members and Administration staff in Washington about NESP and the need to fund and balance construction, maintenance, and operation priorities.

Brig. Gen. DeLuca acknowledged concerns that Congress might substitute P3s for federal funding, rather than using private funding to supplement federal funding. He encouraged partners to explore P3s to address Upper Mississippi needs. Tom O’Hara said P3s require both private capital and federal funding, and asked what the government plans for P3 investment. Brig. Gen. DeLuca recognized that funding is a challenge, and emphasized that upfront funding will be key to ensure efficiency.

Creating an Intermodal Freight Transportation Network: Current efforts and opportunities to create an intermodal transportation network that enhances the nation’s use of inland waterways system and meets export and import demands

- Connecting and Coordinating Efforts to Optimize Freight Movement on Inland Waterways by Bill Paape and Kevin Schoeben — Bill Paape provided an overview of MARAD’s Inland Waterway Gateway’s geographic extent and focus areas and of the MARAD America’s Marine Highways initiative. Insights gained from other marine highways are that a) federal and state agencies, port authorities, terminal and service operators, and shippers need to work collaboratively from study concept through development and demonstration phases to make new services viable; and b) a project must be informed by a market analysis and business planning and have sufficient financial capital. Regarding a new service (e.g., container-on-vessel or barge), the service must be marketed, reliable, consistent, and scheduled so that shippers can plan accordingly. Most importantly, though, the new service must be cheaper or faster than the existing alternative. Paape summarized MARAD’s Strong Ports Program, which was authorized in 2010 to modernize and expand the capacity of America’s ports. Through the program, MARAD strives to improve infrastructure, efficiency, and environmental sustainability of America’s ports, leverage existing programs where possible, and improve port competitiveness for public and private funds through enhanced planning and engagement. The Strong Ports Program is undertaking two initiatives in 2014, including 1) PortTalk, where MARAD facilitates stakeholder collaborations to advance maritime plans and projects, and 2) Port Planning and Investment Toolkit, a joint venture between MARAD and the American Association of Port Authorities ( AAPA) to help ports obtain funding by developing investment grade plans.

Paape and Kevin Schoeben reported that the five Upper Mississippi states submitted a joint application in May 2014 to MARAD to designate the Upper Mississippi as Corridor M-35 under the America’s Marine Highway Program. Schoeben explained the benefits of the M-55 Corridor along the Mississippi and Illinois Rivers in facilitating collaboration with stakeholders to advance freight opportunities and research. Through the designation, Illinois has been able to study the river’s potential to serve as a cost-effective alternative to ground-based transportation. The study then provides baseline information for future port studies and overall awareness of maritime freight. For water transportation to be a preferred alternative, it must provide scheduled and reliable service, the required vessel cuts at coastal ports, the lowest cost expected, and keep the finished goods
undamaged. That would require more equipment and service runs in the short term and a faster marine vessel and further research and development in the long term.

Schoeben explained Illinois’ Freight Mobility Plan, which is designed to optimize and integrate all freight modes. He showed maps of Illinois’ freight tonnage movements on rail, roads, and waterways; Illinois’ intermodal connections; and the potential projected shift in container service lines resulting from the Panama Canal expansion. Per the Moving Ahead for Progress in the 21st Century Act (MAP-21, P.L. 112-141), the five states are employing strategic freight planning that incorporates national freight goals. Schoeben overviewed the national and regional collaborations that are working together on enhancing intermodal freight transportation.

- **Ports as the Interface of Intermodal Transportation by Susan Taylor** — Susan Taylor described St. Louis Port Authority’s recent terminal expansion, which is owned by St. Louis. The Port of Metropolitan St. Louis (PMSL) exemplifies how ports serve as an intermodal connector. The Port is 70 miles long, encompassing all major barge lines and is located in close proximity to seven interstate highways, six class-one rail roads, and two international airports. About 106 million annual barge tonnages transit through the PMSL, with 36.5 million tons crossing PMLS docks. The St. Louis Port Authority established a regional port working group of 35 regional stakeholders to promote area shipping and market development throughout the region. Taylor emphasized the importance of regional collaboration and systemic thinking to optimize intermodal freight movement. In 2015, the group will consider how to attract new barge and truck workers. The East-West Gateway Council of Governments published a 2013 St. Louis Regional Freight Study that recommended creating a regional freight district and a regional freight authority as well as developing a prioritized list of projects.

- **Elevating Waterways on a National Stage by Paul Rohde** — Paul Rohde said challenges in elevating the public’s awareness of river infrastructure issues are that a) the waterways are out of site, and therefore, out of mind; and b) funding is derived from USACE’s Civil Works budget, which has expanded in missions/activities but not in appropriations. While the United States spent 11.5 percent of its total federal budget on infrastructure in the 1930s, today it only spends 2.4 percent on infrastructure whereas China spends 9.4 percent. Rohde emphasized that businesses go where the infrastructure exists. Many waterways infrastructure construction or major repair projects are scheduled far out into the future. The fix-as-fail approach with its corresponding increase in scheduled and unscheduled lock closures has significant cost implications for shippers and producers. Rohde explained the history of Inland Waterway Trust Fund (IWTF) revenues and spending, and why the IWTF revenues are no longer sufficient to meet the nation’s inland waterways investment needs. He provided several examples of messaging that have been resonating with various stakeholders, including the Administration and Congress. Coalitions have formed to advocate for Mississippi River infrastructure funding, an increase in the IWTF fuel tax, and the Navigation and Ecosystem Sustainability Program.

- **Economic Opportunities for Container-On-Vessel by Patrick Donovan** — Patrick Donovan discussed new technologies that allow container-on-vessel to be a viable and cost-effective freight transportation mode. Economic advantages of container-on-vessel are reduced freight rates, lowered average variable costs, reduced air emissions, and improved logistics. Donovan showed visuals of new work cat engineering (WCE) vessel designs for carrying containers. In a 2011 market analysis, MARAD concluded that container shipment can be profitable and compete with other shipping modes. Benefits of using containerized shipping include more frequent and efficient service, lower accident rates, added cargo flexibility, enhanced growth of feeder ports and local economies, reduced congestion at ports, shortened drayage, and dual fuel capability. Donovan said there is a large market potential and service scope for short-sea and inland marine highways.
Potential for Public-Private Partnerships (P3s): The potential for public-private partnerships (P3s) in advancing Upper Mississippi navigation projects and maintaining infrastructure

- Proposed Financing, Operations, and Governance for Upper Mississippi P3 Projects by Pat McGinnis — Pat McGinnis summarized the conclusions of the Horinko Group’s 2013 report on P3 financing, operations, and governance. He said the current financing mechanisms and levels are not sufficient to address Upper Mississippi infrastructure needs, and P3s offer an alternative financing option to advance construction projects at critical supply chain segments. Without P3s, Congress may fail to appropriate the resources to fund necessary repairs and capacity expansion measures. WRRDA 2014 authorizes USACE to implement a pilot program that examines P3 project delivery, cost-saving alternatives, and decentralizing of project management, design, and construction. Regional projects being considered include new construction at Peoria and LaGrange on the Illinois River and Locks 24, 25, Melvin Price, and 27 on the Mississippi River. Types of P3s include outsourcing, design-build, operation and maintenance, and long-term lease. McGinnis asserted that now is a critical time for stakeholders to engage in the national P3 discussions to help inform and shape policy and formulate a pilot project that is in the region’s best interest. Proposed next steps are to 1) inform regional stakeholders and establish an ad hoc work group to explore P3 implementation questions, as well as to identify a recommended pilot project and sponsor; 2) establish a pilot formulation work group forum to design a pilot project; and 3) gain support from potential investors. Following initial pilot work, stakeholders can then consider a long-term plan and commitment for P3s to advance waterways infrastructure projects.

- Possible P3 Delivery Model by Tom O’Hara — Tom O’Hara discussed the requirements and considerations that need to be addressed to develop for a P3 delivery model that is appropriate for the Upper Mississippi waterway system. The model must include a private entity overseeing project delivery and responsibility for design, construction, management, and financing. The model must be defined by scope (e.g., maintenance and/or capacity expansion, level of flexibility and scalability, site-level or system-level) and geography (e.g., locks included, one state or regional approach). In developing P3s, existing organizations and authorities should be leveraged and states and investors should be the leads developing the delivery models. O’Hara overviewed a conceptual model to demonstrate these ideas. O’Hara said P3s will require a sufficient project size to attract private equity, a private revenue stream (e.g., concession fee, user/lockage fee, sales tax), a combination of federal and state funding and incentives, a market-supported cost analysis, and investment capital.

- Industry Perspective on P3s by Dan Mecklenborg — Dan Mecklenborg said Ingram Barge contracted with Mercator to evaluate financing options for inland waterways capital projects. Private infrastructure funds have significant cash reserves that could be invested if a suitable transaction structure is created and adequate returns are available. Several existing P3 water resource projects were evaluated to gain insights about the transaction structure and revenue mechanisms. Mecklenborg suggested that a P3 on the Illinois River might be a good place to test its feasibility regionally. The state of Illinois could create a special-purpose agency for creation and granting of concessions. The Illinois River has significant tonnage movements relative to infrastructure assets, would only need to comply with one state’s policies, and has an agricultural market that offers investors upside volume potential. Mecklenborg provided examples of P3 models and conclusions about their potential on the Illinois River. Conclusions were that a) potential benefits of major rehabilitation are not likely sufficient enough to enable commercial users to absorb more than a small portion of the P3’s required revenues; b) potential benefits of lock expansion could generate a significant portion of the required revenue through special-purpose tolls, but a revenue gap would still remain that would necessitate other beneficiaries of the river system to contribute; c) commercial users and local and state officials would likely need to lobby jointly for bonds; and d) USACE’s involvement will be critical to gain support for approval of P3 designs, monitoring, and continued operation.
Iowa’s P3 Efforts by Craig Markley — Craig Markley provided an overview of Iowa DOT’s planning efforts, including opportunities to engage in P3s to advance Iowa’s infrastructure projects. In 2012, Iowa DOT established a freight advisory council of public and industry representatives as well as other planning organizations (e.g., metropolitan planning organizations) to provide a forum for discussion and to seek input on resource allocation and complex transportation issues. Currently, the council is identifying freight transportation bottlenecks throughout Iowa that will inform the state’s freight policy and implementation plans. Iowa DOT conducted a lock and dam feasibility study to evaluate the viability of options to modernize and improve the system in order to maintain its efficiency and reliability. Issues addressed include limited federal funds, deteriorating infrastructure, and capacity limitations on rail and road. One key finding is that investors may be deterred from a P3 project until major system repairs are made — i.e., an investor may not want to assume risk of a project if the rest of the system is deteriorating, limiting the economic growth of that site. Iowa held a 2013 workshop to define opportunities and constrains of the system and a unified vision for a Mississippi River action plan, as well as to identify a potential pilot project such as improvements to Locks 15 and 18. Iowa is considering an Iowa waterway executive steering committee to explore P3s and improvements to the navigation system, as well as ecosystem restoration on the Mississippi River. Markley said Iowa, on behalf of the five Upper Mississippi states, submitted a TIGER grant application to support a study that explores opportunities to enhance lock and dam efficiency, reliability, and utilization, such as real-time barge location, infrastructure and operational improvements, condition studies, failure impact analysis, and port development research. Iowa DOT is also developing a statewide freight transportation optimization strategy to identify investment opportunities and strategies that will promote business growth. This will involve prioritizing recommended actions to optimize the multimodal network.

USACE Pilot P3 Navigation Project by Col. Mark Deschenes — Col. Mark Deschenes explained USACE’s thoughts on how a P3 would be implemented on the Illinois River. Under a P3, a special purpose entity would be responsible for developing a supplemental funding stream for deferred critical maintenance and collaborating with USACE regarding investment priorities and implementation. Routine operations and non-critical maintenance would remain USACE’s responsibility. Supplemental funding would be provided upfront to address the backlog and prevent future failures, and would include revenue bonds, fees, or direct funding. Col. Deschenes acknowledged that the river’s reliability will continue to deteriorate without a new funding stream. Scott Sigman explained Illinois Soy Association’s role in helping USACE examine the potential for P3s on the Illinois River.

Discussion

Michael Klingner asked if there is a possibility to fund the three top NESP lock modernization projects simultaneously using a tri-state regional port authority. Tom O’Hara explained that, in the short term, a phased approach may be necessary to prove a P3’s effectiveness. In the long run, a larger scale systems approach can be employed. Dan Mecklenborg raised concern that private funding may supplant instead of supplement federal spending, essentially maintaining the status quo on the amount of resources invested in the system. Scott Sigman said USACE has been very explicit that P3s will not be used to supplant private investment. Pat McGinnis said connecting a P3 to regional economic development plans will be important for viewing the project in a regional-context. It is not just about supply chain, but broader, regional economies. He said state engagement will be critical if P3s will be advanced. State and local capital will be needed, as well as state leadership and support. O’Hara suggested exploring a specific project to identify financing needs and models, as well as a leader to champion the project. Col. Deschenes echoed McGinnis’s comment that state leadership will be critical, especially in regards to meeting all the different users’ needs. Sigman also suggested starting to broaden the base of stakeholder involvement, noting the importance of the public’s interest and engagement.
Strengthening Influence of Upper Mississippi Ports: Learning from other waterway basins, how might the Upper Mississippi strengthen the influence of its ports and terminals

- **Collaboration to Advance Port and Marine Development by Ernie Perry** — Ernie Perry provided information on the efforts of the Mid-America Freight Coalition, a 10-state collaboration in the Midwest, to advance port and marine development. The waterways are critically important to the Midwest’s economy. In Illinois, a five day closure of Lock 27 stopped 63 vessels or 455 barges, costing $15 million to $20 million to industry. That amount would take 6,100 cars and 26,400 trucks to replace the lost capacity. The waterways industry employs 1,396 individuals in Missouri, generating $388 million annually in GDP. The coalition held an April 22-25, 2014 working sessions to examine issues related to current infrastructure projects, TIGER awards, roll-on roll-off container shipping, operational issues, and rating. Perry also discussed the Wisconsin Port Association’s strategic planning development initiative to strengthen the state’s waterborne transportation infrastructure.

- **Delta Regional Authority by Mike Marshall** — Mike Marshall gave an overview of the Delta Region’s economy and how the Delta Regional Authority works to revitalize the area’s economy. The Authority provides grants to improve infrastructure in small public ports along the Mississippi River and its tributaries as a means to strengthen the economy.

- **Gulf Intracoastal Canal Association by Jim Stark** — Jim Stark said the Gulf Intracoastal Canal Association (GICA) has about 200 members of tow and barge companies, shippers, refiners, and other companies that serve those industries. GICA focuses on ensuring the Gulf Intracoastal Waterway (GIWW) is maintained, operated, and improved to provide safe, efficient, economical, and environmentally sound freight transportation. GICA’s primary functions include a) identifying, analyzing, and addressing GIWW issues; b) educating and informing the public; c) advocating for capital and maintenance funding; d) coordinating with other organizations on waterways issues; e) and assisting the U.S. Coast Guard and USACE in identifying and responding to hazards (e.g., hurricanes) as well as promoting improvements to the system. The waterway ships about $86 billion of product annually, mostly consisting of petroleum and chemicals. The waterway is 1,100 miles long, connecting several Gulf ports and spanning three USACE divisions. There are 11 lock and flood control structures that directly affect navigation. The GIWW is subject to IWTF cost share and faces aged and outdated infrastructure. Other issues GICA is currently addressing are dredging funds to maintain the system, realignment of the navigation channel, additional buoys at mooring basins, encroachment that minimizes the navigation channel, and hurricane storm damage risk reduction.

- **Inland Rivers, Ports, and Terminals by Dennis Wilmsmeyer** — Dennis Wilmsmeyer said the Inland Rivers, Ports, and Terminals (IRPT) represents the nation’s inland waterway ports and terminals professionals by providing them a platform to improve their businesses and inform policy makers on the needs and economic impacts of the navigation industry. Recently, IRPT has advocated on its members behalf about the need for improved tonnage reporting that is applied systemically, increased dredging reserouces, and for an economic impact study that would include private terminals, public ports, commodity values, operators, etc. IRPT has formed a dredging working group to consider case studies and how financing opportunities may be leveraged, including MARAD’s marine highway grants, state and federal budgets, and public-private financing.

- **Organization Needs for the Upper Mississippi Ports and Navigators by Cheryl Ball** — Cheryl Ball reflected on the presentations above and asked participants to consider whether there is a need for more communication and/or coordination among Upper Mississippi ports regionally to strengthen their voice on a national stage and/or to enhance their local activities by thinking more systemically.
Discussion

Phil Bradshaw suggested that messaging needs to be improved, particularly speaking to economic development and P3 opportunities. Wilmsmeyer said marketing is a role for all stakeholders and emphasized the need to start locally and gain support of companies, distributors, and local government leadership. Ball acknowledged the need to better educate the local public, perhaps by developing talking points that highlight the importance of the river and speak to its reliability and successes. Michael Klingner said improving river access is important as well as flood protection in access areas. Wilmsmeyer agreed that flood protection and navigation go hand-in-hand. Pat McGinnis said messaging should include economic development goals related to ports. Wilmsmeyer agreed, and said ports stimulate economic development. He said small, start-up ports need to be supported to promote that growth. Lucy Fletcher said RiverWorks Discovery has an educational program that raises awareness among children.
**July 10, 2014 Overview**

Objectives for the second day (July 10) were to a) reflect on the July 9 discussion and develop any follow-up needs (e.g., clarifications) and b) identify opportunities to advance marine freight on the Upper Mississippi through greater levels of coordination among the Upper Mississippi states and partners.

The July 10 session was attended by 21 Upper Mississippi state agency staff representing departments of transportation, natural resources, economic development, and agriculture, as well as three UMRBA staff and the facilitator. In addition, Anne Kierig, a legislative assistant for Senator Dick Durbin (IL), joined the meeting via conference call for the P3 discussion. The attendance list is provided on pages 13-15 of this document.

Participants discussed each major theme of the July 9 summit and identified potential joint action. Below is a summary of the discussion.

**Upper Mississippi Investment Needs and Opportunities:** *The status of, and priorities for, investment on the Upper Mississippi’s navigation system, including how the 2014 Water Resources Reform and Development Act will help advance those priorities*

- The states commit to maintaining an integrated, multi-purpose approach to Upper Mississippi management, which has been, and will continue to be, key to the region’s successes.
  - **Potential action:** UMRBA tracks and comments, when appropriate, on USACE’s new watershed-based budget process and facilitates informational updates at the Board’s quarterly meetings. [Note: USACE has initiated pilot projects aimed at restructuring its budget to a watershed planning approach, where water resources management concepts will be integrated into the budget development framework.]

- Education is needed among state agency staff, as well as throughout the region, about the history and content of the Master Plan, 2004 Navigation Feasibility Study, and 2007 Navigation and Ecosystem Sustainability Program (NESP) authorization.
  - **Potential action:** UMRBA develops a brief background summary of commercial navigation planning on the Upper Mississippi, as well as its dual purpose authority, and assists state agencies in educating their staff about NESP’s planned navigation and ecosystem improvements.

- State departments of transportation, agriculture, and economic development would like to have greater involvement in Upper Mississippi commercial navigation policy and planning. Balanced and diverse participation among states agencies in navigation discussions is important.
  - **Potential action:** UMRBA Board and state departments of transportation, agriculture, and economic development form a work group to advocate and plan for Upper Mississippi navigation improvements.
    - **Potential action:** UMRBA engages in USACE’s inland navigation capital investment planning effort. [Note: Per Section 2002, WRRDA 2014 requires USACE, in consultation with the Inland Waterways Users Board, to develop a 20-year capital investment plan for the nation’s inland and intercoastal waterways.]
  - **Potential action:** UMRBA Board and the potential working group (see above) develop, and routinely update, a strategic plan for Upper Mississippi commercial navigation. This would be used to communicate investment needs and priorities.
• Regional messaging about the river’s importance to freight transportation and the regional and national economies needs to be strengthened, focused, and better targeted. Brig. Gen. Peter DeLuca included several resonating messages that should be communicated to elected officials, river partners, and interested public. These include how the four revolutions, as well as recreation, will affect the Midwest economy and Upper Mississippi commercial navigation; the slack in inland navigation capacity that can be utilized; and competitiveness of multiple modes that lower overall transportation costs. These messages depict the need for a more integrated transportation system. In addition, federal and state governments, industry, and others will need to demonstrate to the public the importance of investing in infrastructure for the purposes of future prosperity as well as the significant lead time required to expand capacity in the future.

  o Potential action: UMRBA and state agency staff develop marketing materials for stakeholders to use when communicating about the river’s navigation system, including why states take a systemic approach to navigation planning.

• The issues about Upper Mississippi commercial navigation infrastructure investment need to be elevated and directly communicated to the President and Congressional leaders.

  o Potential action: Upper Mississippi Governors send a joint letter to the President of the United States that describes the river’s importance to the Midwest and national economies as well as the aged and outdated infrastructure, and requests that funding for NESP is prioritized.

  o Potential action: UMRBA and state agency staff partner with industry and ecosystem organizations in advocating for NESP and other navigation improvements. The states noted the success of commodity and industry leaders in highlighting the river’s importance during the 2012 drought.

• Given the opportunity to invest with private investment through P3s, the states need to demonstrate an interest in taking advantage of the funding alternative. (See P3 section below for more discussion points on this topic.)

Potential for Public-Private Partnerships (P3s): The potential for public-private partnerships (P3s) in advancing Upper Mississippi navigation projects and maintaining infrastructure

[Anne Kierig, a legislative assistant for Senator Dick Durbin (IL), joined the meeting via conference call for the P3 discussion.]

• The states are supportive of exploring how a P3 could advance infrastructure investment on the Upper Mississippi. While WRRDA 2014 provides tremendous potential for improving infrastructure through a P3, there is relatively little knowledge (or examples) of how a P3 would work on a waterway, especially on a lock and dam system that runs along state borders. Participants concluded that robust, thoughtful, iterative dialogue is needed to move from conceptual ideas of how P3s might work to more detailed applications. The discussion should involve the array of stakeholders, including industry shippers and operators.

  o Potential action: UMRBA form an interstate navigation work group to discuss P3 implementation and shape perspectives. Board and state agency staff identify and explore a suite of questions related to P3 implementation, such as the following questions identified by participants:

    a) How might we ensure that a P3 will not supplant federal funding with private investment, but rather supplement federal funding to further investment in infrastructure? Is P3’s purpose to accelerate project completion or bring in additional funding? The public needs to be made aware of the common occurrence that new revenue streams eventually replace previous ones.
b) What would be the best suited governance model (financing authority) of an interstate P3? Who would be in charge? What will be its geographic scope? How would the governance model differ for an intrastate P3? Can, and how might, projects be selected and planned through a systemic approach or perspective? How will industry be engaged?

c) How is the funding revenue mechanism structured and who pays? Would the revenue be sufficient and predictable enough to attract investment?

d) Who would be the private investor(s)?

e) What risk would private investors assume and pass off to federal, state, and local governments?

f) Would reliability of the navigation system be ensured to provide reasonable risk? Risk is predicated on an assumption of continued maintenance. If something up or down the river fails, the P3 will not be as viable.

g) How will other federal, state, and local government mandates or policies shape P3 implementation — e.g., NEPA review, industry cost-share requirements, NESP’s comparable progress provision with ecosystem restoration?

h) What case studies can be reviewed to gain insights? There are various ways to structure P3 delivery methods.

i) Are there funding alternatives other than P3s that merit exploring?

j) How will the good, collaborative relationship between navigation and ecosystem stakeholders be maintained?

k) Can the pending TIGER grant be used to evaluate P3s? Will this depend on the timing of a pilot P3?

l) Would NESP deauthorization be a concern if setting up a P3 for one of its authorized projects?

m) What is the process and forum for exploring these and other questions?

Creating an Intermodal Freight Transportation Network: Current efforts and opportunities to create an intermodal transportation network that enhances the nation’s use of inland waterways system and meets export and import demands

- The states view their role in Upper Mississippi waterways commercial navigation as optimizing private sector involvement and benefit, within the context of a comprehensive multimodal transportation system. Not distorting market signal or imposing a particular path, states develop sound public policy that is responsive to market indicators by creating redundancies, expanding capacity, integrating modes, and addressing workforce constraints.

  o Potential action: UMRBA Board and state departments of transportation, agriculture, and economic development form a work group to evaluate new opportunities for enhancing multimodal transportation and develop regional perspectives. This may include working with industry to advocate for regional intermodal mapping and analysis, address imbalances between south-bound and north-bound tonnages, and examine feasibility of container-on-barge/vessel and other tow/barge design changes that would create new opportunities for waterways freight shipment — e.g., low draft tows for short to medium length trips.

  o Potential action: Create unified messages about the benefits of waterway transportation in a multimodal context and of enhancing relationships among the modes to support industry. Messages should be created that resonate regionally as well as nationally and speak to risk of a single point of failure system. Outreach should include metropolitan planning organizations.
In addition, employ outreach jointly with other regional collaborations to deliver the messages, including the mayors of the Mississippi Rivers and Cities Towns Initiative.

- **Potential action**: Create a clearinghouse of contact information for river stakeholders (e.g., state agency staff, USCG, USACE, shippers, operators), collaborations (e.g., St. Louis Port Authority’s regional port working group), and other resources.

- **Potential action**: UMRBA serves as a forum for information exchanges on important policies and programs — e.g., MARAD’s Strong Ports Program.

**Strengthening Influence of Upper Mississippi Ports**: Learning from other waterway basins, how might the Upper Mississippi strengthen the influence of its ports and terminals

- TIGER grants are expanding states’ roles in supporting port infrastructure for the purposes of economic development. Other inland waterway basins have benefited from a regional organization that facilitates communication among ports and terminals and advocates on their behalf. There are a variety of Upper Mississippi ports – small, medium, and large; privately- or publicly-owned. There are various forums for the ports and terminals to engage, such as the Inland Rivers, Ports, and Terminals and state planning efforts. However, there may be unmet needs and opportunities for strengthening regional collaboration of the ports and terminals.

- **Potential action**: UMRBA works with the Inland Rivers, Ports, and Terminals Association to connect with the region’s ports and terminals and seek their input on needs in order to engage regionally in advocacy. This could include discussion on infrastructure needs for enhancing multimodal connections through systemic planning.

- **Potential action**: Participate in a MARAD PortTalk interactive session focused on the Upper Mississippi.
# Upper Mississippi River Basin Association
## Commercial Navigation Summit
### July 9-10, 2014
#### Attendance List
(The table below lists all of July 9 attendees. * indicates participation on July 10.)

<table>
<thead>
<tr>
<th>Name</th>
<th>Department/Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robert Flider</td>
<td>Illinois Department of Agriculture</td>
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<tr>
<td>Ellen McCurdy</td>
<td>Illinois Department of Commerce and Economic Opportunity</td>
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<tr>
<td>Arlan Juhl</td>
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<tr>
<td>Todd Main</td>
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<tr>
<td>Loren Wobig</td>
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<tr>
<td>Nathan Bishop</td>
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<td>Harold Hommes</td>
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<td>Stuart Anderson</td>
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<td>Craig Markley</td>
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<td>Barb Naramore</td>
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<td>Cheryl Ball</td>
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<td>Michelle Teel</td>
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<td>Erik Maninga</td>
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<td>Wesley Stephen</td>
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<td>Kathy Heady</td>
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<td>Dan Baumann</td>
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<td>Donna Brown-Martin</td>
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<td>Sheri Walz</td>
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<td>Ken Barr</td>
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<td>Alan Brandt</td>
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<td>Brig. Gen. Peter DeLuca</td>
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<td>Col. Mark Deschenes</td>
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<td>June Jeffries</td>
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<td>Col. Dan Koprowski</td>
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<td>Bill Paape</td>
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<td>Charlie Wooley</td>
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<td>* Anne Kierig</td>
<td>U.S. Senator Dick Durban [July 10 only]</td>
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<td>Martin Hettel</td>
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<td>Jeremy Goldstein</td>
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<tr>
<td>Dennis Wilmsmeyer</td>
<td>America’s Central Port/Inland Rivers, Ports, and</td>
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<td>Tom Horgan</td>
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<td>Mike Marshall</td>
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<td>CH2M Hill</td>
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<td>Jim Stark</td>
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<td>Mike McQuillan</td>
<td>Hanson Professionals Services</td>
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<td>Pat McGinnis</td>
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<td>Branden Criman</td>
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<td>Rich Diffley</td>
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<td>* Ernie Perry</td>
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<td>Emily LaRosa</td>
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<td>Colin Wellenkamp</td>
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<td>Rob Rash</td>
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<td>Brad Walker</td>
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<td>Gretchen Benjamin</td>
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<td>Robert Sinkler</td>
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<td>Patrick Donovan</td>
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<td>Christine Favilla</td>
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<tr>
<td>Pete Ciaramitaro</td>
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<td>Mike Norris</td>
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<td>Nick Nichols</td>
<td>St. Louis Port Authority</td>
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<td>Susan Taylor</td>
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<tr>
<td>Michael Klingner</td>
<td>Upper Mississippi, Illinois, and Missouri Rivers Association</td>
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<tr>
<td>Paul Rohde</td>
<td>Waterways Council, Inc.</td>
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<tr>
<td>Jessica Steverson</td>
<td>World Trade Center of New Orleans</td>
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<tr>
<td>* Dru Buntin</td>
<td>Upper Mississippi River Basin Association</td>
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<tr>
<td>* Dave Hokanson</td>
<td>Upper Mississippi River Basin Association</td>
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<tr>
<td>* Kirsten Mickelsen</td>
<td>Upper Mississippi River Basin Association</td>
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</tbody>
</table>
FOUR REVOLUTIONS: How Will We Respond?

Brig. Gen. Duke DeLuca
Commander, Miss Valley Division USACE
President, Miss River Commission
9 July 2014

US Agricultural Productivity

Revolution #2: Hydrocarbon Production Revolution

- US Oil Production:
  - Grew 18% in last year alone
  - US will be World #1 producer in 2015 (more than KSA)
  - US #1 Producer July 2014

- US Natural Gas Production:
  - US is World #1 producer as of 2013 (more than Russia)
  - Affects Many Other Industries including Chemical, Plastics, and all Manufacturing

Revolution #3: Return of Manufacturing to the US and The Mississippi Valley

- $975M Steel Mill at Port of Caddo-Bossier on Red River in NW LA expected to be complete by 2015

Revolution #4: Accelerating Impacts of Climate Change

- Changes to Weather
  - Precipitation more Intense – More Volume in Less Time
  - Increased Runoff from this and development
  - Significant Storm events of high intensity
  - Record number of >$1B events in 2013 (41 - 7 in US)
  - Increasing High Damage weather events 151 since 1980
Revolution #4: Accelerating Impacts of Climate Change

- Changes to Watershed Functioning – part climate chg
- Higher Stages with same or less flow as in the past (need new flow line for Mississippi River – underway)
- Bottom Changes (Geomorphology study underway)
- Accelerating Sea Level Rise
- Louisiana Coastal land Loss is Relative SLR

Waterway Tonnage

- 12,000 miles of inland waterways
- Over 600 million tons moved annually (20 million truck loads)
- 18% of the nation's domestic freight (at a cost of 2/3 that of rail and 1/10 of truck)
- 60% of nation's grain exports
- 22% of coal for electricity generation (10% of all electricity used in the U.S.)
- 22% of domestic petroleum and petroleum products

Locks and Dams Have Many Benefits – Not Just NAV

- Flood Risk Reduction
- Recreation
- Eco-systems and eco-services
- Water Supply
- Real Estate

Historical Investments by USACE Functional Category 1928 to 2011

- ~$18.00 per person in the US!
- ~$56.00 per person in the US!
- ~$70.00 per person in the US!

Components of Federal Spending: FY1962-FY2019

- Source: CRS calculations based on data from the FY2015 OMB budget submission.
- Discretionary
- Mandatory
- Net Expenditures
United States Relative to Other Nations

Low investment in infrastructure! (equivalent to Greece #143 in world)

Since 2000:
• more than a doubling in delays!

These are actual delays experienced by vessels!

Comparison of Gross Domestic Product

GDP per person at Purchasing Power Parity and share of global population, 2014 forecast

Failure of Vision

• “Nothing has been proposed during my twenty-two years in the United States Senate that would do more to wreck our fiscal budget system.”

Success of Vision

• US GDP has grown 5.7 times larger today than in 1955 – due in large part to investments in Inland Waterways and the Inter-state Highway system.
  • $ 2.78 Trillion in 1955
  • $ 15.95 Trillion in 2014

And By the Way...

• We are not adapting to the four revolutions across MVD and the nation
• We are not serious about “performance-based budgeting”
  > USACE generates $15B in annual fees for Treasury vs $5-6B appropriations
    • Payback period = 4 months
    • Annual Payback Ratio = 3:1
  > USACE generates >$50 B in annual direct NED benefits vs $5-6B appropriations
    • Payback period < 2 months
    • Annual Payback ratio = 6:1
• Our infrastructure makes delivery of domestic stability, global stability and security possible.

The Bottom Line:

• Our infrastructure makes global STABILITY and American domestic SECURITY and ECONOMIC PROSPERITY possible!
  • Our infrastructure is degrading and our infrastructure is underperforming
  • The US is under-investing in its infrastructure and the US significantly lags other developed nations in its maintenance of prior investments.
  • We stand to lose hard-fought ground earned by prior generations through their financial and personal sacrifices.
  • Our economic prosperity, national security, standard of living, and environmental quality are at risk.
  • Our infrastructure is NOT disposable and should not be treated as such
  • The United States is on an unsustainable glide-path! Something MUST Change!

• USACE / Federal approps model of the 20th Century UNLIKELY to be restored.
  • Private Capital and State / Local Capital MUST be brought to bear
  • USACE must incorporate standards and oversight model similar to FAA and airports: MUST consider grant-making model similar to DoT
  • USACE MUST include system-wide P3 options
  • Full privatization MUST be on the table and considered
  • Modified TVA Model for the entire Inland Waterway possible

Is WRRDA 2014 The Beginning of a Response?

• Developing Implementing Guidance – With You!
  • Needs your input to exploit full authorities to benefit public
  • Needs your active support to achieve in a relevant timeline
• Section 1001, 2, 4, 5 – SMART Planning streamlining studies and reviews
• Section 1007 – Speeds 408 Permission Review Process
• Section 1014 – Raised trigger for Indep. External Peer Review
• Section 1013 – Improve PPA Templates
• Section 1014, 1015 – Allows on-Federal Entities to Contribute Funds to advance projects or to execute – Studies, Construction and receive credits
**Is WRRDA 2014 The Beginning of a Response?**

- Section 1017 – Explore Non-Federal Entities paying for Expanded Lock Operations
- Section 1018, 1019, 2020-2022 – Clarifies Credits for In-Kind contributions flexibly applied with some transferable between projects
- Section 1043, 5014 – Directs Public-Private Partnership Pilot Program (Up to 15 Proposals)
- Section 2002 – Refines Inland NAV Project Mgt, Enables ECI, D-B, Continuing Contracts and Milcon-type mechanisms, Expands IWUB’s Roles and Responsibilities, Requires a 20-year Inland NAV and Inter-coastal NAV Plan (within 5 years).

**Section 2003-6, 2013 – Adjust Rules on IWTF**

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**Nothing is As Easy As It Looks or Sounds**

4 Revolutions Back-Up Slides

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LaGrange Lock, IWW, Constructed in 1938  
LD17 Concrete - Lock Monoliths Constructed in 1939  
LaOrange Lock, IWW, Constructed in 1938  
Gate Leak – Lockport Lock Constructed 1933
### Effects of Decreased Investment

- 707 dams at 557 projects
- DSAC chart includes all USACE dams except one newly constructed dam that has not been assigned a DSAC value.
- Data source: DSPMT, 16 Oct 2013

### Relative Quality of US Infrastructure

Not even among the top 15!

### USACE Dam Safety Action Classifications

- DSAC 1.21
- DSAC 1.31
- DSAC 4.78
- DSAC 3.214

### Preparing for the future (1 of 2)

- Finalize USACE 2020 Overarching Strategy
  - Value to the Nation
  - Relevancy
- External focus and strategic engagement
  - It’s not all about us
  - It’s all about relationships

### 2013 Report Card for America’s Infrastructure

by the American Society of Civil Engineers

<table>
<thead>
<tr>
<th>Program</th>
<th>NED Benefit (Billions of Dollars)</th>
<th>Net NED Benefit (Billions of Dollars)</th>
<th>U.S. Treasury Revenues (Billions of Dollars)</th>
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<tbody>
<tr>
<td>Flood Risk Management</td>
<td>$23.1</td>
<td>$22.5</td>
<td>$7.3</td>
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<td>Coastal Navigation</td>
<td>$8.7</td>
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<td>Inland Navigation</td>
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<td>Recreation</td>
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<td>Leases and Sales</td>
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<td><strong>Total Annual NED</strong></td>
<td><strong>$51.4</strong></td>
<td><strong>$48.9</strong></td>
<td><strong>$14.8</strong></td>
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Distribution of US Infrastructure Investment Shortfall by 2020

32% of the shortfall ($372B) involves infrastructure associated with Corps authorities!
- Water
- Ports
- Waterways
- Levees
- Dams
- Power generation

Approximately $200.00 per person per year (the equivalent of one latte per week)

Water Infrastructure Spending

Between 1962 to 2010...
Total funding increased % GDP decreased
Greater burden on state and local funding sources as infrastructure ages.

Corps Mission-Related Investments

More than a tenfold increase in GDP since 1928!
Similar level of investment will not keep pace with GDP.
Decreasing levels of investment magnify the effect.

Patterns in Global Spending in Infrastructure

The United States invest in infrastructure spending by 1 percentage point of GDP to meet future needs
The gap between infrastructure system and estimated future spending needs

Historical Investments by USACE Functional Category 1928 to 2011

Represents the added expenditures necessary to sustain the CW capital stock value at current levels through 2045. On average, this amounts to an annual expenditure of nearly $7 billion from 2012 through 2045.

USACE Capital Stock Value, 1928 to 2011 & Trends Based on Investment Levels Reflecting a Continuation of the 1982-2011 Decline versus Sustainment of 2011 Capital Stock Value

Capital Stock Value 2012-2045, Assuming Current Rate of Decline
USACE Capital Stock Value 1928-2011

Historical Investments by USACE Functional Category 1928 to 2011

-$10.00 per person in the US
+$16.00 per person in the US
+$18.00 per person in the US
Climate models project acceleration in Sea Level Rise starting before 2100 due to climate change. Many areas through SE Coastal Louisiana see high rates now, in excess of 10 mm.


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<td>United States</td>
<td>5,525</td>
<td>3,531,905</td>
<td>$13,430B</td>
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<td>Louisiana</td>
<td>397</td>
<td>42,203</td>
<td>$198.5B</td>
<td>4.6M</td>
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<tr>
<td>The Netherlands</td>
<td>280</td>
<td>13,086</td>
<td>$772.2B</td>
<td>16.8M</td>
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Note: This is an example only; exact rates and timing of the accelerations are unknown.

Katrina Dispersal

Gulf Coast Transportation Hubs at Risk

Louisiana vs. The Netherlands
Louisiana vs. Netherlands

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<td>United States</td>
<td>5,535 miles</td>
<td>3,531,905 sq miles</td>
<td>$13,430B</td>
<td>313.9M</td>
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<td>Louisiana</td>
<td>387 miles</td>
<td>43,203 sq miles</td>
<td>$198.5B</td>
<td>4.6M</td>
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<tr>
<td>The Netherlands</td>
<td>280 miles</td>
<td>13,086 sq miles</td>
<td>$772.2B</td>
<td>16.8M</td>
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</table>

Good results using data and information available at that time!!

Inland Marine Transportation System
Unconstrained Investment Need

IMTS Investment Strategy Team
Future Program with Current Revenues
Commodities on the Upper Miss

- 580 manufacturing facilities, terminals, grain elevators, and docks that ship and receive tonnage in the Upper Mississippi River basin.
- Grains (corn and soybeans) dominate traffic on the system.
- Other major commodities are cement, coal & petroleum products.
- 50% Agricultural on the Mississippi; 30% Agricultural on the Illinois Waterway.

Waterborne Commerce of the U.S

Comparative Statement of Traffic

Mississippi River

Commodity Value

- Chemical Fertilizers: $631M
- Chemicals (Non Fert.): $1.9B
- Coal: $40M
- Crude Petroleum: $31M
- Food, Food Products: $1.7B
- Grain: $18M
- Manufactured Goods: $1.8B
- Petroleum Products: $2.1B
- Primary Metal Products: $431M
- Sand, gravel: $78M

* 2011 Data at LaGrange L&D

Tonnage Trends

Tonnage at Lock and Dam 22

* 2011 Data at LaGrange L&D
<table>
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<tr>
<td><strong>Commander</strong></td>
<td>COL Mark Deschenes</td>
<td>(309) 794-5228</td>
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<tr>
<td><strong>Chief, Construction</strong></td>
<td>Barb Lester</td>
<td>(309) 794-5630</td>
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<tr>
<td><strong>Chief, Contracting</strong></td>
<td>Sally Duncan</td>
<td>(309) 794-5628</td>
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<tr>
<td><strong>Chief, Emergency Operations</strong></td>
<td>Rodney Delp</td>
<td>(309) 794-5525</td>
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<tr>
<td><strong>Chief, Engineering</strong></td>
<td>Denny Lundberg</td>
<td>(309) 794-5226</td>
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<tr>
<td><strong>Chief, Operations</strong></td>
<td>Mike Cox</td>
<td>(309) 794-5501</td>
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<tr>
<td><strong>Chief, Programs &amp; Project Management</strong></td>
<td>Gary Meden</td>
<td>(309) 794-5660</td>
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<tr>
<td><strong>Chief, Regulatory</strong></td>
<td>Ward Lenz</td>
<td>(309) 794-5370</td>
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</tbody>
</table>

Rock Island District Website: [www.mvr.usace.army.mil](http://www.mvr.usace.army.mil)
PRESENTATION TO Upper Mississippi River Basin Association

State of the Infrastructure

COL Mark Deschenes
Commander
Rock Island District
July 9, 2014

Priorities of Maintenance (POM)

- Total for Mississippi Valley Division is more than $1 Billion
- Upper Mississippi River = $673 Million
- Rock Island District = $714 Million
  -- $470 on Mississippi River  -- $244 on Illinois Waterway

Backlog of Maintenance

Examples of high ranking FY15 backlog projects

<table>
<thead>
<tr>
<th>Infrastructure</th>
<th>Cost est.</th>
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<tbody>
<tr>
<td>Mississippi River, L&amp;D 27 (MVS), replace lift gate</td>
<td>$2.5M</td>
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<tr>
<td>Illinois Waterway Peoria L/D (MVR), replace miter gates</td>
<td>$2M</td>
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<tr>
<td>Mississippi River, L&amp;D 1 (MVP), dam scour repair</td>
<td>$3.5M</td>
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<tr>
<td>Mississippi River, L&amp;D 14 (MVR), replace miter gates</td>
<td>$3M</td>
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<tr>
<td>Mississippi River L&amp;D 16 (MVR), bulkhead slots</td>
<td>$6M</td>
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<tr>
<td>Illinois Waterway (MVR), work on Joliet Channel</td>
<td>$5.1M</td>
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<tr>
<td>Mississippi River L&amp;D 18 (MVR), bulkhead slots</td>
<td>$3M</td>
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Budget Received

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<th>Category</th>
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<th>LoP</th>
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<tbody>
<tr>
<td>MVD Regional Infrastructure Strategy</td>
<td>Asset Management</td>
<td>Budget Recommendation</td>
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</table>

Points of Contact

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(309) 794-6220

Chief, Contracting
Sally Duncan
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Chief, Emergency Operations
Rodney Delp
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Chief, Engineering
Denny Lundberg
(309) 794-5220

Chief, Operations
Mike Cox
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Chief, Programs & Project Management
Gary Mason
(309) 794-6260

Chief, Regulatory
Wendy Lentz
(309) 794-5375

Rock Island District Website: www.mvr.usace.army.mil
Navigation Ecosystem Sustainability Program

**NESP Navigation Authorization = $2.37 billion**
(50/50 Cost Share with the Inland Waterway Trust Fund)

- Small scale structural and non-structural measures ($274M)
  - Mooring facilities @ Locks 12, 14, 18, 20, 22, 24 and LaGrange
  - Switchboats @ 5 Locks (20 through 25)
  - Develop and test - appointment scheduling system.
- New 1200’ locks at Locks 20 through 25, Lagrange, and Peoria ($2.09B of which $252M is for mitigation)

NOTE: To date, no NESP construction funds have been appropriated

**NESP Benefits**

- Efficiency -- less delay time
- Increased capacity – more tonnage
- Redundancy
  - 1,200 foot locks eliminate the single point of failure system at most locations

**NESP Development**

- Requesting $1.5 Million in FY15 to update the economic analysis
  - New analysis required before moving forward with program

**Points of Contact**

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  Gary Meden
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- Chief, Regulatory
  Ward Lens
  (309) 794-5378
- Chief, Emergency Operations
  Rodney Ochs
  (309) 794-5524

Rock Island District Website: www.mvr.usace.army.mil
Assumptions:
- Basis Financial Report IWUB Meeting #71 in Little Rock, AR.
- Basis 2014 Dollar Value
- No Increase in Construction Costs/Inflation
- $85 Million User Fee Deposits Per Year into IWTF ($170 Million Per Year with Government Match)
- $20 Million Per Year for Major Rehab Projects
- $300 Million Per Lock in NESP
- Full Annual Appropriations to match the IWTF and Completion of Olmsted ($150 Million/Year)

New Construction Pre - WRRDA 2014
- Olmsted Lock & Dam: ($1.458 Billion) Completion 2024
- Lower Monongahela: ($1.2 Billion) Completion 2032 (Twin Chambers at Charleroi)
- Kentucky Lock: ($446 Million) Completion 2035
- Chickamauga Lock: ($523 Million) Completion 2039
- UMR Lock 25: ($300 Million) Completion 2042
- IR Lagrange Lock: ($300 Million) Completion 2045
- UMR Lock 24: ($300 Million) Completion 2046
- UMR Lock 22: ($300 Million) Completion 2051
- UMR Lock 21: ($300 Million) Completion 2054
- IR Peoria Lock: ($300 Million) Completion 2057
- UMR Lock 20: ($300 Million) Completion 2060

New Construction Post - WRRDA 2014
- Olmsted Lock & Dam: ($1.458 Billion) Completion 2024
- Lower Monongahela: ($1.2 Billion) Completion 2025 (Twin Chambers at Charleroi)
- Kentucky Lock: ($446 Million) Completion 2028
- Chickamauga Lock: ($523 Million) Completion 2032
- UMR Lock 25: ($300 Million) Completion 2035
- IR Lagrange Lock: ($300 Million) Completion 2038
- UMR Lock 24: ($300 Million) Completion 2041
- UMR Lock 22: ($300 Million) Completion 2044
- UMR Lock 21: ($300 Million) Completion 2047
- IR Peoria Lock: ($300 Million) Completion 2050
- UMR Lock 20: ($300 Million) Completion 2053

New Construction Post - WRRDA 2014
- Olmsted Lock & Dam: ($1.458 Billion) Completion 2024
- Lower Monongahela: ($450 Million) Completion 2018 (Main Chamber Only at Charleroi)
- Kentucky Lock: ($446 Million) Completion 2022
- Chickamauga Lock: ($523 Million) Completion 2026
- UMR Lock 25: ($300 Million) Completion 2029
- IR Lagrange Lock: ($300 Million) Completion 2032
- UMR Lock 24: ($300 Million) Completion 2035
- UMR Lock 22: ($300 Million) Completion 2038
- UMR Lock 21: ($300 Million) Completion 2041
- IR Peoria Lock: ($300 Million) Completion 2044
- UMR Lock 20: ($300 Million) Completion 2047

New Construction Post - WRRDA 2014
- Olmsted Lock & Dam: ($1.458 Billion) Completion 2024
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- Chickamauga Lock: ($523 Million) Completion 2023
- UMR Lock 25: ($300 Million) Completion 2026
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- UMR Lock 24: ($300 Million) Completion 2032
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- UMR Lock 21: ($300 Million) Completion 2038
- IR Peoria Lock: ($300 Million) Completion 2041
- UMR Lock 20: ($300 Million) Completion 2044

Plus $.09 Increase in User Fee
My Disclaimer

What we just discussed are my “Back of the Envelope” calculations and in no way should be taken as factual.

I am sure we’ll see more detailed estimates, from the USACE, once WRRDA 2014 is implemented.
Connecting & Coordinating Efforts to Optimize Freight Movement on Inland Waterways

Kevin Schoenen
Illinois Department of Transportation (IDOT)

Bill Paape
U.S. DOT – Maritime Administration (MARAD)

July, 2014

The Inland Waterways Gateway Office area of responsibility includes portions of fifteen States adjacent to the navigable rivers, to include:

• Headwaters of the Upper Mississippi River in Minnesota to Memphis, TN
• the Missouri River from North Dakota to its' Mouth near St. Louis, MO
• the Illinois Waterway from Chicago, IL to its' Mouth just North of St. Louis, MO
• the Ohio River from its headwaters in Pennsylvania to its Mouth at Cairo, IL.

Inland Waterways Gateway Focus Areas:

 Stakeholder Outreach [Supporting Effort]
 Grant Management [Infrastructure]
 Inter-Agency Partnerships [Supporting Effort]
 America's Marine Highways - M-5, M-55 & M-95
 Port Security Grant Program [Security, Preparedness & Response]
 America's Marine Highways: From Concept to Reality!

• Authorized in 2007
• Grant program created and $7M awarded in 2010
• Four new services funded
• Three market studies funded
• New vessel designs funded

Lessons Learned for forming Marine Highway Services

• It takes a village! Partnerships must be formed among the State DOTS, MPOs, Port Authorities, Terminal Operators, Service Operators, Logistics Providers/Shippers and Federal Agencies (i.e. U.S. Customs)
• Communication and Cooperation
• In-depth Market Analysis
• Sufficient start up capital
• Part of a complete, door to door supply chain
• Value-added services as part of the total service package
Prime Considerations

- Where’s my freight?
- When will I get it?
- How much will it cost me?

Major Cost Factors

- Maximizing vessel utilization
- Efficient terminal operations
- How much will it cost me?

StrongPorts Program


Purpose: Promote, Encourage, Develop Ports and Transportation Facilities in Connection with Water Commerce

- Secretary of Transportation, through the Maritime Administrator “shall establish a port infrastructure development program for the improvement of port facilities.”
- Provide technical assistance as needed for project planning, design and construction.
- Coordinate with Federal agencies to expedite NEPA.
- Coordinate reviews or requirements with local state and federal agencies.
- Receive (Federal, non-Federal, private) funds to further projects.
- Coordinate with Federal agencies to expedite NEPA.

StrongPorts Program

Primary Objective:

- Improve state of repair, capacity, efficiency and environmental sustainability of all U.S. ports.
- Leverage existing programs where possible
- Improve port competitiveness for public (Federal, State and local) and private funds through enhanced planning and engagement

Factors, Goals and Methodologies to Consider

- Ensure Federal role is appropriate to circumstances – Right Size, not Super Size
- Competition among/between ports is essential – minimize impact
- Program must be effective with no new Federal Funds – New money only increases scope of program benefits.
- Address the real challenges ports face, not perceived - Consensus
- Program should benefit all ports, not just a select few.

Program Framework - Phase 1

- Category I: Planning & Engagement
  - All Ports
  - Program includes:
    - Sector advocate through analysis & disseminating opportunities, cooperation, regarding port role/capability
    - Port Improvement Plan Guidelines (PLIGs)
    - Port Strategic Local Plan Coordination and Planning Support
    - Project Support
  - Increased Federal project assistance where unique - Federal immersion teams

- Category II: Planning
  - Limited no. of Ports
  - Program includes:
    - MARAD MC/Manager: Design, Review, Development
    - Eligible for Port Development Funds
    - Planning Grant
    - Project Planning
    - Project Funding

- Category III: Project Support
  - Very Few Ports
  - Program includes:
    - MARAD Co-Manager: Project Funding
    - Project Funding
    - Project Planning
    - Project Funding

Maritime Administration Projects

Maritime Administration Projects

- Projects in FY 2009
- Projects in FY 2010
- Projects in FY 2011
- Projects in FY 2012
- Projects in FY 2013

Prime Considerations

Investment Plan Devel. Support (TIGER VI B. Assistance: Analysis • Guidelines & Data: National/Regional Studies and Maritime Impact Dedicated Staff With MPO Experience Delivery of Federal Services (Gateway Offices & Direct support to individual ports (upon request) Sector advocate through analysis & Port role/investment planning & engagement

Purpose: "shall establish a port infrastructure development program for the improvement of port facilities.”

Factors, Goals and Methodologies to Consider

Prime Considerations

- Maximizing vessel utilization
- Efficient terminal operations
- How much will it cost me?

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Maritime Administration Projects

Maritime Administration Projects

- Projects in FY 2009
- Projects in FY 2010
- Projects in FY 2011
- Projects in FY 2012
- Projects in FY 2013
- Projects in FY 2014

Prime Considerations

- Where’s my freight?
- When will I get it?
- How much will it cost me?

Major Cost Factors

- Maximizing vessel utilization
- Efficient terminal operations
- How much will it cost me?
Port Planning & Investment Toolkit
A Maritime Industry Joint Venture

A joint venture between AAPA, a working group of 57 industry expert volunteers, and the Maritime Administration. The Toolkit will help ports obtain funding by developing investment grade plans that:

- Clearly identify future port needs;
- Determine the most cost-effective, sustainable and efficient solutions to port problems; and
- Get port infrastructure projects into MPO and state transportation programs in order to receive formula funding;
- Position port projects for federal funding such as TIGER grants; and
- Assist ports in obtaining private sector investment funds.

StrongPorts Initiatives - 2014

Port Planning & Investment Toolkit
A Maritime Industry Joint Venture

A Collection of Investment Plan Best Practices and Tools, Developed by industry experts under a cooperative agreement between AAPA and the Maritime Administration

PortTalk
A Regional Maritime Collaboration

Working with State Departments of Transportation, Metropolitan Planning Organizations, and ports to include water transportation in State freight and passenger transportation plan

M-35 Co-Sponsors
“Waterway of the Saints”

First Application Submitted to Collaborate with 5 total States

USDOT - Maritime Administration MARAD
New Corridor Designation M-35 Upper Mississippi River

America’s Marine Highway Routes

- Illinois Department of Transportation
- Iowa Department of Transportation
- Minnesota Department of Transportation
- Missouri Department of Transportation
- Wisconsin Department of Transportation
**Service Requirements Key**

**Requirement**
- Scheduled and reliable service
- Meet vessel calls at coastal ports
- Min. weekly service (containerized)
- Every 10 days suffices for Ro/Ro
- 7 days max line-haul transit
- Lowest cost expected
- No damage to finished goods

**Strategy**
- Short Term
  - More equipment/increased speed
  - Two weekly “boothed” services
  - Extra barge loaded pre-arrival
- Long Term
  - Faster marine highway vessel
  - Requires further R&D

**Illinois-Based Supply Chain: Corn**

- 3-4 weeks from plant to port
- 2-3 weeks from port to market
- Delivery to better farms
- Global competition

---

**M-55 Study**

1. Allows IDOT & MoDOT to pull in other stakeholder agencies for Maritime freight opportunities and development
2. Present Study along the entire M-55 Corridor
3. Study helps establish baseline for future port studies for COB opportunities and overall awareness for maritime freight

---

**Maritime Freight Considerations**

- Shippers are “the market”
- Carriers offer the services
- Government enable
- Performance is Supply Chain Specific

Marc-Andre Roy, CPCS
Incorporating Maritime Freight into Multimodal Planning

Illinois Freight Mobility Plan for One Transportation System

- Role in promoting more sustainable, effective and efficient connections in order to optimize private sector logistics options.
- Support ALL modes.
- Use strategic freight planning under multi-modal lens to tie intermodal connections across all freight modes.

Illinois Based Freight Tonnage

Tonnage 2010 – 2040 Growth by Mode

Source: Illinois Freight Mobility Plan (2012)

Tonnage on Highways, Railroads, and Inland Waterways: 2010

Rail Density – Illinois’ Central Position

“Intermodal Freight Primarily Moves East/West”
- IRPT Summit Meeting
Panama Canal - Logistics Shift

Impact of Expansion on Container Services (Lines Perspective)

Update on the Panama Canal Expansion, Rodolfe Sabonage, January 2014

Illinois Rail & Highways Networks

Illinois Intermodal Freight Facilities and Connectors

There are 220 intermodal freight facilities in Illinois, most are connections between truck and rail. Over half (130) are located in seven county metropolitan Chicago region.

Illinois Port Districts and Water-Landing Facilities - 1,095 Miles of Navigable Waterways

Outbound - 2010

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Inbound - 2010

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<tr>
<td>TOTAL</td>
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Lock & Dams

- Illinois between two great national assets – Great Lakes & Mississippi River
- 5 Locks on Mississippi River & two on Illinois River approved but not yet funded
- Point of Failure concern and its impact to other modes

Keeping Freight Mobility in Forefront
Current MAP-21 Requirements for Strategic Freight Planning

1. Strategic Plan how DOTs to meet national freight goals & overview of trends, needs, and issues
2. Freight policies & strategies aimed to guide freight-related decisions and enhance freight mobility & regional collaboration
3. Condition & performance of state freight system including measurements to be used to guide investment decision-making

Maritime Collaboration

- USDOT–MARAD, U.S. Corps, State Agencies
- Inland Rivers, Ports & Terminals Assn.
- Upper Mississippi Rivers Basin Assn.
- Upper Mississippi, Ill & Missouri Rivers Assn.
- Big River Coalition & Louisiana Maritime Assn.
- Waterways Council, Inc.
- Mississippi River Cities & Towns Initiative
- Mississippi Valley Flood Control Assn.
- Industry, Shippers, Carriers, etc.

Federal Action Highlights

- Water Resources Reform & Development Act (WRRDA)
  - Harbors Maintenance Trust Fund levels ~ Full use by 2025 ($1.8 billion/year)
  - Olmsted Lock and Dam draw from Inland Waterways Trust Fund at only 15%
  - Two pilot programs - Innovative financing (P3) for up to 15 projects & Water Infrastructure Finance and Innovation (WIFIA) loan program

- President's Grow America Act
  - $10 Billion Initiative for Freight projects (2-tiered)
    - States must demonstrate regional, national and international freight analyses

Federal Action

- National Freight Advisory Committee
  - Promote Dredging, Maintenance & Modernization of Inland Waterway system
  - Focus on Intermodal Connectivity (First/Last Mile)
  - Renew Short Line RR Credit
  - Establish a One-Stop Shop Permitting Division
  - Centralize Freight Planning (Local, State, Regional, National, International levels)

- Senate Environment & Public Works Committee
  - Create and provide incentives for Critical Urban & Intermodal Connector Designations
  - Allow states to allocate up to 10% for freight rail and port facilities that provide facilitate intermodal interchange

State/Local Involvement

- Illinois State Freight Advisory Council (ISFAC)
- Local Freight Plans
- State Freight Plan Alignment
- Illinois Economic Development Plan (Transportation & Logistics)
- State Agency Port Working Groups
- Public Port Needs Survey
- IDOT - TIGER Support
- State Agencies Participation in MARAD's Call for Marine Highway projects

Contact Information

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Illinois Department of US Department of Transportation
Transportation
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(312) 539-6783
Kevin.Schoeben@illinois.gov William.Paape@dot.gov
St. Louis Port Authority

- 19-mile riverfront, public & private facilities
- Municipal River Terminal owned by city, now negotiating next long-term operator lease

Operations: Nick Nichols
Port Development: Susan Taylor

Municipal River Terminal
2,000 linear foot dock (completed July 2013)

Pre-construction
Rendering of completed dock

St. Louis Port Authority

Old South Dock (50 yrs old)
Failed Dock (not ours)

South Dock Rebuild, $20M
$16M, EDA grant
$4M, bank loan
www.stlouisportauthority.org

Port of Metropolitan St. Louis (PMSL)

- 70 miles long, per US Army Corps, both sides of the river
- In Missouri: St. Louis, St. Louis County, & Jefferson County Port Authorities
- In Illinois: St. Clair and Madison County Port Districts
- Northernmost ice-free and lock-free port on the Mississippi
- Multimodal: all major barge lines, 7 interstates, 6 Class One RR’s, 2 international airports

Annual Barge Tonnages
- 106M thru PMSL
- 36.5M across PMSL docks
- 15M across St. Louis riverfront

PMSL Data
- 18th largest US port
- 130 facilities in MO and IL

Mississippi River Commerce
- 60% of North American grain for export
- $200B total revenue from all uses
- PMSL competes with other regions (KC, Indianapolis, Memphis)
- Connected to global marketplace

Port of Metropolitan St. Louis: Multimodal Networking

Regional Port Working Group

Goals
1. Promote Area Shipping
2. Market Our Region

Over 35 regional stakeholders:
- Shippers, Carriers, Ports and Terminals
- MARAD, DOT’s, and other Governmental Entities
- Civic and Trade Groups
- Universities and Consultants
- MPO, East West Gateway

Bi-monthly lunch meetings:
- Rotating locations/sponsors
- Current topic: what helps/hinders flow of your goods thru the PMSL
Regional Port Working Group

2014 bi-monthly agenda: how can we improve regional shipping?
- Feb 5, logistics firms
- Apr 2, barge lines
- Jun 4, trucking companies
- Aug 6, railroads
- Oct 1, ports and terminals
- Dec 3, next steps in 2015?

2015 Action Item #1: attract new barge and truck workers
- Dire shortages looming
- Weeks away from home
- Un glamorous
- Vocational high schools/colleges
- Scholarships, apprenticeships
- Better marketing

Promote Area Shipping
Market Our Region

East West Gateway Council of Governments:
Regional Freight Plan, 2013

Next Steps:
- Create Regional Freight District
- Create Regional Freight Authority
- Develop Prioritized List of Projects

http://www.ewgateway.org/freight/freight.htm
Who is WCI?
- Towboat, Tugboat, & Barge Industry Companies
- Companies Utilizing Waterways for Shipping
- Companies Utilizing Goods Delivered/Sent via Waterways
  - Power, Construction, Agribusiness, etc.
- Agricultural Associations
- Economic Development Groups
- Ports & Harbors
- Organized Labor Unions
- Conservation Organizations
- Advocates for Reliable River Transportation!

Issues of WCI Focus
- Put Spotlight on Operations & Maintenance & Rehabilitation Funding for Navigation Infrastructure
- Push to Finish Ongoing Construction
- Start Modernization of Locks at Key Locations
- Other Inland Navigation Issues
  - Dredging, Aids to Navigation (AtoNs), Asian Carp, Reduced Lock Operations, Missouri River, etc.
- Time-Sensitive Issues
  - Low Water Crisis 2012-2013, 2012 Lock 27 Closure, 2014 Mel Price Chamber Closure, etc.
- INLAND WATERWAYS TRUST FUND

Challenge:
Out of Sight, Out of Mind

The “Golden Age” of American Infrastructure Construction
Challenge: Project Completion Dates
(Pre-WRRDA, Status Quo, New Construction)

• Olmsted L/D Construction (2020)
• Lower Mon 2,3 & 4 Replacement, phase 1 (2027)
• Kentucky Lock Addition (2041)
• Chickamauga Replacement Lock (2051)
• High Island to Brazos River, TX (2055)
• Lagrange 1200’ Lock Addition (2070)
• Inner Harbor Lock Replacement (2077)
• L/D 22 Upper MS 1200’ Lock Addition (2083)
• L/D 24 Upper MS 1200’ Lock Addition (2090)

Challenge: Project Completion Dates
(Status Quo, Major Rehab)

• L/D 25 Upper Miss Dam (2053)
• Lagrange (2064)
• Lower Monumental (2065)
• ILL WW Thomas O’Brien L/D (2065)
• Greenup Dam Rehab PED & Constr. (2079)
• JT Myers Dam (2081)
• Meldahl Dam (2079)
• Montgomery (2084)
• Mel Price Upper Miss (2086)
• No. 2 Lock AR Lock Wall/Bank Slope Rehab (2085)
• Willow Island Dam Rehab PED & Constr. (2009)
• Marmet Dam (2090)

A Path Forward:
The Inland Marine Transportation System Capital Projects Business Model
“Capital Development Plan”

• Strategic Expenditure of Limited Appropriations
• Design & Construct Projects on Time & Within Budget
• A Sustainable Inland Waterways Trust Fund Operating as it was Intended

Inland Waterways Trust Fund

One Year of River Navigation Project Delay = Loss of .30 cents on Every Dollar Invested

<table>
<thead>
<tr>
<th>Transportation Sector</th>
<th>Add’l Total Investment by 2020</th>
<th>Protects $ in Exports</th>
<th>Protects $ in GDP</th>
<th>Protects Jobs</th>
<th>Protects Personal Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waterways</td>
<td>$16B</td>
<td>$270B</td>
<td>$607B</td>
<td>738,000</td>
<td>$87B</td>
</tr>
<tr>
<td>Airports*</td>
<td>$39B</td>
<td>$54B</td>
<td>$131B</td>
<td>350,000</td>
<td>$361B</td>
</tr>
<tr>
<td>Electricity</td>
<td>$107B</td>
<td>$15B</td>
<td>$496B</td>
<td>259,000</td>
<td>$566B</td>
</tr>
<tr>
<td>Water/Wastewater</td>
<td>$64B</td>
<td>$20B</td>
<td>$16B</td>
<td>699,000</td>
<td>$541B</td>
</tr>
<tr>
<td>Roads</td>
<td>$846B</td>
<td>$148B</td>
<td>$897B</td>
<td>877,000</td>
<td>$930B</td>
</tr>
</tbody>
</table>

*Additional Investments in Waterways Provides Greater Value to the Nation (ROI) Than Other Key Infrastructure Sectors

ASCE 2013 “Failure to Act” Study
### OUTPUT LOSSES

If there was a complete loss of the waterways for shipping without ANY advanced notice to users (a way to measure impacts):

<table>
<thead>
<tr>
<th>Region</th>
<th>Year 1 (2012 Billion)</th>
<th>Year 10 (2012 Billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ohio River</td>
<td>$-10.724,000</td>
<td>$-16.755,000</td>
</tr>
<tr>
<td>Upper Mississippi River</td>
<td>$-12.180,000</td>
<td>$-18.571,000</td>
</tr>
<tr>
<td>Lower Mississippi River</td>
<td>$-19.909,000</td>
<td>$-25.427,000</td>
</tr>
<tr>
<td>GIWW</td>
<td>$-48.775,000</td>
<td>$-63.080,000</td>
</tr>
<tr>
<td>Pacific Northwest</td>
<td>$-0.935,000</td>
<td>$-1.525,000</td>
</tr>
<tr>
<td>Rest of US</td>
<td>$-31.629,000</td>
<td>$-6.600,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$-124,452,000</strong></td>
<td><strong>$-131,958,000</strong></td>
</tr>
<tr>
<td>10 year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Present value</td>
<td>$-1.063 Trillion</td>
<td></td>
</tr>
</tbody>
</table>
Is the Message Resonating?

- **WRRDA 2014**
- **Olmsted**: Federalization to Finish Olmsted set at 85% to allow IWTF to Address Completing Other Projects
  - Recognizes Dams as Multi-Use Resource
  - 100% Federalization in FY15 Appropriations
- **FY15 Appropriation Levels**
- **Challenge**: Can Navigation “Hit Home” on a Regular Basis, Not Just During Crisis?

---

**THE USER FEE INCREASE**

- Increase Inland Waterways Fuel User Fee by up to .09 cents-per-gallon on diesel fuel consumed by commercial vessels while operating on the Inland waterways of the United States. (Adopt Sec. 9 of S.407: RIVER Act or Sec. 9 of HR. 1149/ WAVE 4)
- "In a letter dated September 24, 2013, to the Ways and Means Committee, the Waterways Council and a coalition of nearly 40 stakeholders expressed support for increasing the excise tax that supports the Inland Waterways Trust Fund to at least .26 cents per gallon, in conjunction with spending reforms included in the Water Resources Reform and Development Act, which passed the House of Representatives on October 23, 2013."

---

—**Tax Reform Act of 2014 Discussion Draft**
FY 2015 FUNDING (HOUSE)

Record-strong funding for Corps’ Civil Works program
Policy changes in WRRDA = higher funding levels

- Civil Works: $5.493 billion — $25 million FY’14 (enacted) and $569.5 million President’s request.
- Construction: $1.704 billion — $48.5 million FY ’14 (enacted) and $579.5 million President’s request.
- Olmsted ($160 million) and Lower Mon ($9 million), Administration- requested levels
- + $112 million (IWTF-financed projects, TBD by Secretary of the Army)
- + $85.5 million (undesignated navigation projects/funding increases from the Harbor Maintenance Trust Fund)

FY 2015 FUNDING (HOUSE)

- Operations and Maintenance (O&M): $2.905 billion — $44 million FY 14 (enacted) and $305 million President’s request. This is the highest O&M funding level to date.
- + $303.4 million in additional funding, with $45 million (for inland waterways), $150.5 million (for deep-draft harbors/channels), $42.5 million (for small/remote/subsistence projects), $25.4 million (undesignated).
- Investigations: + $14.5 million for navigation, $4 million (for inland) and $5 million (undesignated).
- Office of the Assistant Secretary of the Army: $2 million $5 million in FY ’14.

FY 2015 FUNDING (SENATE)

Senate Appropriations Committee Energy & Water Development mark-up postponed due to controversial amendments to be offered on climate change and Clean Water Act.

- Corps’ Civil Works program = $5.143 billion, $600 million above Administration’s FY ’15 $4.561 billion budget request.
- Inland Waterways Trust Fund-financed projects = $229 million, $60 million above the Administration’s requested level.
- O&M = $2 billion; Administration request was $2.6 billion.
- Harbor Maintenance Trust Fund program will receive $1.075 billion; Administration request was $915 million.

Aging Locks

<table>
<thead>
<tr>
<th>Age (Years) in 2012</th>
<th>0-9</th>
<th>10-19</th>
<th>20-29</th>
<th>30-39</th>
<th>40-49</th>
<th>50-59</th>
<th>60-69</th>
<th>70-79</th>
<th>80+</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Operational Lock Chambers</td>
<td>3</td>
<td>9</td>
<td>16</td>
<td>17</td>
<td>31</td>
<td>19</td>
<td>39</td>
<td>55</td>
<td>60% at 50+ Years!</td>
<td></td>
</tr>
</tbody>
</table>

60% at 50+ Years!

Tipping Point: Panama Canal Expansion

A potential game-changer for imports and exports on U.S. waterways

$8 Billion in Backlog Construction

★ 240,000 Construction Jobs to be Created
★ 20-Year Capital Development Plan

Dewatering and repairs of Inner Harbor Lock, GWWW, which opened in 1923 for steamboats.

Developing and repairs of Inner Harbor Lock, GWWW, which opened in 1923 for steamboats.
Large Coalition of Diverse Stakeholders
Pushing Together

"Okay, great. But what can I do about it?"
- Be a Constituent! Federal – State – Local Levels
- Educate Your Co-Workers/ Employees
- Letters to Editor
- Editorial Board Visits
- Sponsor a Print Ad in a Newspaper
- Statement of Support for Diesel Fee Increase
- Become a WCI Member
- Support Our Media Campaign
- Find Us At:
  - waterwayscouncil.org

prohde@vesselalliance.com
Waterwayscouncil.org
Overview

- **Purpose:** With innovative ship design and proper market targeting, America’s waterway shipping could benefit regional transportation users and logistic planners, further encouraging them to turn to waterway shipping as an affordable and dependable option.
- New vessel design targeting the United States Department of Transportation Marine Highway system of waterways.
- Economic advantages of container of vessel in container feeder markets:
  - Reduced freight rates
  - Lower average variable costs
  - Air emission reductions
  - Logistic improvements

Background

- Containerization of agricultural exports
- Freight-related urban congestion
- Environmental sustainability
- Over 10,000 miles of navigable waterways
- 21st century technology

The not so distant past

- Energy consumption not a major cost concern
- Emission standards either waived or ignored
- Maritime Industry resistance to new technologies that may obsolete their fleets
- Recapitalizing fleets not a high priority
- Innovative shipbuilding approaches can be capital intensive and require unconventional thinking
- Federal, State and Local budgets place downward pressure on maritime related infrastructure investment
Why a Semi-Displacement Catamaran Cargo Vessel

- Most efficient hull for 13-15 knot (and below)
- Has a reasonably large displacement (slightly less than a mono hull)
- Dual-hull structure decreases resistance and required horsepower
- Variable draft allows for full load cargo delivery
- Significant reduction in gas-related emissions
- Catamaran design provides excellent vessel maneuverability
- LNG fueled vessels are a reality due to the catamaran having 2 hulls

Applications

- Containerized Freight
- Roll-on/Roll-off Cargo
- Hi-speed reaction vessel
- Energy-efficient harbor work boat
- United States Department of Transportation Marine Highway System
- Short Sea Shipping-port to port
- Caribbean shipping line hauls
- Waterways or harbors that benefit from increased speed, shallower drafts, reduced energy use and significantly reduced toxic emissions

WCE 295 – WCE 400 - Ocean Going Barge Comparison

<table>
<thead>
<tr>
<th>Key Characteristic</th>
<th>WCE 295</th>
<th>WCE 400</th>
<th>Ocean Going Barge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (foot)</td>
<td>295</td>
<td>400</td>
<td>343</td>
</tr>
<tr>
<td>Draft (foot)</td>
<td>12</td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td>Deck Space (sq ft)</td>
<td>14,000</td>
<td>25,200</td>
<td>36,942</td>
</tr>
<tr>
<td>DWT (metric ton)</td>
<td>2,144</td>
<td>6,294</td>
<td>11,201</td>
</tr>
<tr>
<td>Container Capacity (40')</td>
<td>107</td>
<td>315</td>
<td>560</td>
</tr>
<tr>
<td>Design Speed (knots)</td>
<td>15</td>
<td>13</td>
<td>9</td>
</tr>
<tr>
<td>Engine (hp)</td>
<td>2,200</td>
<td>1,800</td>
<td>4,300</td>
</tr>
<tr>
<td>Fuel Flow (Gallon per hour)</td>
<td>100</td>
<td>92</td>
<td>190</td>
</tr>
</tbody>
</table>

Market Analysis

- Port of Virginia Container-Feeder Service
  - Baltimore, MD
  - Richmond, VA
- Columbia Coastal Transport LLC (Baltimore, MD)
  - 343-foot Columbia Elizabeth, a DWT of 11,201
  - 4,300 Horsepower MV Katie G. McAllister
  - 9 knots and crew of 6
  - Twice-weekly container feeder service from Norfolk Marine Terminals
- Baseline Assumption
  - 700 container (Forty Foot Equivalent Unit)(FEU) per week round-trip
  - $600 per container
**WCE400 Cost Assumptions**

- $22M acquisition cost / 25 year lifecycle
- 9 member crew (2 at $150,000, 7* at $90,000)
- U.S.-flag crewing costs is 68% of total operating cost
- 10% discount rate
- Baltimore tug and barge combo: 560 FEU, 9 knots and a crew of 6
- Fuel flow rates for the vessel with displacement values are estimated based on interview with SwiftWater Consultants LLC

*subject to cargo type

**Norfolk - Baltimore Trip Analysis**

- 0% market volume growth
  - 5% interest rate
  - Required Freight Rate* (RFR) of $385 per FEU
  - Profit of $214 per FEU
- 8% interest rate
  - RFR of $397 per FEU
  - Profit of $203 per FEU
- 4% market volume growth (from year 1 to year 5)
  - 5% interest rate
  - RFR of $375 per FEU
  - Profit of $225 per FEU

*Required Freight Rate (RFR) – variant of annual cash flow analysis, focuses exclusively on cost, calculates break-even revenue

**WCE400 vs Ocean Going Barge Cost comparison**

- 175 FEU per trip (one-way)
- Twice a week (700 FEU containers per week)
- WCE400
  - Average cost per container $297
- Ocean going barge
  - Average cost per container $354

**Variable Cost Comparison**

**Fuel Cost Comparison**
Public Benefit—Fuel Efficiency

The WCE400 operates with much greater fuel efficiency than the tug/barge comb, making almost two times more FEU-nautical miles with the same amount of fuel.

Public Benefit – Air Quality

<table>
<thead>
<tr>
<th>Emissions &amp; Standards</th>
<th>Diesel HC+NOx Standard (gram/kilowatts·Hour)</th>
<th>Diesel HC+NOx per FEU per NM (grams)</th>
<th>Diesel PM Standard (gram/kilowatts·Hour)</th>
<th>Diesel PM per FEU per NM (grams)</th>
<th>Diesel CO Standard (gram/kilowatts·Hour)</th>
<th>Diesel CO per FEU per NM (grams)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diesel HC+NOx</td>
<td>7.80</td>
<td>5.02</td>
<td>0.27</td>
<td>0.17</td>
<td>5.00</td>
<td>3.22</td>
</tr>
<tr>
<td>Diesel HC+NOx</td>
<td>5.60</td>
<td>1.76</td>
<td>0.11</td>
<td>0.04</td>
<td>5.00</td>
<td>1.57</td>
</tr>
<tr>
<td>Diesel PM</td>
<td>0.27</td>
<td>0.17</td>
<td>0.11</td>
<td>0.04</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Diesel PM</td>
<td>0.11</td>
<td>0.04</td>
<td>0.04</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Diesel CO</td>
<td>5.00</td>
<td>3.22</td>
<td>1.57</td>
<td>0.67</td>
<td>5.00</td>
<td>1.57</td>
</tr>
<tr>
<td>Diesel CO</td>
<td>5.00</td>
<td>1.57</td>
<td>0.67</td>
<td>0.04</td>
<td>5.00</td>
<td>1.57</td>
</tr>
</tbody>
</table>

Additional Benefits

- More frequent and efficient service
- Lower accident rates
- Added cargo flexibility
- Enhanced growth of feeder ports and local economies
- Reduced congestion at Ports of Virginia
- Shortened drayage
- Dual fuel capability

Study Results

- Required Freight-Rate shows profitability
- Average Variable Cost shows competitiveness
- Air emission reduction and fuel efficiency enhancement show public benefits

Conclusions

- Large market potential and service scope for short-sea and United States Department of Transportation Marine Highway system
- Innovative design offers public and private benefits
  - lower costs
  - higher reliability
  - quicker delivery
  - less pollution
  - Complementary shipping mode to highway and rail

Rahall Transportation Institute
Project Researchers

Patrick J. Donovan
Director of Maritime and Intermodal
patdonovan@njrati.org

Eric Pennington
Justin Matthews

www.njrati.org
Proposed Public-Private Partnership Projects for U.S. Inland Waterways Infrastructure Financing, Operations, and Governance

Presentation by: Patrick McGinnis
Upper Mississippi River Commercial Navigation Summit
July 9, 2014

Introduction to The Horinko Group

• THG is a Washington, DC based environmental and business development consulting firm assisting energy, water, and waste client sectors with fact based issue analysis and case development all founded on sustainable principles and sound business practice.

• Our Focus Areas
  • Regulatory & Legislative Support
  • Water Resources and Sustainable Communities
  • Alternative Resourcing Solutions (P3s)
  • Case Communication & Advocacy

www.thehorinkogroup.org

Presentation Outline

• Introduction to The Horinko Group (THG)
  • Pat McGinnis, Senior Advisor, Water Resources Policy & Practice
• Briefing on USSEC Report – Background, Findings, and Conclusions
• Briefing on Proposed Next Steps – Building Awareness, Building a Pilot, Building Momentum
• Wrap Up

USSEC Report completed Dec 2013


Background, Findings, and Conclusions

Defining the Problem

• Financing mechanisms and funding levels are not proving sufficient to sustain USACE locks and dams
  • For the State of Illinois and its bordering waterways alone, current estimates place deferred lock and dam maintenance at $560M
• Status quo
  • “Fix-as-Fail” repair strategy
  • Unscheduled closures reducing efficiency, driving up costs, and threatening system reliability
• Legislative Action
  • WRDA 2007 – NESP Provisions (Appropriation didn’t follow Authorization)
  • Proposed increase to fuel tax to strengthen IWTF (pending)
  • WRRDA 2014 Reforms (Alternative Financing – P3 Provisions)

Exploring alternative financing strategies

• Public-Private Partnerships (P3)
  • Supply chain or system perspective
  • P3 types and relevant cases explored
  • UMRS focus pointing to 1 or 2 Regional Pilot Projects
• Where – at critical supply chain segments of high interest to producers/exporters
  • Illinois River
  • Upper Mississippi River
• Regional P3 Candidate Projects Considered
  • 2 locks & dams in Illinois - Peoria and LaGrange
  • 4 locks & dams on the UMR - Locks 24, 25, Melvin Price, 27
  • Middle River not addressed in report (open river Pilot)
**Our P3 Assumptions**

- Infrastructure remains under public ownership and control
- Assets are not sold
- Consideration given to private firm(s) providing some level of contractual management
- Types of P3s (short term/long term)
  - Outsourcing
  - Design-Build
  - Operations and Maintenance
  - Long-term Lease (Concession)

**Report Conclusions**

- Implementation of a pilot P3 merits thoughtful consideration
- Any successful P3 rests on consistent, ongoing, diligent oversight and monitoring by the public sector of the agreement and the non-federal entity’s performance under the contract
- WRRDA 2014 could present foothold to actionably advance consideration of P3s
- Our Report also outlined “next steps” assuming passage of WRRDA.

**Where Do We Go From Here?**

**WRRDA 2014 authorizes evaluation of a Non-Federal Project Implementation Pilot Program that will**
- Identify project delivery and cost-saving alternatives that reduce the Corps’ backlog
- Evaluate the efficiencies of a non-federal interest carrying out design, execution, management, and construction of a project or group of projects. WRRDA was silent but non-restrictive on consideration of long-term concessioned P3s.
- Evaluate decentralization of the project management, design, and construction of Corps water resource projects.
- Pilot program would include regional pilot projects covering most of the Corps’ business lines.
- Effort would be made to locate at least one pilot in each of the Corps’ regional divisions.
- Within 180 days of WRRDA’s passage on June 10th 2014, the Corps would commence effort to evaluate the cost-effectiveness and project delivery efficiency of non-federal project implementation.

**No Action Scenario**

- Without this alternative financing Pilot Program the reality is that Congress may fail to find the resources to fund necessary repairs. Private capitalization could further leverage available Federal funds and enhance optics. Resource Leveraging vs. funding offset is an important consideration.
- The length of time that major rehab would take, even if fully funded under present schedules and existing processes, is already cause for concern.
- The consideration of pilot P3 projects could drive heightened transparency and reform of government performance and process which will further enhance IMTS trouble shooting and consideration of enhanced business practices.

**WRRDA 2014: Challenge and Opportunity**

- WRRDA 2014, as authorized, presents transformative opportunity for Corps and IWS Users.
- There is a window of opportunity to:
  - “inform and shape” the alternative financing pilot program; and,
  - bring interested parties together to formulate a pilot project(s) with potential investors.

**Proposed Next Steps**

**THG Proposed Next Steps**

Building Awareness, Building a Pilot, Building Momentum
**Proposed Next Steps**

- **Step 1** – Brief findings to others; ID non-fed entity and champion; seat ad hoc workgroup
  - Conduct follow-up with those interviewed during initial fact finding and analyze effort. Insure situational awareness and participation of User and Corps leadership.
  - ID Non-Federal regional Entity to serve as local sponsor during pilot formulation stage. This entity could serve in interim capacity if a appropriate institution does not currently exist and needs to be chartered (i.e. formation of regional port authority).
  - ID and seat small ad hoc group to guide necessary actions to ID pilots, formulate technical requirements, refine pilot for investor and joint venture partnership consideration.

**Proposed Next Steps (Cont.)**

- **Step 2** – Design and Convene Pilot Formulation Work Group Forum
  - Engage subject matter experts and recruit pilot formulation work group
  - Design and facilitate forum process to scope, refine, and develop pilot project(s). Request participation of Corps navigation business line experts.
  - Analyze and communicate findings with actionable recommendation (decision point) including post workshop interviews with work group members, key Corps officials, and Members of Congress.

- **Step 3** – Convene Financial Community, Investors, and Potential Joint Venture Partners
  - Present proposed pilot project to investor/service provider/legal experts with focus on solutions for achieving financially viable and precise P3 model and contract, including financial opportunity metrics.
  - Identify specific implementation steps and attempt to reconcile Federal Pilot Program needs including requisite Congressional authorization, scope of proposed lease arrangement if applicable, and nature of non-federal partners.
  - Engage Federal Pilot Program Administrator to introduce project and non-federal project partner to facilitate necessary dialogue and supporting documents.
  - Seek Letter of Intent from potential investors and/or joint venture partnership group(s) if appropriate.

**Proposed Next Steps - Timetable**

**Key Decision: Await WRRDA Implementation from HQUSACE or commence immediate effort to shape pilots and acquisition strategies that inform implementation**

**Action Timeline: Aug thru Dec 2014**

- Step 1. Convene small ad hoc work group, ID Regional Non-Federal Entity to Steer Effort. (Aug-Sept 2014)
- Step 2. Design and Convene Project Formulation Workshop (Sept-Oct 2014)
- Step 4. Position non-fed entity to finalize project and hand-off to Corps P3 Pilot Program Administrator. (Nov-Dec 2014)

**Acting vs. Reacting**

- Shaping a predictable action-to-outcome strategy to modernize IWS
- Building investor awareness to attract private capital
- Moving from short range pilot effort to long-term plan and commitment founded on well-informed public policy and greater private participation

**Questions?**

Patrick S. McGinnis
Senior Advisor, Water Resources Policy and Practice
The Horinko Group
“Alternative delivery method for rehab/replacement of locks and dams on the Upper Miss./Illinois Rivers”

Tom O’Hara

UMBRA Navigation Summit
July 9, 2014

Financing

Fully Public
Public-Private Partnership
Fully Privatized

Fed budget / IWTF
P3 Model, Majority Non-Fed
Private, Venture Capital

2026 or later
8 years from start
8 years from start

Federal-led
Local Joint Power Auth.

- Corps
- Shipping
- Maintenance
- Labor
- Others

Commercial company

Federal / Corps
Maintenance: JPA
Operations: Corps

Commercial company

Corps
Commercial company, long-term lease

New Locks in Operation

Governance O&M
Owner

Private, Venture Capital

2026 or later 8 years from start 8 years from start

Federal – led
Local Joint Power Auth.

- Corps
- Shipping
- Maintenance
- Labor
- Others

Commercial company

Commercial company

Commercial company, long-term lease

Federal – led
Local Joint Power Auth.

- Corps
- Shipping
- Maintenance
- Labor
- Others

Commercial company

Commercial company

Commercial company, long-term lease

区域治理

区域治理考虑

- P3要求（区域机构的宗旨）
  - 由决策者管理
  - 由各州公民代表
- 定义或目标
  - 维护
  - 扩展
- 维护
- 公共
- 公私合一
- 系统性

结构
- 由现有组织/机构
- 由州和州间
- 必须由支付者管理
Regional Governance Examples

- Southwestern Illinois Flood Prevention District Council
- Ilianna Expressway Authority (bi-state agreement with IL/IN)
- Bi-State Development Agency of the Missouri-Illinois
- Midwest Interstate Passenger Rail Compact
- West Coast Infrastructure Exchange (California, Washington, Oregon and British Columbia)
- Fargo Moorhead Diversion Authority (Flood risk mgmt project in MN/ND)
- Alameda Corridor Transportation Authority (Rail/port projects in California)

Revenue Stream Formation Considerations

- Sufficient size to attract private equity: $500M+
- P3 will require a private revenue stream. Examples:
  - Concession fee
  - User fee/lockage fee
  - Sales/development tax
- Combine with federal/state funding and incentives
  - “Bankable” commitment on future federal capital investments (lock expansions)
  - Leverage O&M via long term service contract or privatization
  - State/municipal bond/loan backing
  - Potential to eliminate Major Rehab cost share from IWTF if Maintenance First option is pursued
- Market supported cost analysis must be conducted
- Investment capital is available

Discussion Take Aways

- Status Quo isn’t working.
- There are options but not without a willingness to put all delivery and funding options on the table – and to share the pain.
- System-wide, flexible approach is needed.
- Need to leverage existing authorities (Ports, States, Corps, etc) and be as inclusive as possible.
- WRDA provides an opportunity – the time for action is now, at the State and commercial level.
  - There are only 15 pilot slots under the new authority.

Thank You

Tom O’Hara
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618-979-5391
Thomas.OHara@ch2m.com
Assignment: Formulate approach for funding Inland Waterway System (IWS) capital projects with private sector-sourced finance

Rationale:
- Current funding model is time-consuming and inefficient
- Inland Waterway Trust Fund is inadequate
- Annual USACE budgets and appropriations are cumbersome and deficient
- Prospects for major increases to USACE appropriations are questionable
- Private infrastructure funds have significant cash reserves that could be invested in key IWS infrastructure components if a suitable transaction structure is created and adequate returns are available

Approach:
- Identify and profile selected public/private partnership ("P3") infrastructure investment initiatives with transaction attributes of potential applicability to IWS
- Identify and review selected IWS capital project(s) with potential to be "test case" for alternative financing approach
- Extract best, most relevant elements of profiled P3 initiatives and formulate suitable P3 transaction structure for IWS projects
- Apply proposed P3 transaction structure to selected IWS capital project(s)
- Examine economics and ramifications of proposed P3 structure

Selected Best-Practice Initiatives:
- Seagirt Marine Terminal (Baltimore, MD)
- I-595 Express Corridor Project (Fort Lauderdale, FL)
- I-635 Expressway (Dallas, TX)
- Eagle Fastracs (Denver, CO)
- Port of Brisbane Corporation (Brisbane, QLD, Australia)

Seagirt Marine Terminal:
- Concession Grantor: Maryland DOT and its subsidiary Maryland Port Authority
- Concessionaire: Ports America Chesapeake (PAC)
- MDOT transferred operating responsibility for Port’s main container terminal from State Port Authority to PAC
- Obligated PAC to design, build, equip, and operate new berth (at cost of approximately $105 million)
- However, PAC will be able to access lower-cost municipal bond market for debt finance of berth expansion project, through State bond issuance
- Also entailed significant ($140 million) upfront payment to the State by PAC
- PAC will make both fixed rent and variable, revenue-based payments to MDOT, with PAC having full control of terminal pricing and collecting all terminal user fees
- 50-year lease term

Transaction Attributes for Attracting Private Sector Equity:
- Project capital structure should be matched with anticipated timing of revenues to service debt, pay for maintenance/operation, and provide adequate return to equity
- Risk-reward relationship should be balanced between the public agency granting concession and the concessionaire
  - Agency should insure that land ownership, environmental approvals, and construction permits are obtained on schedule to mitigate risk of construction delay
  - User fees should be supplemented with other revenue sources, such as availability payments and/or beneficiary payment structures, if future concession volume levels are highly uncertain
- Length of the concession term should be maximized
Option 1: Design – Build – Finance Model With Concession Revenue from User Fees Only

Selected Attributes of IWS Capital Projects to Consider

- IWS commercial volumes/revenues could have low-growth potential
- Long useful lives of lock/dam infrastructure
- Benefit streams of IWS improvements would likely accrue from the project to non-commercial stakeholders (such as recreational users, farmers, and local businesses supporting those stakeholders)
- This would suggest the need for a Design-Build-Finance (DBF) model, rather than a DBFOM contract
- This would suggest the need for beneficiary payments and/or government grants to help finance project
- This would suggest the use of a Design-Build-Finance (DBF) model, rather than a DBFOM contract
- Long useful lives of lock/dam infrastructure
- This would suggest using a concession term of 45-50 years, if possible

P3 Test Case: Overview of Potential

- Illinois River Waterway (IWW) has significant tonnage movements, relative to many IWW assets
- IWW is contained within one state, so potential for inter-state political conflicts to derail a P3 transaction is reduced
- Improvement projects include both rehabilitations and replacements
- Given Illinois’ grain production activity, and long-term demand for US grain exports, an IWW P3 could potentially offer private infrastructure investors some upside volume potential

P3 Test Case: Estimated Project Costs for IWW Concession

- Estimated project investment (per IMTS report) of $903 million
- tavern holders are paid off over 30-year period at 6% interest rate
- Concession-holders contribute 25% of project capital costs in equity
- Operating concession term of 40 years

IWS P3 – Conceptual Transaction Design Using A Specific Project

Selection of IWW Lock/Dam Projects as IWS P3 “Test Case” – Rationale:

- Illinois River Waterway (IWW) has significant tonnage movements, relative to many IWW assets
- IWW is contained within one state, so potential for inter-state political conflicts to derail a P3 transaction is reduced
- Improvement projects include both rehabilitations and replacements
- Given Illinois’ grain production activity, and long-term demand for US grain exports, an IWW P3 could potentially offer private infrastructure investors some upside volume potential

P3 Test Case: Proposed Transaction Model for IWW Concession

- Option 1: Design – Build – Finance Model With Concession Revenue from User Fees Only
  - Operations and maintenance of locks and weirs would remain with USACE
  - Environmental/Construction permits would be procured by State upon concession grant
  - State would issue tax-exempt Private Activity Bonds (PABs) to help fund IWW improvements

P3 Test Case: Key Assumptions in Financial Model of Transaction

- Option 1: DBF Model With Concession Revenue from User Fees Only
  - Operating concession term of 40 years
  - Concession-holders contribute 25% of project capital costs in equity
  - Proceeds from PAB issue provide 85% of project capital costs
  - PAB bond-holders are paid off over 30-year period at 6% interest rate
  - Federal Government grant provides funds for final 5% of project capital costs
  - Tolls increase by 1% per year
  - Tolls are concessionaire’s sole source of income
  - Improvements are depreciated straight-line over 40 years, matching concession term
  - Concessionaire pays corporate income tax of 28%
Are there sufficient, potential benefits of the 6-Lock Rehab Program for IWW commercial users to be able to support the assumed tolls in the financial model?

- Potential sources of benefits:
  - Delay reduction
    - Reduced waiting & lockage times could lower unit costs
  - Outage avoidance:
    - Reduction in system disruption could reduce idle assets
  - System preservation:
    - Maintain the barge mode vs. paying higher rail costs
A different revenue model – based not only on commercial user fees – will likely be necessary to attract multiple infrastructure investors.

Potential Sources of benefits of expanded lock chambers:
- Additional delay reductions
  - Reduced waiting & lockage times through La Grange and Peoria could lower unit costs
- Ability to operate more barges per tow
  - Should reduce unit costs on shipments upstream to or downstream from Peoria and La Grange
- Capacity expansion
  - Ability to operate larger tows could also increase IWW capacity to handle more volumes and potentially capture share from rail

Other navigational limitations on the IWW make it impractical to operate large boats, so achieving cost reductions as outlined above is unlikely.

Application of P3 Transaction Concepts to IWS Capital Projects – Conclusions:
- Potential benefits of lock/dam rehabilitations are likely to be insufficient to enable commercial users to absorb more than a small portion of the P3 concessionaire’s required revenues through special-purpose tolls
- Potential benefits of lock/dam replacements (renovations), assuming project costs are close to the referenced IMTS estimates of April 2010, could be sufficient to enable commercial users to generate a significant portion of the concessionaire’s required revenues through special-purpose tolls, but a gap in revenue would likely remain
- Revenue from other beneficiares of the IWS system will be necessary to close this gap
- Waterway commercial users and local/state officials will likely need to jointly lobby multiple Federal agencies to secure an ability to use TIFIA loans and private activity bonds

USACE’s roles – in design approval, construction monitoring, acceptance of project, continued operation of IWW, etc. – will still be critical, thus, its support for P3 process will be crucial.
Iowa’s Efforts to Advance Navigation Projects through P3s
Craig Markley, Director
Office of Systems Planning
Iowa DOT

Iowa Freight Tonnage by Mode: 2011 and 2040
To, From, and Within (in thousands of tons)

<table>
<thead>
<tr>
<th>Mode</th>
<th>2011</th>
<th>2040</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truck</td>
<td>359.93</td>
<td>685.7</td>
<td>91%</td>
</tr>
<tr>
<td>Rail</td>
<td>71.39</td>
<td>98.7</td>
<td>38%</td>
</tr>
<tr>
<td>Water</td>
<td>7.34</td>
<td>10</td>
<td>36%</td>
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<tr>
<td>Air (include air-truck)</td>
<td>0.03</td>
<td>0.09</td>
<td>233%</td>
</tr>
<tr>
<td>Multiple modes &amp; mail</td>
<td>14.08</td>
<td>18.9</td>
<td>34%</td>
</tr>
<tr>
<td>Pipeline</td>
<td>7.34</td>
<td>7.9</td>
<td>8%</td>
</tr>
<tr>
<td>Other</td>
<td>1.49</td>
<td>3.3</td>
<td>122%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>461.6</td>
<td>824.6</td>
<td>79%</td>
</tr>
</tbody>
</table>

Source: Freight Analysis Framework, FHWA

Iowa Freight Values by Mode: 2011 and 2040
To, From, and Within (in billions of dollars)

<table>
<thead>
<tr>
<th>Mode</th>
<th>2011</th>
<th>2040</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truck</td>
<td>$241.9</td>
<td>$549.1</td>
<td>127%</td>
</tr>
<tr>
<td>Rail</td>
<td>$17.9</td>
<td>$31.3</td>
<td>75%</td>
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<tr>
<td>Water</td>
<td>$1.4</td>
<td>$2.3</td>
<td>64%</td>
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<tr>
<td>Air (include air-truck)</td>
<td>$1.5</td>
<td>$9.7</td>
<td>547%</td>
</tr>
<tr>
<td>Multiple modes &amp; mail</td>
<td>$31.0</td>
<td>$119.3</td>
<td>285%</td>
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<tr>
<td>Pipeline</td>
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<td>$2.8</td>
<td>8%</td>
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<tr>
<td>Other</td>
<td>$3.9</td>
<td>$8.5</td>
<td>118%</td>
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<tr>
<td>TOTAL</td>
<td>$320.9</td>
<td>$723.0</td>
<td>125%</td>
</tr>
</tbody>
</table>

Source: Freight Analysis Framework, FHWA

Freight Planning Initiatives Timeline

Freight Advisory Council
- Established in April 2012
- Consists of private sector representatives from all transportation modes, shippers, processors, distribution centers, and other freight organizations
- Includes metropolitan planning organizations, regional planning affiliations, and other local, state, and federal government entities
- Currently working on bottleneck identification that will be used as input to Iowa’s Freight Policy and Implementation Plans
Freight Advisory Council – Purpose and Goals

Purpose:
To provide a forum for the exchange of ideas and help the Iowa DOT better understand the complexities associated with freight movements to more effectively guide public investment in transportation infrastructure.

Goals for the Group:
1. Gain a better understanding of how freight decisions are made at the private and public levels.
2. Investigate and evaluate ways the Iowa DOT can assist Iowans in shipping and receiving goods by reducing transportation costs while at the same time increasing profitability.
3. Help shape the Iowa DOT’s public policy.

Freight Advisory Council – Issue Papers

• Council Identified 48 Issues
• Categorized Issues into 7 Areas:
  − Infrastructure Challenges
  − Transloading/Intermodal
  − Operations
  − Regulations
  − Financial
  − Labor and Driver Shortage
  − Other/Research/Education
• Developed Issue Papers for each area
• Issue Papers to be used as Input to State Freight Policy and Implementation Plans

Freight Website

http://www.iowadot.gov/systems_planning/freight_planning.html

• Freight Advisory Council information
• Freight projects and plans
• Maps, data and tools
• Freight links
• Freight glossary and acronyms
• Iowa DOT freight contacts

Lock and Dam Feasibility Study

Purpose:
• To discuss the viability of options to modernize and improve the Lock and Dam System in order to maintain its efficiency and reliability.

Issues:
• Limited Federal funds available for operation, maintenance and rehabilitation.
• Infrastructure is deteriorating and wearing out faster than it is being replaced.
• Failure or closure of a lock would increase costs to shippers.
• Additional traffic on the rail and road systems will cause these systems to deteriorate faster, placing added pressure on limited state and private resources.
• New approaches are needed to keep water viable.

Key Findings:
• No action will result in a loss of economic benefits and a missed opportunity with the expansion of the Panama Canal.
• Increased funding from traditional sources is a short-term solution.
• Partial divestiture should be examined if there is no new funding, but will need more study.
• Public-Private Partnerships will be challenging to develop until major system repairs and upgrades are completed.
• Increased funding from traditional sources can only be part of a more comprehensive funding system.

Mississippi River Action Plan

• As a follow-up to the Lock and Dam Feasibility Study, the Iowa DOT hosted a Mississippi River Action Plan Workshop on June 27, 2013 in the Quad Cities.
• Workshop was attended by a variety of stakeholders, including other state DOTs, farm interests, major commodity shippers, towing companies, terminal operators, non-governmental organizations, etc.
• Workshop included:
  − Visioning
  − Issue Analysis
  − Issue Categorization
  − Pilot Project
Mississippi River Action Plan – Workshop Results & Next Steps

- Visioning and issue analysis:
  - Conducted a SWOT analysis to define opportunities and constraints of the system and developed a unified vision for the action plan.
  - Identified key perspectives and issues: Environmental, Regulatory, Economics, Navigation, Recreation
- Potential pilot projects:
  - Brick and Mortar Projects: Improve Lock 15 with a fixed guide wall, improve Dam at Lock 18
  - Studies: Highlight value/efficiency of predictable funding, examine return of the state/federal fuel user fees
- Next Steps:
  - Finalize Workshop outcomes
  - Engage stakeholders on next steps
  - Develop a pilot project

Proposed Iowa Waterway Executive Steering Committee

- Explore public-private partnerships to improve and optimize the lock and dam system
- Discuss options for increased waterway funding
- Increase predictability and reliability of locks/dams
- Restore ecosystems along the Mississippi River
- Potential members – Governor’s office, Army Corps, Ag and Land Stewardship, Natural Resources, Economic Development, Agribusiness groups, Environmental groups, key Freight Advisory Council members

TIGER 6 Application

http://www.iowadot.gov/tiger14-river

- Planning application to support a proposed study further exploring opportunities to enhance lock and dam efficiency, reliability, and utilization.
- Potential projects include: real-time barge location, infrastructure and operational improvements, condition studies, failure impact analysis, port development research.
- Partnership: 5 states
- Request: $730,000 (73%)
- Match: $270,000 (27%)

Marine Highway Application

- Worked with ILDOT, MNDOT, MODOT, and WisDOT as a co-sponsor on the I-35 application for Marine Highway designation.
- Upper Mississippi River from Minneapolis-St. Paul, MN to St. Louis, MO
- Possible designation as early as this summer
- Allows us to compete for funding if it is designated

Water Resources Reform and Development Act (WRRDA)

- Expands authority for non-federal interests to contribute to feasibility studies and construction projects
- Creates a five-year $175 million credit assistance pilot – Water Infrastructure Financing and Innovation Act (WIFIA)
- If funding appropriated, the Corps could provide assistance for levee, flood control and storm damage reduction
- Funding could assist public-sector entities as well as private companies if supported by state or local governments

Statewide Freight Transportation Network Optimization Strategy

- Freight Optimization project will identify investment opportunities and strategies to lower transportation costs for Iowa businesses and promote business growth in Iowa. This will involve:
  - A thorough evaluation of the existing freight transportation network and strategies to optimize the existing system for current and future freight demand.
  - Identifying areas with high potential for commercial and industrial development.
  - Prioritizing recommended actions to optimize the multimodal network.
Propane Supply Chain Optimization

- Spurred by severe propane shortage and sharp price increases for users in 2013-2014 season
- This project will:
  - Create an efficient supply chain for State of Iowa
  - Prioritize investments in infrastructure to lower propane supply chain costs for State and its constituents
  - Determine optimal location and size of facilities and the flow through the facility network

HAZMAT/Disaster Response

- Leveraging FAC to improve HAZMAT and disaster response planning and preparation
- Coordinating with Emergency Transportation Operations group as well as Motor Vehicle Enforcement
- Developing table-top and in-field training and exercise plans as part of ongoing statewide effort

Questions?

Craig Markley, Director, Office of Systems Planning
Phone: (515) 239-1027
Email: craig.markley@dot.iowa.gov
Pilot P3 Navigation Project on Illinois Waterway

- Illinois River provides unique opportunity, no political boundaries
- Under PPP Corps remains responsible for normal operations and maintenance
- Special purpose entity would be formed
- Without new funding model, infrastructure will continue to deteriorate
- Illinois Soy Growers looking at lock maintenance as most likely opportunity
- Providing appropriate return on investment is major issue

Contributed Funds Flow Chart

Points of Contact

Commander
COL Mark Deschenes
(309) 794-5249

Chief, Engineering
Denny Lundberg
(309) 794-5226

Chief, Construction
Barb Leach
(309) 794-5560

Chief, Contracting
Sally Duncan
(309) 794-5628

Chief, Programs & Project Management
Gary Moon
(309) 794-6260

Chief, Emergency Operations
Rodney Delp
(309) 794-5325

Chief, Regulatory
Ward Lenz
(309) 794-5770

Rock Island District Website: www.mvr.usace.army.mil
Collaboration to Advance Port and Marine Development in the Mid-America Region.

Examples of Collaboration
- Multistate
- MAFC
- Marine Highway efforts
- State Approaches
- Wisconsin

Mid-America Freight Coalition
- Ten States
  - 22% of total population
  - 23% of Country's total truck tonnage
  - 63% of Nation’s total rail tonnage
  - Inland waterway system—about all of it!

Examples of Collaboration
- MAFC RFS: Regional Multimodal Economic Network
  - Southeast Region
  - MAFC FRS
  - http://midamericafreight.org/rfs/mafc-region/freight-system/water

Natural Partners
- Six of the Ten MAASTO States on GL
- Nine of Ten have access MRS
- 14% of total moves but for Domestic moves
- 44% out
- 29% in

How Important?
- Iowa: 10.5 million tons shipped from 60 terminals, 56% was grain. Most recent lock completed in 1967, the remaining 11 bordering Iowa were built in 1930s!
- Illinois: Five day closure of lock 27 stops 63 vessels/455 barges costing $15-20 million to industry and would take 6,100 rail cars and 26,400 trucks to replace the lost capacity!
- Minnesota: "The closure of the upper St Anthony Falls lock brings an end to 72 jobs." In 2012 over 4.4 million tons shipped from Minnesota down the Mississippi.
- Missouri: Industry employs 1,396 people generating $388 million annually in GSP. This supports approximately 3,500 indirect and induced jobs!
- Wisconsin: Ports handle over 30 million tons worth over $2.4 billion!
People, Programs and Policy
✓ Length
✓ Route description
✓ Major ports
✓ Major cities/markets

Marine Highways and Marine Freight Development in the MAFC
Description of:
✓ Current infrastructure projects
✓ Previous/current Tiger awards
✓ RORO, containers?
✓ Operational Issues and rating
✓ Documents
✓ People

Collaboration to Advance Port and Marine Freight Development: The Wisconsin example
Ports and Ports Association, Business, Industry and Agencies

Wisconsin Commercial Ports Strategic Development Initiative
Project Drivers
- WisDOT
- Wisconsin Economic Development
- Wisconsin DNR
- Wisconsin Costal Management
- WCPA
- UW-Madison, CFIRE

Collaboration – a process and methodology to achieve a common goal
WCP Development
- Infrastructure baseline
- Market baseline
- Port and industry visits
- Opportunities/Hurdles
- Strategies
- Stakeholder meeting
- Focus strategies
- Identify and support champions
- Initiate action with performance metrics
- Follow-up

WCP Strategic Development Project status
Lessons from Initiatives:
Reliability, Infrastructure, Time Constraints, Awareness and Market Gateway, Market Attraction, Habit with know Risk.

Results: Business Connections, Increased Awareness, Program Focus, Institutionalized in DOTs, Greater Collaboration.
??Greater Market share, more development??

How do we get to the next level??!

Increased market and economic development

Endless Opportunity--

Thank You!
Ernie Perry, PhD
ebperry@wisc.edu
UW-Madison

The Effort will pay off!
The Delta Region

252 Counties and Parishes
212 Deemed “Distressed”
9,852,807 Residents

Small Public Ports in the Delta

Poverty in the Delta

County Economic Status in the United States, Fiscal Year 2010

Delta Regional Authority

Creating Jobs.
Building Communities.
Improving Lives.

@DeltaRegional / delta.regional.authority

www.dra.gov 1-888-GO TO DRA
Gulf Intracoastal Waterway
The Connecting Link

Jim Stark
Executive Director, GICA

Mission

......to ensure the Gulf Intracoastal Waterway is maintained, operated and improved to provide the safest, most efficient, economical and environmentally-sound water transportation route in our nation, serving petrochemical facilities, refineries, farms, mines, ports, commercial fisheries, recreation and more.

Accomplishing the GICA Mission

- Identify, analyze and address GIWW issues
- Educate and inform the public of GIWW’s importance to the nation
- Advocate for adequate capital and maintenance funding (Federal and State)
- Coordinate and partner with other industry groups/associations on waterways issues
- Assist USCG and USACE in identifying and rectifying hazards and improvements to the waterway – (e.g. Joint Hurricane Team)

Barge and Towing Industry Inland Waterways

- Towing Industry transported $65 million tons of cargo on our inland waterways system
- GIWW traffic accounts for 112 million tons.
- Estimated value of GIWW cargo is about $86 Billion
- Only the Mississippi and Ohio Rivers accounted for more waterborne cargo traffic than GIWW.
- On the GIWW, cargo leaders are:
  Petroleum / Petroleum Products 51%
  Chemicals 17%
  Crude Materials 17%
  Coal 6%

GIWW Cargo – Where’s it go?

GIWW Cargo – Here, too

Chemical Plants
GIWW is 109 years old, spans 1100 miles St. Marks to Brownsville

GIWW is Key Link for Gulf Ports
Spans Three USACE Districts,
Four CG Sectors

GIWW is a Fuel-taxed Inland Waterway

- Capital Projects dependent on Inland Waterways Trust Fund and the IWUB Capital Development Plan
- O&M remains USACE appropriation and responsibility – critical to maintaining aged infrastructure and silted channel
- Coast Guard marks channels, maintains aids, oversees marine safety regulations
- States differ on Non-Federal Sponsor roles
- Enjoy cooperative relationship with Port along the Connecting Link

GIWW Areas of Concern

- USACE Dredging Funds for FY 2015 – Need to maintain momentum of the 2014 plus up in O&M
- Aged / Outdated Infrastructure
  - Brazos River Floodgates
  - IHNC Lock
  - Bayou Sorrel
- High Island to Brazos Realignment
- Mooring Basins – Additional Buoys
- Encroachment – Maintain safe, navigable width
  - USACE effort to establish revised, realistic setback policies-export Galveston District efforts USACE wide?
- Hurricane Storm Damage Risk Reduction System (HSDRRS) impacts

Impacts of Aged Infrastructure

Algiers Lock was prime example of running it til it breaks
- March 27 2013 casualty – lock closed to navigation for 112 days costing industry an estimated $136M.
- Tows required to divert to smaller, less efficient Harvey Lock or distant locks and alternate routes on the Miss (Port Allen or Old River)
- Significant costs associated with delays (3-5 days and additional transits) - additionally subject to opportunity costs for idle assets, demurrage and 2nd and 3rd order impacts to customers

Algiers Gate Damage
2014 IHNC Lock Failure

- 1923 Construction
- Failed Bull Gear
- Dewatering, maintenance had been delayed
- 12 day Emergency Closure and Repair
- Luckily replacement gear available on site
- Can’t plan on luck – Next up is 45-60 day dewatering for gate and machinery replacement in late summer 2015

Planning Studies

- Lock Replacements / Improvements
  – Calcasieu – Improve Navigation
  – Bayou Sorrel – Replace / Modernize
  – Brazos River Floodgates – New Effort w TxDOT
  – IHNC – Shallow Water Lock Replacement

- Moorings – Texas issue tied to Increased GIWW traffic
Next Up

- WRRDA Passage – Implementation and Appropriations are next challenge
  - Congratulations to our National level advocates: AWO, NWC, WCI and others
- Expect GIWW traffic and value to nation to grow
- GICA Convention, 6-8 August at Westin, New Orleans
Inland Rivers, Ports and Terminals Inc.

Rediscover the Strength of America’s Inland Rivers

Inland Rivers, Ports & Terminals, Inc.

— Trade association for the nation’s inland waterway, port and terminal professionals.
— Mission is to provide a platform for inland river port and terminal professionals to improve their businesses
— Inform policy makers on the needs and economic impacts of our industry

IRPT Members

IRPT River Basins

IRPT serves as a voice for our members by tackling national issues affecting our industry.

• Tonnage Reporting
• Dredging Concerns
• Economic Impact Study

IRPT Annual Conference

Tonnage Reporting Campaign Kickoff

Issue raised at board meeting by Gulf and Intercostal Basin
IRPT heads to Washington to meet with USACE
Tonnage Reporting

Sept. 25, 2013
Oct. 8, 2013
Dec. 9, 2013
Feb. 4, 2014
April 29, 2014
May 5, 2014
August 1, 2014

IRPT hosted tonnage reporting webinar
Follow-up call with USACE
IRPT meets with USACE in Washington
IRPT’s Emergency Response to Issue Raised by Members

Long Term Goal to Systematic Approach of Reporting and Unifying Operations

---

**Economic Impact Study**

- Private Terminals
- Commodity Values
- State Studies
- Regional Studies
- Operators

**Problem:** No Collective Study

---

**Dredging Focus Group**

- Marine Highway Designation
- State Budget
- Corp. Budget
- Justification Report
- Case Studies
- Private- Public Financing

---

Contact: IRPT 1635 W. 1st Street, Granite City, IL 62040
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