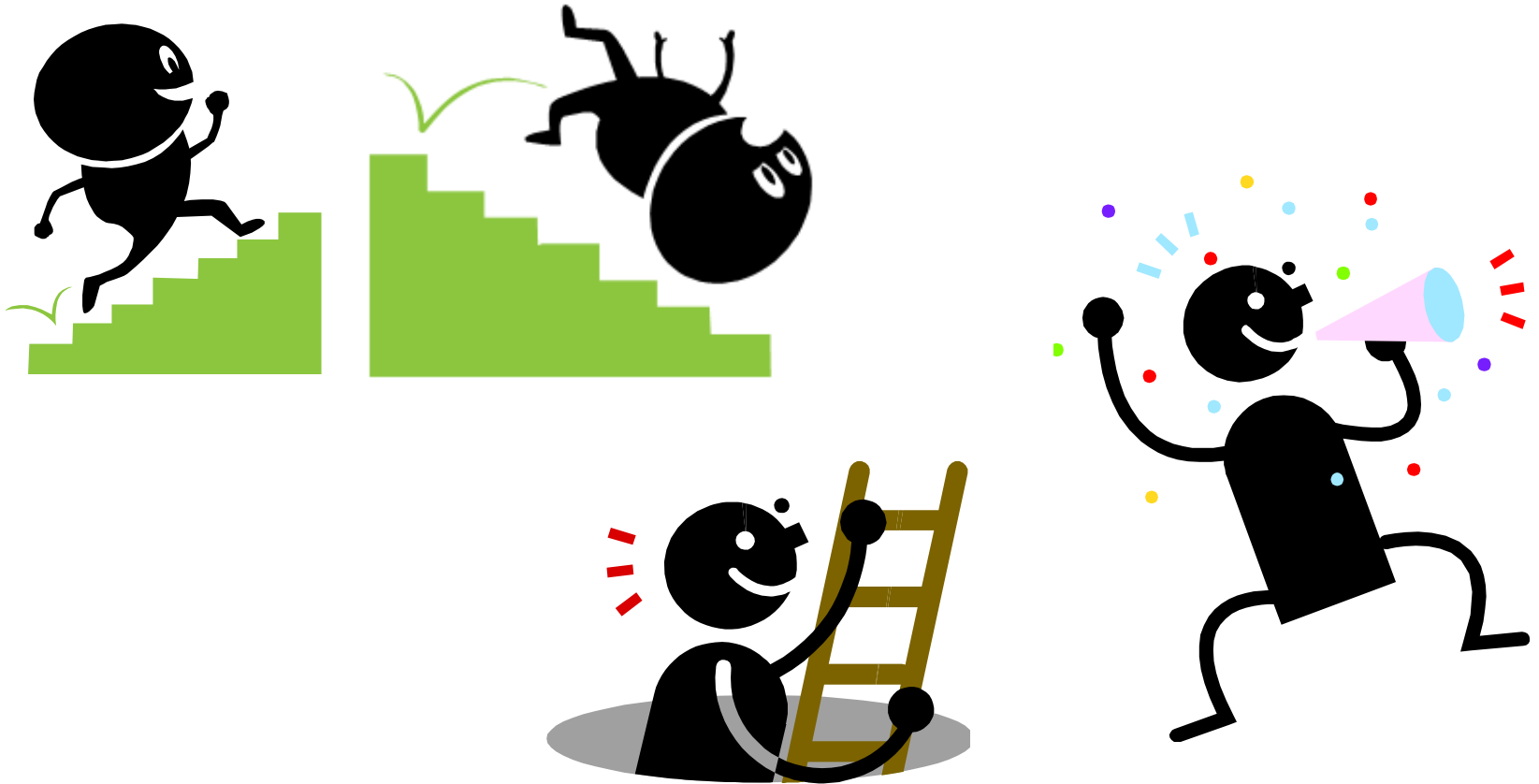




Engineering | Architecture | Planning | Allied Services

Experiences, Perspectives, & Issues of the Freight Corridor and Gateway Development Process

What does experience tell us?



Success Factors for Development

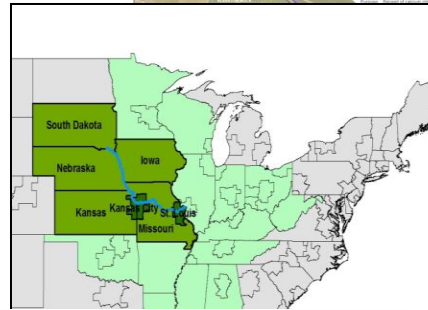
- Position
- Potential
- Partners
- Plan
- Persistence

- **Examples**

Missouri River

The Objective

- Redevelop the Missouri River as a freight corridor



Missouri River Freight Corridor Assessment & Development Plan
Missouri Department of Transportation



| Inventory ID | MILE BANK | Owner | Operator | Condition Category | Approximate Preliminary Needs Cost | |
|--------------|-----------|-------|--|------------------------------------|------------------------------------|-----------------------|
| 23 | 226 | Left | Capital Sand Co. Inc. | Glasgow Sand Plant | 1 | \$0 |
| 24 | 226 | Left | MFA Agri Services | MFA Agri Services - Glasgow | 2 | \$48,000 |
| 25 | 226 | Left | United States Government | U.S. Army Corps of Engineers | 1 | \$0 |
| 26 | 256 | Left | Brunswick River Terminal, Inc. | AgriServices of Brunswick LLC | 1 | \$0 |
| 27 | 253 | Right | Cooperative #1 | Central Missouri Agribusiness | 4 | No Assessment Made |
| 28 | 287 | Left | Capital Sand Co. Inc. | Capital Sand Co. Inc. | 1 | \$0 |
| 29 | 293 | Right | Berlett and Co. | Berlett and Co. - Waverly | 2 | \$30,000 |
| 30 | 293 | Right | Central Missouri Agriculture | Central Missouri Agriculture | 2 | \$75,000 |
| 31 | 317 | Left | Division of Capital Sand Co. Inc. | Levinston Sand Co. | 1 | \$0 |
| 32 | 318 | Right | MFA Agri Services | MFA Agri Services - Levinston | 2 | \$95,000 |
| 33 | 345 | Left | Independence Power Corp. | Independence Power - Missouri City | 5 | Equipment not Present |
| 34 | 355 | Right | Lafarge Corp. - Cement Group | Lafarge Corp. - Cement Group | 1 | \$0 |
| 35 | 358 | Right | Lafarge Corp. - Cement Group | Lafarge Corp. - Cement Group | 1 | \$0 |
| 36 | 357 | Right | BP Amoco Oil Co. | BP Amoco Oil Inc. | 4 | No Assessment Made |
| 37 | 358 | Right | AK Asset Management Co. | Sheffield Station Industrial Park | 5 | Equipment not Present |
| 38 | 360 | Left | Holiday Sand and Gravel Co. | Randolph | 1 | \$0 |
| 39 | 361 | Left | Conoco Phillips Inc. | Conoco Phillips - Aghall Terminal | 1 | \$0 |
| 40 | 361 | Left | Barnett Grain Co. | Barnett Grain - Kansas City | 3 | \$150,000 |
| 41 | 362 | Left | Cargill Inc. - Chouteau | Cargill Inc. - Chouteau | 2 | \$60,000 |
| 42 | 367 | Right | American Compressed Steel, Inc. | American Compressed Steel, Inc. | 4 | No Assessment Made |
| 43 | 367 | Right | City of Kansas City | Port of Kansas City | 3 | \$500,000 |
| 44 | 368 | Right | The Kansas City-Warrendale County Joint Rail Authority | Berlett and Company | 2 | \$90,000 |
| 45 | 368 | Right | Williams Energy Services Co. (reported) | Conoco Phillips | 3 | \$400,000 |

Inventory Report, Section 2.0
Hanson Professional Services Inc.

Missouri River Freight Corridor Assessment & Development Plan
Missouri Department of Transportation



Missouri River Freight Corridor Assessment & Development Plan
Missouri Department of Transportation



11.3.0
6 Inc.

Coal Facilities

| Inventory ID | Figure No. | Owner | Operator | Location | Status | Cost |
|--------------|------------|------------------------------------|---|-----------------------|----------|------|
| 16 | 10 | Central Electric Power Corporation | Central Electric Power Corporation - Cherokee | Mile 117.1, left bank | Inactive | X |
| 33 | 22 | Independence Power Corp. | Independence Power - Missouri City | Mile 345.3, left bank | Inactive | X |

Petroleum & Petroleum Products Facilities

| Inventory ID | Figure No. | Owner | Operator | Location | Status | Phase & Public Facilities |
|--------------|------------|---|-----------------------------------|------------------------|----------|---------------------------|
| 16 | 10 | Amoco Oil Co. | Not Operated | Mile 148.6, left bank | Inactive | X |
| 30 | 23 | BP Amoco Oil Co. | BP Amoco Oil Inc. | Mile 205.5, right bank | Inactive | X |
| 36 | 24 | Conoco Phillips Inc. | Conoco Phillips - Aghall Terminal | Mile 305.6, left bank | Active | X |
| 45 | 25 | Williams Energy Services Co. (reported) | Conoco Phillips | Mile 305.3, right bank | Inactive | X |
| 50 | 28 | Wentley Terminal Co. | Wentley Terminal Co. | Mile 384.4, right bank | Active | X |

Manufactured Goods Facilities

| Inventory ID | Figure No. | Owner | Operator | Location | Status | Mfg. Goods |
|--------------|------------|-------------------------------|-------------------------------|------------------------|----------|------------|
| 48 | 26 | Messner Construction Co. Inc. | Messner Construction Co. Inc. | Mile 385.0, left bank | Inactive | X |
| 66 | 36 | City of Nebraska City | Debrae Ag Service, Inc. | Mile 362.3, right bank | Active | X |

Inventory Report, Section 2.0
Hanson Professional Services Inc.

Missouri River Freight Corridor Assessment & Development Plan

Position – wide ranging needs

- Numerous challenges leading to declining freight
- A few players remain
- Some infrastructure remains

Potential

- Markets – old, existing, & new
- Nodes and needs

Partners

- Public – Ports, State Agencies, Politicians, etc.
- Private – Terminals, Carriers, B2B

Plan

- Development and Implementation

Specific Implementation

Opportunities, Strategies & Benefits

- Traditional and Emerging Markets – *Picking the right targets and communicating the advantages*

Traditional and Emerging Markets

Identifying markets and commodities to promote economic development opportunities



Missouri River Freight Market - C

- Based on historic freight movements in the Missouri River region, the potential for additional freight that could potentially move on the Missouri River over the next five years.
- The key traditional market commodity groups are other Oilseeds, and other Grains, Non Meta Agricultural Commodities (Dry Fertilizer, Pet...
- The key emerging market groups include Wet Grains, Liquid Fertilizer, Ethanol, Over-Dime...

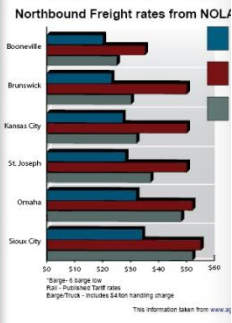
| Commodity |
|----------------------------------|
| Traditional Markets: |
| Agricultural Dry Bulk |
| Salt, Cement, Clay, & Fertilizer |
| Emerging Markets: |
| Waste Scrap |
| Coal |
| DDGS |
| Alfalfa Pellets |
| Liquid Fertilizer |
| Ethanol |
| OD/OW |
| COB |
| Total Shiftable to Water |

Benefits of Moving Freight on the Missouri River

- In 2010, freight moving on the Missouri River was valued at more than 4.5 million tons of sand a day and more than 13,000 truckloads or 3,000 rail cars of freight.
- The total freight identified as shiftable to the Missouri River is more than 500,000 tons per year.
- Combined with 334,000 tons from 2010, the Missouri River would pull an additional 52,000 truckloads per year.
- Moving this tonnage by water would result in a significant reduction in highway maintenance, congestion, and air pollution.

| Benefits of Moving More Freight |
|---------------------------------|
| Additional annual truckloads |
| Reduction in harmful emissions |
| CO |
| NOx |
| PM |
| CO2 |
| Fuel use reduction |

Potential for reduced freight rates - using the Missouri River

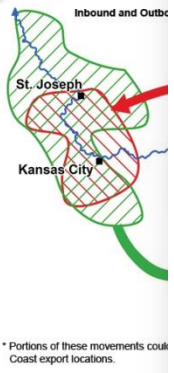


Traditional Markets – Agriculture



| Commodity | Total Shiftable Tonnage (est.) |
|--------------|--------------------------------|
| Ag. Dry Bulk | ~334,000 |

| Freight Mode | Savings by Barge |
|---------------------|------------------|
| Truck | ~\$1.50 |
| Rail | ~\$0.50 |
| Barge | ~\$0.10 |
| Sum of Truck & Rail | ~\$2.00 |

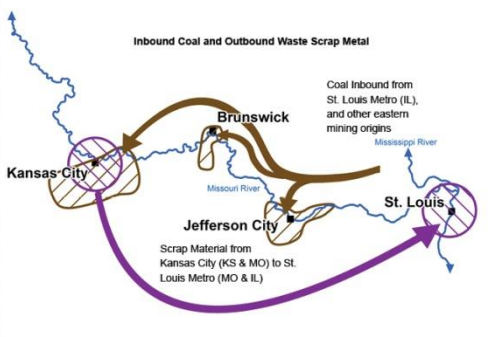


Emerging Markets – Waste Scrap Metal & Coal



| Commodity | MO Market Area Total Tonnage (est.) | Tonnage Shift (tons) | Percent Shift (%) |
|-------------------|-------------------------------------|----------------------|-------------------|
| Waste Scrap Metal | 335,000 | 100,000 | 29.9 |
| Coal | 250,000 | 114,000 | 45.6 |

- Scrap metal represents a market of significant potential and transportation cost savings from the Kansas City region to mini-mills and export destinations.
- Mini-mills represent 50% of U.S. steel production and are estimated to require more than 14 million tons of scrap each year.
- Scrap export volume remains high due to demand in developing countries. Direct scrap shipment from Kansas City will permit continuous shipment from the origin to the ultimate destination without intermediate re-handling to other transport – resulting in transportation savings.
- Coal destinations include power plants in central Missouri. Transportation savings of moving coal by barge instead of truck could be significant, potentially supporting lower overall energy costs. These plants might be best served by Missouri River terminals located at Chamois, Jefferson City and/or the Brunswick/Miami area.



Specific Implementation

Opportunities, Strategies & Benefits

- Infrastructure and Market Centers - *Understanding where and in what to invest*

Infrastructure & Development Opportunities

Identifying infrastructure needed to support the recognized market growth opportunities - and logical places for development

In addition to the millions of dollars in benefits derived from flood protection, recreation, clean water supply and multiple other uses, river navigation benefits are critical to the economic position of Missouri. In 2008, the economic impact of the Missouri port industry was calculated at nearly \$640 Million per year – and that was prior to identification of additional freight for the Missouri River.

70% of Missouri's economy is within a 30 minute drive of the Missouri & Mississippi rivers.¹

Missouri has the 4th most diverse economy in the U.S.¹

Missouri has the 2nd and 3rd largest rail hubs, the 3rd largest inland port, & the 7th largest highway system.¹

Supporting Missouri River waterborne market potential can result in millions of dollars in transportation savings over truck or rail. Add to that the jobs and related economic impacts associated with freight development; it all translates to competitive advantage for Missouri.

Infrastructure Required to Move More Freight on the River

Moving freight on the river requires several types of civil infrastructure:

- Docks for loading and unloading barges
- Fleeting areas on the river to "park" barges
- Road and rail connections to get freight to and from the river
- Specialized equipment such as cranes and conveyors
- Storage areas - depending on the specific commodities or freight being moved. Additional service and operational support including fueling, towing support, barge cleaning, and shipyard services.



Missouri River Market Node Development

St. Joseph, MO

The St. Joseph, MO area is an attractive northwest regional location for growth oriented new business and existing companies seeking an all modal competitive environment. Unique to the region is the **existing marine terminal** owned by the St. Joseph Regional Port Authority. The Port has **excellent proximity to markets** for wind energy components or other OD/OW opportunity. In addition, it could be responsive to emerging markets such as ethanol and DDGS. The region and stockyards area is an **agricultural gateway** with numerous grain elevators and agribusiness processors.



Current Infrastructure

- Existing publicly owned marine terminal with 14 acres for cargo development, including 8 acres of improved open storage
- All modal competitive environment with adjacent rail spur and nearby interstate
- Regional bulk grain silo storage with waterside loading connectivity

Operating and Infrastructure Needs

- Barge fleeting capacity
- General cargo material handling capability
- Other dry bulk inside storage and material handling system
- Support additional water connectivity of existing bulk grain storage
- Increase in regional water accessible bulk grain capacity

| Initial Market Opportunities | Tons Shiftable to Water Transportation | What's Needed? |
|---------------------------------|--|---|
| Other Dry Bulk – Inside Storage | 110,000 | Inside bulk storage facility & material handling equipment. |
| General Cargo | 20,000 | Suitable crane capability |
| Liquid Bulk | 113,100 | Liquid terminal capacity |
| Total | 243,100 | |

Additional information regarding the St. Joseph Regional Port Authority can be found at:
<http://www.missouriports.org/stjoseph.html>
 3003 Frederick Avenue
 St. Joseph, MO 64506
 Phone: 816.364.4110

Specific Implementation Opportunities, Strategies & Benefits

- Sustainable Navigation, Sustainable Markets, and Advocacy – *Working together toward common goals*

Sustainable Navigation

Ensuring adequate navigation capability, together to promote the Missouri River.

The Importance of Sustainable Navigation

In combination with Sustainable Markets requirement for success, the towing industry built on confidence that the goods will be improving reliability is not completely well take to gain some control and have as a sustainable transportation resource.

The Importance of Advocacy

It is important for the navigation stakeholder "minimum service" navigation is usually, the wide range of perceived competition and sustainability. Advocates for freight interest groups to ensure that they are heard of Missouri River navigation. Missouri River increased political outreach. The three ways to develop awareness of the benefits policy makers to ensure appropriate Missouri River sources to ensure necessary investment.

Sustainability – Organization

Step 1 - Formalizing Missouri River navigation conditions

The objective here is to develop systems flow in the Missouri River is either above adequate water to conduct navigation is river, it is important to build confidence with ensure that all of the navigation stakeholder and working together to resolve challenge is not currently well understood by all.

Sustainability – Advancing

Step 2 - Identifying sustainable markets & conditions

Sustainable markets are those that tend to be able to maintain a customer base of the bad times are less bad. Without current navigation conditions may keep a client to other modes in the short term. Making overcoming the designation of the Missouri River.

Stakeholder Action Items

- Identify markets that can be sustainable within your business model
- Make the origin and destination business connections necessary to cultivate identified markets

- Because these are all emerging markets may be prudent to pursue funding for federal designation. Federal money may be available efforts.
- Consider investment in shallow draft low shallow draft barges are a practical alternative particular characteristics, such as draft, a proven asset on the Missouri River.
- Consider the use of a form of "Plus Up" barges, originating in the Missouri River, Mississippi River terminals.

Sustainability – Effective Advocacy

Step 3 - Working together to maintain and grow Missouri River freight opportunity

One of the most important aspects of sustainable development and continuing viability for most waterway systems is to have active advocacy and interest groups. On the Missouri River, there does not appear to be a formal group solely charged with organizing the waterborne freight stakeholders and working full time to achieve specific goals to benefit Missouri River freight development. As freight growth continues, and challenges to the interests of freight stakeholders also continue, it is imperative that the stakeholders work together to avoid losing opportunities.

| Initial Action | Priorities | Results |
|--|--|--|
| <ul style="list-style-type: none"> Membership in Existing Organizations Formation of a New Missouri River Organization | <p>Participation & Partnership</p> <ul style="list-style-type: none"> Increase participation in existing organizations Cooperative efforts with key state agencies (i.e. MUDOT, MICHIR, MUDG, MUDZC) Key support of special events (i.e. "Season Opener", "Corn Days", "Missouri River Shipper Days") to increase awareness & potential market movements Establish effective relationships with potential partner organizations <p>Communication</p> <ul style="list-style-type: none"> Active communication with Missouri River stakeholders in Congress Regularly communicate benefits of Missouri River freight transportation to outside parties Communicate challenges and opportunities to organization members Solicit help of organization members to stay organized, focused, and action oriented | <ul style="list-style-type: none"> Commitment to Common Goals Broad Support of Freight Challenges & Opportunities Solutions Based on Collaborative Expertise & Effort |

| Examples of Active Advocacy and Interest Groups | | |
|---|--|---|
| Broad Membership | Regional Groups for Other Rivers | Missouri River System Specific Groups |
| <ul style="list-style-type: none"> National Waterways Conference Inland Rivers, Ports, & Terminals Waterways Council, Inc. American Waterways Operators Etc. | <ul style="list-style-type: none"> Coalition of Alabama Waterways Association Tennessee River Valley Association Etc. | <ul style="list-style-type: none"> St. Louis River Industry Club MO-ARK Etc. |

Missouri River Freight Corridor Assessment & Development Plan

Positive Outcomes – in spite of ongoing challenges

- Greater coordination among stakeholders including new business relationships
- Attention at the legislative and executive level resulting in funding for Missouri Ports & Waterways

...Persistence

Southeast Iowa Regional Economic & Port Authority

Position

- Brand new Port Authority
- Zero revenue, no assets

Potential

- Wide-ranging purview

Partners

- Yep, need some

Plan

- Where do we go from here?



Port of Palacios, TX

The Objective

- Understand **Position** and **Potential**

Positive Outcome

- Successfully developed new barge commodity revenue without any additional investment (good **Plan**)

...**Persistence**



Rochester Harbor Management, NY

The Overall Objective

- Develop a Plan with a clear understanding of short-term policy, regulatory, organizational and capital needs, as well as long-term vision of how the Port will holistically develop within the broad needs of the community.

The Immediate Need

- Help stakeholders understand the impacts of losing specific commerce on the Genesee River

Rochester Harbor Management, NY

Position

- Critical dredging need
- Low use waterway

Potential

- Loss of high-impact business
- Loss of future commercial and recreational opportunity

Partners

- Politicians, Local Government(s)
- U.S. Army Corps of Engineers
- Private Business

Plan

- Pilot Program
- Understanding the Economic Impacts

Rochester Harbor Management, NY

Positive Outcome

- City...
- County...
- Private partner...
- USACE...
- Dredging completed

...Persistence

Tulsa Port of Catoosa, OK

Did I mention ...?

- Position
- Potential
- Partners
- Plan
- Persistence



Tulsa Port of Catoosa, OK

- Started with a plan
- Formed partnerships early
- Learned lessons from others
- Developed focus
- Stuck to the plan and kept moving
- Continuous Improvement
- Continued strategic alliances
- ...one piece at a time, over time, ongoing...**persistence**





Engineering | Architecture | Planning | Allied Services

Thank you