Future of the Upper Mississippi Waterway in Minneapolis

Case Study #5

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Background

- Upper St. Anthony Lock and Dam is uppermost lock and dam on the Mississippi River
- Minnesota barge economy originally moved large quantities of corn and grains
- Today, barges generally used to ship cement, aggregate, and scrap metal to ports in Minneapolis and St. Paul
- Commercial traffic remains the river's biggest user, however more and more pleasure boats are passing through the locks

Land Use Timeline

- 1st Era – Sawmills, lumberyards, breweries, and foundries
- 2nd Era – Railroad yards and barge terminal
- 3rd Era – Light industry and open space
- 4th Era – Riverfront communities and housing and park and recreation?

Barge Terminal - 2nd Era

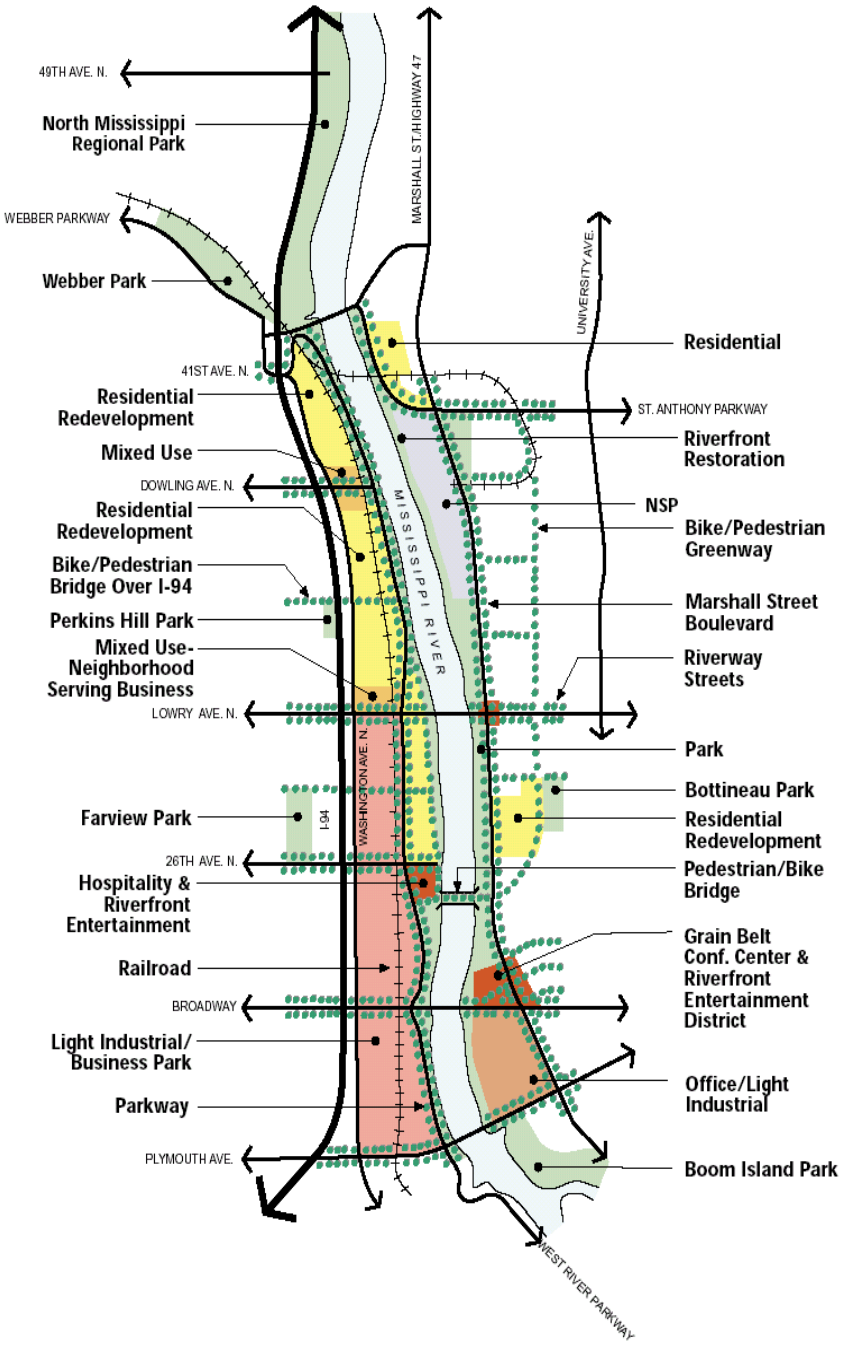
Amenity vs. Working River Transportation Affects

3 Riverfront Options

- Heavy Industry and Parks
  - Barging continued
  - Rail service continued
  - BN Bridge converted to pedestrian
- Light Industry and Parks
  - Barging discontinued
  - Rail service continued on west bank, not on east bank
  - BN Bridge converted to pedestrian
- Parks and Residential
  - Barging discontinued
  - Rail service continued on east bank, BN Bridge remains in use

Preferred Plan

- Create public access to river
- System of Riverway streets
- Link parkways
- Economic development
- Ecological functions



Plan Benefits

- 90 acres of new park
- 15 miles of recreational trails
- Restored riverbank
- Approximately 5 miles of parkway and boulevard
- 2,500 housing units
- 2,000 jobs
- Over $10 million additional tax revenue

Preferred Plan: Transportation Changes

- BN Railroad Bridge converted to pedestrian and bicycle bridge
- Close Upper Harbor Terminal
- Barging eliminated - phase out heavy industry
- Intermodal phase-out
  - Fewer trucks
  - Fewer rail cars

Preferred Plan: Transportation Changes

- Marshall Street
  - Possibility of utilizing BNSF Railroad Corridor to relieve traffic on Marshall Street – rejected by residents
  - Reconstruct as boulevard
  - Remain 4 lanes
- Establish Riverway street system
- Railroads
  - East bank eliminated, west bank remains

Eliminating Barging

- Upper Harbor Terminal on Riverfront
  - 48 acre site
  - Tax exempt
  - Investments have not returned benefits
- Too Few Industries to Justify Locks
  - Local taxes subsidized for 30 years
  - Only 4 private industries

Upper Harbor Terminal

Current Barge Traffic…Onto Trucks

- 81,357 tons by water daily
- Approximately 1,500 tons per barge

Total annual increases

- 1,543,500 truck ton-miles
- 66,123 truckloads

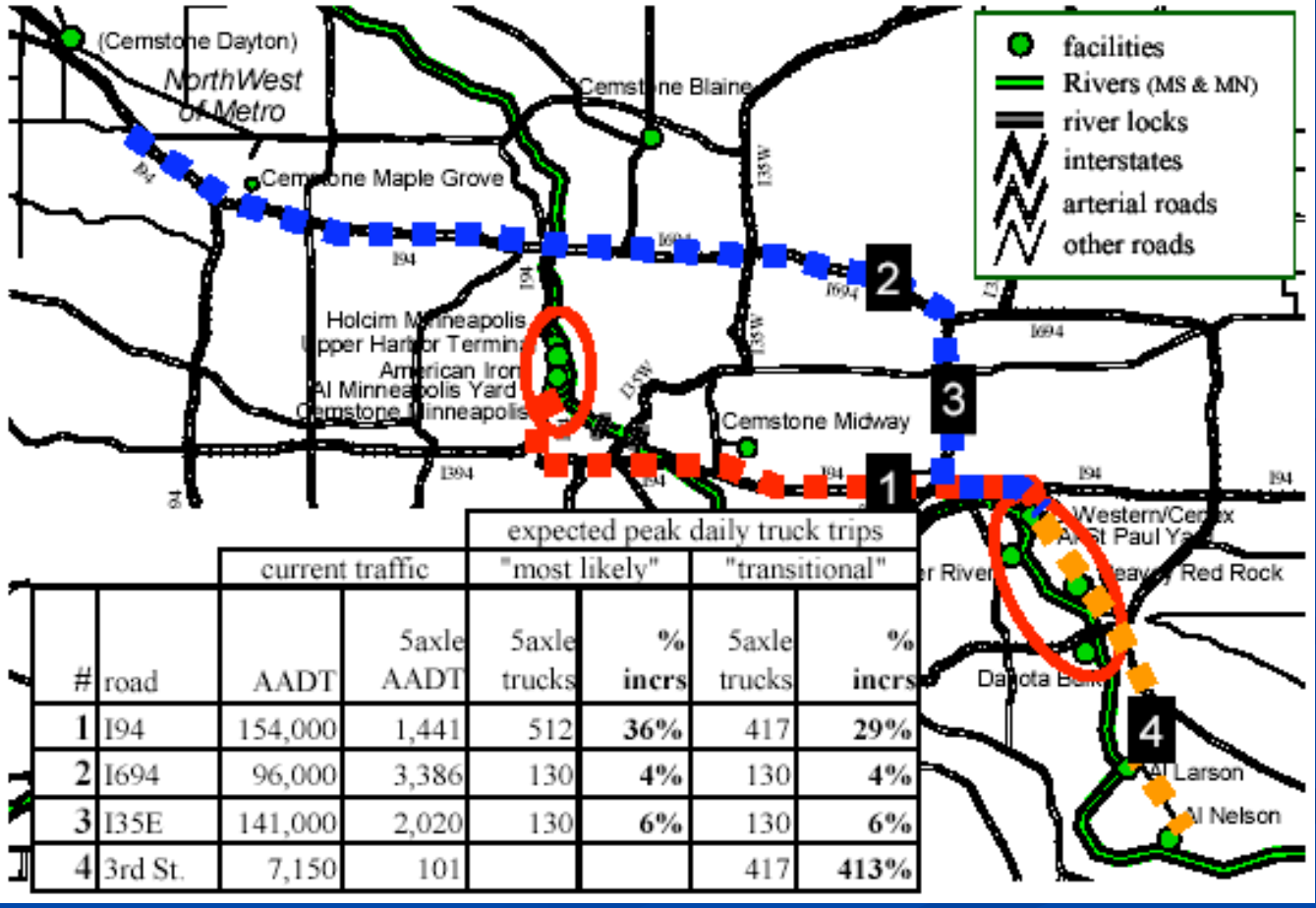
Daily Increases

- Generate 648 new truck trips in Minneapolis each weekday
- 512 of these to St. Paul on I-94/I-35W & I-35E interchanges

*Transitional scenario gives higher estimates

Heavier Highway Traffic

Figure 5.1: Truck Trip Increases as a % of Current Traffic



		current traffic		expected peak daily truck trips "most likely"		expected peak daily truck trips "transitional"	
#	road	AADT	5axle AADT	5axle trucks	% incrs	5axle trucks	% incrs
1	I94	154,000	1,441	512	**36%**	417	**29%**
2	I694	96,000	3,386	130	**4%**	130	**4%**
3	I35E	141,000	2,020	130	**6%**	130	**6%**
4	3rd St.	7,150	101			417	**413%**

Costs of New Truck Traffic

Private Costs

- 406,000 gallons of diesel fuel per year
- Total: $4.9 million in trucking costs
- Net Cost : Total - Barge savings = $4.084 million

* Transitional scenario gives higher estimates

External Costs

FHWA explains costs are borne by affected individuals

Costs per 1000 VMT of 5-axle truck traffic

- Emissions: $44.90
- Congestion: $200.60
- Noise: $30.40
- Accidents: $11.50
- Road wear and tear: $409.00

Totals

- Public Sector (Road Maintenance): $600,500
- Externalities: $488,200
- Total: $1,088,700

* Transitional scenario gives higher estimates

Policy Issues

- American Iron & Steel (AIS) unlikely to move due to high levels of investment
- Upper Harbor Terminal would close and trucks and trains would be diverted
- Added transport costs will increase the cost of concrete and reduce profitability of AIS
- Difficult to re-establish service (for containers) once it has been discontinued

US Army Corps of Engineers

- Federal government organization providing a variety of services related to inland waterways and ports
- Flood control, environmental protection, navigation, military construction
- Flood control work – building dams to augment low summer river flows constructing and levees to improve channels and control floods
- Environmental quality work – river improvements to support Upper Mississippi as a scenic and bird flyway route
- Navigation - maintains a 9-foot channel in the Upper Mississippi River using a series of locks and dams; creates a predictable flow keeping river reliable for transportation.

Army Corps Navigation Study

- Started in the early 1990s
- Upper Mississippi is that portion of the river stretching from Minneapolis south through portions Wisconsin, Iowa, Illinois, and Missouri
- Consists of 29 locks and dams
- Evaluate whether or not future economic activity justified modernization of existing lock and dam system
- Original lock and dams built in the early to mid 1900s
- existing lock and dam systems are quite inefficient, causing traffic backups.

Army Corps Navigation Study

- In 2000, study's lead economist accused Corps of inflating river transport growth projections to justify lock and dam expansion and boost the Corps' stagnant budget
- Congress halted original study
- New study commissioned combined goal of sustainable navigation and ecosystem restoration
- Environmental Impact Statement
  - Dated September 2004
  - Recommended plan proposes $2.4 billion for modernizing locks and dams and $5.3 billion for the environmental ecosystem management

The Numbers

- Estimated that barge industry will move 20 million tons of cargo on the Upper Mississippi this year.
- Traffic on the Upper Mississippi peaked in the 1990s and has been flat to lower in recent years.
- Many existing locks are only 600 feet in length, too short to handle typical 1,100-foot-long barge tow; towboats have to go through twice, disassembling the barges on one side and reassembling them on the other.

Barge Supporter Claims

- Existing lock and dam system can result in waits of more than three hours
- Updated infrastructure gives the US competitive advantage to deliver its product more reliably than foreign competitors
- Lock and dam improvements would benefit many other industries besides farming, allowing building materials, for example, to move more quickly to and from Chicago

Barge Supporter Claims

- Midwest Area River Coalition 2000 argues river traffic forecasts are hardly relevant, pointing out that the project would create 3,000 construction jobs and thousands more indirectly
- Mississippi River supports some 1.6 million jobs and $284 billion in annual economic activity, according to a study prepared for the U.S. Fish and Wildlife Service

Barge Opponent Claims

- Taxpayers for Common Sense and the National Wildlife Federation claim 7.8-mile stretch of the Mississippi River between Minneapolis and St. Paul "is among the most highly subsidized sections of waterway in America."
- Corps spends $3 million to maintain three locks and dams to lift and lower a trickle of barges on this short reach

Barge Opponent Claims

- Question whether there will be significant increases in barge traffic to justify extensive investment in lock and dam upgrades
- National Academy of Sciences claim the Corps' projections of rising grain exports were "inconsistent with the past 20 years of relatively steady export levels."
- It's a pork barrel project

Conclusion

- Urban riverfront development
- The impact of closing the harbors
- The Corps study

Discussion Questions

- Should the Upper Mississippi River be used for industrial barge traffic, parks and recreational boating, or both?
- Who will pay the costs of increased truck traffic? Safety?
- What lessons can we learn from previous intermodal shifts?
- What is the value of barge traffic vs. parks and open spaces?
- What issues surround barges vs. trucks?
- What are the costs and benefits, in economic, ecological and aesthetic terms?
- What markets can be captured by increased barge traffic? Local? Regional?

There is only one Mississippi.