A photograph of a boat's wake on a body of water, with the text overlaid. The water is dark blue-grey, and the wake is white and foamy. The boat's hull is visible on the left side of the frame.

Thoughts on the Future of the Inland Waterway System

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Presentation to USACE Inland Navigation CoP
September 19, 2007

Objectives

- Future Freight Shipments in the U.S.?
- A Future for Freight Planning/Policy?
- Can Inland Navigation Increase Its Relevance to the National Freight Dialogue?

A photograph showing the wake of a boat moving through the ocean. The water is dark blue-grey, and the wake is a large, white, foamy area. The text "Future Freight Shipments in the U.S.?" is overlaid in a bold, blue, sans-serif font. The text is centered horizontally and vertically within the white wake area. The background shows the dark water of the ocean extending to the horizon.

Future Freight Shipments in the U.S.?

A Shipper Perspective on Infrastructure/Logistics?

- Demands low-cost, reliable service
- Modally and geographically neutral
- Wants just in time services – does not want or care about your “problems” (carrier or infrastructure)
- Just in time services – paradox of being more robust and fragile regarding freight productivity
- Intermodal capacity and operability – not as smooth as promised
- Firms outsourcing the “Headaches” of logistics
- No one believes congestion will go away
- Often ignore primarily “freight” infrastructure

Carriers are driven by:

- Economics of Scale
- Managing variable costs
- Land use and dedicate facilities – integrating into supply chains or transportation centers

Shocks to Freight Transportation in last ten years

- Port Strikes (longshoremen, drivers)
- Labor – Manpower
- Lock Shutdowns
- Rail meltdowns
- Larger, heavier vessels and equipment
- Shifts in trade patterns
- Increased, inconsistent security policies
- Fuel-insurance costs
- Natural Disasters

Dramatic increases in projected international container traffic



Forecast figures based on a 10-year linear regression

Current and Forecasts of Total Freight Shipments - FHWA FAF²

Table 2-1. Shipments by Mode and Weight: 2002 and 2035 (Millions of Tons)

	2002			
	Total	Domestic	Exports ³	Imports ³
Total	(P) 19,326	17,670	(P) 524	(P) 1,133
Truck	11,539	11,336	106	97
Rail	1,879	1,769	32	78
Water	701	595	62	44
Air, air & truck	(P) 10	3	(P) 3	(P) 4
Intermodal¹	1,292	196	317	780
Pipeline & unknown²	3,905	3,772	4	130
	2035			
Total	(P) 37,178	33,668	(P) 1,105	(P) 2,404
Truck	22,814	22,231	262	320
Rail	3,525	3,292	57	176
Water	1,041	874	114	54
Air, air & truck	(P) 27	10	(P) 7	(P) 10
Intermodal¹	2,598	334	660	1,604
Pipeline & unknown²	7,172	6,926	5	240
	% Change 2002-2035			
Total	92%	91%	111%	112%
Truck	98%	96%	148%	230%
Rail	88%	86%	78%	126%
Water	49%	47%	83%	23%
Air, air & truck	170%	233%	133%	150%
Intermodal¹	101%	70%	109%	106%
Pipeline & unknown²	84%	84%	23%	85%

Key: P = preliminary

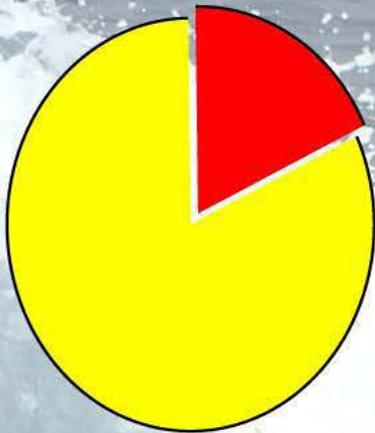
History of LATTTS

- LATTTS was initiated in 1997 by Southeastern Transportation Alliance
- Study Objectives
 - ❖ Forecast the growth in trade volume with Latin America
 - ❖ Identify trade opportunities of Alliance states
 - ❖ Estimate the capacity of the existing transportation infrastructure
 - ❖ Determine transportation investments required to support the trade growth

20 Year Needs Estimates

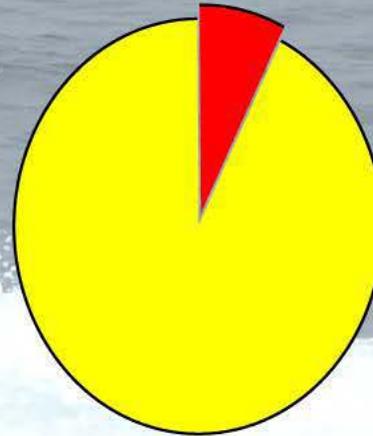
LATTS Strategic System

TOTAL 20-YR NEEDS ESTIMATE



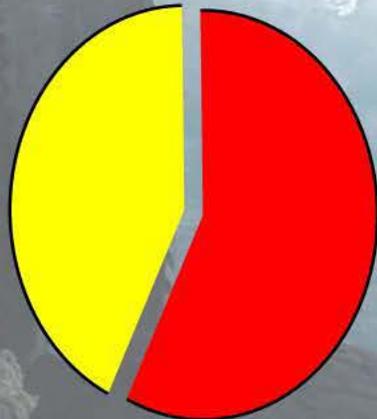
\$92 Billion

20-YR HIGHWAY NEEDS ESTIMATE



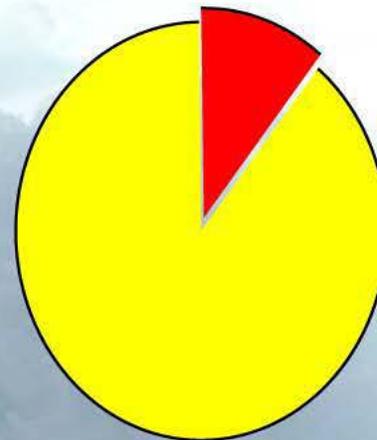
\$67 Billion

20-YR PORT NEEDS ESTIMATE



\$22 Billion

20-YR AIR CARGO NEEDS ESTIMATE



\$3.3 Billion

■ Latin America
■ Other

Future Trends?

International Trade will continue

- ❖ Key to prosperity-competition
- ❖ US Sees trade agreements as key for regional economics, but not tied to transportation needs
- ❖ Panama Canal expansion
- Cascading of port gateways to provide redundancy/new market access
- Domestic Trade will continue, compete in same corridors
- Cargo Growth will occur despite what is or is not done

A photograph taken from the perspective of someone on a boat, looking back at the wake. The water is dark blue-grey, and the wake is a large, turbulent mass of white foam and churning water. The text is overlaid on the white foam of the wake.

A Future of Freight Policy/Planning?

What kind of transportation system do we (nationally) want?

- Safe, Secure, Environmental Responsible, Efficient/Reliable
 - ❖ Common theme across Corps, US DoT, State DoT's, etc.
- Customers (Shippers/Carriers/Public) assume this plus
 - ❖ cost effectiveness and accessibility

A Current Opinion? - Transportation is a "Free Lunch". Don't make me pay again to use it.

Infrastructure development complicated by several factors

- Equity: Can't build everything everyone wants everywhere.
- Project Determination: Balance project needs with relevant policy goals.
- Communication: Failure to communicate needs, especially to non-technical decision makers
- Uncertain Policy Demands
 - ❖ energy use, environment, unintended consequences
- Financing
 - ❖ More costly new projects chasing less federal/state funds
 - ❖ Maintenance costs continue consuming larger share of available funds

How much will an improved freight system cost?

- ASCE 2005 (first issued in 1988)
- AASTHO Freight Bottom Line
- Chamber of Commerce on Port Needs
- FHWA – Condition and Needs for Highways
- USACE – IWR – Dredging Needs Studies

- No consistent National Investment Model
 - ❖ Various numbers, forecasts, etc., distort message
 - ❖ Gunfighter syndrome – the one who blinks first “gets it in the eye”
 - ❖ National Planning coordination – data, models, forecasts

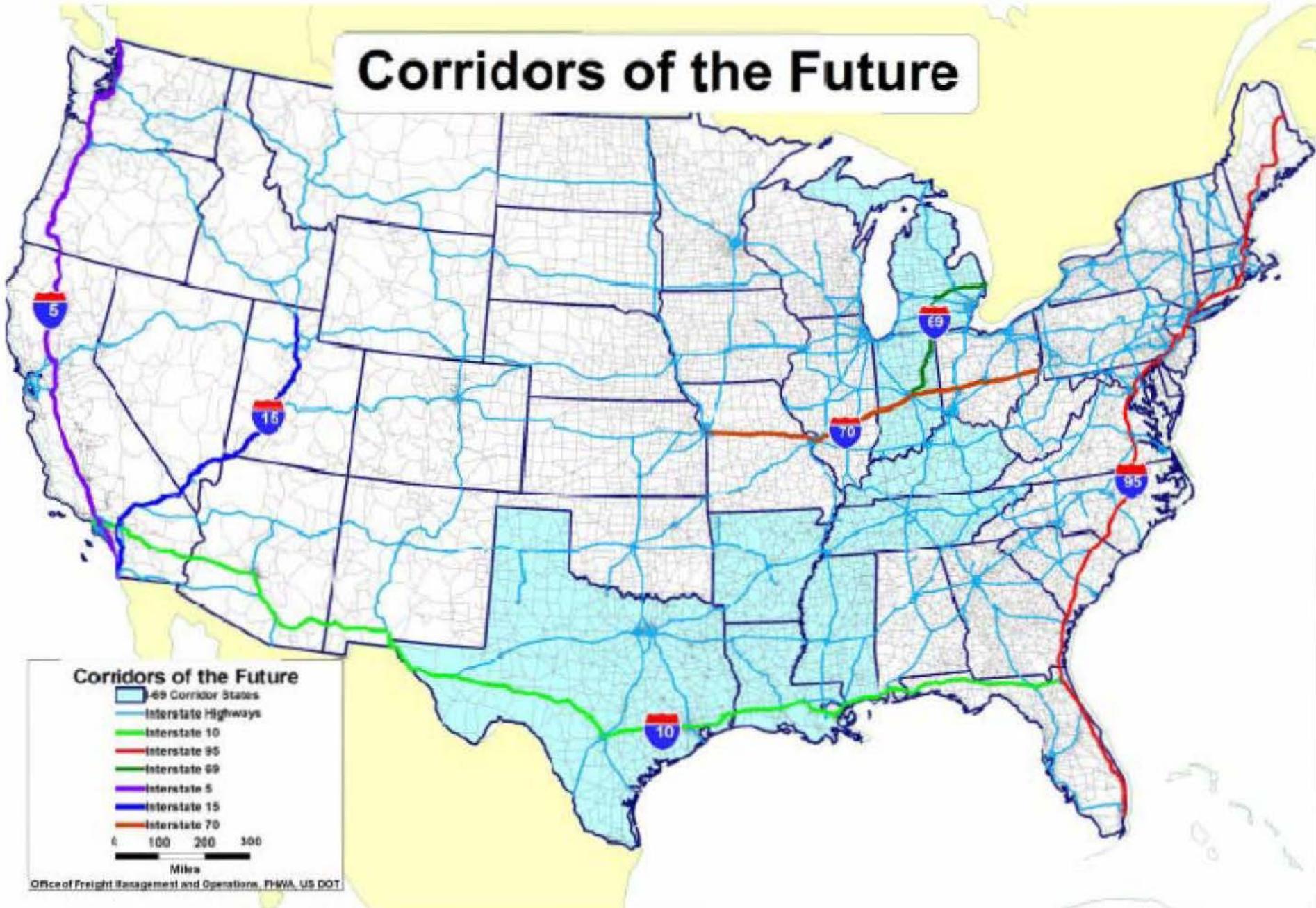
USDOT Congestion Initiative – A Six Point Plan

- Relieve urban congestion
- Unleash private sector investment resources
- Promote operational and technological improvements
- Establish a “Corridors of the Future” competition
- Target major freight bottlenecks and expand freight policy outreach
- Accelerate major aviation capacity projects and provide a future funding framework

USDOT Freight Policy Objectives

- Improve the operations of the existing freight transportation system
- Add physical capacity to the freight transportation system in places where investment makes economic sense
- Use pricing to better align all costs and benefits between users and owners of the freight system and to encourage deployment of productivity-enhancing technologies
- Reduce or remove statutory, regulatory, & institutional barriers to improved freight transportation performance.
- Proactively identify and address emerging transportation needs
- Maximize the safety and security of the freight transportation system
- Mitigate and better manage the environmental, health, and community impacts of freight transportation

Corridors of the Future



A photograph showing the side of a boat moving through dark, choppy water. A large, white, foamy wake is visible behind the boat, extending from the bottom left towards the right. The text is overlaid on the white wake.

**Can Inland Navigation Increase
Its Relevance to the National
Freight Dialogue?**

Limited Growth in New Infrastructure?

- Highway Capacity
 - ❖ growing less than 1% a year since 1980
 - ❖ NHS Connectors
- Rail line system miles –
 - ❖ Rail abandonment in 1980's
 - ❖ Some capacity added on mainline tracks
- Waterway network is fixed
 - ❖ River system is geologically fixed
 - ❖ Limited development of new locks and dams
- All see technology as way to increase operational efficiencies
- City-Freight Planning Conflicts

Who benefits from inland transportation improvements?

- Carriers – reduction in operating expenses, improved reliability, profits
- Ports – additional revenues, prestige, local employment
- Governments and other local industries – additional revenues, employment
- Shippers – minimized disruption, reduced out of pocket costs, valuation of time
- Who does not benefit?

Challenges Linking Inland Navigation to Coastal Ports

- Different datasets, with resulting data fusion problems, etc. to understand and study markets
- Competitive modal/port competition
- Inconsistent policies stymie evolution of new maritime linkages
- Geography limits market access
- Understanding proper valuation of time variability by shipper
- Industry Inertia (economies of scale)

Options for Domestic Operations Improvement

- Traditional approach – build (improve) capacity
- Privatization or public private partnerships
- Monitor system use to ensure reliability
- New transportation options
- Develop Multimodal Corridor operation and planning tools
- Improved Communications

Can/Will Inland Shipping Remain Relevant?

- Alleviate congestion in other modes
- “Endless Capacity”?
- Integration with other modes, including deep-sea ports
- Environmental advantages
- Multiuse planning and development strategies for inland ports

*Must promote to shippers, governments,
and non-technical audiences*

Waterways Can Be part of Solution

- Balance with existing international/ coastal flows
- Determine ways to encourage private sector investment in equipment, services
- Guarantee service on mainstreams
- Work with states/cities for truck congestion
- Modify Hours of Service Rules if driver accompanies truck (ferries)
- Federal and State Multiagency planning, data, analysis

Conclusions?

- International Trade will grow, but so will domestic volumes, straining an already mature system
- We cannot simply build our way out of congestion
- No consistent national/regional policies (methodologies) to incentivize desired or expected outcomes across different geography and modes
- Improving navigation different from past – more partnerships emerging, but message remains diluted...