

Rail Freight In Relief of Roadway Congestion

NCHRP 8-42

Presentation by Glen Weisbrod (EDRG) and Joe Bryan (Global Insight) to the TRB National Conference, January, 2007

Carl Martland

CONVERGING INTERESTS

PUBLIC:

- Alternatives diminishing, multi-modal options desirable
 - Supply capacity any effective way
 - Freight functions as a system
- Rail is most prominent alternative
 - Multiple public benefits

PRIVATE:

- Constrained rail ability to finance capital improvements
 - Capital intensive industry more receptive to public investment
 - Aids Cost of Capital and ROI gap (Virtuous Cycle)

RAIL FREIGHT IN RELIEF OF ROADWAY CONGESTION

Rail relief of roads is viable

- Road planners need to know it

Clear ways to judge and proceed

- 8-42 Study products show how

Biggest barriers not market barriers

- Institutional and capital priorities

NEEDS

Public agencies pay scant attention to rail freight

- Result: narrow experiential base, limited scope for action

Railway's situation analogous for public planning

Both parties need to forge new partnerships

- Aided by systematic approaches to analyze and implement rail options

APPLICABLE SITUATIONS

- 1 Traffic growth seems to require extensive hwy capacity investment.
- 2 Over-reliance on trucks leads to severe congestion.
- 3 Rail network structure restricts role of rail.
- 4 Rail network structure restricts role of highways.
- 5 Freight users are too small or scattered for efficient use of rail.
- 6 Regional economic development is threatened by lack of goods movement.

FACTORS AFFECTING FEASIBILITY

Private Sector vs. Public Sector Planning

- Different perspectives on freight

Needs for Better Tools and Methods

- Public Investment Planning Processes
 - Approach for multi-modal planning
- Methods for Assessing Issues & Solutions
 - Approach for identifying options
- Public-Private Cooperation
 - Roles of service providers and shippers

PUBLIC-PRIVATE RELATIONSHIPS

Actions to aid relationship development

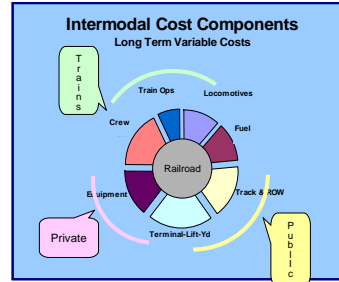
- Cooperation First
- Distribution of Roles
- Collaborative Dispute Resolution

6 Point Framework for Collaborative Dispute Resolution

1. Identify and pursue interests, not solely positions
2. Frame issues for constructive negotiation and management of differences
3. Use objective criteria
4. Generate options
5. Develop a sense of the realities
6. Be cognizant of relationships

Source: Bloustein School, Rutgers

DRAWING SUPPORT: COALITIONS



Multi-Party Investment:

- Public: Track & terminals
- Private Operators: Equipment & terminals
- Both: Train starts affecting crew & power
- Railroads contribute everywhere, including national fleets & network

DRAWING SUPPORT: PRIVATE PRIORITY

When capital & capacity both scarce, good traffic gives way to better:

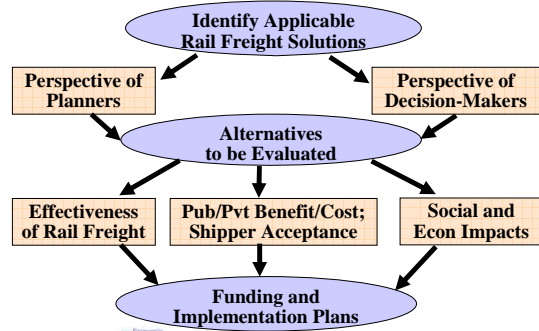
- Driven by growth in import containers
- Public benefits not in private calculation

Solution: put public capital on the table

- Changes comparison
- Improves return
- Expands capital pool



DECISION-MAKING PROCESS



DRAWING SUPPORT: PUBLIC PRIORITY

Ways to Affect Public Program Priority

REFORMULATION in freight terms

CONTAINMENT of worsening congestion

BROADER CRITERIA appealing to voters:

- Economic development
- Safety (traffic separation)

POLICY MECHANISMS

- ① Project Finance of Capacity Expansion
- ② Public Ownership of Right-of-Way
- ③ Redevelopment of Rail Facilities
- ④ Taxation Relief and Incentives
- ⑤ Finance Reform – equality by mode
- ⑥ Land Grants and land swaps
- ⑦ Support of Light Density Lines

3-PHASE ANALYSIS APPROACH

- 1. Preliminary Assessment of Feasibility**
 - Q: Can rail help relieve congestion?
 - Use simple sketch planning tools
- 2. Detailed Analysis**
 - Q: Do benefits justify the costs?
 - Use traffic diversion and benefit models
- 3. Decision-Making**
 - Q: Is this project better than alternatives?
 - Use benefit/cost and multi-criteria analysis

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MULTI-MODAL BENEFIT-COST

Summary of Benefits and Costs at a Societal Level

(A) Target Year Benefit

Mode	(A) Cost of Transport	(B) Cost of Time	(C) Cost of Accidents	(D) Cost of User Operations	(E) Social & Environ
Truck Freight	300000	300000	300000	300000	300000
Rail Freight	300000	300000	300000	300000	300000

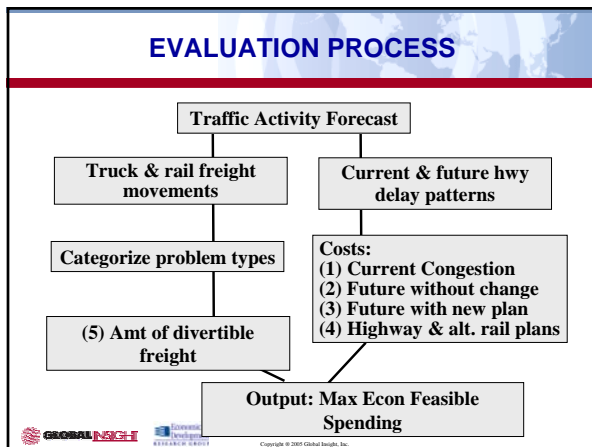
(B) Net Present Value of Benefit Stream

Mode	(A) Cost of Transport	(B) Cost of Time	(C) Cost of Accidents	(D) Cost of User Operations	(E) Social & Environ
Truck Freight	300000	300000	300000	300000	300000
Rail Freight	300000	300000	300000	300000	300000

(C) Benefit Perspectives

Category	Definition	Design Year	Net Present Value of Stream
Transport System Efficiency	= A+B+C	300000	300000
User Cost Savings Benefit	= A+B+C+D	300000	300000
Total Benefit	= A+B+C+D+E	300000	300000

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CONCLUSIONS

- Rail freight can be a viable solution in some cases.
- Carriers, facing labor shortages, truck delays and mounting fuel prices, can see rail freight as a positive option.
- When rail succeeds in winning traffic, it does so with competitive service that boosts efficiency of motor carriers.
- Public-private partnerships can be appropriate, realistic and valuable for both parties.
- Institutional barriers are surmountable.

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ANALYTIC TOOLS

Benefit Category	Railroads	Trucking Companies	Shippers	Govt	Public
Operating Costs	X	X	X	X	
Productivity	X	X			
Breakage			X		
Congestion					X
Environmental Quality					X
Safety & Security	X	X	X	X	X
Tax Revenue				X	
Scheduling/Reliability	X	X	X		
Econ Development				X	X
Facility Capital Costs	X			X	
Facility Maint Costs	X			X	

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SUCCESSFUL SHORT-HAUL



- 170 Miles Seattle/Portland
- Northwest Container
- Daily dedicated service
- 60,000 containers/year
- Private terminals & equipment
- Private, purchased train

Keys to Success:

- Pickup/Delivery slack time
- Single-end dray
- Stack economics, shipload volumes
- Economic geography
- Heavy (60K) payloads
- Turnkey set of services
- Operational control nears open access

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