Chicago Freight Hub Issues

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About the speaker
Who was that masked man?

– 1/3 bureaucrat; 1/3 mad scientist; 1/3 performing artist
Freight Planning Capacity Building – where do they teach this in school?
Invisible freight

• It’s like electricity … it’s invisible … not talked about except when it isn’t there (Rob Hoffman)
• but NIMBY → pandering
• 115,000 employees (6% of RDP) v.a.v. 15,000 in transit (Rawling to APTA)
• The Value of Freight to the State of New Jersey {2/2001}

• the Memorial Day fable
Freight doesn’t vote - discuss

True or false?
How does it vote?

The split personality

The change in the body politic between 1996 and 2006
Chicago Freight Hub, defined

- Highway
- Water
- Rail
- Air
- Pipeline
- INTERMODAL
- the players \{individuality v. holism\} … “wood for the trees”
Creating the “mental map”
National → Supra-regional → Regional Networks

- Water
- Rail
- Highway
- Pipeline
- Air

- Silos ..... NCBA? NPTA? in future ... local applications?
Year 2000

Source: Reeble Associates’ TRANSEARCH and U.S. DOT Freight Analysis Framework Project
Figure 3-2. National Highway System Estimated Peak Period Congestion: 1998

Legend:
- Green: Below Capacity
- Yellow: Approaching Capacity
- Red: Exceeding Capacity
Figure 2-3. Estimated Average Daily Truck Traffic: 1998
Coming soon to a terminal near you
This is one of our defining industries
Intermodal Ecosystem

• There are 5 pieces to the intermodal ecosystem in Chicago, namely
  – Inbound receipting and processing, & triage (what happens to each container)
  – “steel wheel” or “rubber tire” transfer ramp-to-ramp (both compete for capacity and velocity in their separate milieus)
  – Supraregional P&D
  – Infrastructures and infostructures [age & attributes matter] – rest areas
  – the players, the institutional milieu, the administrative milieu, CYs, etc. (the Chicago ordinance). Labor (shortages).

• Apply this structure to each “mode”
New Definition of Crosstown?
(cf. old definition)
New Definition of Crosstown

- Context (history)
- Current equivalent / location (Weber Rd.)
- Intermodal connectors
- Alternatives (competition for x-town)
Role of MPO

• What are the unique contributions of the MPO (i.e. the specific roles of the public sector?)
• 1. we can see the wood for the trees; we can provide a forum (our IATF – see www.catsiatf.com; we can be an ideas factory
• 2. we know the geography and many of the ‘key’ people
• 3. we have (reasonable) access to data (from simple observation); we can integrate (the ‘ponzi scheme’); synthesize; influence the thought process
• 3a. We can develop data – nominal, ordinal, interval, ratio, serial
• 4. we have to be prepared to ask the rude question(s)
Archetypical Issues

• 1. we aren’t a big player in shipment management – the box itself is our core interest
• 2. we can do market analysis - of potential reach of freight technologies: WP 03-03
• 3. we can be a productive discussant in freight practices
• 4. we can assist in R&D – it doesn’t have to be national... ( “will it play in Peoria?” – you don’t hear that so much any more .... will it play in Chicago ) ... the MPO’s core responsibilities
The box itself ......
Whose intersection is it, anyway?
Forecast Port Capacity/Demand

- Pacific Northwest: Demand 2004 = 5.8, Capacity 2010 = 7.4, Demand 2010 = 7.8
- North Atlantic: Demand 2004 = 8.9, Capacity 2010 = 9.7, Demand 2010 = 11.4
- South Atlantic/Gulf: Demand 2004 = 8.0, Capacity 2010 = 10.0, Demand 2010 = 10.9

Modern Terminals Limited
Moving Business Forward
Find your issue

“Chicago is the 3rd Largest Port in the World after Hong Kong & Singapore”

{ CREATE project in context – status }

- Projects submitted: 63 total
- Projects pink slipped (to 2001): 33 (52%)
- Projects in Process (to 2001): 12 (19%)
- Connectors projects: 13
- Non-starters: 5
INWG

- Second iteration after 1990-92 OGL … the every 10 years theory
- Process grew from project-specific, location-specific
- Was a way to involve “implementers”
- Not exactly “quick” but certainly responsive
- Not likely to repeat … now more systems-oriented [ adds to the RTP ]
Mode split

• By weight/ by value (recent BTS announcement re: 2002)
• 19 billion tons; $ 13 trillion; 4.4 trillion ton-miles
• [daily] – 53 million tons; $ 36 billion
• This is 23% more weight, 25% more value than previously thought
• Trucking = 70% of value; 60% of weight; 34% of ton-miles
• Electronics/electrics/office equipment = 11% of value carried
• Gravel+crushed stone = 17% of weight (believable?)
• Coal = 686 billion tons (22% of CFS ton-miles)
Commodities by truck: urban / regional ( from CATS’ CVS )

• Top 5 by weight (internal) = waste&scrap @ 13.6%; parcel post&express @ 13.4%; food&kindred products @ 9.0%; excavation @ 7.0%; printed matter, incl. mail @ 6.6%

• Note: 2% of registered freight vehicles are USPS
Commodities by truck: urban / regional ( from CATS’ CVS )

- Top 5 by trip starts (internal) = parcel post&express @ 19.4% {11.8% is FAK}; printed matter, incl. mail @ 12.1%; electrical machinery 10.3%; food&kindred products @ 9.0%; empty @ 7.8%
- excavation @ only 1.1% (vav 7.0%)
- waste&scrap @ 3.0% (vav 13.6%)
  - Note: 5% of trip starts involve people (are people a commodity?)

- Containers/trailers FAK/noibn as commodity
  - The “empties” question

- Warehousing as component of TCUW
- **Common sense audit** / statistical integrity (UPS)
Model parameters/input

• 1970 CATS’ CVS
  – Light = 4.4 miles ave. trip length
  – Medium = 6.5 miles
  – Heavy = 11.1 miles

• 1979 several US cities
  – Light = 3.0 miles ave. trip length
  – Medium = 3.5 miles
  – Heavy = 7.0 miles

• 1986 CATS’ CVS
  – B truck = 11.1 miles ave. trip length
  – Light = 9.6 miles
  – Medium = 10.5 miles
  – Heavy = 24.9 miles
Data vs. comprehension: Discuss

- Data
  - Nominal
  - Ordinal
  - Interval
  - Ratio
  - Serial
- Data management
- Rudyard Kipling’s “six serving men”
- Comprehension ( still “let them run in the night hours” )
- Performance analysis ( 9mph – 14 mph )
- Implications for action
What is a truck? Configuration vs. Licensing?

What is a truck impact?
- PCEs
- Diurnal distribution
  - Comprehension (still “let them run in the night hours”)
- Counting (factoring; consistency)
- Implications for policy and programs?
What are the metrics/ rates of change/implications for public policy?

- Lanes
- Nodes
- Events: stop, start, P&D, gate in, gate out, lift, etc.
- Units of conveyance: e.g. TEU
  (the one barge = 5 trains = 543 trucks)?
- Commodities?
Density

• Highway & density [WP 97-07]
  – State data and maps
  – City data and maps
• Rail & density
• Air & density
• Water & density ( x-ref. intermodal )
  Niche of water intermodal ( Osprey )
Capacity

• What is it – how is it measured – the UP/UPS anecdote as anecdote
Productivity

• The AAR pocketbook
  – Performance measures

• The Union Pacific 1 mph calculus
  – 1 mph is worth about $ 750M

• Lifts per acre / TEUs per hour
  – Apples and pears syndrome
The Call to Arms

• TRB papers and reports
• Brookings institute papers
• AASHTO
Best Practices

In the aggregate:
• FAST program
  – ( and over the border – PacificGateway Strategy )
• Florida
• SCAG
• Portway
• Toronto

In the specific
• Alameda Corridor
• KC
• Reno,NV

Misrepresentations
How does one engage the freight industry? What is their issue? What is the appropriate response in product &/or service?

- the CEO (maintaining a viable business; valuation; income stream; cost containment, etc.)
- the VP of intermodal business unit (BU profitability and traffic growth/capture; product velocity, etc.)
- the AVP of govt. affairs and PR (image; civic responsibility)
- the RDC manager (inventory management – set by whom?)
- the dispatcher (asset management, human and physical)
- the 3PL provider (velocity; security; privacy; punctuality)
- the drayman / the OWNER-OPERATOR (paying the note)
- The “Transportation” division within a railroad

It doesn’t look like much but:
- they all move in different professional circles
- each has a stake in how “Chicago” performs, and this is what the “planner” tries to factor in.

If you are in technology, which of these issues will you influence for the good?
- Speed management; steering management; collision avoidance; vehicle performance; fuel consumption; L&D; etc. Who is buying?

Major political problem – equity – allocation of resources
China ?!?!?!!!!! / Hong Kong ?!?!?!?

- Shanghai – 20 billion for one port project (20 miles out to sea) = 2.1 million TEUs = 1 year’s growth
- Port rankings – 2001-04, top 5 Chinese ports grew 137%, Hong Kong a relatively modest 23%, but second port and second landside infrastructure
Peer Group Assessment/Comparison I
Does it have to be a problem before we can consider resolving it?

INDIA

- “the old concept clearly has not worked … for it to succeed you need pockets of state-of-the-art infrastructure and you need to keep the government away from intervening with the companies”

[Chetan Ahya, economist at Morgan Stanley in Bombay, India, quoted in Easing India’s Export Jam, by Eric Bellman in the WSJ, 11.30.04]

USA

- “it is time (it is always time) to assess if the old concept is approaching the end of its life cycle and to consider what might be the next concept”
- “we need pockets – make that nodes and links and conveyances – of infrastructure that are state-of-the-art”
- “we need to involve the government, but only to the degree that it needs to be involved (public benefits), and to the degree that it does not compromise private sector performance”
- “you can lead, follow, or get out of the way”

[Rawling, et al, 84th TRB, January 2005]
•“It’s the GLOBAL economy, stupid !!!!!!
Dramatic increases in projected freight demand

Volume of trade, 2004 and 2020

Forecast figures based on a 10-year linear regression
Dramatic increases in projected freight demand

Volume of trade, 2004 and 2020

Forecast figures based on a 10-year linear regression
Reminder

- an unashamed commercial

- www.catsiatf.com