

Rawling's Metrans paper

WHAT WE KNOW (AND WHEN WE KNEW IT); WHAT WE THINK IT MEANS; WHAT WE THINK IT PORTENDS [the trick of seeing round corners]; APPLYING THE KNOWLEDGE TO AN APPROPRIATE ACTION AGENDA ?

Subtitled: **If “what happens in Vegas has to stay in Vegas”, then what happens in Chicago impacts the entire country**

Further subtitled: **“ Have it on my desk by 2035 (that's the year 2035, not 8:35 p.m.)”**

F. Gerald Rawling
Director of Operations Analysis
Chicago Area Transportation Study
300 West Adams, Chicago, Il. 60606
Tel: 312.793.3469
Email: grawling@catsmpo.com

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Abstract

Like the biblical poor, the debate over “mainstreaming goods movement (aka freight)” into public planning and policy is something we will always have with us, or so it seems.

The paper sets out to test the premise behind the Conference, namely that “*surprisingly little is known about the contribution of goods movement to urban congestion, air quality, or changing land use and travel patterns*”. The paper is written principally from the standpoint of planners and researchers, but also examines the connection to “implementers” of public policy, specifically goods movement policy. The paper does not directly refute the premise as much as it argues that certain preconditions are necessary to provide for a critical **knowledge inventory** and to sustain it.

The paper makes a case that, using Chicago (more correctly: northeast Illinois) as a “laboratory”, there is a progressively expanding set of materials, both in quantity and quality; it

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makes a case that the **missing (or weak) link** is a **systematic** and **serial** study of freight behaviour conducted in the interest of all parties. The paper assesses the value of an apolitical Freight Advisory Task Force and involvement/interaction with industry associations in progressing from data acquisition and management to **comprehension**. The paper observes on the value of what Thomas Friedman of the New York Times calls “the super story” (“big picture” in the vernacular) and the impact of the “3rd Largest Port in the World after Hong Kong & Singapore” soundbite.

The paper further makes a case that an articulated policy position, one providing for systematic and dependable allocation of personnel, professional skills, funds and motivation, **is a sine qua non**. The policy needs to send a clear message that the progression from “talking freight” to “doing freight” is considered a matter of what was called, in a previous era, **the public convenience and necessity**.

The paper includes, as a resource, (i) milestones in the evolution of freight planning and analysis for the Chicago region, and (ii) a bibliography of milestone publications that make up the freight **knowledge inventory**.

Acknowledgements

There can be few, if any, more satisfying *milieux* to work in in government than to have a dynamic, progressive freight task force. The author honours the 150+ past and present members, who have been generous with their knowledge. They have (not quite) “taught us everything we know” , but certainly not everything they know, we know that. For these reasons the author feels free to use the “royal” first person plural.

The author acknowledges CATS' staffers Ariel Iris and Penny DuBernat for their longstanding assistance in organizing, tabling and mapping sundry data, and not exclusively for this presentation.

Preface

The subtitle is, as always, an attention-getter, but it is not purely a gimmick; experience informs that there is a progression (or there should be – in the public sector the stained glass window installers are often at work before the masons have finished), as follows:

- “paint a picture” (**What We Know, & When**)
- offer an interpretation (**What We Think It Means**)
- “try reading the tea leaves” (**What It Portends**)
- offer **What We Believe is an Appropriate Action Agenda**

Introduction

While we all know that responsible public policy is not well founded on anecdote, anecdotes do serve a purpose. One in particular informs. Our IATF met for the first time in late 1993.

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On that occasion one of the co-chairman said to me, when I was still not officially even a member, “ we heard from (then) transportation director of the Chicagoland Chamber of Commerce) that there's a problem with a low bridge at 18th on Western”. I told him it wasn't so, that the 18th St. bridge was a CTA structure and about 17' over road, but that there was a problem at 14th & Western (told to me by a drayman I had known since CATS' 1985 CVS); so the co-chairman and I went out for a field reconnaissance – the first of many we have done since then. One early initiative of the IATF was an Improvement Needs project, formalized in 1996^{1,2,3} ; by the end of 1996 the vertical clearance impediment at 14th & Western had been remedied.

The anecdote, generalized, is this: knowledge might be power, but credibility is the real power. **Credibility** (based on rigorous QC) is our stock in trade – one might never recover from an errant display of (inaccurate) knowledge, though it never seems to inhibit political appointees from doing both. It has been the necessary condition for the establishment of a **knowledge inventory** in the northeast Illinois region. Well before this Metrans conference we took the position that the future we least looked forward to was one where it could be said:

The nature of the goods movement supply chain is poorly understood and implications of the supply chain logic for urban areas are unknown

and took it as a call to arms not just to obtain data (data are there in 'vast quantities', shades of the Coneheads) but to make the data work to some purpose. In this author's view, this is arguably the single most important reason why “*surprisingly little is known about the contribution of goods movement to urban congestion, air quality, or changing land use and travel patterns*”, if indeed that is actually the case. It can be argued that more is known than is accepted, i.e. if it isn't the right (acceptable) data about the right (acceptable) kind of goods movement in the right (acceptable) location, and contributed by the right (acceptable) provider, then it is often denied. This is the author's long-hand, polite description of bureaucratic hubris.

Mantras

The CATS' Operations Analysis staff acts as the staff to the IATF. Successful sports franchises are regularly found to have mantras; we have a (metaphorical) bible of mantras, but w.r.t. data the core mantras are:

1. if you need data, go directly to the most likely custodian (subtitled: “climb on the cab and ask them what they are doing”)
2. if the custodian is in the private sector, be prepared to give him/her a rational reason for the need and of the expected result (and share the results – good or bad - with them when you are finished)
3. make the “ask” precise and accountable.... if the “ask” is for event frequency (ies), don't mix it up with rules and regs., issues of “livability”, commodities, etc.

The watershed year of the IATF was 1997 – that is the year **when we knew it**, for the first time. We published our “trilogy”^{1,4,5}, referenced as a resource in the FHWA training manual “Integrating Freight into the Planning Process”⁶.

The flagship publication, simple as it actually was, which we could not have known at the time would be as influential as it has been, was the “lifts”, or “volumes” paper⁷. I well remember calling one of our co-chairs and saying “if you add all this lot up (the sum of lifts for the, then, 21 locations) you get one monster number ...” ; those data served as a lightning rod, and still do. They were current, topical, concrete, practical, not virtual, not synthetic. For interpretation we were able to talk to people, companies and organizations (some identities changed in the interval) that we first engaged as long ago as 1986.

We revisited the “lifts/volumes” paper in 2001 (2000 data)⁸ ; we are updating with 2004 numbers⁹. It will reveal much about changes in trucking travel patterns. The paper⁹ will be a third data point(s) making possible a serial analysis of comparable (meaning from the same source, with comparable QC) data from 1996 - 2004.

A Figure 1 is in preparation and will be made available in time for the Conference. This will be the volume table for the northeast Illinois ramps

We effectively finessed the entire commodity issue by defining the dominant commodity as “FAK in ‘boxes’ ”, and concentrating on the business processes rather than being fixated on the commodities. Yes we know what the commodities are, generally (footwear, electronics, household furnishings, etc., etc.) , and one day this component of the **knowledge inventory** may be useful in our PI/PR/education efforts.

It was, simply, as previously noted, an assessment of intermodal lift volumes for the 20 or so active rail intermodal yards in the region and was a logical extension from the intermodal connectors assessment, published in final in 1999¹⁰.

The lifts numbers (the data) were the core and made possible the “killer” soundbite “ Chicago is the world’s third largest Port after Hong Kong & Singapore ”, and **this** (albeit a conceit) **was the “super story”** it matters less that by now we may be in fifth place.

The data finesse other data and drive a broader, regional, discussion of the many aspects of the activity, such as the physics of cargo-handling processes; the geographic “reach” of the collection and distribution business (from Joplin, Mo. to Hamilton, Ont.), which is otherwise expressed as the “market”, or “catchment area”.

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In 1997 we forecast a need for in the order of 4,800 new acres to be made available for intermodal processing; Logistics Park * and Rochelle * already account for 1,500 before exercising options. These are rare examples of “building it forward”, i.e. building to absorb future demand. If each of the two big “eastern” rail carriers should develop similar properties, nearly two thirds of that forecast will have been realized.

That soundbite established that the business of processing of containers and trailers was a defining industry in the regional economy ** (others had to conduct their own, independent research ^{11,12,13} – ref. earlier remarks about acceptability). **That is when we thought long and hard about what it means/meant** ; we learned soon enough that we did not have the “juice” to promote this **knowledge inventory** alone and we have been helped, intermittently, by other agents ^{14,15}. Recently, the Metropolis 2020 Project ¹⁶, pushed the envelope significantly.

The soundbite has established what we came to know about our place in the global and national movement of intermodal traffic, and has traveled the world in one guise or another.

A Figure 2 is in preparation, also in time for the Conference. This will be the international “league table” of intermodal port volumes
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It confirmed much of what some of us already knew (from our 1986 CVS ¹⁷ and subsequent research) about motor carrier movements at the supraregional, regional, and local level, notably about the drayage sector; it provided us with a means to reexamine one of the salient pieces of consultant research on record and to intelligently structure data input to a rash of studies into alternative handling technologies.

CATS has made a specialty of scenario-testing, either alone or in concert with other research endeavours ¹⁸; one of those ongoing endeavours you will hear about elsewhere on the conference program ¹⁹. At present we are doing some early, “order of magnitude” assessments of a limited number of truck-friendly scenarios it is very early days but we are pushing the envelope to create some “buzz” on this topic.

* The BNSF Railway refers to the property as Logistics Park Chicago Intermodal Hub. It has been called various names after the Joliet Arsenal, which it once was, after Elwood, the nearest adjacent community, after CenterPoint Properties, the REIT that actually built it – they are all the same “ramp”. The Union Pacific's name for Rochelle is Global III. Logistics Park is 43 miles out from the Chicago meridian; Rochelle is 76 miles

** it has ever been so since the days of Carl Sandburg – we reaffirmed it, except that now (Chicago) is a regional “player in intermodal” in addition to “with railroads”

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The aforementioned "trilogy" served, as Bud LaLonde used to express it, if he doesn't still, to cut through the level of abstraction²⁰ ... the circuitous level at which much public sector planning takes place. This author compares it, unfavorably, to the dance on the beach from Alice in Wonderland.

At the same time as we published the numbers we raised some policy questions, as follows:

- is this an industry that we want to grow and prosper (in NEI) and if not, what are the consequences ?
- what is the position (role, value) of the industry in the regional economy ?
- if the answer to the first is affirmative, what needs to be done, by whom, to ensure success ?

We cannot put a measure on the degree to which the "chatter" engendered by the trilogy helped the CREATE project but we can say with some confidence that it did.

From 1997 to the present there has been a sea change in the outlook of the regional body politic; it has moved from one of, "why do we have to do all this tedious freight processing on behalf of the regional and national economies; why can't we just get rid of it, and the unsightly real estate that comes with it ?" to one of " since it represents direct and indirect jobs, and good ones at that, just give us a big enough check and we'll keep doing it". Well the check isn't as big as was expected so there are some negotiations going on at present, which are referred to in another paper to this conference²¹.

We are redoing the counts for 2004-05 in response to many requests and that will result in three serial data points ; as in previous studies, we will postulate the manner in which the intermodal business is changing and wait for the industry to provide for our "reeducation".

As we redo the counts we apply ourselves again to **what we think it** (i.e. the assemblage of data, both known and implied) **portends**, aka " the trick of seeing round corners".

It can be argued that there are only three basic futures, namely:

- a) more of the same – at the same growth rate, perhaps with incremental change(s) in technology
- b) more of the same, with a radical change in the λ growth factor, which in turn has spatial (locational) implications and, of course, implications for capacity – not the immediate subject of this paper
- c) introduction of major technological change to either or both of distribution (logistics and physical movement) and handling

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Elsewhere on the program you will hear a paper on just these issues, specifically on (c) and how (a) and (b) determine the doability of (c) ²². Several parties are much interested in the processes and technologies of cargo handling.

What Is An Appropriate Action Agenda ?

Simply put, data is data; it is not *ipso facto* comprehension ; we continue to produce data because there is a market for it. That is our role – to push the envelope. Also, we ask questions about the data in order to facilitate comprehension, which happens when the data can be progressed from nominal to ordinal, to interval and ratio, and serialized. The questions beget more questions. We will persevere with the “what if ?” scenario testing; if we start now, then when the call comes it can be “on somebody’s desk by 2035”.

We conduct some, limited, “blue sky dreaming” we can talk freely about issues such as truckways (with or without tolls), virtual switching districts, etc., because we can say things with no vested interest. We can even make ourselves unpopular in some quarters by asking such (rude) questions as, “what can be the use of a high-tech railway atlas that ends arbitrarily at the Chicago boundary ?”, and “why is it necessary to remedy a (travel pattern) situation “in kind” at point A ... would it not be more progressive to provide a modern alternative at point B ?” ²³.

This author concludes with two late points, not easily slotted into the flow of the paper:

- a) there is reason to believe that the most complete data on freight-related congestion and air quality are contained in the inclusive argument syntax for the CREATE project, but it appears that, to the present, these data are not in wide circulation, and
- b) the colossal increase in intermodal business is partly explained by the industry push to “containerize” any product that can be, to maximize asset use, but also by the convergence of globalization, containerization, and shopaholic America who will be the eccentric genius who first forecasts that one of these trends cannot continue for ever ?

The abstract of the paper promised two resources; they are Appendices 1 and 2, following, and are (1) a bibliography, which also is the bibliography for this paper, and (2) the Freight Planning Milestones of northeast Illinois

APPENDIX 1

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14. Critical Cargo: A Regional Freight Action Agenda, a position paper of the Metropolitan Planning Council's Business Leaders for Transportation working group, Chicago, April 2002
15. the Ely chapter of Lambda Alpha International sponsored a forum, Connecting A Greater Chicago: Tough Choices in Forging A 21st Century Regional Transportation Agenda in November 2002. Panel Two was Freight Connections

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 18. CATS' staff, and several IATF members acting as an advisory panel, partnered in a study of the applicability of CVHAS to freight mobility in the northeast Illinois region. The formal report was released as Assessment of the Applicability of Cooperative Vehicle-Highway Automation Systems to Bus Transit and Intermodal Freight: Case Study Feasibility Analyses in the Metropolitan Chicago Region [UCB-ITS-PRR-2004-26]. CATS' particular contribution was to practice its specialty – operations analysis – and to publish [Freight] CVHAS Project: Preliminary Marketability Assessment, as Working Paper 03-03, in September 2003, which served to ensure that the CVHAS project was not targeted at an obsolete (*circa* 1981) business model
 19. Rohter, Laurence, P.E., et al., Automated Shipping Container Transportation System Design for Chicago, paper to be presented at Metrans conference
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 22. ref. 18, op cit
 23. Gerald Rawling's presentation to the Lambda Alpha forum (ref. 15)
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APPENDIX 2:

Freight Planning Milestones

- The period 1969-74 was CATS' first freight planning “*golden era*”, in large part in response to the “Triple RA” and the “Quad RA” acts (of Congress; PL And Respectively). There are too many reports and papers to list; while many were not much more than inventories, but they served to provide a benchmark of historical proportion, especially the but many heaps of working papers, freight atlas
- 1973 – 1988 CATS staff participated in a succession of GTUAs [Goods Transportation in Urban Areas I-V]; the GTUAs were clear ancestors of this conference
- 1974 – Jim Blaze's seminal paper, Toward A National System of Super Railroads, was published by TRF.
- In 1975, the Crosstown Expressway proposal ... an in-city piece of interstate highway (with or without a limited access truckway element) in the Cicero Avenue corridor was mooted; it was later (in 1977 and 1979) de-designated in favor of an Interstate Transfer program

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- In 1981, Barton-Aschman et al. conducted a study [for FRA] of 12 intermodal ramps, focusing on “rubber tire crosstowns” (counted at 296,000 p.a. total). The 1981 traffic mix was 85% or better in trailers [TOFC] whereas presently (2005) it is 21%. A network of trucking connections on rail ROW was proposed. No progress was made
- In 1985 CATS conducted its last comprehensive CVS, which included an unprecedented outreach to industry, an outreach which provided the human resource base for the IATF several years later. In 1985, no special attention was paid to the intermodal sector
- 1986-1991 was CATS' second *golden era*, concluding after the publication of a report, Operation GreenLight: Freight Movements and Urban Congestion in the Chicago Area, CATS, March 1991
- in 1992 CATS conducted a “Project X”, essentially a reexamination of the old Crosstown Expressway concept, and demonstrated that, subject to concept design parameters such as access limitations, costs to use, etc., “build it and they (truckers) should come (in large numbers). No special attention was paid to intermodal. The Crosstown corridor is again/still being revisited, with several options w.r.t. user populations, by Cambridge Systematics for the Chicago DOT
- in 1993 the IATF convenes, heralding the start of CATS' third *golden era* of freight planning and the creation of a second, knowledge base. In 1998 a CATS paper, Mainstreaming Freight into the Metropolitan Planning Process, was awarded the TRB's Pyke-Johnson Award
- 1994 – the National Commission on Intermodalism issued its report, Toward A National Intermodal Transportation System
- 1994 – the landmark publication Regional Freight Mobility Conference: Proceedings was released by Puget Sound Regional Council
- 1994 – Willow Springs ramp opens, a “ 3rd gen.” ramp which pioneers the run-through of trains to directly serve the UPS' CACH
- 1997 – the CATS “trilogy” of Working Papers is published [see Bibliography, Appendix 1]
- 1997 – China Shipping is founded ... by 2003 it was ordering 8,500 TEU vessels
- 2000 – Chicago Planning Group, precursor of CREATE, initiates first all-industry work on rail gateway coordination
- 2000 – first Freight Analysis Framework output from USDOT becomes generally available
- 2001 – CATS' Working Paper 04-01 released; first serial data and prognostications w.r.t. lift volumes.
- 2002 – Critical Cargo released
- 2002 – CREATE program goes public
- 2003 – Rochelle opens
- 2003 - AASHTO releases the rail “Bottom Line” report
- 2004 - Metropolis 2020 releases Chicago Metropolis Freight Plan
- 2005 – SAFETEA-LU passes and CREATE is earmarked \$ 100 million in the Projects of National & Regional Significance