

# **Industry Symposium**

## **“Economic Merits of a Multi-User Intermodal Facility in Manitoba”**

**May 13, 1999**

**Winnipeg Chamber of Commerce**

### **Proceedings**

**Hosts: Mayor Glen Murray  
Dr. Barry Prentice**

**City of Winnipeg  
University of Manitoba  
Transport Institute**

## Multi-User Intermodal Symposium

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## **Symposium Overview**

### **“You can’t sell from an empty wagon”**

Mayor Glen Murray set the stage for the Multi-User Symposium by identifying the critical need for Winnipeg to provide the infrastructure to promote economic growth within the city and Manitoba. Many international communities are aggressively in the marketplace to attract new developments with a wide range of benefits and incentives. To compete in this market and succeed at attracting new business as well as retaining and growing existing business, Winnipeg must offer competitive benefits and incentives. Unfortunately, these initiatives cannot succeed when the infrastructure does not exist to support growing business activity.

Mayor Murray confirmed that no real barriers exist to achieving growth or the goal of providing a modern, full service, multi-user intermodal facility in Winnipeg. Only the ability of Winnipeg businessmen to be entrepreneurial risk takers inhibits our ability to grow and profit. It is up to the business community to determine how it should be done. The right reason to build the facility is the encouragement of economic development. New industry knows when a city is working hard to grow. Winnipeg has to define what the community has to offer and then sell the city to companies based on those qualities. The sooner the action is taken, the better for the city of Winnipeg.

The mayor demonstrated his preparedness to stimulate growth and the concept of a multi-user facility by making a commitment to provide resources and financial support. He will establish a Round Table of key business leaders who will evaluate the issues and establish the processes necessary to moving the multi-user concept ahead.

The need for advancing this proposal became more evident as the conference unfolded and business leaders identified current transportation service problems that will restrict growth.

Presentations by Georges St. Arnaud, National Director Railway and Intermodal Division, UMA Engineering and Bernie Boucher, Vice-President Marketing, OmniTRAX Canada Inc. clearly identified the technical requirements for building a leading edge facility and the capability of third party operators managing the facility. Traffic growth projections presented by Jake Kosior, Senior Research Associate, University of Manitoba Transport Institute, are dynamic, driven largely by the continuous, massive changes in the agri-business sector of the economy. This growth potential raises the question of whether the existing facilities present the best operating scenario for Winnipeg’s growth and development.

In his presentation on how Huntsville, Alabama achieved their goals, built their multi-user facility and stimulated the addition of 16,000 direct employment jobs to the local economy, J.E. “Ed” Mitchell reiterated an old lesson that he learned as a young lad from his “grandpappy” while selling produce at the local market..

**“you can’t sell from an empty wa gon”...**

Winnipeg must take the initiative to put the necessary infrastructure in place before it solicits the growth and new enterprises that will develop in the future.

Mayor Murray will establish his Round Table of key business leaders to pursue these opportunities in the next few months. You and your enterprise must support this initiative to move Winnipeg into the new millennium.

Dr. Barry Prentice succinctly recapped the symposium with the following observations:

Mayor Glen Murray	You need the infrastructure to be competitive.
George St. Arnaud	You must evaluate the trade-offs in designing a facility so that it will work. The facility cannot disadvantage the primary mode of transportation.
Bernie Boucher	A third party operator can function as a neutral party for more than one railway. The combined operation will clearly reduce costs.
Jake Kosior	The traffic growth will continue. The new generation of ships need to be filled.
Ed Mitchell	A lot of people watch change happen rather than making it happen. If you are not in the game, where will your growth come from.
How?	Mayor Murray suggested that the cities businessmen must provide leadership. He will form a Round Table of business leaders to direct the process.

**“Designing A Multi-Modal Facility”**  
**George St. Arnaud, National Director – Railway & Intermodal**  
**Division**  
**UMA Engineering Ltd.**

UMA Group is a Canadian based company founded in 1911, previously known as Underwood McLellan & Associates Ltd. It is a private employee owned company with more than 1,000 resource staff with offices in Canada, the US and Mexico. UMA is involved in the design of freight, passenger and light rail transit systems. Core areas of expertise include: track and roadway, signals and communications, bridges and structures, and environmental and earth science. UMA’s railway terminal design expertise lies in the intermodal and automotive areas.

The design of a multi-modal facility is a function of changing rail technology over time. Circus ramp/flat cars were evident in the mid 1960s; containerization/trailer pools and the development of intermodal networks in the mid 1970s; and, double stack service, domestic containers and carless technology in the mid 1980s.

Designing a multi-modal facility is “more of an art than a science”. To develop an efficient and cost effective interface between transportation modes, the modes should require minimal investment, low operating costs, high efficiency and be safe and user friendly. Key items to consider in designing a multi-modal/multi-user facility must include the users and products, location, dimensions, terminal layout and the level of integration.

The users of a facility include the operators and shippers while the product line includes intermodal (domestic/overseas), automobiles (vehicles & parts), warehousing (load consolidation), and transfer facilities (steel products, forest products and bulk commodities (dry & liquid goods)). The leading mode (air, road, rail, water) is also important in the design of a facility as is the direction of traffic flows (east-west/north-south), and the proximity of highways, airport freight terminal, railroad(s) main line and support yards and the customers’ location (wholesale/retail). Design must also consider municipal zoning regulations and utilities, environmental impacts and the room for expansion.

The ideal location should capture all traffic, eliminate back up moves and be a part of the main line operation. The traffic by product must consider short, medium and long-term projections as well as the shipping patterns and seasonal variations of the shipping season. The optimal design must consider the distribution of inbound traffic (i.e. by rail/road), the dwell time in the terminal by the type of traffic (i.e. inbound/outbound loads, empties by rail/ road, and storage. Train service and support yard requirements are also important to terminal layout. Terminal design must take into account the number of trains per day including train length and distribution, double stack trains and mixed traffic including rail transfer and filling traffic. Support yard requirements include railcar inspection and locomotive servicing.

The type of terminal designed must also take into account domestic and overseas marine containers and any automobile compound that may be developed. Storage facilities for loaded and empty containers is important, as is the commodity characteristics of the transported product (i.e. perishable, dangerous, high-value). Terminal lifting equipment requirements (i.e. top-lift/front-loader), the type of units the terminal is expected to handle (container, trailer, auto) and the percentage of traffic that is domestic versus overseas is crucial for facility development. Other factors that are important to layout concerns gate entrance (main vs. multiple entrances), warehousing for intermodal & carload, and circulation roads and hours of service.

Terminal operations, rail equipment, intermodal equipment and facilities are developed between the modes, servers and users. For instance, Chicago's gateway operation includes numerous railroads, IC/CN/WC/SP/API, while its clearing operation includes BRC/IC/CN/SP. Mobile and Memphis operations include IC/CSX, Kansas City operations include KCS/CR/IMRL (CP) and Huntsville includes HMCR/NS. A potential project in Minneapolis-St. Paul may link BNSF/UP/CP/WC.

It is important to point out that many ports operate multi-user ocean terminals, many automobile compounds are multi-user and that most intermodal multi-user terminals are shared by end-to-end connecting railroads.

### **ADN Plus – Multi-Porto Industrial, Monterrey, Mexico**

The rationale behind the ADN Plus project in Monterrey stems from: a need to expedite Mexican customs procedures, border congestion, significant improvements at the Mexican railroads and substantial growth expected in the NAFTA Corridor. Advantages of the multi-port site in Monterrey arise from the city's close location to the US border, its link with the NAFTA Corridor to Mexico City, its huge influx of foreign investment, major industrial base and adequate supply of energy. Monterrey is Northern Mexico's most important commercial centre. It has a population of approximately 3 million people and is located in the Mexican Golden Triangle. It comprises 75 percent of Mexico's internal production.

The multi-port is only 100 miles from the major gateway to the US at Laredo. It is adjacent to the NAFTA "Mexico-Laredo" Highway (Hwy-57), two major railroads and the Monterrey Cargo Airport. The 1,100-acre facility is fully integrated and is permitted to operate as a fiscal zone for road and rail (145 acres). The facility has a bonded area allowing for customs inspection and has eight compound areas (agricultural products, automotive, chemical & petrochemical products, grain, intermodal domestic overseas, warehousing, steel products and bulk products).

The multi-port's feasibility and business case phases have been completed. Only the financing phase remains to be addressed. Participation from the major carriers (railways, truckers, etc.) has been achieved and a high level of integration exists regarding terminal switching, intermodal operations, shared resources, the arriving and departing trains, the run through yard and 24-hour continuous operations. The facility is flexible for staging additional investment and development, and has room for expansion for both terminal and compounds. Flexibility also exists for the buildings and facilities in terms of design and location, as well as terminal circulation. The facility is efficient due to ease of maintenance, rapid turn around times, seamless operations and provides low costs for both shippers and carriers

## **“Third Party Operations at Deltaport”**

**Bernie Boucher, Vice-President Marketing, OmniTRAX Canada Inc.**

### **Introduction**

In successful multi-user intermodal terminals, efficient and flexible terminal operations are essential. Specifically, the scheduling, blocking and switching of valuable containerized cargo within the terminal contributes significantly to the level of customer satisfaction achieved. In aggregate the efficiency and productivity of terminal services such as these can effect the overall competitiveness of a given gateway, be it at Port or at an inland terminal.

The example of OmniTRAX's switching operation at the Deltaport container terminal – provided through its subsidiary TransCANADA Switching Services – likely bodes well for the Port of Vancouver's ability to compete with U.S. Pacific Northwest gateways for high-value Asian cargo. Asian container traffic volumes are projected to grow from 32 million TEUs (twenty-foot equivalent units) in 1990 to 111M by the year 2000. Deltaport was a competitive response to the “stealing” of Canadian origin/destined traffic by PNW ports Seattle/Tacoma. It is estimated that 150,000 TEUs of Canadian traffic was being routed through the PNW ports in 1996.

When it opened in June 1997 Deltaport doubled the Port of Vancouver's container capacity to over one million TEUs. This was important because the Port's container traffic had grown 277% between 1986 and 1996. Deltaport's on-dock Intermodal Yard supports four rail tracks, each 1,067 metres in length, with capacity for two double-stacked 2,135 metre (880 TEUs) trains and storage capacity for 1,200 TEUs. The terminal provides direct access to the only two transcontinental railway lines in North America, Canadian National and Canadian Pacific Railway (and thus double stack service to lucrative U.S. Eastern and Mid-West markets).

## **OmniTRAX**

Denver-based OmniTRAX has quietly become one of the largest short line freight operators in North America. The company owns and operates thirteen short line railroads (three in Canada). It combines railroad operations with its many related businesses, including

- locomotive rehabilitation/leasing (full service repair shops, Chicago and Denver)
- logistics services
- intraplant switching (three switching operations in the United States)
- intermodal terminal services
- Port operations

In other words, OmniTRAX offers integrated and combined customer services.

OmniTRAX has been very aggressive in the short line market in Canada. Recent acquisitions include:

- Hudson Bay Railway (HBRY) servicing Northern Manitoba (1997)
- Port of Churchill (1997)
- Northern Saskatchewan's Carlton Trail Railway **CTRW** (1997)
- British Columbia's Okanogan Valley Railway **OVR** (1998)

In 1998, OmniTRAX railroads transported approximately 180,000 carloads of freight serving more than 200 customers, while HBRY's remote rail passenger services carried over 40,000 people.

## **TransCANADA Switching Services (TSS)**

In 1996 TransCANADA Switching Services was added to the OmniTRAX family of transportation and logistics enterprises. OmniTRAX owns approximately 300 locomotives, comprised mainly of refurbished low/medium-power road and switcher locomotives (ranging from 600 to 3600 HP). At Deltaport TSS provides motive power for rail bound container traffic, handling all terminal switching requirements, then assembles departing trains so that they are mainline-ready for Canadian National and Canadian Pacific Railway crews.

TSS is the first terminal switching railway company in Canada to provide switching services for both CN and CPR. This fact and other facets of OmniTRAX's operation at Deltaport make it a good example of a value-added third party operation at a multi-user terminal. However, there is an essential difference between a Port and an inland terminal as it applies to the railway's participation. Certainly the railways enjoy the benefits of the efficiencies and productivity gains of a third party terminal operator at Port and would do the same at an inland multi-user terminal. This, however, is only one part of the equation.

## **“Manitoba's Intermodal Container Traffic Development”**



**Jake Kosior, Senior Research Associate**  
**The Transport Institute, University of Manitoba**

Data is important: If you don't know where you have been, you don't know where you are, not to mention where you are going. Information on container traffic is piecemeal and misleading. Manitoba's actual import and export traffic volumes are underreported because of transloading (stuffing) of containers at the ports. Only containers that are source loaded in Manitoba are officially reported. The true volumes are more than double.

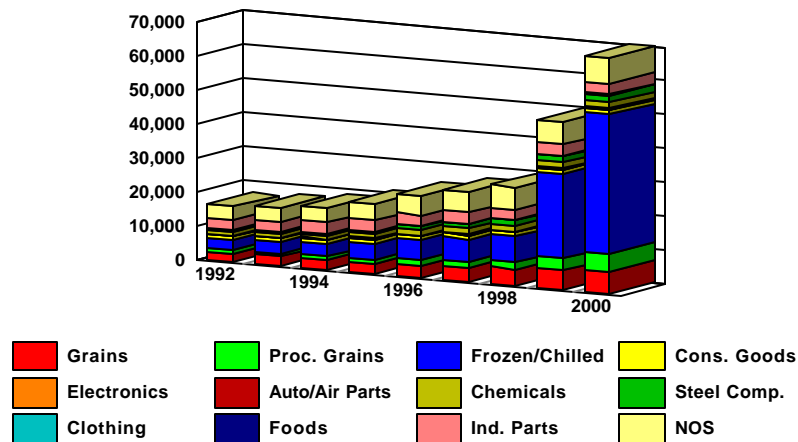
**Manitoba's Overseas Trade shows continued strong growth**

A shipper's survey sponsored by the Manitoba Department of Highways and Transportation gathered information on international container traffic. Manitoba international container traffic, including product stuffed at the ports, was about 20,000 TEUs in 1992. By 2000, international traffic is estimated to be 80,000 TEUs, a fourfold increase from just 8 years ago.<sup>1</sup>

Shippers in the UMTI survey anticipate a 5 to 10 percent growth rate of export activity in the next 15 years. A 5 percent growth rate will double our international trade by 2015. This represents about 140,000 to 160,000 TEUs. Infrastructure expansion will be required to accommodate this growth.

Exports in 1992 by all industry sectors were equally represented in percentage terms. In 1999, 80 percent of our exports are expected to be generated by the agri-business sector which is the most dynamic of our economy (figure 1). Since 1995, food processing has

**Figure 1: Manitoba Containerized Exports from 1992 to 2000 (Forecast)**



been stimulated by the end of the rail subsidies on grain exports (*Western Grain Transportation Act*). The thrust towards value-added agriculture products makes efficient

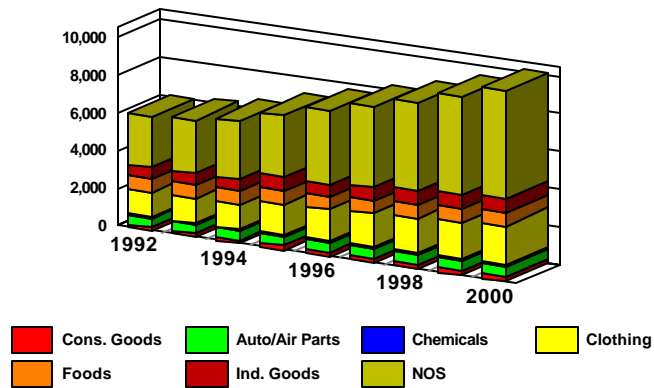
<sup>1</sup> A TEU stands for a 20 foot container, and is an industry standard unit of measure. A 40 foot container is 2 TEU's.

container handling extremely important. If the sale is to an overseas country, the product is almost certain to travel in a container.

Lower freight costs can provide an advantage in export markets. Transportation costs account for 2 to 15 percent of manufactured products delivered price, and between 30 to 60 percent of food product prices. Agri-business exports are very responsive to transport costs. Even small reductions in freight rates would increase trade substantially. One grain trader even stated his sales would double. Manufacturing exports are not as responsive to transport costs. Nonetheless many shippers stated that any savings on freight rates would give them breathing space. In highly competitive situations, incremental savings to customers can make or break a sale.

Manitoba importing companies bring in about 8,000 to 10,000 TEUS of goods at present (Figure 2). This traffic is growing at a steady pace of around 2 to 4 percent per year. The majority of these goods, about 60 percent, are sundry items and textile rolls for the garment industry. The remainder are foods, auto and air parts, chemicals and the like. Imports are important from both an economic growth and transportation perspective. The more equal the inbound to outbound freight, the more attractive we are to carriers.

**Figure 2: Manitoba Containerized Imports from 1992 to 2000 (Forecast)**



**Container industry technology provides opportunities for Manitoba**

In the early 1960’s and 1970’s, container ships only carried higher valued goods because of the cost of an ocean voyage. As ships have grown larger, container rates have been dropping, and ocean carriers have moved down the value chain. In some cases, container rates are now below those of bulk. It is not uncommon for waste paper and glass for recycling to be in a container destined for Asia. The newest generation of ships (6,000 TEUs) can serve North America with one port call. Good inland links and hubs become more critical to the logistics of serving these larger vessels.

The Golden Arrow was the first containership to call at Vancouver, it only handled about 750 TEUs. By today’s standards it was slow and inefficient. The recently christened *Regina*

*Maersk* is three football fields long and carries 6,000 TEUs. This ship can operate with an eight person crew and uses less fuel than earlier 3,500 TEU ships. The pressure is on these carriers however, to attract sufficient cargo to generate profitable utilization.

### **The Central Advantage**

Winnipeg's central location, where three class I railways (CN, CP, BN) meet is an advantage that is under exploited. The new IC/CN link to New Orleans provides container service to all major markets, including Mexico. Manitoba has a three coast advantage. If Omnitrac decides to move intermodal traffic via Churchill, this will add strength to Manitoba's intermodal links.

As telecommunications becomes integrated in supply chains, a single warehouse strategy becomes attractive as opposed to having two warehouses, one in Calgary and Toronto for example. Some companies use Winnipeg for national distribution, but the opportunity increases with better container service through this city.

While Winnipeg continues to utilize infrastructure that for the moment may serve the purpose, other centers are constructing new state-of-the-art container facilities. As a community, to further economic growth, Winnipeg needs to rethink the status quo on transport infrastructure and position itself for the new millennium.

### **“The Huntsville Alabama Experience”**

#### **Ed Mitchell – Mitchell and Mitchell, Inc., Huntsville, Alabama**

Intermodalism is a relatively new industry. The intermodal era began in 1956, the first time trucks were welded to steamships. Today, rail companies are heavily involved, but the industry is still in a mode of change – and change is still necessary. For instance, there are over 800 ships in Hong Kong harbour waiting to be either loaded or unloaded. New ships with greater capacities will increase the need for efficiency in the overall intermodal system, particularly the inland terminal operations.

The current site of Huntsville International Airport – located well outside the built-up area of Huntsville – was originally purchased to be a satellite airport supporting the existing airport within the city. With the development of the adjacent Interstate-565 and the rapid expansion of the city of Huntsville, the area became prime property. The announcement to build the airport came in 1963 and the facility opened in 1967 with two parallel runways separated by one mile – seemingly unnecessary in a city the size of Huntsville in the 1960s. The city was then presented with the opportunity and challenge of building more than just an airport.

Intermodalism in Huntsville began as an effort to spur economic development in a way that would put the city in touch with the entire world. In Huntsville in the 1960s and 1970s, all the transport modes were dispersed throughout the city. Could such a spread out system

adequately support commerce and industry? Could the city attract firms that way? The first step was to bring air, rail and truck transportation together in one location. However, because “nine out of every eight airports are passenger driven”, it was nearly impossible to obtain federal funding for any type of intermodal facility to be located at an airport. In fact, the FAA asked the Huntsville-Madison County Airport Authority why it would want to bring a rail line into an airport.

The city and county governments were assured that they would not be asked for any money, but they were asked for credit assistance since the Airport Authority had little in the way of collateral. After many fruitless sales pitches, a local bank backed the project along with matching federal funding, despite the USDOT’s apprehension about intermodal facilities. Through programs like ISTEA and TEA-21, there is now abundant federal funding for such facilities. The US federal government has realized that, besides making the transportation of goods more efficient, intermodalism effectively relieves congestion on highways and improves air quality.

The Huntsville International Airport combines passenger air travel and air cargo with its intermodal rail terminal, Jetplex Industrial Park and foreign trade zone (FTZ). The Airport Authority and rail provider Norfolk Southern are the leaders in trade and transportation in Huntsville. The facility at the airport combines all transportation services to provide a real choice for shippers. However, it was assembled in a difficult, piecemeal fashion, requiring both perseverance and patience. Essentially, the entire project was undertaken to create employment.

The International Intermodal Center (IIC) is a key model for any such facility in Winnipeg. A single crane serves the entire intermodal facility straddling four tracks that connect directly with Norfolk Southern’s rail line. However, the Airport Authority had to market the idea intensively. Huntsville’s intermodal centre was only approved by a 3 to 2 vote and the question is still frequently asked: Why Huntsville?

Huntsville provides services, facilities, and equipment as good as competing airports and intermodal facilities, while allowing companies to avoid heavy congestion in other urban areas – particularly Atlanta. For instance, freight forwarder Panalpina has expanded into a new 100,000 square foot facility to accommodate the nine flights per week operated by Cargolux between Luxembourg and Huntsville. Cargolux prefers Huntsville to Atlanta because they can land whenever they arrive at Huntsville, rather than having to meet a specific slot at Atlanta’s congested airport. Cargolux can come and go as they please at Huntsville, facilitating easy connections with South American and Mexican markets.

Integrators DHL, Federal Express (FedEx), and United Parcel Service (UPS) also provide service at Huntsville’s airport. The air cargo operation at Huntsville is very efficient as goods can be on the road within fifteen minutes of entering the air cargo warehouse. Most aircraft can be turned around within two hours.

A recent economic impact study found that 16,000 jobs exist within one mile of the airport, with 28,000 indirect jobs in the Huntsville-Madison County area.

Chicago-based Navistar will soon establish a plant in the Jetplex Industrial Park, creating 600 jobs immediately and 1500 jobs by 2003. The company looks forward to being able to fly directly between the head office in Chicago and the plant in Huntsville. Chrysler – one of the park's anchor tenants – finds the FTZ to be very advantageous. Chrysler would have to pay approximately 20 percent duty on imported parts, but actually pays only 3 to 4 percent duty once the parts are assembled into a completed unit. By bringing in parts duty free, Chrysler only has to pay the lower duty rate on the unit assembled within the FTZ, saving the company millions of dollars each year.

Customer service at any intermodal facility is essential. People must be willing to work quickly and with a smile. Top-level service has to be provided to each customer in every circumstance. Without a high level of service, customers will not look in our city to maintain and expand their operations.

Based on his experience in building the Huntsville Alabama facility, Ed Mitchell has only one recommendation for Winnipeg. Build it, and your wagon will always be full.