UP AND DOWN THE SUPPLY CHAIN

MARCH 14, 2006

CONFERENCE SPONSORS:

MANITOBA TRANSPORTATION & GOVERNMENT SERVICES
WESTERN ECONOMIC DIVERSIFICATION CANADA
CITT
PMAC
PALLISER
EQ3
KLEYSEN TRANSPORTATION SOLUTIONS
MANITOBA HYDRO
SCL
THUNDER BAY TERMINALS LTD.
CANADIAN MANUFACTURERS & EXPORTERS

Presented by:

The University of Manitoba Transport Institute
2nd Annual Supply Chain Connections Conference

Up and Down the Supply Chain

PROCEEDINGS

Winnipeg, MB
March 14, 2006

Edited By:
Doug Duncan
Gene Morales
Matt Seguire
Sharon Cohen

ISBN Number 1-894218-41-8

Transport Institute, University of Manitoba
www.umti.ca
Table of Contents

Table of Contents

Session One:
Supply Chain Management at the University of Manitoba
Dr. Paul Larson

Asper School of Business

Session Two:
Issues in the Forest Products Industry
Mr. Rick Goodman

Tembec USA

Session Three:
Designing the Supply Chain
Mr. Ray Molinski and Mr. Jay Picklyk

Standard Aero

Session Four:
Supply Chain Transformation
Ms. Barbara Salter

Motorcoach Industries

Luncheon Keynote:
Up & Down the Supply Chain
Dr. Bob Dye

Purchasing Management Association of Canada (PMAC)
Session Five:
Mr. Hugh McMaster and Mr. Martin Mezzabota..................................................125
DHL Danzas (Canada) Inc.

Session Six:
Changing the Intermodal Model
Ms. Melanie Hewson.................................................................143
CN

Session Seven:
Mr. Jeff Pries..................................................................................163
Bison Transport

Presenter Profiles.................................................................175
Participants.................................................................................181
Agenda.......................................................................................183
Sponsors.....................................................................................185
• The SCM department is made up of a mix of cross functioning people.

• We have transportation people

• We have operations people

• My area is logistics
The Mission of the University of Manitoba is to create, preserve, and communicate knowledge and, thereby, contribute to the cultural, social and economic well-being of the people of Manitoba, Canada and the world.

Established in 1877, the University of Manitoba became the first university in western Canada.

- Our focus is Manitoba and then we quickly expand out from there as the supply chain is a global phenomenon.
The school that is now the Asper School of Business began in 1937 as the University of Manitoba’s centre for management education.

The Department of SCM was created in 2004.

The Department’s vision is to be a leading academic department in SCM.

Its mission is to pursue excellence in creation and dissemination of knowledge in SCM and related disciplines relevant to organizations and people locally, nationally and around the world.

• As you look around Canada and North America, there is a number of emerging supply chain management departments.
• The Transport Institute has been located within the SCM department.

• The Transport Institute is expanding its focus to embrace the broader supply chain management space.
Activities

- Research
- Education
- CLog
- SCM Dep’t.

- Conferences
- Northern Transportation
- Fields on Wheels
- Supply Chain Connections

- Transport Institute activities.

- We have also held 3 Airship Conferences
What is SCM?

- When I ask this question in the community I get a lot of different answers.

- When we ask people in executive forums, not only do we get different definitions of supply chain management, but we get major perspectives on the whole thrust of what supply chain management is about.
• My view is that transportation is really at the core of what we might call logistics.

• So the primary logistics function these days are transportation, warehousing, inventory management along with some other supporting type functions.

• Why is transportation at the core?
  • For most organizations in the manufacturing or retailing sectors, transportation seems to be by far the number one logistics cost.
  • When we are trying to go lean on inventories, we are going to lean on the inventory system subject to serving customers.
  • We are trying to manage warehousing very carefully and transportation as well.
**Four Perspectives on SCM versus Logistics**

- Traditionalist
- Re-labeling
- Unionist
- Intersectionist

*Larson and Halldórsson (2004)*

- These four perspectives were identified by Arnie Halldorsson and myself as we reviewed the literature and talked to executives about logistics back in 1999.
Traditionalist

Logistics

SCM

Logistics hires “supply chain analysts” to focus on cross-functional, inter-organizational issues.

- SCM was a specialist area within logistics that focused on strategic aspects of logistics.

- It focused on coordinating relationships with logistics partners up and down the supply chain
Stock & Lambert (2001)

The logistics community tends to view supply chain management as “logistics outside the firm.”
• Logistics has become SCM but in name only.

• There is nothing new, nothing different, nothing particularly exciting.

• A lot of firms are just re-labeling.

• Companies, academics and journals were simply re-labeling their activity.

“do not distinguish between logistics and supply chain management” (SCM).

supply chain = logistics network
• The opposite of Traditionalist – logistics fits inside of SCM.

• With this model we get beyond logistics.

• As we see it at the University, there is a lot more going on in SCM.
Mentzer et al. (2001)

“all the traditional business functions should be included”

1. Marketing & Sales
2. Research & development
3. Forecasting
4. Production
5. Purchasing
6. Logistics
7. Information systems
8. Finance
Mentzer et al. (2001)

“all the traditional business functions should be included”

1. Marketing & Sales
2. Research & development
3. Forecasting
4. Production
5. Purchasing
6. Logistics
7. Information systems
8. Finance

• In this view we have included the kitchen sink.
SCM encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities.

Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers.

- The Council of Supply Chain Management Professionals re-labeled themselves but went a little further.

- SCM has at its core, purchasing, logistics and operations.

- It includes coordination and collaboration.
• In this view, logistics and SCM overlap.

• Both SCM and logistics retain some unique content.

• One nice thing about this Intersectionist view is probably at the implementation angle. It eases the firm into SCM from the standpoint that they don’t have to go through major organizational shakeups, change the line structure, appoint a new senior officer in SCM, or change the reporting relationships within the firm that can distress a number of other entities within the firm.

• You implement by creating a staff function that operates as internal consultants.
Intersectionist

SCM considers strategic, integrative elements from several functional areas (logistics, purchasing, operations, and marketing). However, it does not get involved in tactical elements, such as picking orders in a warehouse.
The Breadth & Depth of SCM

<table>
<thead>
<tr>
<th>Depth</th>
<th>Breadth</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SHALLOW</td>
<td>NARROW</td>
<td>Traditionalist</td>
</tr>
<tr>
<td>DEEP</td>
<td>RE-labeling</td>
<td>Unionist</td>
</tr>
</tbody>
</table>

Larson, Poist and Halldórsson (2006)

• As we do surveys or talk to executives it seems that the community is embracing a community SCM which means intersectionists or unionist in some form or another.
• This is what SCM is really all about.

• It is about identifying opportunities for performance improvement and in some cases dramatic performance improvement.

• Improvement could be in inventory reduction, customer service improvement, or just doing things better.

• Here I have the focus on Logistics and it is a pretty narrow view.
Here the focus is in purchasing but again the focus is narrow.
• In the case of re-labeling, if SCM is simply logistics, we are using it to look for opportunities for improvement.

• We seem to have a bigger area to mine for opportunities, but it is probably more resource intense to find those improvements to begin with.
• Once again a larger area but it takes more effort to mine opportunities.
• Note that I have suggested that the unionist envelope can encompass marketing but people seem to squirm at this suggestion.

• Therefore, I backed off a little bit.

• In this case we have within SCM the three core areas, purchasing, logistics, operations and then some marketing and perhaps other areas as well.
• In the Intersectionist model the little interception piece can be bigger or smaller depending upon the organization and on the circumstances.

• Here it is pretty much reserved to the areas where all of the functions interact.
• Back at the University of Manitoba, what are our core areas of SCM.

• We clearly have the purchasing piece, the logistics operations and in fact our department sort of brought together the operations management group or those doing research and teaching in that area.

• We have the logistics and transportation folks and we have some new people such as myself. I would consider myself within purchasing logistics interface.

• And then we also added this policy and regulation piece that probably makes us unique in Canada and I think even in North America, perhaps on a global basis.

• What we realize is that when you look at these broad strategic issues and SCM, there is a number of critical areas where there is a need to interface with the public policy sector. Security would be an obvious area.
• We also have supporting areas in our view of SCM.

• In addition to accounting and marketing we would include finance, human relations, human resource management.
• So, we have the core areas of purchasing, logistics, operations and policy and regulation.

• We now need to define supply chain management.

• This is an interesting process because our definition does continue to evolve to a certain extent. The main pieces of it are in play and remain in play from the start.
the process of strategically managing flows of goods, services and information, along with relationships within and between organizations, to deliver greater economic value and enhanced customer service. It involves integration of the core areas (logistics, operations and purchasing) and elements of supporting areas (marketing, finance and accounting, human resources and information systems), and it focuses on serving relevant private and public sector stakeholders.

- Note that the information sharing, the relationships between firms, the inter-functional coordination are really at the core of this
Questions

Mark Laford

My question to you is, though your presentation, very well done, how do you bring this message to the freight forwarding community, to the clients, other than the people at the conference today. How do you get your message out of the University of Manitoba to the major importers in Canada and Manitoba?

Paul Larson

Excellent question, and I think the answer really gets back to our primary functions at the University. My friends in the business community always kind of laugh at me when we get into this discussion because a lot of what we do moves very slowly.

Through our SCM major in the business school we have a bunch of students pursuing the SCM major. Two years from now, or a year from now, we will start graduating significant numbers of the newly converted. The students will have this knowledge and hopefully will bring this knowledge forward. That is a very slow process. Certainly another way that we do it is through our research. In fact, one of the slides referred to an article that quite recently was accepted by one of the journals, authored by myself, Richard Poise from Iowa state University and Arnie Haldorson from Copenhagen Business School. That particular manuscript won’t see the light of day in published form for probably the better part of another year. So again, we do the teaching, we do the research in our core areas, but that moves very slowly in terms of getting the knowledge out there in the community at large.

Another example would certainly be an event like this. Another thing that we do is that we have working papers available before publication. We are certainly happy to share them with folks, knowing that as we put on conferences like this, we also appear at conferences and the message gets out slowly. Myself, Dr. Prentice, and others, for instance, will be at the ASAC meeting (Administrative Sciences Association of Canada) presenting essentially our departmental position paper on supply chain management largely to a group of other academics with some business community folks as well.

So I hope this answers your question. The word gets out in a range of delivery systems. It gets out almost painfully slowly, but we move forward slowly but surely. For anyone who would like to give me their business card. I can certainly send you the full deck of information, working papers, etc that we have available now.
**Question**

Is quality assurance and quality control functions part of SCM? How does it reside except for engineering and design?

**Paul Larson**

Interesting question. The question was whether quality control is sort of one of these areas, whether it may be a core area for support for supply chain management. We have recently had this discussion with Robert Dye, President of the PMAC. My easy answer to that would be it absolutely has to be in there. One of the primary tenets was that quality needs to be a part of everything we do. So then the question becomes, as educators, do we need a separate quality department or do we need a separate quality course. Or, should the fundamentals of quality be carefully woven into every course that we teach. So the answer is, in my opinion, that the quality piece has to be in there. The interesting question is how would it be organized. Does it become part of all the courses, all the activities or is there a separate course, a separate function, a separate department governing the quality of activities.

**Question**

Are there similarities between members of the same industry and how they approach SCM. For example, manufacturing or resource companies. Do these tend to be traditionalists, unionists in terms of approach?

**Paul Larson**

Another interesting question. I would say in the research we have done today, probably the most noticeable difference when you cross industries would be between the public and private sectors. Generally speaking the public sector has shorter supply chains, they have more of a direct link to the customer. Or the typical scenario in the public sector is a public sector agency that is probably serving another agency within government within the public sector or is serving the citizenry, the end consumer directly.

It tends to often times be a separate retail link for instance. On the other hand, on the back end, there often times seems to be a tendency for the logistics to be done on a delivered basis. In the public sector, maybe we don’t want to mess around with managing and running the logistics operation ourselves. So what tends to happen is purchasing is spearheading the supply chain management. They are doing it in a context where they have a direct link, a direct view of the customer. It is a shorter supply chain and so they often times embrace one of the most narrow views that we put out there because they are not looking at all of the pieces.
On the other hand, generally speaking, the private sector seems to embrace the broad perspective. One thing that we have found is that if you contrast the manufacturers with the retailing crowd, there seems to be a tendency that it is the manufacturers that have primarily embraced this unionist perspective. Their viewpoint is attempting to, organizationally speaking, tie everything together. Essentially it is the classic integrated logistics management concept just multiplied, or made a bit bigger in the supply chain management world. So, they seem to address the unionist perspective, whereas in the retailing sector they seem, at least where I have observed, to be more intersectionist oriented. Again I think that might be partly because they are located nearer to the end customer. In retailing, marketing and purchasing at the front and back end have a very close connection because of the proximity to the customer. That seems to change the view of supply chain management.

But that said, I would have to say that thus far in the research that I (We) have done at the University, it defies really strong generalizations because there are all sorts of things happening out there under the name of supply chain management. There seems to be some converging standardization. Generally speaking, it seems to be the case of broad phenomenon that involves interfunctional coordination, cooperation across firms, information sharing, but the specifics seem to vary in interesting ways on a case by case basis.

**Question**

How does the marketing piece fit into the SCM description that you have given us?

**Paul Larson**

Another really good question. It seems that traditionally within organizations and maybe particularly manufacturing organizations, the thing about moving a step up stream from retailing into manufacturing is that you have both inbound and outbound logistics problems. Or you have stuff moving in and stuff moving out. In the case of the traditional retailer, you have stuff moving out. Who is doing the logistics out of Wal-Mart? It is you and I the shopper so they don’t have to worry too much about the outbound logistics.

In the case of the manufacturer you have inbound and outbound logistics. Of course traditionally the marketing piece was concerned about the outbound logistics. So it seems if SCM has done one thing for the manufacturing sector in particular, it made them aware, I think, of opportunities to coordinate the overall flow of goods both in and out of the organization. The folks that I talk to tell me again and again that there is movement towards trying to do that, but traditionally, the outbound logistics or, the customer facing side, might have been planned and executed completely independently of the inbound stuff. You have inbound logistics aligned with purchasing feeding the monster or feeding the factory and then you have outbound logistics aligned with marketing.
Traditionally, marketing was sort of only on one end. Now the interesting question becomes, if we want to bring marketing into this bigger SCM, I think it is easy for marketing to feel a bit threatened because it can only diminish the prominence of marketing in one sense. Because marketing is in there with others, it is a bigger swimming pool and marketing is now a smaller fish. There are always great stories. I remember one from the textbook. A Marketing Campaign had a great sales campaign. If the customer bought 25 units, they would get a special price on the deal. The difficulty was that 24 units fit one pallet. So they ended up shipping 24 boxes in one pallet and then another pallet with one box on it which basically doubled their transportation costs. It is experiences like that which force the marketing people to at least discuss these ideas more with logistics.

**Question**

Is there a plan for a cooperative internship for students?

**Paul Larson**

Well definitely the coop program piece is one of the things being organized at the faculty level at the school. At the Asper School of Business, we have embarked on a fairly aggressive game plan to initiate a coop program. Certainly the SCM piece of that would be prominent. It is hard for me to say too much more than that as it is in the deans office. Definitely good things will be coming.
Session Two

Supply Chain Management

Issues in the Forest Products Industry

Rick Goodman

Transportation Manager

Tembec USA
• This presentation will discuss current issues and opportunities in a resource-based industry.

• Many of the SCM issues facing the Tembec facility in Pine Falls are consistent with those of any Canadian-based manufacturer, resource-based or not.
TEMPEC OVERVIEW

- One of Canada’s largest forest products companies
- Annual sales of approximately $4 billion
- 10,000 employees in 55 manufacturing facilities (Canada, USA, France, Chile)
- First in environmental stewardship

- Customers include major magazines such as Time, Men’s Health, Blender, Maxim, Stuff, People, and Rolling Stone.

- Taken the lead in reducing emissions and ensuring environmentally friendly operations.

- Goal is to have 80% of logging operations certified by the Federal Communications Commission (FCC) by 2008. This is a sign of Tembec’s commitment to environmental stewardship.
• As one of the world’s largest pulp producers, Tembec sells pulp to pharmaceutical companies and Proctor & Gamble.

• Newsprint mill located in Pine Falls, Manitoba.
• One of the concerns with the Canadian paper mills is to keep their markets from over-lapping.

• A recent transportation management exercise with truck shipments saved company over $2 million.

• Tembec’s facility in Louisiana does not have any customers or markets in common with Canadian locations.
• Post-Hurricane Katrina energy prices have added about $150,000 per day to Tembec manufacturing costs.

• Fuel surcharges introduced by truck and rail companies are having a huge impact on Tembec’s bottom line.

• Tembec USA is no longer able to get the same return on investment in Canadian products as a result of US Dollar depreciation.

• In the context of the softwood lumber debate, the US Govt has collected about $300 million of Tembec’s money.

• Each of these points is adding pressure to Tembec’s supply chain.
NORTH AMERICAN SUPPLY CHAIN REALITIES

Paper: China can land product at West Coast ports cheaper and almost as fast as we can by rail. Europe can land production on East Coast ports almost as cheap as we can and as fast.

Pulp: Major competition is South American. Brazilian production can be at Southern Ports very effectively.

Reality: The North American supply chain is falling behind the competition – it needs to provide industry with safer, faster, cheaper methods to compete long term.

• Competitors in China and Europe are moving the same products to North American markets at a faster pace.

• Different wage structures and environmental regulations in South American pulp producing industry has increased off-shore competition. Companies from countries such as Brazil have made considerable in-roads to North American markets.

• Global competition in paper and pulp industries is cutting away at Tembec’s margins.

• In North America, government regulations and tax burdens are affecting the ability of the manufacturing sector to compete globally.

• Efficient and effective transportation systems are a major part of Canadian manufacturers’ cost structures.
TRANSPORTATION

Border delays

Increased security requirements

Hours of service changes

Carrier costs (tires, trucks, wages...)

Transportation costs: energy, currency, delays, HOS

• There has been a significant increase in border delays for product shipped from the US to customers in Toronto and Montreal.

• New security restrictions and requirements are affecting most of Tembec’s shipments.

• Hours of Service (HOS) restrictions have cut into productivity levels. With dock time now recorded as working hours, shipping patterns have been interrupted.

• As carriers’ costs increase, the price of doing business with trucking companies has increased.
ENERGY

Fuel cost, fuel surcharge, rates
Consistent for US based and Canadian sites

• As a result of rising fuel prices and surcharges, we are now spending about $1.35 per mile. We were spending about $1.10 per mile.
CURRENCY

Canadian cross border carriers – hurts revenue/rates
Consistent for US based and Canadian sites

• Tembec’s expenses are in Canadian dollars.

• Many of the transport companies that move goods from Canada to US and vice versa are paid in US dollars. They are not getting the same return.

• Transportation costs have risen as companies look to compensate for losses resulting from devalued US dollar.
BORDER DELAYS / SECURITY REQUIREMENTS

Capacity impact for North-bound US carriers – enough business within USA without the headache (drivers, delays....)

• A lot of capacity has been removed from the transportation system.

• Many companies in the US are not wanting to do business north of the border.

• Regional business opportunities have started to supersede business ventures between Canada and US, simply to avoid border problems/restrictions.

• Many trucking companies are not sending fleets on long runs anymore. Instead, they have started to redirect their focus to regional moves and markets.
HOS CHANGES

Removed capacity (drivers and productivity), service and cost implications

*Supply chain costs include manufacturing and distribution, the total is important

• Shippers have had to step up and increase their readiness to avoid wait times and ensure efficiencies.

• One has to consider the impact of each separate issue (see this and previous slides) on the total supply chain cost.
ST. FRANCISVILLE SCM CHALLENGES

Fuel costs
Rail pricing power
Truck supply (at times) produce, hurricanes
Rail equipment supply (at times)
Controlling costs
Vulnerability to weather
Payload in a custom order business (filter, order sizes lwc and filter)
Sole supplier situations
Short run plants
Some lanes (fl,ut,nv,co)

• Rail systems are currently at, or beyond capacity. This is affecting businesses across North America.

• There has been an increase in competition between sectors (like manufacturing and agriculture/produce) with one paying higher freight rates than the other, reducing overall supply of trucks.

• Weather is an uncontrollable element that adds costs and affects the timeliness of shipments.

• With high demand for rail equipment across the country, knowing when, and how many cars to retain (even if having to accept a tariff or demurrage fine) has become more of an art than a science.
ST FRANCISVILLE SUPPLY CHAIN DESCRIPTION

<table>
<thead>
<tr>
<th>INBOUND</th>
<th>MODE</th>
<th>MILES</th>
<th>VOL/DAY</th>
<th>MILES</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIPS</td>
<td>RAIL</td>
<td>150</td>
<td>5</td>
<td>750</td>
</tr>
<tr>
<td></td>
<td>TRUCK</td>
<td>75</td>
<td>150</td>
<td>11250</td>
</tr>
<tr>
<td>CHEMICALS</td>
<td>RAIL</td>
<td>400</td>
<td>5</td>
<td>2000</td>
</tr>
<tr>
<td></td>
<td>TRUCK</td>
<td>150</td>
<td>7</td>
<td>1050</td>
</tr>
<tr>
<td>CLAY</td>
<td>RAIL</td>
<td>700</td>
<td>4</td>
<td>2800</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OUTBOUND</th>
<th>MODE</th>
<th>MILES</th>
<th>VOL/DAY</th>
<th>MILES</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAPER</td>
<td>RAIL</td>
<td>700</td>
<td>8</td>
<td>5600</td>
</tr>
<tr>
<td></td>
<td>TRUCK</td>
<td>500</td>
<td>20</td>
<td>10000</td>
</tr>
</tbody>
</table>

TOTAL VEHICLE MILES PER DAY

<table>
<thead>
<tr>
<th>RAIL</th>
<th>TRUCK</th>
</tr>
</thead>
<tbody>
<tr>
<td>5550</td>
<td>22300</td>
</tr>
</tbody>
</table>

EACH 1 % INCREASE IN FSC

<table>
<thead>
<tr>
<th>RAIL</th>
<th>TRUCK</th>
</tr>
</thead>
<tbody>
<tr>
<td>$144,000.00 ANNUALLY</td>
<td>$80,000.00 ANNUALLY</td>
</tr>
</tbody>
</table>

WTI CRUDE PRICING

<table>
<thead>
<tr>
<th>03/01/04</th>
<th>3/1/2005</th>
<th>3/1/2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>$36.76</td>
<td>$54.31</td>
<td>$62.50</td>
</tr>
</tbody>
</table>

DIESEL PRICING

<table>
<thead>
<tr>
<th>03/01/04</th>
<th>3/1/2005</th>
<th>3/1/2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1.60</td>
<td>$2.10</td>
<td>$2.50</td>
</tr>
</tbody>
</table>

U.S. $$ VS LOONIE

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>$1.5877</td>
<td>$1.4761</td>
<td>$1.3286</td>
<td>$1.2160</td>
<td>$1.1515</td>
</tr>
</tbody>
</table>

• Paper consumes about 30,000 vehicle miles per day.

• Taking into account all inbound and outbound traffic, a 1% increase in West Texas Intermediate Crude costs Tembec $144,000 a year.

• Every penny added in trucking fuel surcharges is the equivalent of $80,000 a year.
PINE FALLS SUPPLY CHAIN DESCRIPTION

<table>
<thead>
<tr>
<th>INBOUND</th>
<th>MODE</th>
<th>MILES</th>
<th>VOL/DAY</th>
<th>MILES</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIPS</td>
<td>TRUCK</td>
<td>500</td>
<td>8</td>
<td>4000</td>
</tr>
<tr>
<td></td>
<td>TRUCK</td>
<td>0.5</td>
<td>25</td>
<td>12.5</td>
</tr>
<tr>
<td>COAL</td>
<td>RAIL</td>
<td>600</td>
<td>3</td>
<td>1800</td>
</tr>
<tr>
<td>LOGS</td>
<td>TRUCK</td>
<td>75</td>
<td>20</td>
<td>1500</td>
</tr>
<tr>
<td></td>
<td>RAIL</td>
<td>200</td>
<td>6</td>
<td>1200</td>
</tr>
<tr>
<td>OUTBOUND</td>
<td>TRUCK</td>
<td>600</td>
<td>12</td>
<td>7200</td>
</tr>
<tr>
<td></td>
<td>RAIL</td>
<td>700</td>
<td>4</td>
<td>2800</td>
</tr>
</tbody>
</table>

TOTAL VEHICLE MILES PER DAY

<table>
<thead>
<tr>
<th></th>
<th>RAIL</th>
<th>5800</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRUCK</td>
<td>12713</td>
<td></td>
</tr>
</tbody>
</table>

EACH 1 % INCREASE IN FSC

<table>
<thead>
<tr>
<th></th>
<th>RAIL</th>
<th>$ 75,000.00 ANNUALLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRUCK</td>
<td>$ 45,000.00 ANNUALLY</td>
<td></td>
</tr>
</tbody>
</table>

WTI CRUDE PRICING

<table>
<thead>
<tr>
<th></th>
<th>03/01/04</th>
<th>3/1/2005</th>
<th>3/1/2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRICING</td>
<td>$36.76</td>
<td>$54.31</td>
<td>$62.50</td>
</tr>
</tbody>
</table>

DIESEL PRICING

<table>
<thead>
<tr>
<th></th>
<th>03/01/04</th>
<th>3/1/2005</th>
<th>3/1/2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRICING</td>
<td>$1.60</td>
<td>$2.10</td>
<td>$2.50</td>
</tr>
</tbody>
</table>

U.S. $$ VS LOONIE

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PRICING</td>
<td>$1.5877</td>
<td>$1.4761</td>
<td>$1.3286</td>
<td>$1.2160</td>
<td>$1.1515</td>
</tr>
</tbody>
</table>

• The price of WTI crude increased from slightly more than $36.00 in 2004 to more than $62.00 in 2006.

• The value of the Canadian dollar has decreased relative to the U.S. dollar.

• A 1% increase in rail fuel surcharges adds $75,000 annually with regard to transportation costs.

• A $0.01 increase in trucking fuel surcharges adds $45,000 annually with regard to transportation costs.
MITIGATE COST INCREASES

Intermodal (displace higher cost modes)
Pool distribution (displace truck load)
Manage/eliminate other accessorial – waste
  • Truck delays (border, plant and customer)
    – Scheduling (appointments at shipper/receiver)
    – Load status information
    – Training carriers on system/shippers on issues
    – CT-PAT documentation, training for shippers/carriers
  • Box car dwell
    – Production schedule
    – Box car ordering
    – Training personnel

Freight policy, fuel policy...recoup from customers

• Intermodal combinations give Tembec more options for shipping goods, and help to manage transportation costs.

• There have been many adjustments to tariffs and pricing. This has helped facilitate more efficient transportation conditions, reducing overall delays.

• The transport sector is starting to see better exchanges of information between shippers and carriers.

• In terms of dealing with the railways, shippers have had to become more efficient at managing their ordering, scheduling, and planning processes.
These slides show chippers loading a chip van.
This is an 82 foot ‘dumper’ located at the Pine Falls facility. It weighs approximately 160,000 pounds.
• Paper is easily damaged if exposed to elements such as rain or snow, a hole in the roof of a railcar can prove costly. Damage can also result from rail cars coming together with too great a force.
•Here is a picture of the facility in Louisiana.
Questions

Question: Rick, your slides indicate that your receivers want just-in-time service, but don’t want to pay just-in-time rates. I also noticed that you use rail services. What kind of difficulties do just-in-time demands present when relying on rail and having to deal with customers who don’t want to pay for the service they receive?

Response: For customers who want just-in-time, rail does not work very well. We will often send out shipments by rail a little earlier to hubs such as Chicago, Memphis, Salt Lake City, or Los Angeles, and then transfer the rail shipments to trucks. If you were dealing with a single railroad like CN, and your customers were located along their network, your transit times might permit just-in-time delivery by rail. But, delivering on a east-west basis, like I often do, requires multiple railroads to be involved, increasing the variability of transit times, and reducing the ability to meet just-in-time service requirements.

Question: Rick, over the last four years or so we have experienced very low interest rates, and therefore inventory costs, which have been overshadowed slightly by rising transportation and fuel costs. More recently, interest rates in the U.S. have been increasing and they don’t seem to be slowing down. How has this impacted your logistics chain, and the relationship between inventory carriage and transportation?

Response: We have had some imposed maximum levels of inventory at which time the decision would be made to shut down versus loosing millions of dollars. The margins in our business are not very good right now. While it is very easy to run $4-5 million in inventory, it is not something we are willing to do at this time. It would likely be different if there were 35% margins across the board.
Question: I am interested in your comment on rail issues and just-in-time service. I know CN has moved from more of a customer service focus toward running an on-time railway. Can you comment on the other North American railways? Is it just a CN phenomena, or are the other North American railways moving toward running an on-time service as well?

Response: My friends at CN are doing a very good job point-to-point in the scheduling of their railroad. This has by far differentiated them from the likes of Canadian Pacific. CN’s philosophy seems to be that they will only move the train when there are enough cars to warrant movement. In some yards, cars will sit for days as CN waits for enough freight to build a full train. Burlington Northern seems to be a little closer to CN’s philosophy. I am not trying to pitch CN, but they operate more efficiently than any other railroad. Unfortunately they do not play well with others, such as Union Pacific. So overall, there is still a waiting period where cars will sit for days in a place like Chicago.

Question: Do you have a dedicated trucking firm or firms, or do you manage a load broker program?

Response: Both. We have about 15 asset-based carriers, but not all on site. In our business, the destination of our shipments doesn’t change much, but the volumes do. In order to account for this we put only a certain amount of our equipment in an area at a given time. As a result we will often use a load broker to fill the cracks, so to speak. So I would say about 15% of our business goes through a load broker and the rest of it goes through our asset-based relationships.

Question: What steps has Tembec taken to make use of new border initiatives such as C-TPAT and FAST?

Response: Our corporate folks are in charge of that and they are embracing it and making sure that all of our sites have done what they need to do to be compliant. These issues haven’t really affected me in the south, yet. Right now it is mainly the shipments that are coming into the U.S. that are impacted by these programs. There have, however, been some significant challenges moving goods efficiently from the south across the border to Canada. I’m sure these issues will be affecting me shortly.
**Question:** Would you please elaborate on how intermodal solutions are used in your supply chain.

**Response:** As an industry standard, the fuel surcharge on intermodal movements is half of what it is for shipping strictly over roads. This reflects a much lower cost to our business. Our position in Louisiana allows us to utilize the Port of New Orleans which helps us to reposition containers and ship products overseas. This advantage is very inexpensive compared to trucking, saving us approximately $1000 per shipment, as well as helping to avoid the vulnerability that comes from rising fuel prices. However, intermodal movements do demand a greater amount of time to move product which can be a significant issue. It takes 10 days versus 2 or 3 to move a shipment.

**Question:** I have heard that the biggest forest in North America, in terms of recycled paper, is New York. Can you describe how recycled paper fits into your logistics planning and overall supply chain?

**Response:** Looking at the case of Pine Falls, I’m not sure what percentage of their operations are running with pulp. I think the fever behind the recycling movement has died down slightly. We do have a few customers that require post customer product, but in general there is none in our product. A number of newspaper producers demand that there be a certain percent of recycled material in the product they receive. There are a few recycling mills in Pennsylvania and New Jersey where they make all kinds of supplies. However, I don’t know what kind of material they produce or how good the quality is. Right now, China is buying a lot of paper products as they don’t have local supply to meet demand. They do have a lot of paper mills. So, they are buying a lot of fiber, like pulp, and bales of scrap paper from old magazines and newspapers which is driving up the cost of paper and pulp.

**Question:** Aside from fuel surcharge increases, what sort of increases in trucking rates have you seen?

**Response:** Carriers seem to have more pricing power today than they did five or six years ago. They seem to walk away from business a lot easier today than in the past because there is enough freight out there to fill the trucks.
Question: How have the softwood lumber tariffs affected your core business?

Response: Well this is a little beyond the supply chain. The U.S. has $300 million they have taken illegally from us. In a business that is extremely capital intensive, this has a major impact. So the end result is that a facility like Pine Falls can not modernize their paper machines because there is not enough corporate cash to go around. We can’t put in a new boiler for $50 million because the money is not there. So the tariffs have a very significant impact. The lumber business is very solid. We are seeing unprecedented levels of demand and pricing that is very solid, but they have erected these illegal barriers.

Question: One of the things I have observed in this discussion of the supply chain itself is the question of leadership. Who actually leads the supply chain? Successful supply chains seem to be the ones where you have a dominant player that assumes the lead. Who is the leader in your industry? How is leadership expressed in the supply chain for forest products?

Response: Some manufacturers have tried to lead in the past. I suppose in some senses, we are a follower in that we are not a big international paper producer or warehousing operation. There are a few large paper companies that have tried to go out and set policy with customers. Most of the time these efforts have failed because the customer has pushed back. We don’t look to do that. I suppose the most successful supply chains are those where information flows with the shipment. A lot of this revolves around customer leadership. To be specific, Time Warner are the largest customer in North America. They publish 140 magazines and what they say goes if you want to do business with them. Producer led supply chain initiatives are primarily around cost.
Session Three

Designing the Supply Chain

Ray Molinski - Business Analyst
Jay Picklyk - Supplier Relations

Ray Molinski- Business Analyst

Jay Picklyk- Supplier Relations

Standard Aero
Agenda

- Standard Aero Overview
- Standard Aero Supply Chain Challenge
- Redesign
- Lessons Learned
- Questions

- This presentation covers an initiative that has been taking place at Standard Aero over the last nine years.

- We will examine certain supply chain issues that Standard Aero has encountered and how they have looked too overcome those concerns.
• Standard Aero’s certification allows it to do engineering work and approve specific repairs for aircraft engines.

• Standard Aero is also licensed by major OEM’s including Rolls Royce, Whitney Canada, and General Electric.
Our Major Global MRO Locations

North America
- San Antonio, TX: Engines serviced: T80
- Winnipeg, Manitoba: Engines serviced: CF34, T60, PT-6A, Model 520, AE2100, 501K, LM1600

Maryville, TN
- Engines serviced: AE2000, APU, PT-6A, PW100

Europe
- Tilburg, Netherlands: Engines serviced: PW100, PT-6A

Southeast Asia & Australia
- Singapore: Engines serviced: Model 250, PT-6A
- Sydney, Australia: Engines serviced: Model 250, PT-6A, AE2100

Note: Revenues are for 2003

- Standard’s headquarters are located in Winnipeg, MB.
- Major overhaul facilities located in Maryville, Tennessee; San Antonio, Texas; and Tillburg, Netherlands.
- Repair facilities are also located in Singapore and Australia.
• After a certain number of flight hours, engines must come off planes for regular maintenance and repairs. In essence, Standard Aero takes these engines apart, inspects every component to ensure quality and capability, and then reassembles the engine for reattachment.

• Standard Aero must adhere to regulations established by Transport Canada, the FAA in the United States, and the various European Safety Agencies.

• As an OEM authorized facility, Standard Aero must also be in compliance with the rules and regulations of OEM engineering.

• The company is audited for its procedures about 50 to 60 time a year.
• About two-thirds of Standard Aero’s work load is linked to 10 main customers.
Our Market - circa 1993

- OEM’s were originally driven to sell new parts to Standard Aero. The OEM’s own all of the technology and design equipment for specific engines, and were looking to sell only the latest editions of their engines, as well as spare parts for existing engines.

- In essence, the former practice was to repair a given OEM’s engine with it’s parts.

- Customers demand high quality end products and faster turn around times. Time delays in dealing with OEM’s frustrated many customers. Customers are also looking for lower prices.

- Because the OEM’s also had their own overhaul facilities, we saw a huge push-pull factor in the relationship between the sales and supply chain teams of Standard Aero and the OEM partners.
The formula that Standard Aero came up with to help resolve its customer/OEM dilemma helped increase quality, turn around time, and as a result, sales.
• Prior to changes in its supply chain strategy, 70% of Standard Aero’s repair cost came from having to purchase all new materials from OEM’s such as Pratt Whitney.

• At the same time, Standard Aero was receiving engines that needed partial repairs, yet had a number of expensive parts that were still in a high quality condition. These parts represented potential savings in material cost. Instead of having to purchase all new engines, the company could salvage parts of engines that were not outdated and use them in their repairs.

• We started to see a growing population of brokers who, while not qualified to do repairs themselves, offered a bridge between OEM’s and manufacturers.

• We started to see sales in the industry becoming more of a game as brokers, suppliers and customers all competed for similar products.
• In the 1993 model, Standard Aero was stuck at the mercy of its suppliers, whether through a direct relationship with the OEM, or indirectly through brokers.

• By 1998, the direct relationship with the OEM had changed. Standard Aero was not going to the OEM and requesting the same amount of supplies that were forecast in the past, leading the OEM to lose some of its market share.

• Standard Aero started facing concerns over procurement costs.

• In response to procurement costs of dealing with brokers who did not have to be concerned about customer relations and product quality to the degree that Standard Aero was, the company formed its own wing responsible for procurement, Junior (jr.).
• We started to see the broker market shrink as OEM’s bought out brokers. The relationship between OEM’s and Standard Aero improved.

• The decision to have Standard Aero venture into the realm of OEM’s and brokers created friction internally. Customer confusion developed over Standard Aero’s role in the industry.

• We needed to make a decision on how to restructure internal responsibilities of Standard Aero, as well as external relationships with primary OEM’s.
• We proposed a new relationship with OEM’s whereby Standard Aero would purchase new materials to support its repair and overhaul business, but also take advantage of the broker side of OEM’s by selling off materials of a high quality gathered through the tear down side of the business.

• Might be the case that in tearing down an engine you’ll get 500 parts, but only need five of those parts. The remaining parts may still be in good condition and be able to be reapplied through new development by the OEM.

• The tear down business became a way for Standard to enter the market as more than a buyer. Standard now had a supply component that could contribute to sales growth.
• On top of sending Standard Aero new engines and components, Pratt is able to go out to the market and find parts/accessories that Standard is able to employ in the rebuilding process.

• At the same time, Standard Aero now has the ability to search out opportunities to buy and sell parts/accessories when the repair side of the business is slow. This has helped to keep a steady stream of business.
### Lessons Learned

| Culture Internal | • Create an environment to change  
|                  | • Keep the relationship close  
|                  | • Communicate                 |
| Culture External | • Create respectful relationships  
|                  | • Understand how it benefits all  
|                  | • Trust                       |
| Quality          | • Keep close what you MUST control  
|                  | • Look at Total cost as opposed to lowest cost |

- As Standard Aero progressed toward including a tear-down division in the business, there was a lot of collaboration and communication among employees to facilitate a smooth transition.

- Building and rebuilding the relationship between Standard Aero and the OEM was also very important. There was a need to overcome what was a guarded relationship at the best of times.

- A lot of inspection dynamics were included in the process to ensure it had the pedigree Standard Aero was known for providing.
Questions

**Question:** Standard Aero has always been a leader in the lean movement in Winnipeg. How has the restructuring changed your lean philosophy?

**Response:** The lean movement is only one of the tools at the company’s disposal. We haven’t chosen to settle on one theme such as Sigma. We try to take a little bit from each discipline that is out there and apply the principles that are most appropriate for our company. You have to take principles from production arrangements like Toyota and apply them to your own environment. Since 1994 we have probably gone through 12 different re-engineerings. So we are continuing down the lean path, and as a matter of fact, there is a project team re-engineering a specific product line right now, looking at what we’ve learned and where changes need to be made. So there is a continual process of improvement.

**Question:** How does your model tie in with your international operations? Do you move parts between locations like Winnipeg and Singapore, or do you recycle engines from overseas as well?

**Response:** Well, I guess because our sales focus is global we can get engines and parts moved back and forth between different areas. However, the overhaul facilities in San Antonio, Maryville, and Tillburg are kind of business units in themselves. For the most part each has all of the resources they need to conduct their business. Each area, while looking globally for business opportunities will always funnel business back to their own base. One other point is that OEM licenses are address specific, so work can only be done at a given location. This is one reason why having the OEM on your regulatory side is so important.
**Question:** Have you been able to extend the Pratt Whitney example to other OEM’s such as Rolls Royce?

**Response:** Yes and no. It really depends on the relationship with the OEM and the kind of market. The Pratt Whitney case lends itself very nicely to the model. The PW100 engine works very well from the tear-down side of the business. The model does not work as well for things like military aircraft engines which have been exposed to very different conditions and are often not the best resources from a tear-down standpoint. General Electric, who produce the CF34 jet engine have entered into a consignment agreement which restricts our ability to work with and utilize the parts on these engines. So, the model often depends on the relationship with the OEM. GE does consignment and Rolls Royce does something else.

**Question:** How has the Carlyle ownership affected the relationship with the brokers, the OEM’s and so on?

**Response:** About two years ago some representatives from Carlyle came in and gave us a speech. They are a pretty no nonsense group, and whatever your personal opinion of them may be, they have been pretty good owners. They have been very supportive of the company. They expect what any owner would expect; a good return on their investment. They are also very supportive of our management team.

**Question:** Dealing with transportation, you have a lot of inbound from different parts and places. I assume most of your outbound would be finished engines. Can you talk a little bit about your outbound shipments? I understand you are one of the largest users of airfreight.

**Response:** Given that our customers are looking for shipments that are faster, the idea of an engine sitting on a truck for three days is obscene. Heaven forbid something should happen to it while traveling down Highway 75. The challenges of air have actually been quite comfortable in most respects. We have some odd times where we have to remind carriers that they are shipping air parts worth millions of dollars. Given the potential damage of not shipping by air, the costs of air transport are a little easier to take.
Question: Winnipeg is a fairly major cargo hub, but we don’t always have a large amount of wide-bodied air service. Can you always get service or does equipment often have to get on a truck to get to a gateway at another location?

Response: Typically we see an 80/20 ratio. That is, 80% of the time we are able to complete service requests in Winnipeg. There are times when a truck will have to do a run to a place such as Minneapolis because there are more opportunities. However, we have standing orders with many carriers that know we have assets coming. There is a lot of planning at the core of our business.

Question: On the inbound side, how do things arrive to you? Are they coming primarily by truck?

Response: That part of the house gets split quite evenly if we are talking about aerospace parts. We use overnight carriers such as UPS and Federal Express. That relationship is critical for us. Again, we move everything very quickly, and sometimes, we are questioned about why we concentrate so much of our shipments by air. However, that is our business and our culture. It is a well established practice. When we are talking about customer assets, a lot of our inbound shipments are received from overseas. These are air freighted to a major centre like Vancouver or Montreal and are trucked from that point to Winnipeg. Standard Aero is very excited about our inbound capabilities. We have been working toward having full credentials as customs self assessors. This will enable our cross border transactions and traffic flows to function more efficiently.
Session Four

SUPPLY CHAIN TRANSFORMATION

March 14, 2006
Barbara Salter, CPIM

Barbara Salter
Executive Director of Supply Chain Management
Motor Coach Industries
The Supply Chain

Almost Any Organization

- Product/Service Flow
- Information Flow
- Funds Flow

• Extended organizational concept
• Suppliers are no longer outside the organization

• In the typical supply chain, suppliers and customers engage in a ritual of product, service, and information sharing. This has brought suppliers and customers closer together where one’s interest is no longer separate from the other’s.
Supply Chain Management

Key Supply Chain Objectives:

- Create net value by building a competitive infrastructure
- Leverage worldwide logistics
- Synchronize supply with demand
- Measure performance globally

Meeting the Objectives

- Efforts focus on:
  - Global competitiveness
  - Lead time reduction
  - Inventory reduction
  - Technological support
Global Competitiveness

- Operations located globally to provide low-cost solutions
- Utilization of value analysis and value engineering philosophies
- Sharing of benefits equitably among supply chain members

• Global integration and connectedness has raised the importance of relationship management between partners, stakeholders, suppliers, and customers.
Lead time reduction

- Inter-organizational relationships between companies

- Electronic business
  - Real time transaction reporting
  - Point-of-sale data transfers
  - E-mail
  - Shared data base systems
  - Automated order/change order processes

- World wide web

Inventory Reduction

- Lean philosophies are utilized throughout the supply chain

- Sharing of demand forecast data

- The correct location of inventory in the supply chain to balance time and costs
Technological Support

- Often a key component of supplier selection
- Can enable suppliers to enhance their position with their customers
- Support that creates efficiencies and improves business intelligence is essential in today’s manufacturing organizations

Why Change?

- Today’s supply chain is
  - Faster
  - Leaner
  - Able to deal with more demanding customers
  - Global
  - Innovative
The accomplishments of today’s supply chain may prevent it from rebounding to shocks that have a very low probability of occurring but have significant impact on the firm.

- Global
  - a world of long supply chains
  - an earthquake in Japan could shut down supply to Winnipeg, Manitoba

- Lean
  - Reduced reliance on buffers, (lead time, capacity and inventory)
  - Buffers typically protect the company/customers
  - With no buffers, companies are less equipped to deal with disruptions
➢ Faster

➢ The very systems that have increased response time and reduced lead time have an unanticipated negative effect

➢ These systems are able to transmit the effects of supply chain disruption considerably more quickly

➢ Today’s customers who are not brand loyal are willing to switch suppliers if and when it suits them

➢ Customers don’t care if a supplier is unable to supply because of a hurricane – they just get it from someone else!
So Why Change?

Because the supply chain is not transforming appropriately to meet the needs of the 21st Century

• Although there have been a number of positive changes to supply chain functions in recent years, there needs to be a further evolution of supply chain processes and activities.
What Needs to Change

- A new key objective must be introduced to support supply continuation during events of low probability but high impact.

- New threats and risks exist that must be considered:
  - Natural disasters
  - Industrial strikes/accidents
  - Terrorism/sabotage
  - Geopolitical effects

The Missing Supply Chain Objective

- Maintain continuity of supply in the event of a disruption(s).
A Few Statistics

- A disruption of 2 or 3 days can cost about 1% on an annual basis - $100mm company = $1mm

- The West Coast ports labor lockout of 2002 resulted in losses of $2 - $3 billion per day – suppliers went out of business in the dispute that closed 29 West Coast ports

A Few More Statistics

- Energy price increases as a result of Hurricane Katrina and Rita are up 38 – 42%

- In the chemical industry, several force majeures were declared in the Southern Mississippi and Louisiana regions due to Hurricane Katrina – chemical prices are up 15%
And A Few More Statistics

- Coal prices are increasing not only due to increased demand, but also due to a train wreck in spring 2005.

- Hurricane Katrina damaged the port of New Orleans where almost 50% of the US agricultural commodities are moved through.

And Yet a Few More Statistics

- UPS was heavily affected by Katrina – 53 UPS facilities lost primary data transmission networks and 31 of those lost their backups.

- According to Disaster Recovery Journal, 43% of companies experiencing a disaster never reopen, and an additional 29% close within two years.
Managing the Risk

- Risk management would typically ignore events of low probability

- Given recent events, however, there are potentially high stakes associated with low probability events

- Companies need to assess the risk and costs associated with not taking preventative action

- Greater supply chain integration has enhanced the need for risk management approaches that take into consideration even the slightest disruptions.

- Supply chain disruptions have implications for a number of parties, all of whom should be accounted for in the strategies of supply chain participants.
Business Continuity Plan (BCP)

- Emerged from research conducted by supply chain faculty members at Michigan State University

- Model consists of 4 stages of BCP
  - Awareness
  - Prevention
  - Remediation
  - Knowledge management

• Although BCP is not the be and end all of supply chain solutions, it is an effective tool for mitigating business challenges in a global economy.
Business Continuity Plan

- **Awareness**
  - Internal
  - External

- **Prevention**
  - Identification
  - Assessment
  - Treatment
  - Monitoring

- **Remediation**
  - Plan how to minimize:
    - Impact
    - Duration
    - Resources
    - Execution

- **Knowledge management**
  - Track results
  - Things gone right
  - Things gone wrong
  - Future action list
Business Continuity Plan

- The order winners of yesterday are only order qualifiers today

- Practices such as Business Continuity Planning need to be combined with other “traditional” supply chain management initiatives to be successful in the 21st Century

- Exposure to risk must translate into communicative processes throughout levels of management engaged in the supply chain. Externally, information must be shared to enable other supply chain stakeholders to take appropriate measures, which in turn will benefit one’s own company.

- Once a risk has been identified and the potential effect/s of the risk on the company have been postulated, treatment and monitoring strategies can be put into place to prevent negative consequences.

- Monitoring allows a company to track how developments along the supply chain will increase or decrease a variety of risks on an ongoing basis.
The New Supply Chain

- In addition to what it is today, needs to be:
  - Agile, adaptable and aligned
  - Integrated and perpetually innovative
  - Globally optimized
  - Resilient – have the ability to respond quickly to unexpected disruption & return operations to what they were before the disruption
  - Able to balance planning and contingencies – it is not possible to justify untold amounts of inventory “just-in-case” of a disruption

Where is your supply chain at?
Questions

**Question:** A lot of the security issues we see coming forward are actually allowing us to keep better visibility of our inventory. Can better visibility allow us to react a little faster, or is it simply a matter of knowing a problem or threat exists and there is nothing we can do about it?

**Response:** I think better visibility of inventory is always important, especially considering where some inventories are located. So I would say that it is extremely important. One of the downfalls is if you lose the visibility of where that inventory is located because of system or power failure within the facility where it is located. So there needs to be a back up plan of some sort within the organization that is able to supply the necessary information in such an event. While a back up plan is extremely important, it is more important to be able to get your system up and running again as fast as possible.

**Question:** In relation to the first question, are you recommending layered safety stocks? What is the solution?

**Response:** I wish I could tell you what the solution was, because if I could I would be using it myself. I don’t think there is one solution. I think the solution is to work collaboratively within your supply chain and really understand where the risk is within that supply chain. If you have multiple sources and maintain contact with those sources, you lessen your risk factor. If you have unique or single sources, then your risk factor will increase, so it is that much more important to work with your supply chain partners. I am not a big proponent of layered safety stocks.

**Question:** The next question deals with Motor Coach Industries. Has Motor Coach developed a system to qualify risk and other industrial standard qualifiers in that industry?

**Response:** I don’t think industrial standard qualifiers have been developed. In the research I have done, it seems that those qualifiers are emerging, but not yet fully developed. No, Motor Coach has not put anything like that in place, though it is part of our supply chain management plan for 2006/07.
**Question:** What would you say are the top three issues that require re-regulation for North American firms to improve their competitiveness?

**Response:** I don’t think we can expect regulation or re-regulation to change the world as we know it today. Perhaps if our market was stronger in comparison to some other world markets we might be able to make that strategy work. But, I think we need to continue to look at the world as a global marketplace and try to figure out how to manage supply chains in a global environment.

**Question:** Are there regulatory hurdles that prevent disaster recovery? Is there anything we should be thinking about right now?

**Response:** Not that I am aware of. I think that you’ll find to be an emerging theme in supply chain management in the near future. I am not sure how many of us in Winnipeg or even in Canada have directly felt the impact of some of the events that have transpired lately. We are still feeling the effect of some of those events and will likely continue to for some time. Many of the suppliers to Motor Coach are still struggling to re-secure solid supply as a result of some of these disasters.

**Question:** In the event of a natural disaster such as an earthquake or a tornado, does your business have a plan in place which sets out how to respond?

**Response:** There is no manual for such situations. But, processes are discussed on a regular basis. There are great resource requirements that go into these type of arrangements. I know in our last budgeting processes we spent a lot of time talking about the scale of financial resources that would be required to put a broad plan in place. That is kind of where companies need to start. Asking questions about who is going to be responsible for what, who is going to start the risk analysis, do we have someone in place that can do this? Getting the ball rolling is often one of the hardest steps to take. At this time, we have nothing formal in place.
Question: I have a question that deals with logistics graduates. Can you describe the type of competencies that your company would look for in a recent logistics graduate, or in recruiting logistics graduates? For example, language skills in a global economy.

Response: Definitely language comes into play. Spanish is emerging as a second language that is very useful to us. We also deal with a lot of German companies and other European nations so the ability to communicate in a second or third language is a definite advantage. The kind of things we would look for in graduates are a little broader than what I would call logistics. Preferably, young professionals who have had some exposure to transformation processes of some kind in a manufacturing industry. This includes having been exposed to transportation and other logistics arrangements, the physical movement of parts, materials, purchasing, and inventory control. Someone with that type of exposure and those different types of knowledge in their portfolio.
Supply Chain Connections Conference
Up & Down the Supply Chain
March 14, 2006

Luncheon Keynote Speaker
Dr. Robert Dye
Purchasing Management Association of Canada (PMAC)
The Role of A Professional Association in Supply Chain Management

• A Key Stakeholder

• PMAC (the Purchasing Management Association of Canada) is an organization that was totally focused on procurement to the organization to an organization that recognizes that supply chain management was comprehensive, that it was a profession. That is our current focus.

• The focus of PMAC is Strategic SCM.
• A request for proposals was distributed to a number of universities to solicit proposals to develop the new accreditation program for PMAC.

• Six proposals were received but in reality, only two universities had a critical mass of faculty to support a supply chain management program.

• Working with the University of Manitoba, this chart was put together to demonstrate who are the stakeholders in the current practice of SCM.
The first task for the University of Manitoba was to articulate a description of the field of practice of supply chain management.

This description of SCM is to be adopted by PMAC.

Critical to this definition is managing the flow of goods, services and information and not managing the flow of goods only.
• This looks at the big picture. As the program is developed we must focus on what is the knowledge requirement of both the core areas and the supporting areas.
• As we discussed the all encompassing nature of this model, some people questioned the role of marketing.

• So we drew the model in this manner that highlights that the role of SCM is focused on the areas of overlap between the functions, some with greater concentration than others.
• I borrowed from Paul Larson’s presentation and Menser’s definition of SCM.

• Note that the supply chain does not start with the supplier. It starts with the suppliers supplier and ends with the customers customer.

• Also, as we move forward, all of the functional areas of a typical business enterprise have to be coordinated, they have to be integrated.

• As we move forward and develop our program, we are saying that that really should be a supply chain management professional.
Supply Chain Management

- Building Relationships
- Sharing Information
- Making Strategic Decisions
- Managing Flow of Goods and Services

As we build our program, we are going to focus on these four points.
Supply Chain Management

- Critical
- Strategic
- Dynamic

• We recently adopted these three words when we define SCM.
The Role of a Professional Association in Supply Chain Management

• A Key Stakeholder
• Building a Credible Profession
• Building on Organization of Professionals

• A key comment is building an organization of professions rather than a professional organization.
The Role of a Professional Association In Supply Chain Management

• Provide leadership in the development and advancement of world class supply chain management.

• Serving the needs of the supply chain management practitioner and the business community by advancing the strategic value of supply chain management.
• As a professional organization, we also have a supply chain.
The Supply Chain of a Professional Association

Supplier → Development Process → Customer
• Our supplier is the academic institutions and our customer is the employer and the product is the professionally designated practitioner.
• This illustration shows the way in which we are able to demonstrate the knowledge required for the professional and we see the field of practice being supported by the pillars on a foundation.

• That foundation is built on the functional knowledge of those core areas, purchasing, operations and logistics.

• By adding managerial competency, strategy and ethical behaviour and professionalism we arrive at a profession.
Fulfilling the Role

• Establishing and maintaining standards
• Conducting research
• Developing partnerships and alliances
• Networking
• Advocacy
• Promotion
Standards is really 3 items; standards for professional certification, standards of ethical behaviour and not standards of practice, but practice guidance because the field is so broad that it would be difficult to specify practice standards but there would be guiding principles for the profession.
• We have alliances and partnerships around the world.

• We have only one condition when we form a partnership or an alliance. It has to be with someone who shares our vision of the profession that we represent.

• Likewise, we network with those who share our vision.
Right now there is only one university that shares our vision.

It is unlikely that we would conduct research but we will commission research on the field of practice with not necessarily faculty groups but individuals within the university community in Canada and the United States.

Our own members will provide the market intelligence.
We have to promote, sell, to the community a quality professional product and that supply chain management is a profession.
Promotion

• A Credible Profession
• Recognized at the “C” Suite Level
• Field of Practice
• Body of Knowledge
• Competencies

Promotion

• A Business Function
• Strategic
• Creates Value
• Top Line Contribution
• Bottom Line Contribution
Promotion

• A reason to hire

• A professional with the knowledge, skills and attributes that are relevant to the needs and expectations of the marketplace.

Promotion

• A reason to hire

• A professional who provides innovative strategic leadership to enterprises to achieve strategic competitiveness and a sustained competitive advantage.
Promotion

• A reason to hire
• A professional capable of surpassing customer expectations, and demonstrating throughout his/her career, the competencies of a supply chain management professional.
Questions – Robert Dye

Question
(inaudible)

Robert Dye
A program was developed where the end product would have come through something that was very close to an MBA with a concentration in supply chain management. I would want my organization to be approaching schools, universities and partnering to offer a joint MBA, CPP program where an MBA and professional credentials were granted at the same time upon completion. If I understand your program, the studies in the MBA program would allow the individual considerable credits towards professional qualifications.

Question from audience
(inaudible)

Robert Dye
We have already dealt with the code of ethics and it is essentially being used but a number of organizations around the world.

Question from the audience
(inaudible)

Robert Dye
We are currently involved in activities with other countries such as China. It bothers me when I see other organizations peddling their programs in other countries hoping to raise money for membership in their own country. Our philosophy is that we went to Cuba and we are in the final stage of helping them build their own professional resources. If they build it to our standards, we will recognize that credential. We will do the same thing in China as well. I think that we have discovered who some of our reciprocal arrangements will be made with. We have reciprocal arrangements with the UK, but, what is the quality of the credential. Back to your question. I would think that there is no room in Canada to have these other organizations at all? Supply chain management will have different credentials.

Dr. Ed Tyrchniewicz
On behalf of the Department of Supply Chain Management, thank you for rescheduling. You gave us some very useful insights into supply chain management and professionalism and how important it is. The Department of Supply Chain Management at the University of Manitoba has some very strategic plans and we would like to acknowledge that Bob Dye is quite the guy. First of all, this is from the Supply Chain Management department. Here is a little plaque commemorating the signing ceremony with the Asper School of Business. Thank you very much Bob, we really appreciate it.
Session Five

Hugh McMaster, VP Marketing and Sales Canada

Martin Mezzabota, Director of TransPacific Logistics, North America

DHL Danzas (Canada) Inc.
Contents

- Introduction to DHL Excel Legacy
- End to End Global Supply Chain Trends
- Our Perspective: Issues & Challenges Asia-North American Supply Chain Survey
- Client Survey
- End to End Supply Chain Initiatives
- Q&A
The acquisition of EXEL Global Logistics for $6.6 billion in December has allowed DHL Danzas to be the global market leader in contract logistics, air freight and ocean freight.

With EXEL being a business leader in contract logistics and DHL a leader in freight forwarding, the merger is a strategic fit in focusing on the transpacific trade with Asia.
• The visual end-to-end processes of supply chain management.

• Over the years, the global end-to-end supply chain has become much more sophisticated and complex.

• With the supply chain now being commoditized, an issue arises as to how a freight forwarder can add value to supply chain and logistics management.

• The slide above outlines three critical areas to adding value: information management, visibility management and proactive assessments of developing needs in the supply chain.
• Globalization has made a significant impact on end-to-end supply chain management.

• Considerable growth in developing and new economies as well as increased sourcing from low-cost economies (i.e. India) have required shippers to select 3PL’s and freight forwarders with global coverage and international supply chain expertise.

• Information technology is increasing important in maximizing sales with developing markets while reducing costs from working at a global perspective.
• With the reality of a global market, supply chain and logistics have become increasingly complex.

• Overall, information and communication is key along all sections of the supply chain so that firms can concentrate on their core business and less on logistical issues.
### International Logistics Challenges

---

**Sourcing Network Challenges**
- Multiple countries
- Infrastructure, education, and technology
- Standardized processes and compliance

**Distribution Network Challenges**
- Not designed for global sourcing
- Asset intensive / High cost
- Increasing complexity and more demanding customers

---

**International Transportation Challenges**
- Infrastructural capacity issues
- Efficient routing and modal selection
- Inventory visibility and manageability while goods are in-transit

---

### Summary of Issues & Challenges: Asia – North America

<table>
<thead>
<tr>
<th>Origin</th>
<th>Line-Haul</th>
<th>Destination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issues arising in Asia due to:</td>
<td>Issues/trends in line-haul between Asia and North America:</td>
<td>Canadian issues due to:</td>
</tr>
<tr>
<td>- Growing volumes</td>
<td>- Ocean</td>
<td>- Port / Gateway limitations</td>
</tr>
<tr>
<td>- Infrastructure</td>
<td>- Air</td>
<td>- Railway Capacity</td>
</tr>
<tr>
<td>- Vendor and sourcing strategies</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Other**
- Innovation: Not being engaged intelligently by service providers on innovative solutions
- Bundling: Shippers see the value of bundling, but will pursue it only when convinced of economic benefits
- Security and Compliance

---

*Source: University of Manitoba, Transport Institute*
### Industry Trends and Issues

<table>
<thead>
<tr>
<th>Area</th>
<th>Issues / Challenges</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Asian Sourcing Volumes</strong></td>
<td>• China’s entry into WTO</td>
<td>• Most shippers are increasing their volume of sourcing in China</td>
</tr>
<tr>
<td></td>
<td>• Economic Growth Restrictions / China</td>
<td>• However, many are keeping options open in other countries</td>
</tr>
<tr>
<td></td>
<td>• Labour and Power availability</td>
<td>• India, and to some extent Vietnam, seem to be other major alternative sourcing locations</td>
</tr>
<tr>
<td><strong>Vendor Management</strong></td>
<td>• Competitive pressures for major shippers to manage vendor capacity and costs</td>
<td>• Most buyers continue to work with a network of vendors for sourcing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Major shippers are increasing involvement in upstream issues, e.g. raw materials, production efficiencies, etc.</td>
</tr>
<tr>
<td><strong>Value added activities</strong></td>
<td>• Shippers trying to move value-added work more and more to origin from destination in order to take advantage of lower labor costs</td>
<td>• Majority of activities being pushed to the factory for FCL</td>
</tr>
<tr>
<td></td>
<td>• Factory loads are increasing, as is the value added work being done at the factory</td>
<td>• Some work at the destination DCs, for postponement reasons</td>
</tr>
</tbody>
</table>

- DHL, through a consulting agency, had interviewed many of the major importers in North America in order to obtain their perspectives on the issues and challenges on the Asia-North America supply chain.

- The following slides represent a summary of these trends and issues.
### Industry Trends and Issues

<table>
<thead>
<tr>
<th>Area</th>
<th>Issues / Challenges</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FOB to FCA</strong></td>
<td>• Some &quot;buzz&quot; around FCA now: opportunity for cost savings (inland transport, CFS charges, duty) and also earlier visibility and control of shipments</td>
<td>• Many shippers are considering FCA, but still evaluating why and how</td>
</tr>
<tr>
<td></td>
<td>• However a lot of hesitation:</td>
<td>• A few major shippers are well along in implementing FCA at select locations</td>
</tr>
<tr>
<td></td>
<td>• Can we negotiate the transport costs out of the product price?</td>
<td>• The trade-offs are being evaluated on a case by case basis</td>
</tr>
<tr>
<td></td>
<td>• How much cost savings are really there?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• How easy will it be to handle customs?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Internal issues: transportation decisions made separately from sourcing decisions</td>
<td></td>
</tr>
<tr>
<td><strong>India infrastructure issues</strong></td>
<td>• Significant infrastructure issues in getting into the Mumbai port</td>
<td>• Most shippers allow for additional lead times</td>
</tr>
<tr>
<td></td>
<td>• Increased volume from major retailers,</td>
<td>• Affecting sourcing decisions somewhat; e.g.: India versus China</td>
</tr>
<tr>
<td></td>
<td>• Political confidence in India government’s ability to address issues effectively</td>
<td></td>
</tr>
</tbody>
</table>

### Industry Trends and Issues (Line Haul)

<table>
<thead>
<tr>
<th>Area</th>
<th>Issues / Challenges</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Service criteria</strong></td>
<td>• Lead Times</td>
<td>• Major shippers want to have direct relations with carriers both for rates and to manage capacity shortages</td>
</tr>
<tr>
<td></td>
<td>• Rates</td>
<td>• Some shippers have gone to multi-year contracts with carriers for a portion of their volume</td>
</tr>
<tr>
<td></td>
<td>• Visibility Tools / Web Based</td>
<td>• Tech flexibility with both Service provider and Shipper</td>
</tr>
<tr>
<td><strong>Peak Management</strong></td>
<td>• Space availability is an issue, particularly during peaks</td>
<td>• Spreading the shipments over time; shipping earlier</td>
</tr>
<tr>
<td></td>
<td>• Some complaints about limited number of sailings</td>
<td>• Planned additional lead times and inventories</td>
</tr>
<tr>
<td></td>
<td>• Reduced Canadian Allocation in favor of USA ports</td>
<td>• Increased communications on volumes and forecasts</td>
</tr>
<tr>
<td><strong>Air freight</strong></td>
<td>• High cost</td>
<td>• Spot quoting flexibility</td>
</tr>
<tr>
<td></td>
<td>• Fuel / Security</td>
<td></td>
</tr>
</tbody>
</table>
### Industry Trends and Issues

<table>
<thead>
<tr>
<th>Area</th>
<th>Issues / Challenges</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Congestion</td>
<td>• West coast port congestion</td>
<td>• Most shippers are responding with additional planned lead times and inventories, and increased monitoring / communications</td>
</tr>
<tr>
<td></td>
<td>• Equipment availability / labour uncertainty</td>
<td>• The two alternatives that have emerged are: LA Discharge -&gt; rail to Canada. East Coast Halifax, New York</td>
</tr>
<tr>
<td></td>
<td>• Perception that medium sized shippers may not be getting the same attention and customer service as the large ones</td>
<td>• Route cargo to Prince Rupert; However there is a lack of rail lines and we are many years away from this becoming a real alternative.</td>
</tr>
<tr>
<td>Inland Transportation Capacity</td>
<td>• The capacity to move goods from the coast inland is lagging</td>
<td>• Canadian Pacific has taken a very aggressive stance recently on reducing free time at the rail head from 48 hrs to 24 hrs</td>
</tr>
<tr>
<td>Destination capabilities</td>
<td>• Hours of operation 24/7</td>
<td>• Seeking Storage Options</td>
</tr>
<tr>
<td>DC bypass</td>
<td>• Shippers are actively considering implementing DC-bypass programs; an active and emerging trend</td>
<td>• Most large retailers talk of implementing at least pilot programs ‘within next year’</td>
</tr>
<tr>
<td></td>
<td>• Options direct to retailer DC or direct to store</td>
<td>• Likely to be tried initially with pre-seasonal distribution freight and limited SKUs</td>
</tr>
<tr>
<td></td>
<td>• Solutions in many cases require consolidating for store / retail DC level at origin</td>
<td>• Mostly still the domain of sophisticated shippers</td>
</tr>
<tr>
<td></td>
<td>• Constraints: some shippers can’t allocate until they receive at DC. IT issues, org. issues, merchandising procedures</td>
<td></td>
</tr>
<tr>
<td>Samples</td>
<td>• Inefficiency in sample shipments:</td>
<td>• Not very aware of or consciously looking for alternatives</td>
</tr>
<tr>
<td></td>
<td>– Separate express shipments for salesperson’s samples</td>
<td></td>
</tr>
<tr>
<td></td>
<td>– Multiple clearances – although advantages of consolidating samples not very clear</td>
<td></td>
</tr>
<tr>
<td>Customs / PIP C-TPAT</td>
<td>• Very separated from freight management; a lot of freight personnel do no have sufficient understanding of issues</td>
<td>• Shippers may not be sufficiently aware of what may be coming down the regulatory pipeline</td>
</tr>
</tbody>
</table>
### Industry Trends and Issues (Overall)

<table>
<thead>
<tr>
<th>Area</th>
<th>Issues / Challenges</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meeting shippers supply chain solution needs</td>
<td>Shippers are not being engaged intelligently on innovative solutions by service providers at origin or at destination</td>
<td>Looking to service providers to come to the table with new ideas/approaches</td>
</tr>
</tbody>
</table>
| Bundling                                  | Bundled solutions are viewed favorably only when they can demonstrate better economics or superior service | Major shippers see the value of bundling, but will pursue it only when convinced of economic benefits, and service provider’s capabilities  
                                           |                                                                                                     | “Ease of doing business” is often cited as major benefit                                           |
End to End Supply Chain Initiatives

Reduce Supply Chain Cost
- Transportation
- Warehousing
- Inventory
- IT
- HR

Improve Product Availability
- Right product
- Right place
- Right time
- Right quantity

Continuous improvement
- Changing business environment
- Continuous development

This chart represents an overview of interconnected initiatives for global supply chain management.

These three initiatives are key in providing added value to services while reducing costs in the freight forwarding business in order to raise the bar in supply chain and logistics management.
In Closing...

- **Transpacific** (primarily China, with India close behind, and to a lesser extent Vietnam) is a very important and growing trade lane for the North American market.

- **Line-haul services** alone will not be sufficient to truly meet customer needs:
  - **Innovation** to provide better services and solutions can significantly help customers
  - **Bundling** of services, and providing solutions that meet shippers’ emerging needs are key elements of our strategy
    - Vendor Management
    - Intra-China origin transportation services
    - DC Bypass
    - Consolidation / Deconsolidation
    - Value Added Services
  - **Destination port congestion** will continue to be an issue, with an increasing importance and effort placed on seeking viable solutions

- **Security awareness and education** will continue.
Questions

**Question:** You touched a little bit on partnerships and partnering as far as shippers and carriers. One question is if there is a shock to the system such as a terrorist activity or some other political disruption, to what extent are they having redundancies in place, etc. What are the elements that the freight forwarder is expected to take care of and is therefore being pushed upstream by the shippers and to what extent are shippers generally working on themselves as far a cultivating multiple sources or even multiple freight forwarders?

**Martin Mezzabota:** You know I think over the last several years since 9/11 and more importantly the problems that we have experienced the last two years, is the congestion in the ports. Our customers came to us, the freight forwarding community, and said, listen we need a contingency plan. How am I [the shipper] going to get my cargo here and I understand there is a problem in the port of L.A. Can we re-route it to Vancouver? Can we terminate here? Can we do a transmove? Can we do a piggyback? Although we spend an enormous amount of time developing and implementing standard operating procedures, the key component of that is what type of contingencies do you have in place? Whether you are sourcing from Asia and we have been coming through the west coast or if there is a terrorist attack all of a sudden we have to go through Bahlrai or do we have to go through Europe.

**Question:** The next question is somewhat related in terms of alternatives. Could expand on those other alternatives listed, the Suez Canal, Montreal, Halifax and not just in terms of geography but also alternatives in terms of modes of transportation perhaps paying a premium for a faster ship or maybe getting a discount on a lesser means of air service rather than pay a premium type of air service. Has that been explored?

**Martin Mezzabota:** What we normally do is once speaking with a customer, we are always told everything is a rush. The key is to understand how quickly the goods need to be delivered. We then start breaking it down. If you have slow carriers and you have very quick carriers, it is much better to balance out the freight between the slow
carriers and carriers that are more quick. Having a spread between the two types of carriers is going to save you money rather than paying the premium for speed which you might not need all the time.

**Hugh McMaster:** I think when selecting a freight forwarder a key criterion is that they must understand your business' needs, wants and, expectations. This is where the crossover comes. In my role, and I work at that C level, the CEO is met and this is where the vice president of sales, the logistics people, the finance people because they all have different needs, wants, expectations. How do you balance all of this. For example a shoe company imports from Brazil and Asia. It is very seasonal, but they know that if they source their sandals in Brazil 11 months prior to the next season and then chose a routing that would be a floating warehouse taking the long way around the globe they can save some money on their transportation costs because they have delayed the ship essentially. They haven't chosen a service. You would only extract that information if you were talking to the purchaser. The sales forecast is really an understanding of customer requirements to give them options other than just, well I am coming from Yang Tin to Vancouver. What is your best? What is the requirement? What does your client really need? How do you service Wal-Mart or Zellers?

**Question:** A lot of containers are returned to Asia empty and the freight rates are low. Why have the shipping lines not been more successful in finding freight in North America with destinations for containers to Asia?

**Martin Mezzabota:** Believe it or not, sometimes it is cheaper to move an empty than it is a full load. Why would that be? You are going to take that empty and send it to the port and to the area where it is needed most. Instead of taking very low revenue freight, for example waste paper or whatever it might be it goes to Bangkok. Once it is in Bangkok you need that empty in Hong Kong and you spend the beater rate up there. Also the lines do pay less money on the terminal charges when it is empty. Slot costs are also reduced if you are slot chartering on a line on an empty as well. When it gets to the destination, there are reduced costs on empties. So the steamship lines won't cut it off at a point before going below that point on a rate. I hope that answered your question.
**Question:** My question is about the new security environment. Do you guys do anything to estimate the total cost of impact of the new security environment as it applies to government rules and regulations. Also just to protect yourself, is there a percentage term as to just how big the security cost is?

**Martin Mezzabota:** Well, security is obviously a huge cost and is a cost that you, the importer is paying for. Compliance is the order of the day. What does it mean to the importer that is in that JIT environment? It means everything as they work in this lean environment. They want to keep their inventory down. Every single day that they are delayed at the port can cost them hundreds of thousands of dollars. Conversely, if they are concerned about security and then over order to fight this problem, then what does it cost them in inventory carrying costs? It is a double-sided sword. So it has to be written in carefully. Each country has their own export and import rules and they have to be followed. I’m sure everyone is well-educated on the information that must be passed to U.S. Customs and Canadian Customs prior to departure to Asia. This was not a concern five years ago. Now it is a must for your cargo to be allowed to be discharged or it will go right back to where it came from if these procedures are not in place. So, on a dollar value, it can be millions.

**Question:** If I might follow up just briefly, any ballpark on a percentage basis? I mean how much higher costs are now compared to what they might be if there was not the global war on terror?

**Martin Mezzabota:** You know what – I’m sorry, I cannot give you a percentage on that. I know that everyone is taking it very seriously and have spent great amounts of money in investment to ensure that they are complying. We talk about CSA – it’s a very expensive issue and compliance program to implement in your organization and the ROI on making these investments might not be seen for three or four years. So, importers, especially in Canada, are leading the world in ensuring that we are compliant. This probably increases the cost, just the freight cost, by three to five percent, so you are paying three to five percent more for that shipment from Asia to Vancouver.
Question: A bit of a different question, but some of the operating principles that will never have changed in the business are the whole established patterns in terms of trade flows or in terms of people you folks feel comfortable with, whether it is Airline X or Trucking Company Y. Another thing is certainly the levels of comfort associated with those patterns and I’m going to spin this thing around on its head a little bit. I’m going to call you guys ‘Value Added’, and look at Winnipeg in the context of having been a strategic hub. We have leveled off at about 28,000 people directly and indirectly employed in the transportation sector in Winnipeg now and we are playing with something called transshipment at the Airport, one of the things that we are going to have a tough time in doing. As I look to building this, there is a commercial on TV, and they are up in the Canadian Arctic looking around and they say, “We can’t do this in Canada, there is not enough of a market here.” But there is a market of 100 million people just over the hill. How do we possibly get to the logistics companies so that when they are working with their clients they recognize Winnipeg as an option for transportation savings and become part of that comfort level or particular pattern that we can sort of ingrain ourselves or re-entrench ourselves in terms of being a hub at least for the transshipment portion of an opportunity here?

Martin Mezzabota: Well of course a new transshipment alternative in this market would be welcome. Gladly welcomed in open arms. There is too much dependency on Vancouver as being that transshipment hub. How would you promote that to the freight forwarders? I think that typically you have to go and sell your concept face to face to the major freight forwarders, starting with the Kuehne & Nagels, the Schenkers, the DHLs and the Panalpinas of the world – to sell that concept to them since we would have to change the routing of our freight quite dramatically from what it has been the last five, six, seven years. So, I think it’s just face time in front of the key freight forwarders, because it’s a great concept and we would like to learn more about it.
**Question:** inaudible.

**Martin Mezzabota:** You know I understand, obviously the City of Winnipeg would be a natural right now, with your facilities here to work as an air hub, specifically from Shanghai to Winnipeg. I think, right now, as a global freight forwarder, that as the Canadian market grows, we know that there is a viable market that people can make money at, by bringing charter services from Shanghai to Canada directly. Winnipeg would be a great spot. I know that there are a couple of players in the market right now that are trying to do that. I know Air Canada was trying to something, and there was a little hiccup in that with another Toronto-based airline and it is currently going through the courts. I think sooner rather than later that Winnipeg will have a charter air service directly from Shanghai. Were you aware of that?
Session Six

Changing the Intermodal Model
• Creating Rail Capacity for Intermodal Growth in Canada

Melanie Hewson, Assistant Director, IMX Operations
CN Intermodal - Overview

- CN’s fastest growing business unit with $1.2B in Sales
- Complete North American coverage from coast to coast to coast
- Fastest service times in the industry
- 2006 Spending on the Physical Plant - $1.5 Billion (20% of Revenue)
- Recent Intermodal investments:
  - $150M in terminals
  - $130M for extended sidings in Canada
• The previous CN Intermodal model was drastically different in terms of operation than that of the new IMX model.

• With a completely unconstrained flow of container traffic to the various terminals, shipments were only known the day of arrival.

• Train capacity is built on blocks and based on an estimated scenario, relying on the expertise of personnel working in one of the terminals.

• Marketing of CN Intermodal focused on locomotives with a high power-to-tonnage ratio. Tremendous pressure was placed on the business for fast, but expensive locomotives.
Supply Chains – Interacting with External

- External – part of many supply chains as a link:

- Domestic - From Factory to Warehouse to Retail

- The need for consistent and reliable transit is increasing

- At CN Intermodal, there was minor recognition within the business that stretched outside of the warehouse or distribution centre. Any logistical or supply chain issues beyond the warehouse was not a concern for CN. No marketing research was done that focused on the final retail destination.

- Warehouses and retail needed a steady pace of deliveries to replenish inventory stocks.

- The need for more powerful and faster locomotives was less a concern and instead called for consistent, timely and reliable transportation.
Supply Chains – Working Internally

- Capacity and having Assets at the right place/right time
  - Improving velocity and length of trains on transcontinental corridors
  - Fewer online disruptions for velocity = track maintenance
  - Increased siding and co-production opportunities = partner for total Canadian
    increase in rail capacity
    - Domestic - From Factory to Intermodal to Warehouse

- Competing with other business units for assets and movement
  - As the railway became more successful, competition for assets among internal business units was becoming an issue.
  - Other business units along with CN Intermodal competed for the same flatcars that are needed to move containers.
**CN’s FIVE GUIDING PRINCIPLES**

- **Service**
  - Scheduled Railroading leads to reliability and consistency
- **Asset Utilization**
  - Challenge conventional wisdom
- **Cost Control**
  - Precision Railroading
- **Safety**
  - Everyone’s responsibility
- **People**
  - Passionate people power CN

*These five principles have guided CN since 1998, and are still in place today.*
• With rapid growth occurring within the Intermodal business unit, capacity constraints and issues were becoming apparent.

• CN’s Brampton Intermodal yard was the primary point of expansion. A capital investment of $80 million went towards a new facility to help overcome any capacity issues.

• With increased spending above and beyond the suggested $80 million combined with relatively slim margins, large capital investments into the new facility could not be justified.
• With an imbalanced demand of services between days, service reliability was in question with inconsistent and unpredictable delivery to end customers.

• Many times traffic brought in on a certain day of the week would not be a guarantee that it would move out the same day. Customers were unsure of when their units would depart and arrive. This led to a lack of confidence in servicing.

• Capital investments into faster trains was unjustified when units would remain at the terminal for days. A new model was needed that would apply scheduled railroading for intermodal traffic instead of large capital investments of new facilities and faster locomotives.
Changing the Intermodal Model

- **Old Intermodal model:**
  - Units flow into or out of terminals any day, any time
  - Terminals act as a storage yard resulting in congestion and service failures
  - Operating plan adjusted on a daily basis
  - Customers are unsure as to which train their traffic will depart on
  - Fixed, long term pricing

- **The Issues:**
  - Trains are restricted by capacity length and weight, window for movement
    - Demand was only known when units ingated for movement
  - Terminals become congested – managing the inventory of containers
  - Transit becomes an unknown – high tracking and tracing
  - High demand for people to manage the information
  - Value of the product drops while ROI is not high enough for investment

Mandate for Change
Fix it or Exit – What would you do?
How we changed the Intermodal Model

- The new IMX model:
  - Planning the movement and adding the Value:
    - Plan the traffic to the capacity – get a reservation for train slot
    - Provide “on-the-spot” commitment for equipment & space on the train
      - Only units with reservations are allowed into the terminal
    - Elimination of container storage in terminals
    - Traffic flows from the gate to the train with limited secondary crane handling
    - Traffic moves with predictability as it is planned to a specific train
    - Provide the tools for instant information access – on the web
    - Fixed car supply and train schedules by day of week – manage the capacity
    - Measure, measure, measure and adjust
    - Pricing infrastructure incenting changes to customer shipping patterns
    - Manage the costs and profitability to allow investment for Growth

- The introduction of the new Intermodal Excellence (IMX) model signified the overhaul of the intermodal system at CN.

- The new focus of the IMX model is to add value back into the service. This was done by establishing a new reservation system to provide an “on-the-spot” commitment for a place on the train.

- This reservation system meant that the issue of units arriving at the terminal and delivering to the destination was not the transit time in between but the time between the gate and loading onto the train.
IMX – Impact to the Supply Chain

Predictable and Consistent Service:
- Make the transit a known time factor for all in the chain
- Reservations are a commitment to move on a specific train
- Make the system flexible enough for various users
- Increase capacity without adding cost for future Intermodal growth
- Ability to commit to shippers on transit times, meet vessel commitments
- Take out need to chase shipments and re-plan around delays
- Add the ability to access information on shipments 24/7 immediately
- Make the information available in a format that works for everyone (Mass customization of report formats)
- Decrease the congestion at the terminals for better service
- Provide the measures for customers and partners
- Deliver consistently to add value to the product – make it faster, make it better

The outcome is a highly scheduled, predictable and reliable product at unsurpassed value

• The most significant influence of the IMX’s scheduled delivery model to the supply chain is the known transit time with accurate predictability of product arrival.
IMX – Challenges to the Supply Chain

- Change is hard:
  - Reservation system provides the benefits, but is an added step for supply chain partners. No history of planning for ingate/departure.
  - Requiring a reservation to ingate means advance planning from the shipping door – more visible, but now it is my problem
  - Requires involvement of various partners – truckers, shippers, buyers, consignees…..
    - Truckers, Shipper, Forwarder, SS Line all have access to online reservations but new decisions on who manages reservations arise
  - Advance planning at the ports acts as a capacity constraint during peak times
  - IMX is fixed and dependable capacity, but without good information and management of demand, will not accommodate peaks and valleys

Need exists for upfront planning with many partners.
No planning equals risk of no movement

- While the new IMX model addresses current issues within the Intermodal business unit, additional challenges are created that impact the supply chain.

- Advanced planning is crucial for the IMX model to work. The difficulty in this is that many parties in the supply chain are unfamiliar with the idea of planning and booking a reservation with CN before and units can arrive at the terminal.
But it works, and we are proving it

- Day of week volumes are being smoothed
  - Target Sales approach
  - Traffic Light
- Asset & Terminal costs reduced
- Significant improvement to capacity
- Service has dramatically improved

2004 Average Daily Demand

Mon Tues Wed Thurs Fri Sat Sun

Dramatic improvement

- With the implementation of the IMX model, a dramatic overall improvement in customer service is shown.

- Increased capacity is achieved through scheduled railroading and not through costly investments of new locomotives and terminals.
SPECIFIC CUSTOMER BENEFITS

- Service commitment
  - Committed daily reserved capacity
  - Simplified operating plan results in improved service reliability
  - Every unit has a trip plan
- Improved customer communication and reporting
- Reduced terminal congestion improves on-time trucking delivery
  - Reduced dwell times in terminals
  - Less storage costs
- Improved visibility
  - Schedule delivery while on train or vessel
- Substantially improved asset utilization of vessels and containers
- Increase capacity for growth – new port in 2007

What’s Next?

- Increased Capacity through coproduction with other rail providers and extended sidings for longer trains.
- New Port at Prince Rupert in 2007
- State of the art web interface for Reservations
- Linking Websites with Ocean Carriers for improved visibility
- Continued Capital Investment
  - Terminals, cube, chassis

Future initiatives will drive further service improvements
Details of the 2006 spending on Infrastructure

☐ CN to increase 2006 capital spending to more than C$1.5 billion

☐ MONTREAL, Dec. 2, 2005 — CN announced today it plans to spend more than C$1.5 billion on capital programs in 2006, an increase of nine per cent over 2005 spending.

☐ E. Hunter Harrison, president and chief executive officer of CN, said: “We will make significant investments in our business next year. More than C$1 billion is targeted on maintaining the integrity and safety of our rail infrastructure, as well as on strategic initiatives to increase the fluidity and efficiency of our network.”

☐ CN will spend approximately C$800 million on its infrastructure, replacing rail, ties, ballast, and other track material and upgrading bridges and signalling systems. CN will also spend close to C$250 million on network productivity initiatives and strategic projects, including siding extensions in Western Canada, investments in the company’s Prince Rupert, B.C., corridor, and the reconfiguration of Johnston Yard in Memphis, Tenn.

☐ Equipment spending is targeted to exceed C$325 million in 2006. This will include more than C$150 million to buy new locomotives and to rejuvenate the existing locomotive fleet, and C$175 million for new cars and the refurbishment of the current fleet.

☐ CN also plans to spend close to C$150 million on facilities, information technology and other projects to allow the company to tap new growth opportunities and drive overall efficiency gains.

☐ Harrison said: “At close to 20 per cent of revenues, CN’s capital spending plan for next year represents a significant commitment to maintain a solid rail infrastructure and to better serve our customers across North America.”
Questions

Question: An opening question I would have would be since so much of the improvements are based on predictability, reliability – what are some of the challenges that have come up since those have been implemented – perhaps security, or other types of congestion, interruptions, labour issues at the ports. If you can describe how CN has responded to some of those?

Melanie Hewson: There have been challenges, the Vancouver Port disruption for example, was certainly very difficult for us. It was not as difficult for us perhaps as for some of the shippers who had cargo stuck behind it, but the disruption at the ports causes a backlog of cargo and just such a general dropping of overall revenue. It also means that your railcars are not flowing according to this carefully orchestrated plan that you have, so it means that you have to come up with basically a new plan that is going to address it. For example, customers were unable to get as much traffic offloaded for transload in Vancouver as they had hoped to, so they were looking for other places to do transloads and move things through to as far as Toronto, Edmonton and Calgary. We did see increased traffic flows coming through those areas during the disruption. We have had other disruptions such as the truckers strike in Toronto. It certainly impacts the amount of traffic coming through the gateway and a lot of that can be fueled simply by speculation that they are blocking the gate. So those ones are all issues that we have to deal with, and they do require an adjustment to the plan, and they require that you take legal steps. We had to get injunctions, and make sure we were looking after things there, and also that we had access into the community to make sure that they knew that we were open for business.

Question: Is CN looking at using inland container terminals as a way of managing the congestion of the West Coast ports?

Melanie Hewson: We do use the inland container terminals in terms of, I’m not sure was that a question in regard to storage? The storage policies have been getting much shorter as opposed to longer. There has been a real push for us to move to CN’s core competencies; storage yards were not one of these competencies. So in Western Canada, the storage policy moved from five to three days. In Eastern Canada, in Montreal it is two days and in Toronto it is one day. So we have definitely
moved out of the storage business in favour of improving capacity. We want to have the space within the terminal to put in additional pad tracks.

**Question:** Is there any kind of tension that may have arisen with some of the shippers given that the railroads intermodal service is a very concentrated link in the supply chain. Have there been any tensions, say with smaller shippers especially, when peak seasons arise and there is competition for space or allocation. Has there been any relationship problems with smaller shippers versus say HBC and the larger shippers in terms of service?

**Melanie Hewson:** There have been. I am not sure if it is always the smaller shippers. Generally speaking, the model is based on profitability, so it is not necessarily the small guy who gets hurt. The regular shipper is definitely a favourite, because the model is flat. There are some seasonal adjustments that are made. We do take a train out in January and put it back in towards the end of February, but other than that it runs as a pretty flat model in terms of capacity. I wouldn’t say that it is the small guy that gets hurt. The communication is usually better with the big guys, so on the relationship side, it is hard to reach the small guy all the time.

**Question:** With the development of the Port of Prince Rupert, will there be more intermodal traffic directed through Winnipeg?

**Melanie Hewson:** I have not heard that there will be more intermodal traffic directed through Winnipeg because of Prince Rupert specifically. I have not seen anything from the information I have encountered. The capacity of Prince Rupert is forecasted to be enormous – they are talking about putting seven full trains in and out of there daily. But if anything, my guess would be that Edmonton has at a greater benefit than Winnipeg.

**Question:** Does this mainly affect bulk shipments?

**Melanie Hewson:** It’s a combination of both. The rise in the Canadian dollar hurts CN more because of the contracts being written in U.S dollars. We have seen a small drop, although really not that significant, in terms of the amount of traffic going down into the U.S.
**Question:** How has the move to the reservation system affected CN’s relationships with truck transportation companies that provide intermodal service to shippers?

**Melanie Hewson:** It has meant that we need to develop relationships with these trucking companies and treat them as stakeholders within the reservation system. A lot of the shippers did not. The best person to make a reservation is the person who knows when it is going to come to the gate, and in a lot of cases that is the trucking company. In different regions, we saw different responses. In Toronto, it is almost always the trucking companies who make the reservations, in Montreal, there would be a small portion of shippers. Montreal and Toronto have an actual appointment system. It is not just a slot on the train, it is actually a time of day that someone makes an appointment to come in for. So it has that additional challenge on it. In Western Canada, there is a two-day window to ingate for your train. So those people who do the trucking, previously did not have a relationship with CN beyond the gate part, and now they had to establish a communication to get the reservation. In a lot of cases, they were not happy that they were the ones who were getting the reservations. So it has been a difficult one to manage through. I think we are getting to the end of it. People are seeing the benefit of it.

**Question:** In the new CN reservation system, do larger shippers advance book a consistent block of slots, say monthly or yearly?

**Melanie Hewson:** No, we looked at that. It is a big step and we have not seen the willingness of people to take that long-term block-buying approach as of yet. It is still something that we have toyed with as to whether it is something that holds value all the way around. What happens if someone does not show up for that? Are you able to re-sell them? We have not worked through quite all the pieces to that although it is certainly something that has been looked at. We have not had a customer come to the table and say I want to take and pay for a hundred slots a day.
**Question:** Having spent some time in other parts of the country, one of the issues that has always come up is captive markets and pricing. Within this new structuring, or pricing policy and the whole change in the way that CN does its business in intermodal, was that ever taken into account in terms of the captive community? For example, where you have got only CN or CP running through a particular community the direct competition relative to the railway does not exist. So by virtue of a business level period, there is going to be price differentials for those serviced be one versus those serviced by two or more. Was that built into the equation in terms of looking at improving or enhancing service to shippers?

**Melanie Hewson:** Actually, we compete with truck very heavily. So there is always an alternative, because there just is not any place where there is not a road, and intermodal goes over the road. We lose business to truck or gain business from truck on a regular basis. It actually is a very competitive market.

**Question:** A quick question, Melanie. Has the capacity crunch reached a point where you have actually turned away business that you just cannot simply accommodate in the intermodal area?

**Melanie Hewson:** We have not turned away business that we cannot accommodate. We have turned away business on a Friday in favour of rescheduling it for another day. What we used to do that we do not do now is we do not take it inside the terminal that day so the alternative is that particular business may go away, because they will know in advance when they go online to secure a reservation that day that they want to ingate is not available. Should they not be happy with not being able to send it that day, it could easily go across town, and it could easily go on a truck.

**Question:** In your presentation you talked about the cost of tracking and tracing, and how you want to take cost out. You mentioned that your relationship with the ocean lines upcoming after this upgrade in your system – when will you have and ocean steamship line interface with CN. My point is, as a freight forwarder, we track and trace rail. It comes off and I have a small team of people there on your website working like mice. If we look at the airline industry, are you going to model yourselves after the airline industry, that feed will come to whoever wants it, the freight forwarder in particular?
Melanie Hewson: Yes. Right now we have systems where we can receive an automated report. Unfortunately, in terms of the steamship line box, as the way that they show on ours, you have to be a party to the bill of lading. It is part of the security system. If you are not a party to the bill of lading, that information is not available to you. We do have those various types of reports that are available to the steamship lines. In terms of tracing, we want to reach out into the supply chain beyond each other. I expect that we will have the first line on in three to six months. The IT team has already met their goals in terms of the design and how it would work, so that when you go to the steamship lines website, which will be the first link, and you click on it, it will actually get the feed from ours instantly.

Question: We are trying to move more value-added agricultural products to export, for example, meat. This often requires refrigerated containers. Does the market follow the same trends as other container traffic, or is there a way you can discuss issues that affect refrigerated containers?

Melanie Hewson: Refrigerated containers, particularly for overseas, I don’t know where the question came from, are these ones for overseas? Yes? Okay. The overseas market in particular is one of those things where it is very imbalanced. The containers come into the Winnipeg area and get loaded out from here, so it is a big challenge for the steamship lines to get their equipment in here. Generally speaking, that equipment is coming out of Toronto and Montreal. They are trying to feed enough equipment in here and there are also decisions as to whether they are able to source that from overseas. I have seen times where there has been a net deficit. That they want to move more containers in than they have, because there is a higher demand here.

It is sort of the reverse of the question for Danzas in terms of the containers. It is them deciding to put empty reefer containers into here and the steamship lines have to go with it. And they do. They put quite a few empty ones into here.
Session Seven

Issues Facing Motor Carriers, And How It Applies To Canadian Industry

Jeff Pries
VP, Sales & Marketing
Bison Transport Inc.

Jeff Pries, VP, Sales and Marketing
Bison Transport Inc.
“Factors impacting Trucking”

- Drivers
- Fuel
- Equipment
- Infrastructure
- U.S. exchange

• The first four factors have traditionally been the key drivers for Bison Transport. These points essentially reflect the costs that represent the company.

• The fifth point, the U.S. exchange rate, is an increasing concern for Bison Transport and a factor that should be discussed.
• Driver wages/benefits have increased approximately 20% over the time period covered, representing a healthy income for drivers of Bison Transport.

• The problem that Bison Transport is experiencing is a shortage of professional qualified drivers that are suitable for the type of business that Bison operates in (i.e. transborder, irregular routes, etc).

• A partial explanation of the shortage is the aging driver population. Most of the drivers are found in the 55+ age bracket. Combining this issue with the fact that there are fewer entrants into the marketplace, there is an obvious barrier to growth for Bison Transport.

• Another explanation is the fact that many employees are leaving to go work within the oil and gas sector in Alberta to earn significantly more money.

• The challenge is to create driver-friendly jobs to attract new applicants.
• With rising fuel prices, fuel surcharges are an increasing concern for clients of Bison Transport.

• The key to creating a fair cost of a fuel surcharge program is to assess the key drivers of operating the business (i.e. return hauls, average revenue, etc.). Knowing these factors will help determine what the rate will be on the business.
• A natural reaction to high fuel costs is the need to focus on increasing fuel economy.

• The issue for Bison is that there is no progress in getting more efficient in fuel economy. There is a downward trend in the of total Miles/litre for Bison Transport.

• The key problem is the mandating of new engine technology by the Environmental Protection Agency (EPA) in the U.S. upon OEM’s to reduce emissions. While emissions have declined, so has fuel economy.

• Furthermore, the EPA has mandated the use of ultra-low sulphur diesel (ULSD) in 2007, which is speculated to decrease fuel economy by about 1%.
• Considering the fact that most of Bison’s equipment is bought in America, the U.S. exchange rate is a benefit, making both trucks and trailers much more affordable than they were in the past.

• The Hours of Service regulations have necessitated Bison to purchase more trailers, therefore increasing its ratio. This is to accommodate their drivers and to enable the company to preload and set up more trailer pools.

• The pace of EPA mandated change is too fast. OEM’s are frustrated at the fact that there is not enough time to test equipment in controlled environments.

• Resale market is strong, increasing the residual value of its equipment.

• Tare weights have increased due to the interest in making drivers comfortable away from home. The disadvantage to this is that for every component added, total weight is increased potentially causing less room for payload.
• Terminals and trailer pools have been set up to allow relays to take place and to prevent highway personnel from loading and unloading so often.

• Training and development is a key issue in the trucking industry. Many large carriers have fought to retain their drivers, keeping their turnover ratios low. In Canada, most of the industry is tracking in 25%-40% turnover range.

• Significant dollars have been spent to ensure a secure and safe environment for customers to ship with Bison. Considerable training has been done with both driver and non-driver staff in identifying unsafe and unsecured environments.
• With the appreciation of the Canadian dollar, an effort was made to convert customers that were paying in U.S. dollars to begin paying in Canadian currency.

• The U.S. exchange rate has had a significant impact on Canadian manufacturers. These Canadian manufacturers are having a difficult time competing with other markets, with other suppliers potentially on the U.S. side, causing a reduction in southbound traffic.

• On a positive note, there has been an increase in demand for Canadian carrier capacity in the U.S. shipping northbound for the same reason that goods and services in the U.S are more affordable than they were previously.
Questions

**Question:** One question I would like to open with is looking at the labour consideration and the labour problems, how successful have programs such as immigration and recruitment overseas been in addressing this issue?

**Jeff Pries:** We are definitely active in Europe, Germany to be specific, in recruiting drivers to come and work for us. We have, I don’t know exactly what the number is, but it is in the 60 range in terms of spots. We are working with Canadian Immigration to bring drivers from there to here. We have about twenty on the road right now that are actively working. We have immigrated and qualified them, and possibly their families to Manitoba. A language barrier has not been seen at this stage. The language is good, the work ethic is good. We simply need to work on the training on the paperwork side in particular, for example customs and border clearance issues.

**Question:** Would full cabotage within the U.S. market be a positive development for Bison Transport?

**Jeff Pries:** Yes. I will respond by saying that I don’t think that I will see it in my lifetime. It would be great. I would say to that point, though, there is a law in the U.S., and many people do not know about this, that prevents us as Canadian drivers from picking up a load in the U.S. and delivering that same load to another point in the U.S. That is very, very clear. But there is also an immigration law that prevents us from picking up an empty trailer that belongs to us in the U.S. and taking that to a yard, terminal, customer and dropping it within the U.S. The empty trailer belongs to us. I cannot move my own equipment from one yard empty, to another yard empty. I have to stay hooked to that piece of equipment. You can imagine how complicated and inefficient operating in that fashion can be. Since there is no paperwork that follows this law, many carriers ignore it. We do not. We are compliant with that as we are with all the laws in the U.S. right now. But that is a rule that somewhat relates to cabotage.
Question: The oldest segment of the labour force, fifty-five plus, are those drivers disproportionately represented in the terms of being the main source of reduced hours, or is the reduced hours across the age groups?

Jeff Pries: If you are referring to reduced hours in terms of the Hours of Service regulation, that applies to everybody – so a driver is a driver. As for our aging population, in the fifty-five plus bracket, you can imagine that those drivers probably do not want to work as hard as they once used to. It is a challenging job, and certainly as drivers get older, the number of hours they want to work is going to diminish. This is where if part of your portfolio or your requirements as a shipper is that the driver unloads the load, this involves driver assistance and lots of waiting, which is not a driver-friendly job. I would encourage you to collaborate with your carrier to do all you can to figure out other ways of keeping drivers in the industry, because the industry needs drivers.

Question: What was your corrective actions for the four late deliveries?

Jeff Pries: I am not sure what to say, I was being a little facetious. We did not take a lot of corrective action. What I was trying to get across is that the perspective is that on-time performance is a non-negotiable item in our business. Shippers are expecting perfection, and we tell our customer-service people: for every load you have an opportunity to be one of two things, either one-hundred percent on time or zero percent on time. There is no compromise on a load. That is what customers are expecting, one-hundred percent on time every time. So that is the message, we are still working on getting those other four in time.

Question: We have heard a lot about the dismal quality of Canadian highways. Is this exaggerated or do the rough roads impose greater wear and tear on your trucks?
Jeff Pries: They definitely impose greater wear and tear on the trucks. I had opportunity to drive to Fargo three weeks ago. Has anyone been on Highway 75 lately? It is absolutely horrific how bad that highway is. I have not done the Perimeter, but I have heard that there are sections of the Perimeter that is likewise as bad, or worse. Your freight is riding on those highways, and even though it is air-ride equipment, these air-ride equipments were not designed to withstand the shock of some of the ruts in the road these days, so it will take its toll on the equipment and the freight, depending on what the freight is.

Question: Do you have a lot of calls from your customers for driver swamp or sorts at the distribution centres?

Jeff Pries: We definitely have, though I am not sure if I would call it a lot, because shippers have realized that trucking companies do not necessarily have a strong desire to provide lumping service or swamping service. But in the grocery business, when you are delivering to grocery wholesalers and retail D.C.’s, it is part of the drill. We do everything in our power to hire a lumping service. While it is not a requirement, we will still hire a lumping service long before we ask a driver to get in the back and slug the freight. The highway driver is paid to drive, so let’s keep him driving, drop that trailer and put him on his next load. We will hire someone for ten to twelve dollars an hour for the four hours it takes to get the trailer unloaded, and work that into the freight rate or surcharge accordingly.
Speaker Bios
Supply Chain Connections Conference

Dr. Barry E. Prentice
Professor, Dept. of Supply Chain Management
I.H. Asper School of Business
University of Manitoba

Barry E. Prentice was the Director of the Transport Institute from 1996 to 2005 and is currently a Professor in the Department of Supply Chain Management in the I.H. Asper School of Business. His major research and teaching interests are logistics, transportation economics, urban transportation, economic development and trade policy. Dr. Prentice has authored or co-authored more than 150 research reports, journal articles and contributions to books. His scholarly work has been recognized for excellence in national paper competitions and awards. In 1999, National Transportation Week named him Manitoba Transportation Person of the Year.

Dr. Paul D. Larson,
Director, Transport Institute
Head, Department of Supply Chain Management
University of Manitoba

Paul D. Larson, Ph.D. is Head of the SCM Department and Director of the Transport Institute at the University of Manitoba. He earned a MBA degree at the University of Minnesota and a Ph.D. at the University of Oklahoma. Dr. Larson has consulted and conducted executive seminars, in Scandinavia, North and South America, the Caribbean and China, on logistics, purchasing and SCM.

Mr. Rick Goodman
Transportation Manager
Tembec U.S.A. LLC

Rick Goodman attended the University of Manitoba from 1987 to 1992 taking a B.S.C in Civil Engineering, then from 1993 to 1996 pursuing my Masters of Engineering C.E.Mr. Goodman has worked for TransX Limited in Winnipeg as a Management Trainee from 1995 to 1997, Tembec Pine Falls as Transportation Manager from 1997 to 2001, and Tembec USA LLC in St Francisville, Louisiana as the Manager of Logistics from 2001 to the present.
Mr. Ray Molinski  
Business Analyst  
Standard Aero  

With over 20 years of Supply chain experience, Ray has worked at developing increased proficiency in the flow of material. As a Business Analyst for Standard Aero, Ray continues this tradition by leading project teams that focus on reducing non-value added activities from the supply chain while maintaining the high level of quality required in the aerospace industry. Ray is a long-standing member of APICS, and is currently focused on a project to ensure Standard Aero’s compliance to the U.S. Federal Acquisition Regulations.

Mr. Jay Picklyk  
Supplier Relations Specialist  
Standard Aero  

As a Supplier Relations Specialist, Jay is responsible for the development of strategic relationships for Standard Aero. Having a strong involvement in the Supply Chain for the past 17 years, Jay has been involved in numerous tactical and strategic initiatives to improve the performance of the organization. Jay is a current member of the Purchasing Management Association of Canada and recent projects include negotiating partnership relationships with suppliers, and leading projects that offer Standard Aero customers the World Best performance that they have come to expect.

Ms. Barbara Salter  
Executive Director of Supply Chain  
Motorcoach Industries  

Barbara Salter, currently the Executive Director, Supply Chain for Motor Coach Industries has over 25 years experience in the supply chain field. Throughout her career in manufacturing, she has held positions in production control, master scheduling, materials planning, business process re-design, purchasing and strategic sourcing. Barb has over 1000 CPIM certification course teaching hours, and is a qualified Train the Trainer instructor.

Barb has presented “A Common Sense Approach to Supply Chain Profitability” as a keynote speaker to CBS Systems and Palliser Furniture, and has conducted two “Negotiating Pays Off” seminars for APICS. A past president and founding member of the APICS Winnipeg Chapter, Barb has extensive experience in conducting workshops and making presentations.
Dr. Ed Tyrchniewicz
Associate Dean
I.H. Asper School of Business
University of Manitoba

Ed Tyrchniewicz PhD, P.Ag, is currently Associate Dean of the Asper School of Business at the University of Manitoba, and Professor in the Department of Supply Chain Management. Trained as an Agricultural Economist (PhD – Purdue University), Ed has worked in Universities for more than 35 years with more than 20 of those years being in various academic administrative positions. While at the University of Manitoba ((1967-88), he was a Professor of Agricultural Economics, Head of the Department of Agricultural Economics, and Founding Director of the Transport Institute. He then served as Dean of the Faculty of Agriculture and Forestry at the University of Alberta (1988-96). Since taking early retirement from the University of Alberta in 1997, he has held a variety of part-time appointments, including Senior Fellow at the International Institute for Sustainable Development (1996-99), founding Executive Director of the Manitoba Rural Adaptation Council (1997), and Adjunct Professor of Agricultural Economics at the University of Manitoba from 1998 to 2004. He is also involved in consulting and public service advising in the areas of agricultural and transportation policy, natural resource management, and organizational management and capacity building. He is currently Chair of the Agricultural Policy Framework Review Panel.

Dr. Robert Dye
President
Purchasing Management Association of Canada (PMAC)

Dr. Robert Dye is President and Chief Operating Officer of The Purchasing Management Association of Canada (PMAC).

In his position, Dr. Dye provides leadership to the PMAC National Board of Directors and works with regional staff in building relationships with stakeholders across Canada. He also has responsibility for building relationships with professional organizations within Canada and internationally.

Dr. Dye’s work career includes over 20 years’ experience in senior financial management and general management positions in the manufacturing and oil and gas pipeline industries.

For the past 20 years, Dr. Dye was President and CEO of Certified Management Accountants of Canada (CMA Canada), a professional accounting association. His major accomplishments were providing leadership in strategic planning, education and accreditation reforms, and governance and administrative reforms within CMA Canada. He retired from CMA Canada in February 2004 and joined PMAC in March of 2004.

He received his accounting designation in 1965 and was named a Fellow of CMA Canada in 1981. In July of 1999, Dr. Dye was awarded the honorary Doctor of Laws (LLD) degree from Wilfrid Laurier University in recognition of his contribution to management education in Canadian Universities and his visionary leadership in his professional accounting organization.
Dr. Matthew Morris
Professor, Dept. of Supply Chain Management
I.H. Asper School of Business
University of Manitoba

Matthew Morris is an Assistant Professor in the Department of Supply Chain Management. He completed his Ph.D. in business logistics at the University of Maryland. Matthew’s home town is Norfolk, Virginia. His current focus of research is international buyer-supplier relationships, and he is instructing courses in global supply chains business and supply chain management.

Mr. Hugh McMaster
Vice President Marketing & Sales
Head of Ocean, Canada
DHL Danzas

Hugh McMaster has been with DHL Danzas for past four years. He is currently the Vice President of Sales and Ocean Freight for DHL Danzas in Canada. Hugh has worked with various steamship carriers for 21 years, the last 11 years was spent with Hapag-Lloyd as General Manager, Ontario. Hugh is 46 years old, and is married with 3 children.

Mr. Martin Mezzabotta
Director TransPacific Logistics North America
DHL Danzas (Canada) Inc.

Martin Mezzabotta joined DHL Danzas Air & Ocean in May of 2005 as Director of TransPacific Logistics North America (TPL), to capitalize on the world’s fastest growing market by building bundled, end-to-end supply chain solutions, as well as new products, to be targeted at the mass supply chain segment for medium, large and extra-large businesses.

Prior to joining DHL Danzas Martin had been with Expeditors International for 8 years in roles that included Sales Manager as well as National and Global Sales with a focus on End to End Supply Chain Solutions.

Martin began his career at Purolator Courier in 1987 in Sales managing the time sensitive document requirements of Canada’s Big 3 banks. After leaving Purolator Courier, Martin spent 5 years at Domestic and International Carrier, Same Day Right O Way (Day & Ross Group) where he was Based in Toronto as well as opening the Ottawa Branch for sales and operations.

Martin holds a 4 year Business Commerce Degree from McMaster University in Hamilton, Ontario.
Ms. Melanie Hewson
Assistant Director, IMX Operations
CN
Melanie Hewson’s background includes a variety of positions that span the spectrum of transportation modes in both operations and marketing. Starting in the transportation business in 1984 as an airfreight and oceanfreight coordinator, she has held positions for international freight forwarders, airlines, custom brokers, couriers, and trucking companies prior to joining CN in 1996.

Melanie graduated with her MBA at Athabasca University in June 2003, having attended while working full time as an Account Manager for CN based in Calgary. In September 2004 she was promoted to the Toronto Office as Assistant Director of IMX Retail Operations.

Melanie is currently the Assistant Director of IMX Operations for CN, located in the IMX offices in Macmillan Yard in Toronto. She has held this position since November of 2004 and is responsible for the reservation system for Intermodal traffic along with other areas related to Overseas Market Group Customers interaction with CN.

Mr. Jeff Pries
Vice President, Sales & Marketing
Bison Transport

Jeff Pries received his Bachelor of Administration degree from Tabor College in the state of Kansas in 1987. Jeff immediately joined Reimer Express Enterprises in Toronto ON and held numerous Sales and Operations positions with the various divisions of the Reimer Group. In 1991, Jeff transferred to Manitoba with Big Freight Systems Inc., and led their Sales & Marketing team till 1999, when he joined Bison Transport Inc. As the Vice President of Sales & Marketing of Bison, Jeff is responsible for business development, contracts, pricing, and all marketing. Jeff’s leadership in developing business has enabled Bison to become one of Canada’s premier trucking companies. Jeff has served on the company’s Executive Committee for the past 4 years.

Jeff serves on the Board of Linden Christian School, a Kindergarten through Grade 12 private school with almost 800 students, and is the Chairman of the School’s fundraising committee.

When not in the office Jeff enjoys golf, running, swimming, and his active family. Jeff lives in Winnipeg with his wife and three children.
Supply Chain Connections Conference
“Upstream and Downstream Institutions”

Speakers
(In order of Appearance)

Dr. Barry Prentice                        I.H. Asper School of Business
Dr. Paul D. Larson                        I.H. Asper School of Business
Rick Goodman                             Tembec U.S.A. LLC
Ray Molinski                             Standard Aero
Jay Picklyk                               Standard Aero
Barb Salter                               Motorcoach Industries
Dr. Ed Tyrchniewicz                      I.H. Asper School of Business
Dr. Bob Dye                               PMAC
Dr. Matthew Morris                       I.H. Asper School of Business
Hugh McMaster                            DHL Danzas
Martin Mezzabotta                         DHL Danzas Air & Ocean
Melanie Hewson                            CN
Jeff Pries                                Bison Transport

Participants List

Michael Banville                        Trans X
John Baron                               Matrix SCL Inc.
Brian Brockman                           Palliser
Shannon Campbell                         Western Economic Diversification
Ian Cape                                 Vita Health Products Inc.
Leif Carlson                             Canadian Wheat Board
Francois Catellier                       Canadian Special Crop Association
Graeme Dick                              Gardewine North
Ricky Duong                              Richlu Manufacturing
Tim Feduniw                              Destination Winnipeg
Melody Fraser                            Manitoba Liquor Control Commission
<table>
<thead>
<tr>
<th>Name</th>
<th>Company/Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luiza Gallardo</td>
<td>DHL Danzas</td>
</tr>
<tr>
<td>Dori Gingera-Beau</td>
<td>Manitoba Agriculture, Food and Rural Initiatives</td>
</tr>
<tr>
<td>Rick Heese</td>
<td>Gardewine North</td>
</tr>
<tr>
<td>Elaine Hughes</td>
<td>Westeel</td>
</tr>
<tr>
<td>Dawson Ives</td>
<td>Expert Custom Brokers – A division of TransX</td>
</tr>
<tr>
<td>Wendy Klos</td>
<td>Boeing Canada</td>
</tr>
<tr>
<td>Brian Kuzdub</td>
<td>Bison Transport</td>
</tr>
<tr>
<td>Mike Lerch</td>
<td>Grand &amp; Toy</td>
</tr>
<tr>
<td>Russell Lunde</td>
<td>Simplot Canada Ltd.</td>
</tr>
<tr>
<td>Russ Macsymetz</td>
<td>Boeing Canada</td>
</tr>
<tr>
<td>Dale Martin</td>
<td>Canadian Wheat Board</td>
</tr>
<tr>
<td>Tracey Miller</td>
<td>Canadian Wheat Board</td>
</tr>
<tr>
<td>Brian Morris</td>
<td>Canadian Wheat Board</td>
</tr>
<tr>
<td>J.C. Morris</td>
<td>Vita Health Products Inc.</td>
</tr>
<tr>
<td>Gerry Pasloski</td>
<td>Manitoba Hydro</td>
</tr>
<tr>
<td>Gavin Rich</td>
<td>Richlu Manufacturing</td>
</tr>
<tr>
<td>Dan Simcock</td>
<td>Prairie International Container &amp; Dray Services Inc.</td>
</tr>
<tr>
<td>Kelly Slater</td>
<td>Boeing Canada</td>
</tr>
<tr>
<td>Robert Stalker</td>
<td>Western Economic Diversification</td>
</tr>
<tr>
<td>Randy Swane</td>
<td>Matrix SCL Inc.</td>
</tr>
<tr>
<td>Martinus van Baalen</td>
<td>Kuehne &amp; Nagel Ltd.</td>
</tr>
<tr>
<td>Marijke Vonderbank</td>
<td>I.H. Asper School of Business</td>
</tr>
<tr>
<td>Ann Wind</td>
<td>Manitoba Liquor Control Commission</td>
</tr>
<tr>
<td>Dan Young</td>
<td>Boeing Canada</td>
</tr>
<tr>
<td>Susan Zacharias</td>
<td>Transport Canada</td>
</tr>
</tbody>
</table>
2nd Annual
Supply Chain Connections Conference
Up & Down the Supply Chain
Fort Garry Hotel, Winnipeg, Manitoba
Tuesday, March 14, 2006

8:00 to 8:25 am  Registration and Continental Breakfast

8:25 to 8:30 am  Morning Chairperson  Dr. Barry E. Prentice
                 Professor, Dept. of Supply Chain Management
                 I.H. Asper School of Business

Session 1 -  Supply Chain Management at the
             University of Manitoba

8:30 to 9:00 am  Dr. Paul D. Larson
                 Head, Department of Supply Chain Management
                 I.H. Asper School of Business

9:00 to 9:15 am  Questions from the Floor

Session 2 -  Supply Chain Management in the
             Resource Industries

9:15 to 9:45 am  Mr. Rick Goodman
                 Transportation Manager
                 Tembec U.S.A. LLC

9:45 to 10:00 am Questions from the Floor

10:00 to 10:30 am Coffee and Networking Break

Session 3 -  Supply Chain Management in
             Manufacturing I

10:30 to 11:00 am  Mr. Ray Molinski
                    Business Analyst
                    Standard Aero

And

Mr. Jay Picklyk
Supplier Relations Specialist
Standard Aero

11:00 to 11:15 am  Questions from the Floor

Session 4 -  Supply Chain Management in
             Manufacturing II

11:15 am to 11:45 am  Ms. Barb Salter
                      Executive Director of Supply Chain
                      Motorcoach Industries

11:45 to 12:00 pm  Questions from the Floor
12:00 to 2:00 pm  
Lunch  
Speaker Introduction  
Dr. Ed Tyrczniewicz  
Associate Dean  
I.H. Asper School of Business  

Luncheon Keynote Speaker  
Dr. Bob Bye  
President  
Purchasing Management Association of Canada (PMAC)  

2:00 to 2:05 pm  
Afternoon Chairperson  
Dr. Matthew Morris  
Assistant Professor  
Dept. of Supply Chain Management  
I.H. Asper School of Business  

Session 5 -  
Supply Chain Management in Transportation & Logistics  

2:00 to 2:30 pm  
Mr. Hugh McMaster  
Vice President Marketing & Sales Canada  
DHL Danzas  

and  
Mr. Martin Mezzabotta  
Director of TransPacific Logistics, North America  
DHL Danzas Air & Ocean (Canada) Inc.  

2:30 to 2:45 pm  
Questions from the Floor  

2:45 to 3:15 pm  
Coffee and Networking Break  

3:15 to 3:45 pm  
Ms. Melanie Hewson  
Assistant Director, IMX Operations  
CN  

3:45 to 4:00 pm  
Questions from the Floor  

4:00 to 4:30 pm  
Mr. Jeff Pries  
Vice President Sales & Marketing  
Bison Transport  

4:30 to 4:45 pm  
Questions from the Floor  

4:45 pm  
Closing Remarks  
Dr. Paul D Larson  
Director, Transport Institute  
Head, Department of Supply Chain Management  
I.H. Asper School of Business, University of Manitoba
2nd Annual Supply Chain Connections Conference

March 14, 2006

7th Floor, Hotel Fort Garry
Sponsored in part by

Manitoba Transportation and Government Services

General Conference Sponsors

Western Economic Diversification Canada
Diversification de l'économie de l'Ouest Canada

SPONSORS IN KIND
The Hotel Fort Garry
Canadian Transportation Research Forum