

Business Process Mapping Project

Lower Mainland Container
Stakeholder Forum
May 21, 2009



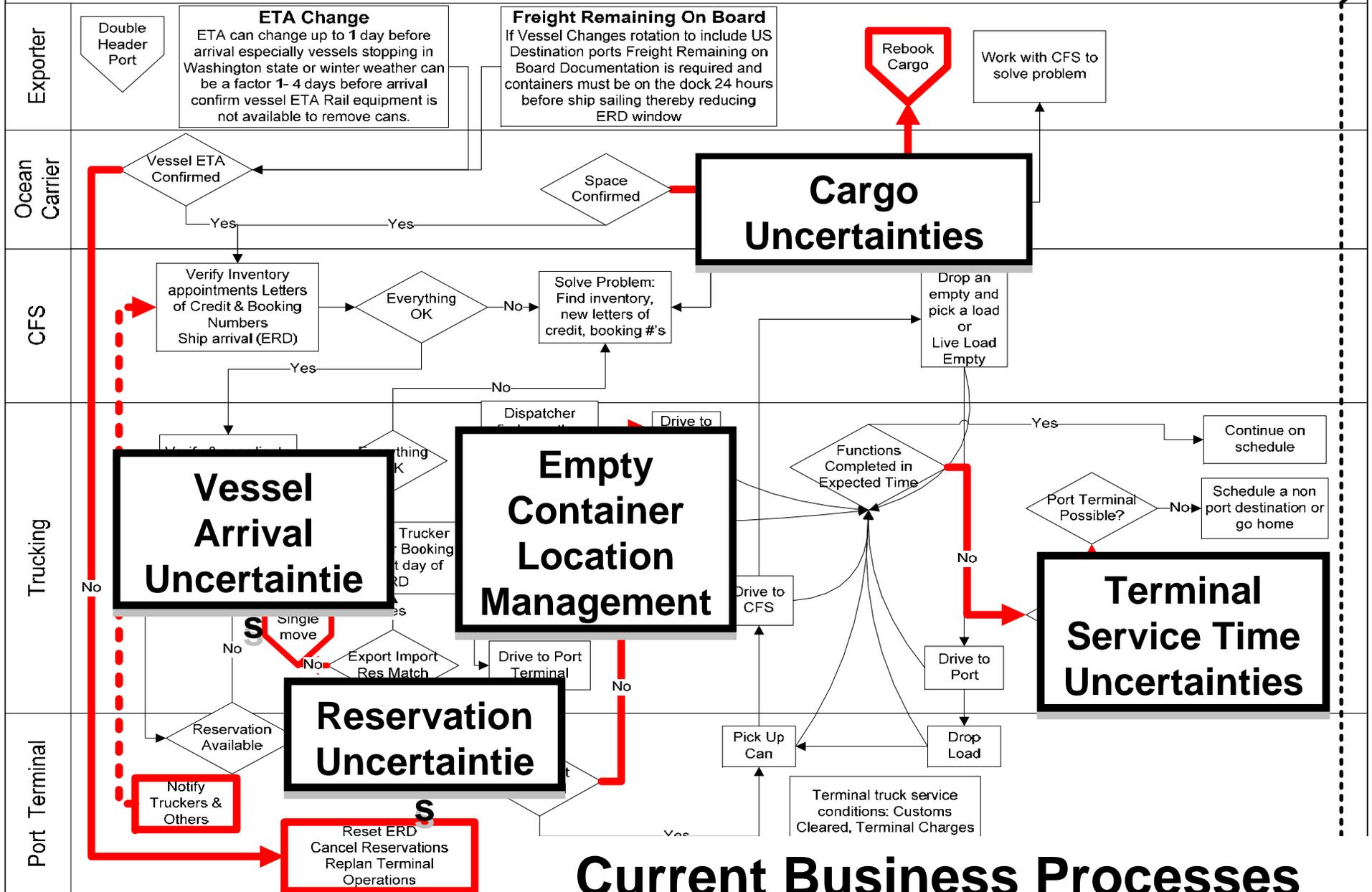
Agenda

- Background
- Problems
 - Issues
- Projects
- Commitment to Action

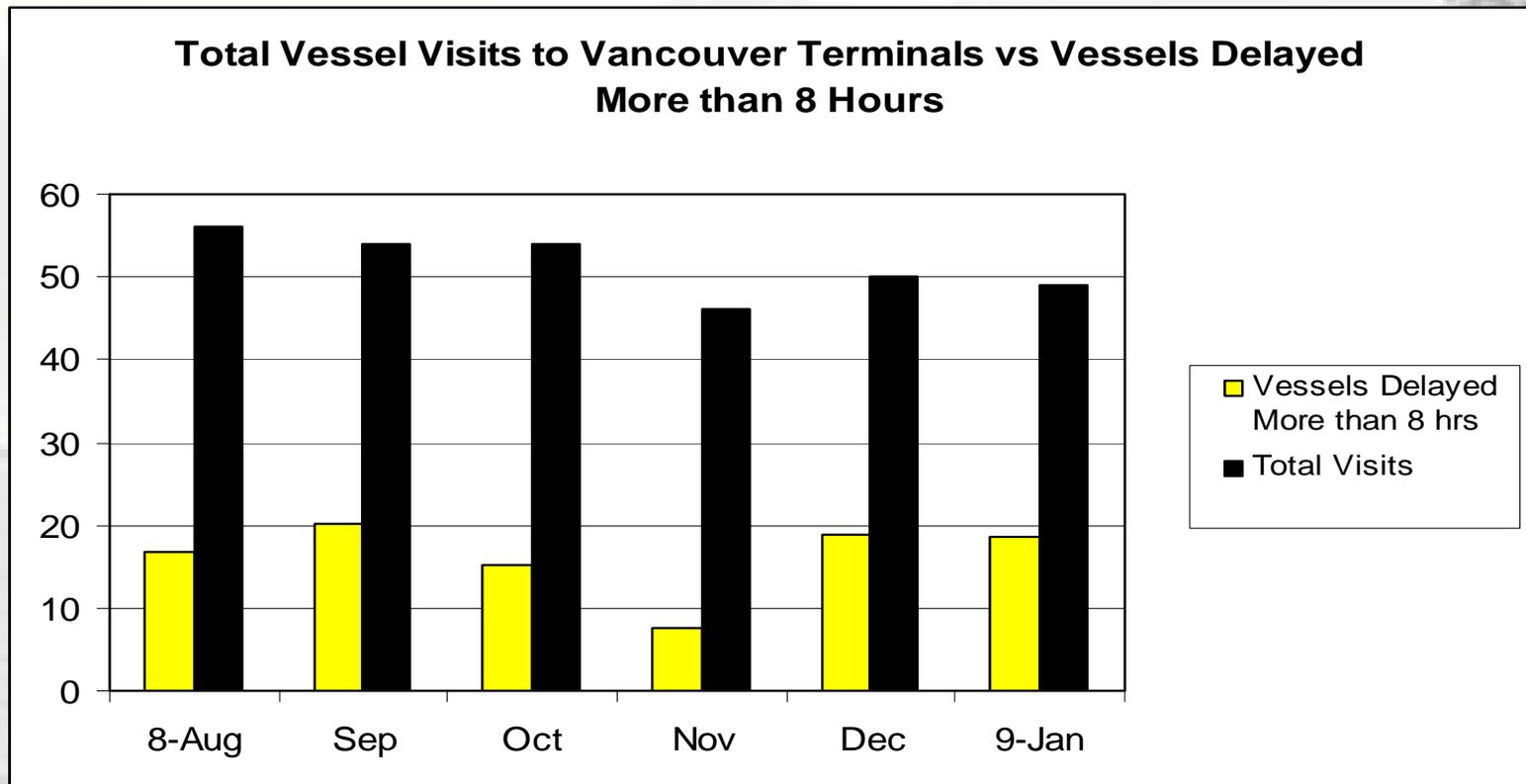
Project Background

- Define Process Mapping Details
- Draft Mapping and Verification
- Project Identification
 - ✓ Identify issues
 - ✓ Identify projects
- Report to the Stakeholder Forum
 - ✓ Seek Comment

Double Move 0 to 2 days before ship arrival



Problem 1: Vessel Arrival Uncertainty



During this period Vessels are delayed more than 8 hours about 30% of the time

Source: PMV Supply Chain Dashboard Jan 2009

Problem 1: Vessel Arrival Uncertainty

- Lack of communication of vessel arrival and changes to ETA
- Recovery Plan not consistently applied at ocean terminals

Results:

- Reservations are made and resources are deployed on estimated time of arrival rather than actual arrival (i.e. ERD)
- Terminal may stop accepting export trucks (ERD is closed)
- Reservations may not be honored
- Another reservation needs to be made
- An increase in road trips by the trucker
- Exporters plans include a significant amount of contingency

Problem 2: Export Cargo Uncertainty

- Last minute decision making of carriers with respect to booking space
- Exporters building in contingencies to cover their own uncertainties (product availability, sales) and uncertainties relating to space on ships

Results:

- Exporters overbook their required amount of containers
- Truckers book reservations based on exporters plan
- Steamship lines overbook their available amount of space for export containers
- Final confirmation of space available to exporters may be determined at the last minute
- If insufficient space available, cargo must be shipped on another carrier or future rotation
- Unneeded reservation cancelled or transferred at last minute ⁷

Problem 3: Reservation Uncertainty

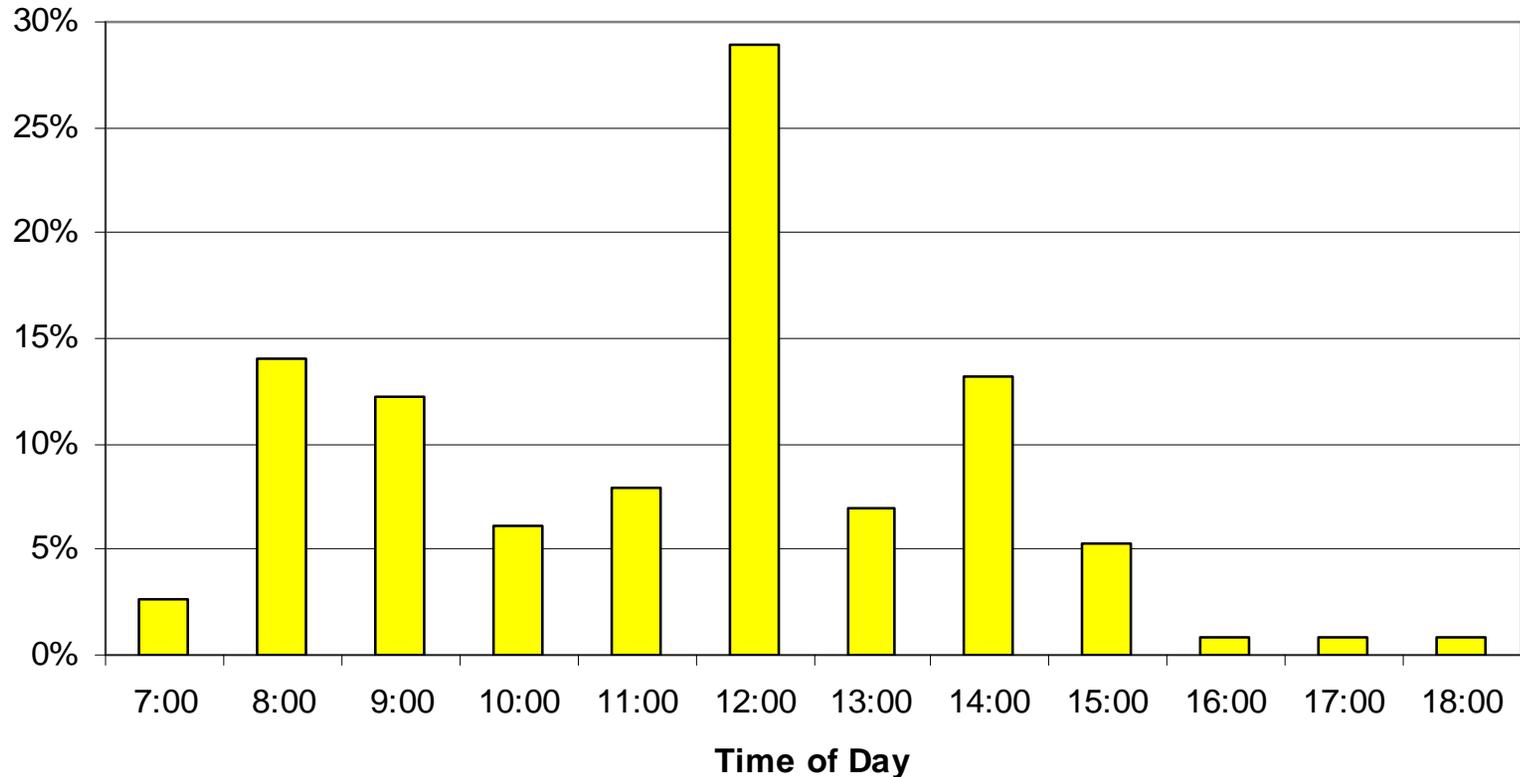
- May not be able to get needed reservation:
 - terminal reservation not linked to vessel reservation
 - no double reservation
 - different lead times for import and exports
- Terminal policy to cancel reservations as a result of labour, weather or ship unloading issues

Results:

- Planning:
 - Difficult to execute double moves
- If reservation cancelled:
 - Terminal cancelled reservations not re-booked
 - Cancelled reservations not released in time for rebooking by another company

Problem 4: Terminal Service Time Uncertainty

Figure 3 Percent Frequency of Turn Times in Excess of 90 Minutes by Time of Day at all Port Terminals



Data source: 2007 BC MOT Container Trucking Forum Simulation Project

Problem 4: Terminal Service Time Uncertainty

Expected Arrival at Port Terminal	Start 7:00 am	Probability of Arriving Within 2 Hour Window
8:30	Inland Terminal Travel Port Terminal	87%
11:30	Travel Inland Terminal Travel Port Terminal	62%
2:30	Travel Inland Terminal Travel Port Terminal	50%
5:30	Travel Inland Terminal Travel Port Terminal	43%
	Return Travel	

Data source: 2007 BC MOT Container Trucking Forum Simulation Project

Problem 4: Terminal Service Time Uncertainty

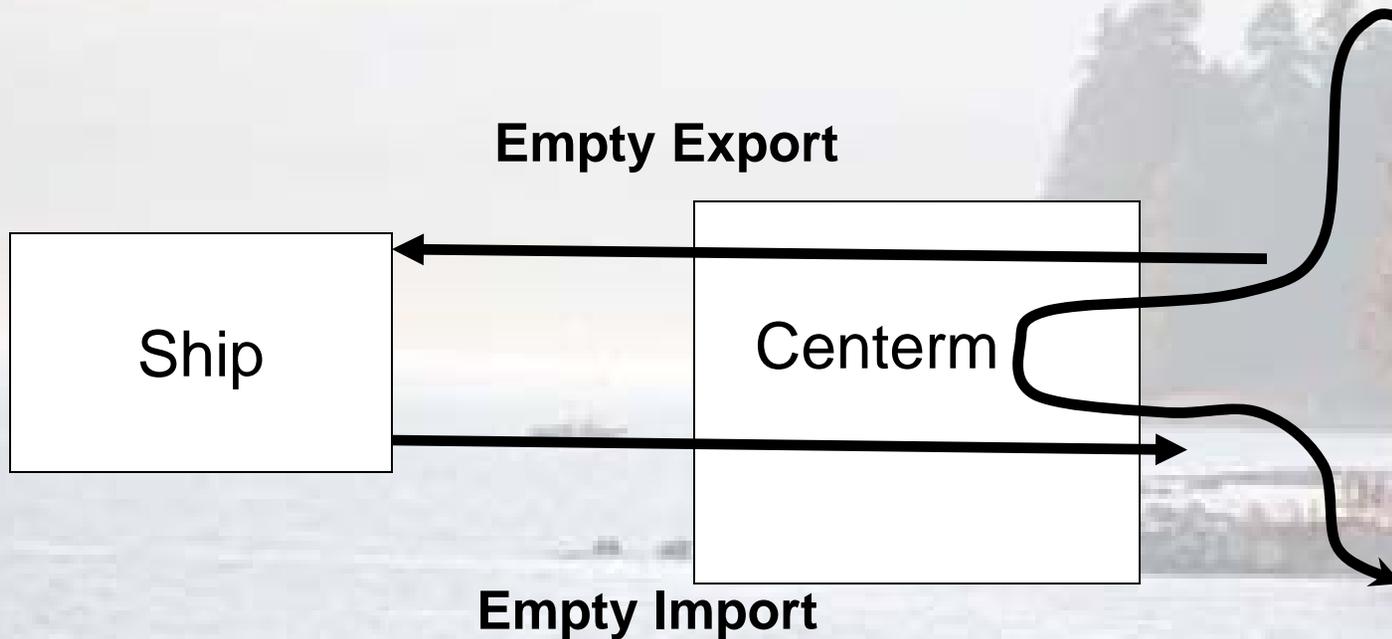
- Variability in service times (queuing plus turn time) and hours of service

Results:

- Service time variability:
 - Trucker making multiple trips has less ability to meet reservations later in the day
 - Trucking companies build in contingencies (additional drivers, last minute allocation of drivers)
 - Likely to need more trucks to service given volume

Empty Container Location Management

Empty Traffic Flow 2007 **



Problem 5: Empty Container Location Management

- Carriers don't know where empty containers are in real time (at terminals)
- Empty containers on dock that are not for immediate evacuation

Results:

- Lack of real time data:
 - Carrier use of empty delayed until clarity of location
 - Shipper planning delayed for double moves or triangulation moves
 - Truckers often dispatch trucks to pick up empty containers that are not there
- Empty containers on dock:
 - Capacity at the port terminal limited by empty containers not moving directly to vessel
 - Extra truck moves, reservations, and labour to reposition empty containers off dock

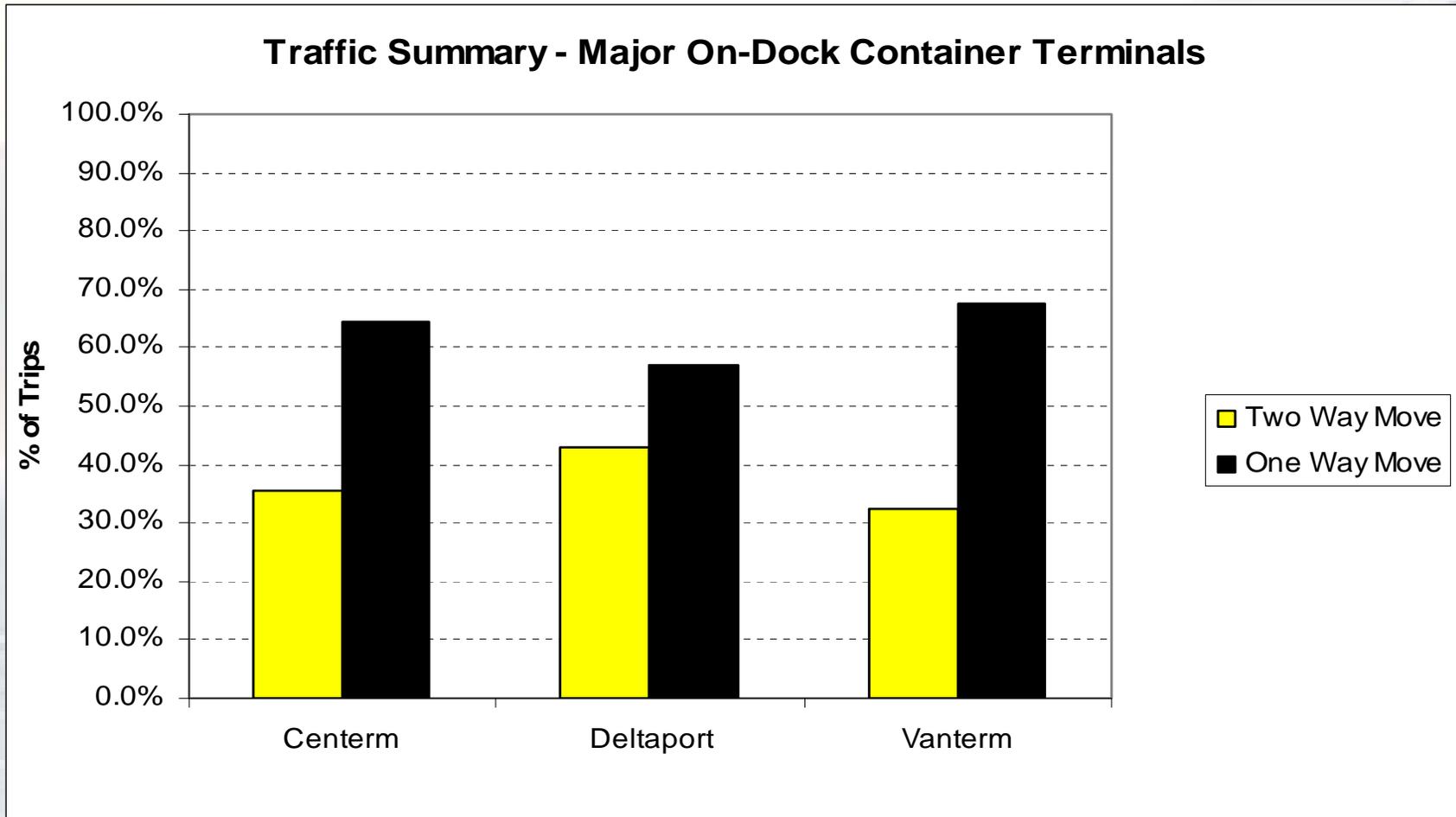
Conclusions

- All players in the system contribute to uncertainties and issues
- Contingencies are built into the system by all parties resulting in last minute decision making
- Better planning and earlier commitments between parties will reduce some uncertainty
- Just as uncertainty was a key theme for the problems, planning and recovery is a key theme for the projects

Projects to Address Problems:

1. Improve planning and recovery with Two Way Moves / Triangulation as a Focal Point.
 - Vessel uncertainty
 - Export cargo uncertainty
 - Reservation uncertainty
2. Terminal service improvement
3. Improve empty container management

Project 1: Two Way Move Opportunity



60% of all truck trips to/from the container terminals are one-way moves

Data source: 2007 BC MOT Container Trucking Forum Simulation Project

Project 1: Improve Planning and Recovery with Two Way Moves / Triangulation

- Small Group Pilot
 - existing relationships, already engaged in some form of two way moves/triangulation
 - One objective of the pilot is to allow industries to have more planning time
 - Another objective is to formalize recovery processes
 - Implement planning, policies, process changes for that group and measure benefit
 - Benefit/cost analysis of IT improvements (virtual container yard, empty container tracking system)
 - identify roll-out of improvements beyond pilot group
- Full Scale Project: Broader roll out

Project 1: Improve Planning and Recovery with Two Way Moves / Triangulation

Pilot Project	Short Q1 2010	Medium Q3 -4 2010	Long 2011 -12
Establish & implement planning time lines	X		
Implement processes to enable parties to connect moves	X		
Establish and implement recovery plans for upsets	X		
Design and implement metrics to monitor progress	X		
Evaluate the Costs and Benefits of Increasing Double & Triangulation moves in preparation for software implementation	X		
Full Scale Project			
Implement software enabling connection of empty containers		X	X

Project 1: Improve Planning and Recovery with Two Way Moves / Triangulation

Problems Solved	Suggested Solutions
Vessel Arrival Uncertainties	Actual vessel arrival tracking and communication
Cargo Uncertainties	Commitment from shippers & steamship lines in advance of vessel arrival Commitment timelines reflect need to meet regulatory requirements (FROB, Advanced Commercial Information) Develop coordinated recovery plan to respond to late vessel arrivals
Reservation Uncertainties	Common lead time for imports and exports Allow for one reservation for import and export moves Accommodate trucker following terminal upset

Project 1: Improve Planning and Recovery with Two Way Moves / Triangulation

Team

Team	Company
Exporter	West Fraser / Canfor
Ocean Carrier	COSCO ?
CFS	Coast 2000 / TCTL
Trucking	Prudential
Port Terminal	TSI
Importer	Canadian Tire

Project 2:

Terminal Service Improvements

- Objective: Predictable, appropriate terminal service times

Project 2:

Terminal Service Improvements

Problem Solved	Suggested Solutions
Terminal Handling Uncertainties	Review and set standards for terminal service time (queuing and turn times) averages and standard deviation over the day
	Coordinate port terminal truck receiving hours of operation to off-dock terminal hours of operation
	Integrate and automate communications between all parties

Project 2:

Terminal Service Improvements

Project	Short Q1 2010	Medium Q3 -4 2010	Long 2011 -12
Identify easily implemented interim solutions	X		
Agree on standards	X		
Implement on a broad basis		X	X

Project 2:

Terminal Service Improvements

Team

Team	Company
Port Terminal Operator	
Trucking Company	
Importer	
Exporter	
Port Metro Vancouver	
Unions	

Project # 3:

Improve empty container management

Problem Solved	Suggested Solutions
Empty container location management	Establish a real time tracking system for containers
	Evaluate the practicality of changing the delivery of empty containers by rail to port terminals

Project 3: Improve empty container management

Project: Establish a real time tracking system for containers	Short Q1 2010	Medium Q3 -4 2010	Long 2011 -12
Cost/benefit analysis		X	
Implement system			X
Exploratory Project to Examine Changing On Dock Empty Management			
Evaluate the practicality of changing the delivery of empty containers by rail to port terminals		X	
Implement			X

Project 3:

Improve empty container management

Team

Team	Company
Ocean Carrier	Same as Team #1
Trucking	Same as Team #1
Off-dock terminal operator	Same as Team #1
Port Terminal operator	Same as Team #1
Railway	
Port Metro Vancouver	

Conclusions

- All three projects are linked
- Solutions identified need to be verified and tested by teams
- Mapping allows for solution testing prior to implementation
- Most important thing to get commitment from members of the Container Stakeholder Forum
- Time for action

Action:

- Accept recommendations as identified
- Confirm agencies for each team
- Form Team(s)
- Ministry of Transportation and Infrastructure commitment