# **Greater Vancouver Goods Movement Study**

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October 2007

# Background

- The Lower Mainland is Canada's Gateway for Asia-Pacific Trade
- Transportation system congestion is a major issue
- Federal and Provincial Asia-Pacific Strategies – massive growth in gateway traffic
- Set priorities for infrastructure investment to accommodate freight movement

# Clients

- Translink
- Transport Canada
- BC Ministry of Transportation

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# **Project Partners**

- Halcrow Consulting Inc.
- Cambridge Systematics
- Garland Chow of the University of British Columbia

#### **Project Scope**

- Phase 1: Environmental Scan and Scoping
- Phase 2: Data Collection and Model Development

# Lower Mainland Transportation Network



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#### **Port Traffic**



## **Environmental Scan**

- International Trade
- Domestic Trade
- Local Goods Movement

#### **International Trade Challenges**

- Port capacity
- Rail Connections
- Industrial Land Availability
- Road congestion

#### **Domestic Trade Challenges**

- Dominated by rail shipments (80% of Tonnage)
- Bulk commodities, long distances

#### **Local Goods Distribution Challenges**

Land use

# Road Congestion (Conflict with auto traffic)

Phase 1 Data Gaps

# Current truck data (last major survey in 1999) Goods movement data

#### **Phase 2 Overview**

- Supply Chain Data Collection and Analysis
- Economics of the Greater Vancouver Goods Movement System
- Goods Movement Profiles and Bottleneck Prioritization
- Strategy Development
- Strategy Assessment

# **Data Collection Stage 1**

Port freight

 Obtain largest 200 importers and largest 200 exporters by container through 4 container ports in lower mainland

•Use 80 – 20 principle to determine sample frame and sampling objectives for Stage 1

•Estimate up to 200 shippers to be interviewed in Stage 1

 Cross border freight – Sample size to be determined at a fixed number of businesses (20-30) to represent precentage of freight using land border crossings

# Data Collection Stage 2

Judgment sample for both Port and Cross border based on:

- Largest inbound and outbound shippers
- Representative of demographics required for developing Supply Chain typologies
- Additional information to complete Phase 1
- Unique situations or issues from Phase 1
- Estimate 50- 100 shippers to be surveyed in Stage 2

#### **Import Retail Survey Structure**

 Characteristics of International Supply Chain Network

- Where does off shore freight come from
- How is it transported here
- What is the port of entry and terminal of entry
- Characteristics of Domestic Supply Chain Network
  - Where is freight ultimately destined
  - What are the nodes and links in the domestic network
  - Use of third parties

## Import Retail Survey Structure (cont)

 Characteristics of Local (Lower Mainland) Supply Chain Network

- How much?When?
- Links and Nodes involved in local supply chain

- 1<sup>st</sup> destination from port terminal
 - Leads to 2<sup>nd</sup> and 3<sup>rd</sup> destination if appropriate

# **Supply Chain Mapping**



#### **System Performance**

- Trucking/transportation costs on overall business cost structure (Input-output tables)
- Conduct business surveys to gain response to cost increases, congestion, and reduced reliability
  - Reduced profits
  - Higher prices
- Combine survey results with regional truck model to estimate the costs to the regional economy

#### **Goods Movement Performance Profiles**

- Develop Tools to examine system performance
  - Spreadsheet scenario analyzer
  - Port trip generation and distribution model
  - Border travel demand model (developed for IMTC)
  - Existing regional truck model with updated input data

# Strategy

- Identify Major Infrastructure Project Opportunities
- Identify Operational Strategies
- Identify Policy Needs

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#### **Complementary Studies**

- Inland Container Terminal Study (BC Ministry of Transportation)
- Shortsea Shipping Study Container on Barge (Transport Canada)
- Industrial Land Demand/Supply Study (BC Ministry of Transportation)