# CHALLENGES OF DATA AND MODELLING

Matthew J. Roorda Associate Professor, University of Toronto Innovation in Urban Freight, Feb 6-7, 2012 CHALLENGES OF DATA AND MODELLING

AND

# PERSPECTIVES ON THIS WORKSHOP

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## Framing the Challenges

- Gaps in the knowledge (Erica, Nicholas)
  - Tradeoffs b/w freight & people (land, roads, parking)
- Practical infrastructure questions (Barbara, Deborah)
  - Define, preserve and enhance freight corridors
  - Prioritizing infrastructure when funds limited
- Issues for a Port City (John)
  - Maintaining capacity to the port
  - Developing Port of Seattle as a Green Gateway
  - Safe, appropriate sharing of street space
- From the Mayor

- City and port growth are consistent with environmental goals
- Recognition that street space is shared... How best to make them functional, safe and vibrant?

## Studies from academics

- From Rome (Agostino and Antonio)
  - Bold implementation of city logistics
  - Before/after surveys...usually we don't emphasize the after
- From Toronto (Glareh)

- Detailed truck emissions tools being developed
- Never perfect, labour intensive, but worthwhile investment
- From Norway (Tomas)
  - Technology can provide info to trucking industry and to regulators, allowing efficient pricing of freight activities
- From Taiwan (Cheng-Chang)
  - Methods for optimizing waste management considering joint roles of private and public sector
- From Dalian (Xiaoling)
  - Different operations of a Chinese port

## Input from industry

### From the trucking industry

- Truckers are operating quite efficiently within their own set of constraints
- Need the basics: signage, appropriate truck routes.
- Need good information at right time to make good operational decisions (emissions, time, fuel)

#### From rail

- Underestimated value of freight and industrial land to the prosperity of cities
- Access challenges to rail yard
- Business success, even through the economic downturn

# Challenges for Academia, Public Sector, Industry

Academia –

- Basic knowledge, detailed tools, publishing
- Not enough input from industry/ gov't on salient questions
- Not enough emphasis on bringing research to market
- Public sector
  - Complex challenges now, major growth in the future
  - Need evidence-based infrastructure decisions
  - Not always getting the right "evidence" at the right time
  - Political often trumps the "best laid plans"
- Industry
  - To be competitive, need practical, low risk innovations
  - Efficiency goals often aligned with environmental goals
  - Untapped knowledge, but little time or willingness to share
  - Tendency for freight to be poorly understood

## For discussion

- How can academia, private, public sector better interact toward urban freight innovation?
- Best ways to transfer lessons learned between very different jurisdictions, political settings, cultures
- Role of detailed modeling, data collection, and basic knowledge
- How to better align research with the most important questions?
- Other ways to move forward