

IMPACT OF CONGESTION ON REGIONAL ECONOMIES: *IMPLICATIONS FOR ANALYSIS & POLICY*

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Glen Weisbrod
Economic Development Research Group, Inc.
www.edrgroup.com

Evolving View of Congestion

- **Traditional View**
 - Planning Agencies
 - *VMT, VHT, Safety*
- **Newer View**
 - Researchers, Toll Policy
 - *Travel Time Variability*
- **Business View**
 - Competitiveness
 - *Market Access, Connectivity*



Congestion –Econ Impact Studies

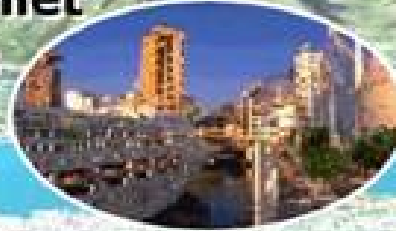
- **Chicago (IL) Metropolis 2020**
 - *Competitiveness of Rail Freight Yards, Regional Distribution, Global Supply Chain*
- **Vancouver (BC) Gateway Council**
 - *Competitiveness of Seaport, Airport & Intl. Border Facilities as Global Gateways*
- **Portland (OR) Business Alliance**
 - *Competitiveness as an Intermodal Center & Distribution Hub*

Connectivity Example: Vancouver Gateway



**Ferry
Terminals**

**Burrard Inlet
Terminals**



**Rail
Inter-modal
Yards**



Airport



**Connected by an
increasingly congested
urban road network**

**Roberts Bank
Terminals**



**Fraser River
Terminals**

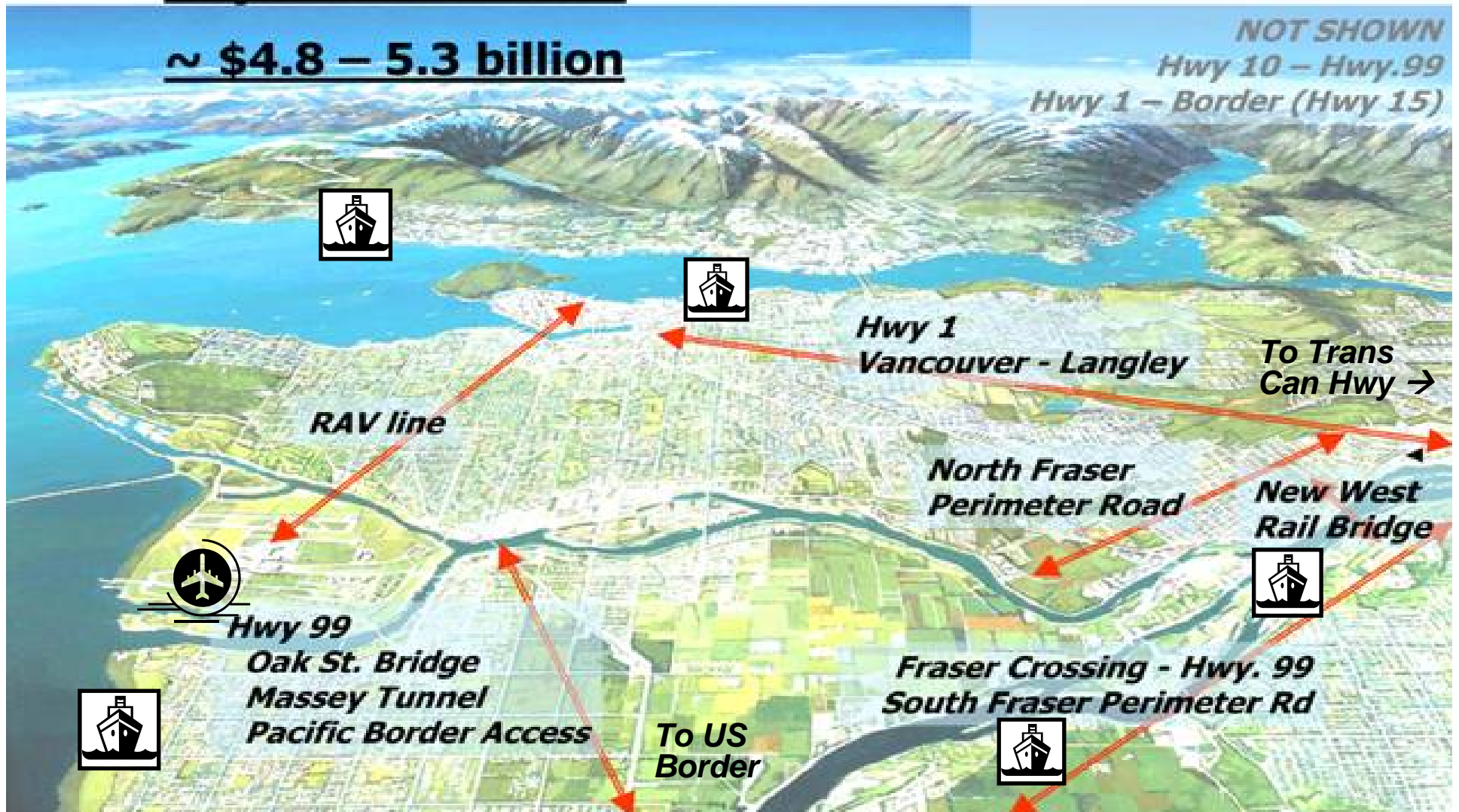


Multi-Modal Solutions: Vancouver MCTS

(*passenger + freight, bus-rail-road-air-sea*)

~ \$4.8 – 5.3 billion

NOT SHOWN
Hwy 10 – Hwy.99
Hwy 1 – Border (Hwy 15)

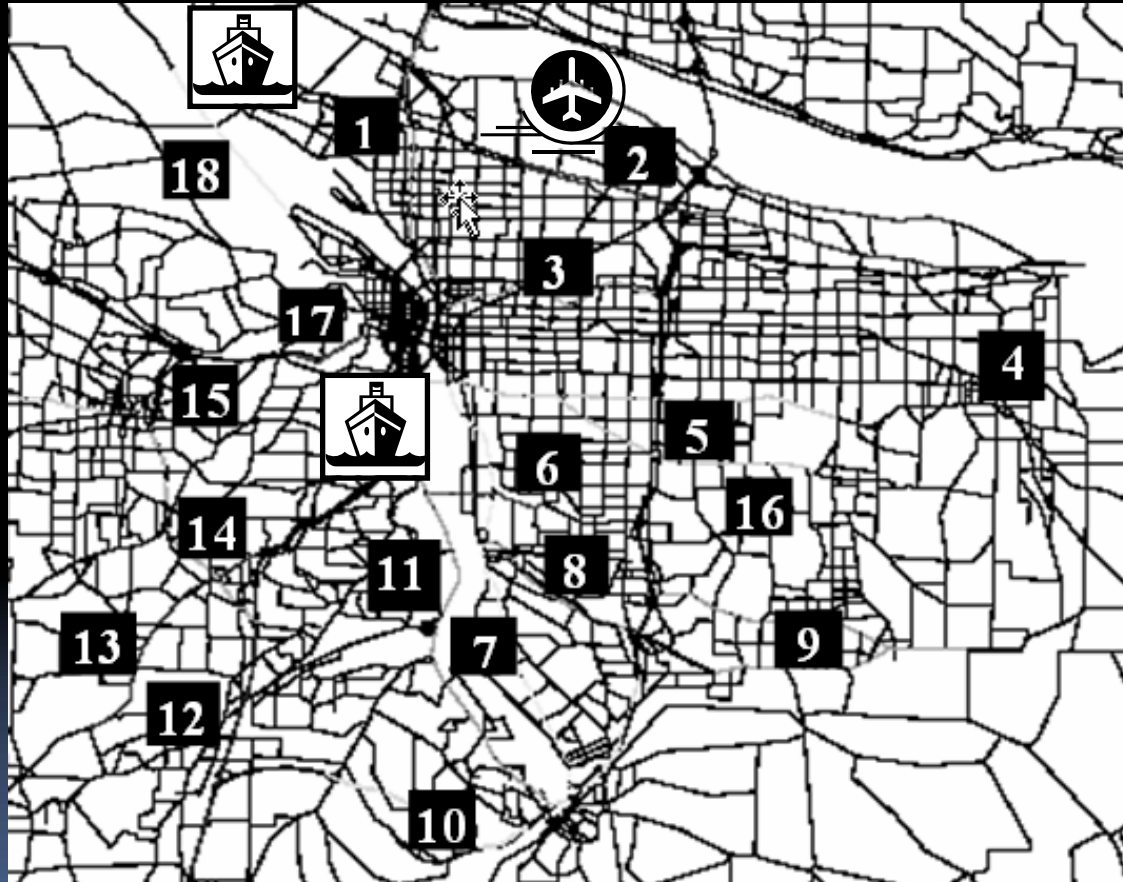


Chicago Congestion - Freight Corridors

- 74 rail yards
- 17 intermodal (truck-rail)
- Delays at 600 grade crossings
- Arterial freight corridors \$3 billion
- CREATE Rail Plan \$1.5 billion



Portland – Pervasive Bottlenecks

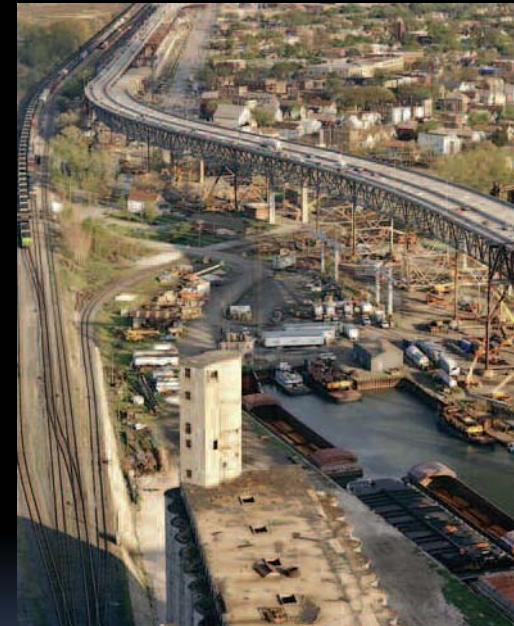


- 1 I-5 North
- 2 Marine Dr and US 30
- 3 I-84
- 4 Troutdale Rd / SE 282nd Ave
- 5 SE Powell Blvd and SE Foster Rd
- 6 Sellwood Bridge & SE Tacoma St / Johnson Creek Blvd
- 7 Hwy 99E
- 8 Hwy 224
- 9 Sunnyside Rd and Hwy 212
- 10 I-205
- 11 Hwy 43
- 12 I-5 South
- 13 Hwy 99W
- 14 Hwy 217
- 15 Hwy 210 (Scholls Ferry Rd)
- 16 Hwy 8 (Tualatin Valley Hwy)
- 17 US 26 (Sunset Hwy)
- 18 US 30 (Saint Helens Rd)

(\$4 billion added cost for the preferred alternative)

Key Business Concerns

- **Market Access**
 - Worker markets
 - Supplier markets
 - Customer markets
- **Connectivity**
 - Airport, Marine ports, Intermodal rail terminals,
 - Intl. Borders, Interstate Hwys, Industrial Parks



Business Operation Impacts (1)

- **Freight and Service Delivery**
 - *reliability, frequency, area served*
 - *more vehicles, “on-the-fly” rerouting*
- **Business Scheduling**
 - *reduced PM, more early AM delivery*
 - *earlier worker shifts, more overtime*
 - *shrinking window of time, more concentration*
 - *cost of “rescue drivers”, “relief drivers”*



Business Operation Impacts (2)

- **Business Operations**

- *increased inventory*
- *stocking mgmt & control*

- **Worker Travel**

- *commuting - labor time cost*
- *worker schedule reliability*
- *time shifts – less transit & ridesharing options*

- **Business Location Issues**

- *greater dispersion of locations*



Port / Terminal Connections

- Concentration at gateways, hubs
- Capacity max constraints
- Missed delivery windows
- Reschedule train, plane, ship connections
- Pad Schedules – shorten production cutoff



Magnitude of Impact on Economy

- TREDIS – Transportation Economic Development Impact System
- Vancouver – Annual \$1.5b sales, \$413m cost savings to business, 7300 jobs
- Portland – Annual \$0.9b sales, \$331m cost savings to business, 6000 jobs



Portland Policy Findings



1. "Pizza Sprawl"

- Shrink delivery area for hot pizzas
- Requires more pizza places
- Urban Sprawl

2. "Prisoners of Congestion"

- Freight cannot hop on a bus or train
- ...But people can.

Implications for Analysis

- Time, expense & reliability measures are not enough.
- To capture (and not dilute) impact measurement, need to distinguish:
 1. Time Periods
 2. Focus Areas: Corridors, Links, Areas to Access
 3. Access Functions: Terminals, Trade Routes
 4. Commodity Flows
 5. Development Dispersion Forces

Implications for Policy

- The Stakes are high. Competitiveness implications are global and hard to capture.
- Need to employ pricing, regulation & capacity investment to focus on specific:
 1. Time Periods
 2. Focus Areas: Corridors, Links, Areas to Access
 3. Access Functions: terminals, trade routes
 4. Commodity Flows
 5. Development dispersion forces

Documents on the Web

NCHRP 463,
Economic Implications of Congestion
Congestion Economic Impact Studies:
Portland, Chicago , Vancouver

Go to www.edrgroup.com
Search “Congestion”