Freight Transportation Demand Management (TDM) Study

Applying TDM Principles into Freight Planning in Peel

Peel Goods Movement Task Force
May 17, 2013

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Principal Planner
Region of Peel
Transportation, Facilities, & Services

Supply and Demand Management
- For people and goods movement
- For all modes
- For all trip purposes
- For peak times

Providers
- Public Sectors
- Private Sectors

Users
- Residents
- Visitors
- Businesses

Influence Factors
- Land Use
- Economic Activity
- User Behaviour

Constraints
- Money
- Space (e.g., ROWs)
- Competing Needs
- Environmental & Community Impacts
## Focus of my Presentation

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### Supply and Demand Management
- For people and goods movement
- For all modes
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### Providers
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### Users
- Residents
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Outline

• Background
• The Concept of Freight TDM
• Best Practices
• A Business Case for Peel Region
Truck Movement in Peel Region

* Source: Ministry of Transportation - Commercial Vehicle Survey 2008

$1.5 Billion / day*
Freight Terminals in Peel Create Intensive Truck Flows

Source: Peel's Traffic Count Program

CP generates/attracts 2,000 trucks/day*

LPIA generates/attracts 1,800 trucks/day*

CN generates/attracts 3,000 trucks/day*

*CP Intermodal Terminal
*CN Intermodal Terminal
*Toronto Pearson Airport

Queen St @ Hwy 50
Dixie Rd @ Steeles Ave
Airport Rd @ Derry Rd

Heavy Trucks per peak period

Source: Peel's Traffic Count Program
Each Day in Peel

- **Peel ↔ Ontario**
  - **Today:** 23,000 trucks carrying $600 million goods
  - **20 yrs later:** 40,000 trucks carrying $1 billion goods

- **Peel ↔ Quebec**
  - **Today:** 1,200 trucks carrying $60 million goods
  - **20 yrs later:** 1,900 trucks carrying $100 million goods

- **Peel ↔ US**
  - **Today:** 3,300 trucks carrying $160 million goods
  - **20 yrs later:** 5,200 trucks carrying $270 million goods

*Source: MTO*
Peel’s Economy relies on Goods Movement

- Peel is “Canada’s fastest growing and most productive freight hub uniquely served by all freight modes”
- Transportation/warehousing is an essential part of Peel’s economy (2x GTHA share)
- Ontario accounts for 2/3 of total US-Canada trade value
- Peel generates 25% of Ontario’s total value of goods
- Accounts for 221,000 jobs (30% manufacturing, wholesale, transportation, trade, warehousing)
- Contributes $21 billion the economy
- Allows $1.5 billion worth of goods to move through the Region each day
- Cost of congestion today $6 Billion / year; 30 years later $15 Billion / year

* Source: MTO, Metrolinx, Region of Peel
Goods Movement: A Priority in Peel

• Term of Council Priority 15:
  ▫ “Improve the efficiency of goods movement in Peel in collaboration with Peel Goods Movement Task Force”

• Peel Goods Movement Task Force formed as a partnership
  ▫ Public and private sector work together to address existing/future opportunities and challenges

• 4 strategic directions with 23 action items to be addressed over the next five years
  ▫ **Action 19: Advance Freight TDM measures**
Freight TDM Study

Purpose:
- Introduce the concept of Freight TDM
- Develop Freight TDM strategies that would result in improving goods movement in Peel

Approach:
- Literature review
- Stakeholder consultation
- Recommendations
What is TDM?

- **Transportation demand management (TDM)**
  is the application of strategies & policies to **reduce** travel demand, or to **redistribute** the demand in time or by mode of travel.

- **Goal:**
  - increasing capacity,
  - delivering better environmental outcomes,
  - improving public health,
  - strengthening communities, and
  - building a more prosperous, liveable and sustainable Region.
Best Practices

• **Canada**
  ▫ Greater Vancouver Gateway Council
  ▫ Halifax Gateway
  ▫ Interregional Freight Transportation Committee, Montréal
  ▫ Freight Data Monitoring and Reporting Program, City of Calgary

• **U.S.A.**
  ▫ Oregon Freight Sustainability Plan
  ▫ Maryland Statewide Freight Plan
  ▫ Freight Action Strategy for Seattle, WA
  ▫ Los Angeles, Long Beach, CA Freight TDM

• **Europe**
  ▫ Transport for London
Recommendations

• **Partnership, Communication & Advocacy**
  ▫ Smart Freight Association

• **System Optimization**
  ▫ Create Virtual Container Yard
  ▫ Develop trucking-focused Signal Priority Plan and other technologies

• **Land Use and data**
  ▫ Address the need and benefit of Freight Hub
Challenges and Opportunities

• Introduction of a new concept
  ▫ Determine applicability

• Understanding of the goods movement industry
  ▫ Customize approach

• Partnership
  ▫ Solicit support
Next Steps

- Presentations to stakeholder groups
  - Association of Commuter Transportation of Canada Dec 2012
  - Metrolinx Urban Freight Forum April 2013
- Presentations to GMTF Subcommittee
  - Fall 2012 and Spring 2013
- Presentation to GMTF for endorsement
  - Today
- Report to Peel Council for approval
  - June 27 2013

Completed
Focus of my Presentation

Influence Factors
- Transportation Facilities, & Services
- Constraints

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Focus of my Presentation

Money
Space (e.g., ROWs)
Competing Needs
Environmental & Community Impacts
Thank you! Questions?

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Goods Movement in Peel
www.peelregion.ca/movinggoods
Backup Slides
Fleet Operator Recognition Scheme

TRANSPORT SOLUTIONS WALES 2013
Sharing knowledge, delivering improvements

2 May 2013

Steve Steele
Transport for London
Freight & Fleet Programme Manager

Objectives - to better understand FORS:
• what it is
• how it can benefit Wales
• how it might translate for Wales
6 reasons why we developed FORS

Collisions:
Cycle fatalities

Bad air quality

Congestion impacting bus reliability

Cost
Pressure

Contracts

So many schemes........

Communicating with operators

Quality, Safety & Compliance

Market failure

+ve

-ve
LOGISTICS SYSTEMS

Supplier → Supplier → Supplier

Manufacturer → Supplier → Supplier → Supplier

Recycled products

Warehouse

Point-of-sale data

Point of Sale

Distributors
A typical day for a Truckload Carrier

Industrial Districts

Urban Area

‘A’

‘B’

Highway

Shippers and Receivers

Finally, finishes loading at 3pm, and leaves city in the opposite direction.
A typical day for a Truckload Carrier

Driver is loaded and continues on in the opposite direction.
Use of Trailer Drop Yards

Finally, they both leave the city in the same direction that they came.
What are the mileage savings?

Savings in truck miles have occurred because these two empty cross-town trips have been avoided.
Freight Transport Emissions
Grammes CO₂ per tonne-kilometre by Mode, 1997

For-hire truck
Freight train
Marine (domestic)
Benefits of Freight TDM

• Reduce freight trips on major corridors

• Redistribute trips using advancing technologies

• Reinforce coordination & communication
Table 1: Freight Transportation Demand Management Recommendations

<table>
<thead>
<tr>
<th>Strategic Direction</th>
<th>Action</th>
<th>Project Partner</th>
<th>Timeframe (Years)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Optimization</td>
<td>1. Conduct new and enhanced technology inventory of existing and desired goods movement technologies. Coordinate with local businesses to ensure that there will be no redundancy in software and load matching.</td>
<td>Peel</td>
<td>1</td>
<td>Project Initiation January 2013</td>
</tr>
</tbody>
</table>
Implement trucking focused signal priority plans in a minimum of three arterial corridors. Based on the Peel Region ITS study, some of the priority corridors being considered are as follows:

- Dixie Road
- Airport Road
- Mavis Road
- Derry Road
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<tr>
<td>System Optimization (continued)</td>
<td>3. Create a Virtual Container Yard.</td>
<td>Smart Freight Association</td>
<td>1</td>
<td>Project Initiation June 2013</td>
</tr>
<tr>
<td>4.</td>
<td>Pursue opportunities to introduce ‘last-mile’ solutions which facilitate lower-impact ways of delivering goods to neighbourhoods and commercial areas.</td>
<td>Peel &amp; Area Municipalities</td>
<td>3</td>
<td>Project Initiation June 2014</td>
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<td>Partnership,</td>
<td><strong>Formalize a network of firms and stakeholders who work together with</strong></td>
<td>Peel &amp; Smart Freight Association</td>
<td>1</td>
<td>Project Initiation November 2012</td>
</tr>
<tr>
<td>Communication &amp;</td>
<td><strong>government to improve the overall goods movement system.</strong></td>
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<td>Advocacy</td>
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<td>Partnership,</td>
<td>Feasibility of a Smart Freight Association. The feasibility study</td>
<td>Peel &amp; Smart Freight</td>
<td>1</td>
<td>Project Initiation November</td>
</tr>
<tr>
<td>Communication</td>
<td>would explore the current need, framework and market for FTDM. The</td>
<td>Association</td>
<td></td>
<td>2012</td>
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<tr>
<td>&amp; Advocacy</td>
<td>association could operate as a central point of contact for goods</td>
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<td>movement businesses. The association would provide services including</td>
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<td>newsletters, training, coordination with public agencies on desired</td>
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<td>infrastructure and non-infrastructure improvements, guiding the</td>
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<td></td>
<td>development of new software and exchanging ideas between businesses.</td>
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<td></td>
<td>Development of a five-year business plan, formation of a Smart Freight</td>
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<td>Steering Committee and ongoing maintenance of the project website.</td>
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<td>7.</td>
<td>Work with Metrolinx and the Ministry of Transportation to explore the development of a recognition program similar to the one being offered in London, UK. This type of program would serve to motivate businesses to meet a common standard for operations and assist the Smart Freight Association in bringing together interested businesses.</td>
<td>Peel, Metrolinx &amp; MTO</td>
<td>2</td>
<td>Project Initiation January 2014</td>
</tr>
<tr>
<td>8.</td>
<td>Forward leads to Smart Commute organizations.</td>
<td>Smart Freight Association</td>
<td>Ongoing</td>
<td>Project Initiation June 2013</td>
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<td>9.</td>
<td>Formalize monitoring and evaluation system with goals based on a regional baseline study.</td>
<td>Smart Freight Association</td>
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<td>Infrastructure Improvements</td>
<td>10.</td>
<td>Address the need and benefits of extending strategies to include freight hubs as defined in the draft “Exploration of the Freight Village Concept and its applicability to Ontario“. MTO and MITL, August 2011</td>
<td>Peel &amp; Area Municipalities</td>
<td>3</td>
</tr>
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<td>Land Use</td>
<td>11.</td>
<td>Support the establishment of a goods movement Centre of Excellence that recognizes efforts in FTDM.</td>
<td>TC, MTO &amp; Metrolinx</td>
<td>3</td>
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Recommendations

- **System Optimization**
  - Develop trucking-focused signal priority plan and other technologies
  - Create Virtual Container Yard

- **Partnership, Communication & Advocacy**
  - Conduct a feasibility of a Smart Freight Association
  - Form a working group with public and private sectors
  - Initiate a recognition program
  - Monitor and evaluate performance

- **Land Use and data**
  - Address the need/benefit of freight hub
  - Create goods movement Centre of Excellence