Off-peak Delivery Pilot in Region of Peel

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Introduction

What is Off-Peak Delivery?

Off-peak delivery (OPD) refers to the delivery of goods during the evening and overnight hours.

7 PM – 7 AM
Introduction

Key Stakeholders:

- Shippers
- Carriers
- Receivers (businesses)
- Residents (public)
- Government (by-laws)
- University (analysis)
Introduction

Previous OPD programs:

• New York
• London
• Chicago
• Toronto– Pan Am games
Pilot Description

Participants:

Duration of Off-peak Delivery Pilot:

February 25, 2019 to August 30, 2019
Pilot Description

Participating stores:

- 14 Stores
- 2 distribution centers in Region of Peel
- One distribution center in Cambridge, ON
- One distribution center in London, ON
Role of Smart Freight Centre

Evaluate (quantify) benefits and drawbacks of the pilot

- Travel times
- Service time at the stores
- GHG emissions
- Noise complaints
- Qualitative lessons learned
Analysis steps

- Regular contact with each company to monitor participation
- Obtain truck tracking data from each company, approximately every month
- Interpret and clean datasets from each company
- Develop methods for estimating travel times, service times, travel distance
- Use US EPA method (MOVES) for GHG emissions analysis
- Validate results (identify, understand, and correct for data outliers)
Current Status

- The pilot is complete
  - Zoning by-law has been back in effect as of September 1, 2019

- Final project report
  
  www.smartfreightcentre.ca under “Publications”
Results

Participation

30 percent of trips to participating retail stores made in off-peak hours
Results

Travel Times

15.3 percent lower travel times during off-peak hours
Results

Service Times

• No clear conclusion regarding change in service times during off-peak hours.

• Some companies experienced decrease in service times while others experienced increase in their service times
Results

GHG emissions

10.6 percent decrease in GHG emission factors (grams/km) during off-peak hours.
Results

Air quality pollutants

- CO: 11 percent decrease
- NOx: 11 percent decrease
- PM 10: 15 percent decrease
- PM 2.5: 11 percent decrease
Results

Number of Complaints

0
Conclusions of Pilot

Off peak delivery pilot has demonstrated:
• Significant reductions in travel time
• Mixed results for service time
• Significant reductions in GHG emissions
• No noise complaints
Next Steps

Investigating possibility for expansion of Off-Peak Deliveries

• Beyond the Region of Peel
• Greater number and diversity of companies
• Permanent noise bylaw exemptions
• Model of GHG emissions, traffic, operational impacts of larger uptake scenarios
Thank-you

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