

For Information

DATE: May 4, 2012

REPORT TITLE: **2011 REGION OF PEEL CORDON COUNT SURVEY**

FROM: Dan Labrecque, Commissioner of Public Works

OBJECTIVE

To inform Regional Council of the findings of the 2011 Region of Peel Cordon Count Survey.

REPORT HIGHLIGHTS

- Cordon Count data is used to calibrate the Regional Travel Demand Forecasting Model, and is also used by the Region and municipalities for strategic decision making on infrastructure investment and policy decisions.
- A total of 251 locations in Peel, along provincial highways, regional and local roads were counted in 2011.
- Over the past 10 years, all screenlines experienced average annual growth rates in the range of one to two per cent, with the most significant increases seen in trips crossing the Brampton-Caledon screenline.
- The survey results indicated an increase in auto occupancy from 1.11 in 2009 to 1.16 in 2011.
- The Queen Elizabeth Way (QEW) at the Etobicoke Creek was the busiest highway station counted in Peel, with over 350,000 vehicles counted between the hours of 5:30 am and 8:30 pm.
- Hurontario Street, south of Highway 403 was the busiest arterial station counted in Peel with over 68,500 vehicles counted during the 15-hour period.
- The survey results indicated a marginal average annual decrease (0.2 per cent) in truck trips crossing Peel's boundaries from 2001 to 2011.
- A successful pilot program to coordinate the collection of Cordon Count data with the ongoing Automatic Traffic Recorder (ATR) program was conducted in 2011.
- The implementation of large-scale coordination of the Cordon Count and ATR programs will support actions identified by the Peel Goods Movement Task Force by providing a wealth of data on 24-hour commercial vehicle movements, while ensuring the most efficient use of resources.

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DISCUSSION

1. Background

The 2011 Peel Region Cordon Count Survey was a continuation of a program initiated in 1981 with the objective of regular collection of consistent and comprehensive Regional transportation data on daily vehicle and person movements in Peel Region. The program helps to monitor travel patterns and volume changes in Peel and assists in the planning of Regional transportation improvements.

The Cordon Count Survey is a manual traffic counting program conducted every two to three years in coordination with the Ministry of Transportation and municipalities in the Greater Toronto Area (GTA), including the Regions of Halton, York and Durham and the City of Toronto. Full counts are conducted in census years to enable comparisons to be made against population and employment growth, as well as other factors. Partial counts are conducted in between full counts and provide a scaled down version of data, typically focusing on external screenlines or traffic entering and leaving the Region.

2. 2011 Cordon Count Survey

The 2011 Cordon Count Survey was a full count that included 251 locations across the Region of Peel. Vehicles were classified into several categories and vehicle occupancy was also counted. The Cordon Count provides a 15-hour (5:30 am to 8:30 pm) snapshot of traffic volumes, classification and occupancy. Counts took place during the months of May and June (and September for locations requiring recounts).

The Cordon Count Survey database remains a valuable source of information for the Region of Peel and GTA municipalities. The database provides access to historical vehicle classification and occupancy information from GTA regions and municipalities.

The Region of Peel uses Cordon Count data to calibrate the Regional Travel Demand Forecasting Model. Cordon Count data is also used by both the Region of Peel and area municipalities for strategic decision making on infrastructure investments and policy development. The Cordon Count database is available to the public free of charge through the University of Toronto's Data Management Group.

3. Pilot Program – Collection of Goods Movement Data Through Coordination with Automatic Traffic Recorder Program

The need for reliable goods movement data has been identified as a priority for the Peel Goods Movement Task Force. The Peel Cordon Count program has been collecting data on commercial vehicle classification and movements since its inception, however, the data has been collected manually. Peel Region also currently conducts a comprehensive Automatic Traffic Recorder (ATR) program annually.

In recent years, staff noticed slight decreases in truck movements captured through Cordon Counts (which are conducted during daytime hours), and surmised that the decreases were due to increased commercial vehicle movements occurring in the overnight hours. To verify this assumption, staff undertook a pilot program as part of the 2011 Cordon Count Survey to collect 24 hour vehicle classification data using ATRs in goods movement-focused areas typically counted by manual surveys (i.e., locations at intermodal terminals, and in the vicinity of the Toronto Pearson International Airport).

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A time-series of data will be required before any firm conclusions can be drawn, however, staff anticipate that large-scale coordination between the Cordon Count and ATR programs will provide a wealth of data on both daytime and overnight commercial vehicle movements, while ensuring the most efficient use of resources.

Manual counts will still be required in certain locations to capture occupancy and bicycle movements to support and monitor the Region's Transportation Demand Management programs. Staff are currently working to identify these locations in preparation for the next Cordon Count survey in 2014.

4. Key Travel Trends

In comparing 2011 data to historical counts, the following trends were identified:

a) Increase in Vehicle Trips Crossing the Peel's External Boundaries

Between 2001 and 2011, trips crossing the Peel East, West and North Screenlines increased by an annual average of 1.9 per cent, 1.4 per cent and 1.2 per cent, respectively.

b) Increase in Vehicle Trips Crossing Peel's Area Municipal Boundaries

Between 2001 and 2011, trips crossing the Mississauga-Brampton and Brampton-Caledon screenlines have also increased by an average annual growth rate of 1.2 per cent and 2 per cent, respectively.

c) Increase in Total GO Rail Trips on Georgetown and Milton Lines

While there has been a recent decrease in trips on the Lakeshore GO Rail line (0.1 per cent average annual decrease between 2001 and 2011), the Milton and Georgetown lines have both experienced consistent increase in ridership, averaging 4.7 per cent and 3.7 per cent average annual increases.

d) Decrease in Share of Commercial Vehicles as Compared to Passenger Vehicles

Between 2001 and 2011, the share of commercial vehicles as compared to passenger vehicles has decreased, from 18 per cent to 13.1 per cent.

e) Decrease in Heavy Truck Traffic

Since 2009, the proportion of heavy trucks as compared to light and medium trucks shrunk by 7.5 per cent.

f) Increase in Average Auto Occupancy

While auto occupancies have varied over the years, the survey results identified an increase in auto occupancy from 1.11 persons in 2009 to 1.16 persons in 2011.

g) Highways and Arterials Continue to Carry Heavy Traffic Volumes

The QEW at Etobicoke Creek was found to be the busiest highway location in Peel, with over 350,000 vehicles counted over the 15-hour survey period. Hurontario Street at Highway 403 was found to be the busiest arterial road location counted in Peel Region, with over 68,500 vehicles counted.

Details of historical trends can be found in Appendix I.

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CONCLUSION

The 2011 Cordon Count Survey provides valuable information pertaining to auto volumes and occupancy, transit data and commercial vehicle classification and volumes. The survey continues to monitor travel patterns and volume changes in Peel and assists in the planning of Regional transportation improvements.




Dan Labrecque
Commissioner of Public Works

Approved for Submission:



D. Szwarc, Chief Administrative Officer



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Authored By: Tina Detaramani

c. Legislative Services

This bulletin highlights key findings and trends of vehicle travel patterns in the Region of Peel based on the 2011 Cordon Count Program. It includes an analysis of changes in inter-regional and inter-municipal trips by automobiles, trucks, and GO Rail, as well as automobile occupancy.

What is the Cordon Count Program?

The Cordon Count Program involves counting vehicle types (including cars, trucks, buses, trains, and bicycles), vehicle occupancy, and their direction of travel. Vehicles are counted manually when they pass select locations. This is done over a 15-hour period from 5:30 a.m. to 8:30 p.m. on a single day during the months of May and June, 2011. A total of 251 stations located on Provincial highways, Regional roads and local roads, were counted in 2011.

Stations, Screenlines, & Cordons

A series of successive counting *stations* are grouped to form a *screenline*. Screenlines typically follow municipal, regional, or other physical boundaries. A *cordon* refers to a geographic area enclosed by a set of screenlines. The map on page 2 shows the Region of Peel's screenlines, cordons, as well as the stations counted in 2011.

Benefits of the Program

Peel Region and area municipalities use the resulting data in developing transportation policy and capital plans. Specifically, the results of the Cordon Count Program are used to forecast future passenger and commercial vehicle trips, as well as public transit use. This helps the Region and area municipalities more accurately determine future infrastructure needs and resource allocation.

Population Growth & Vehicle Trips

Between 2006 and 2011 the population of Peel region increased by 137,000 people - an increase of 11.8%. Between 2001 and 2006, the population increased by more than 14% or 170,000 people. The Cordon Count program provides an understanding of how this growth is changing travel trends and aids in determining how these changes can best be accommodated.

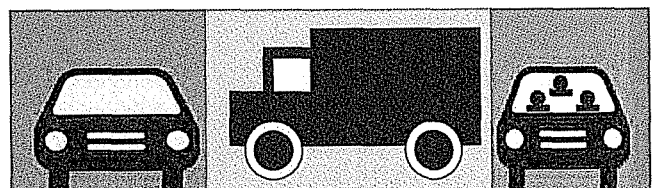
The complete Cordon Count database is available to the public through the Data Management Group at the University of Toronto. [<http://www.dmg.utoronto.ca/>]

What are the Travel Trends in Peel?

The next three pages illustrate the changes in inter-regional and inter-municipal trips, automobile occupancy, station volumes, proportion of commercial vehicles, as well as GO Transit ridership.

HIGHLIGHTS

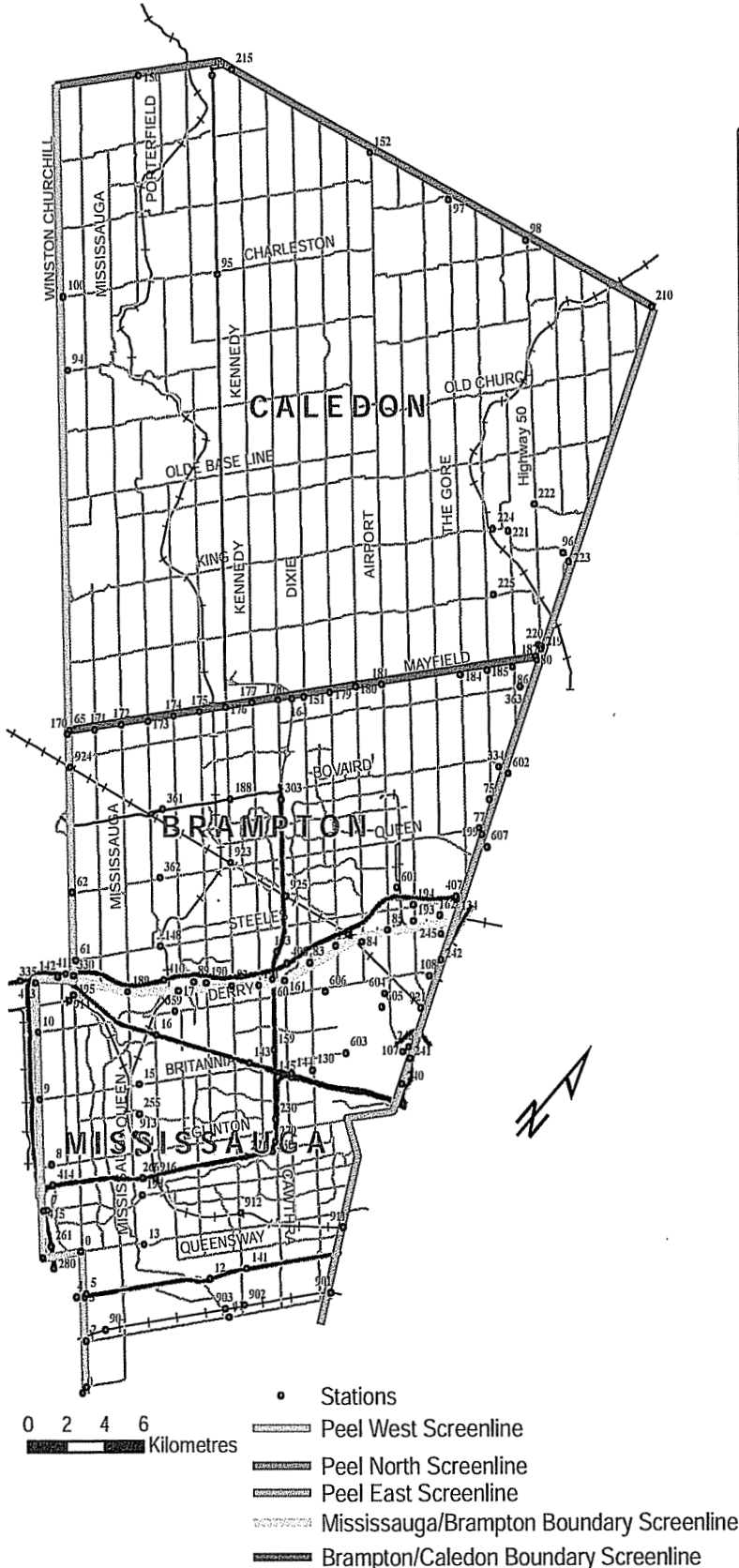
- Vehicles and occupants were counted at 251 locations across the Region of Peel.
- Vehicle trips crossing the Peel East and West Boundary Screenlines increased between 2001 and 2011.
- Trips crossing the Mississauga/Brampton Boundary Screenline have increased on average by 1.2% per year between 2001 and 2011.
- Trips crossing the Brampton/Caledon Boundary Screenline have had an average annual increase of 2% since 2001.
- Vehicle trips crossing the Peel North Boundary Screenline have had an average annual increase of 1.2% from 2001 to 2011.
- Average annual growth rates in GO Rail trips on the Lakeshore, Milton and Georgetown lines were -0.1%, 4.1% and 3.7%, respectively since 2001.
- Average auto occupancy rose from 1.11 in 2009 to 1.16 persons per vehicle in 2011.
- The percentage share of commercial vehicles compared to passenger vehicles decreased from 18% in 2001 to 13.1% in 2011.
- The share of heavy truck traffic (as compared to light and medium commercial vehicles), decreased from 35.9% in 2001 to 34.7% in 2011.
- QEW at the Etobicoke Creek was the busiest highway station in Peel, with over 368,000 vehicles counted in 2011.
- Hurontario St. south of the 403 was the busiest arterial station in Peel, with 68,500 vehicles counted in 2011.



Transportation Planning

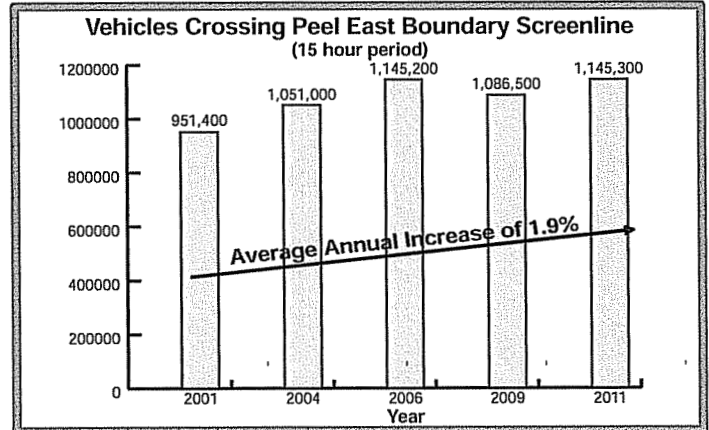
2011 Region of Peel Cordon Count Program

2011 Cordon Count Stations



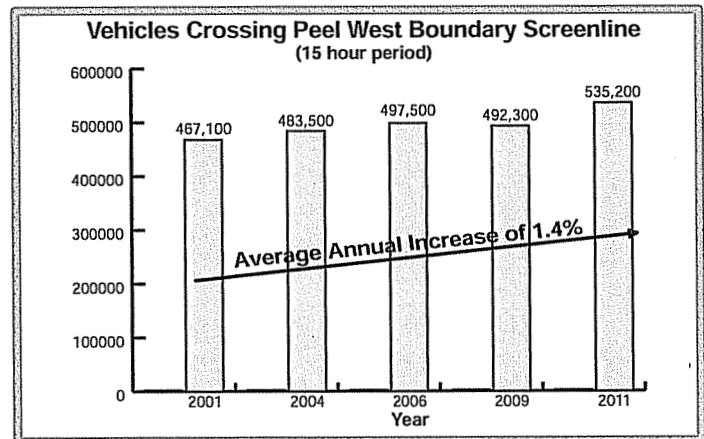
Inter-regional Trips Increased Over the Long-Term Peel East Screenline

Vehicle trips crossing the eastern boundary of the Region increased 5.4% from 2009. The average annual increase in vehicle trips crossing the eastern boundary since 2001 is 1.9%.



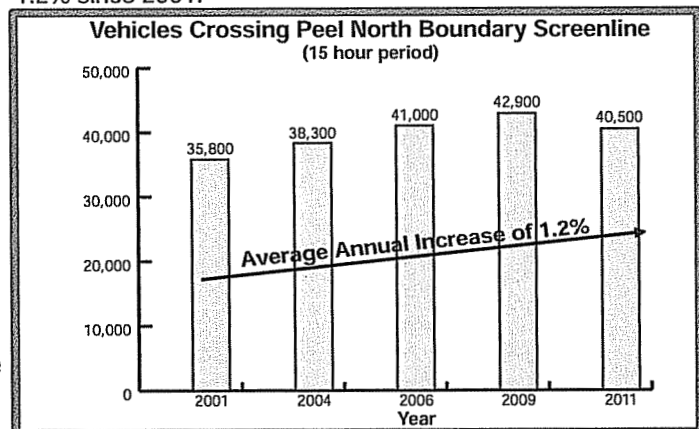
Peel West Screenline

From 2009 to 2011 there was increase in vehicle trips by 8.7% for the western boundary. The average annual change was 1.3% from 2001 to 2011.



Peel North Screenline

Along the northern boundary, vehicle trips decreased by 5.6% from 2009. There remains an average annual increase of 1.2% since 2001.



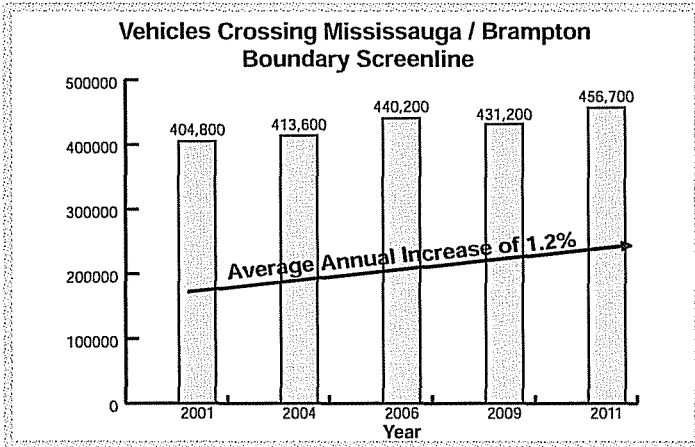
Transportation Planning

2011 Region of Peel Cordon Count Program

Inter-municipal Trips Continue to Increase

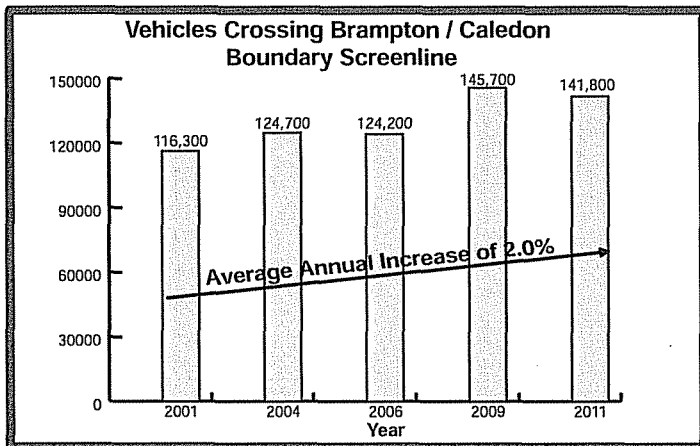
Mississauga/Brampton Screenline

Since 2009 the number of vehicles crossing the Mississauga/Brampton boundary increased by 5.9%. The average annual change shows an increase of 2.5% since 2001.



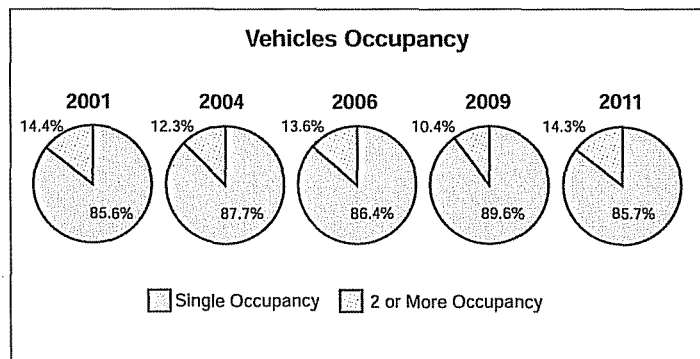
Brampton/Caledon Screenline

Trips crossing the Brampton/Caledon boundary increased by 19% between 2001 and 2011, or an average annual increase of 2.0%

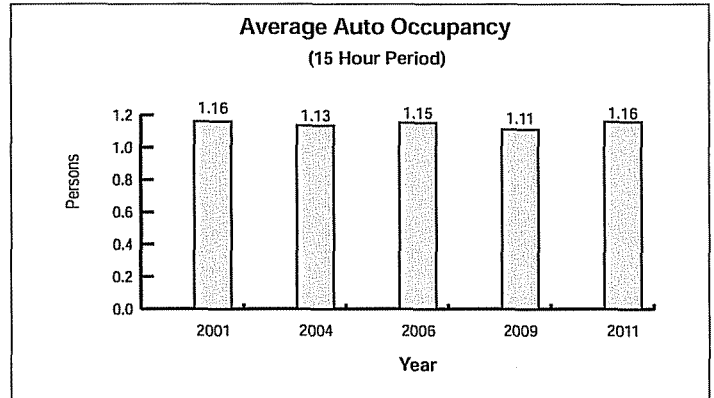


Single Occupant Trips are Decreasing

The percentage of single-occupant vehicles has decreased from 89.6% in 2009, to 85.7% in 2011, or a 4% decrease over the past two years.



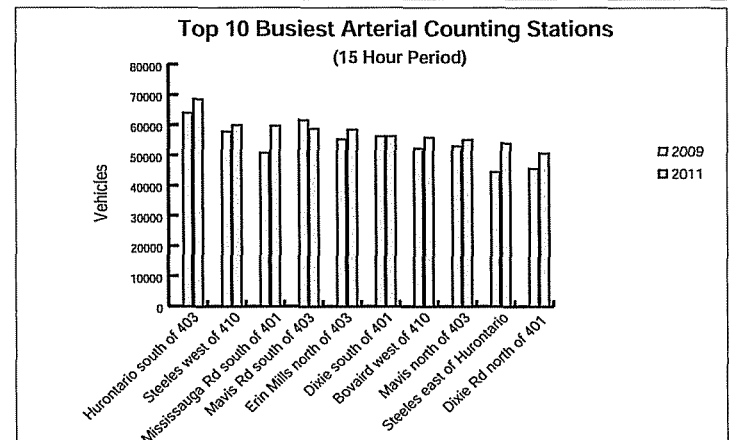
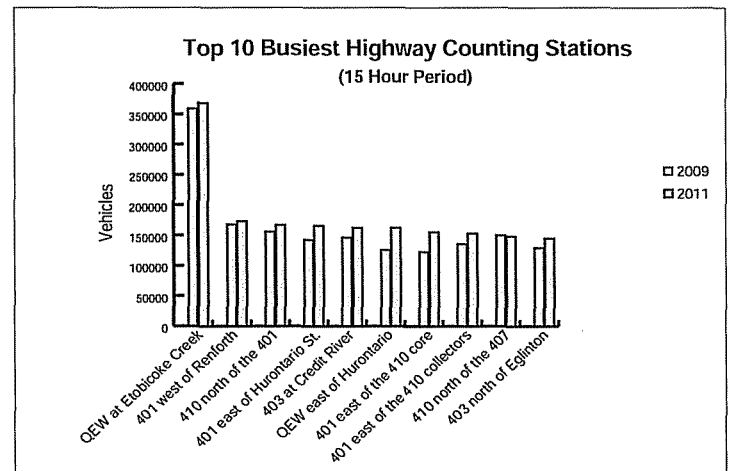
Average auto occupancy declined from 1.16 persons in 2001 to 1.11 persons in 2009. From 2009 to 2011 it returned back to 2001 levels of 1.16 persons.



Highways & Arterials Continue to Carry Heavy Traffic

Highways

Provincial highways carry heavy traffic through and within Peel. Of the locations counted in 2011, the highest traffic volumes were recorded on Highway 401 at Etobicoke Creek. More than 350,000 vehicles were recorded at this location in the 15-hour count period.



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Transportation Planning

2011 Region of Peel Cordon Count Program



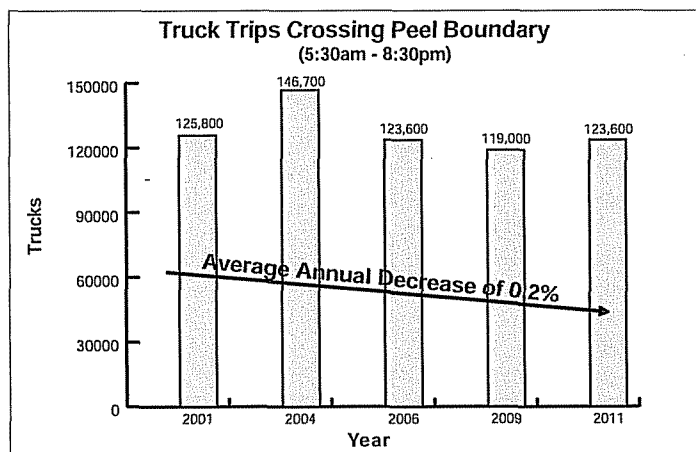
April 2012

Arterials

Most of the major arterial roads in Peel saw an increase in traffic from 2009. [Graph on page 3.] Hurontario Street at Highway 403 was the busiest station counted in 2011, with over 68,500 vehicles counted.

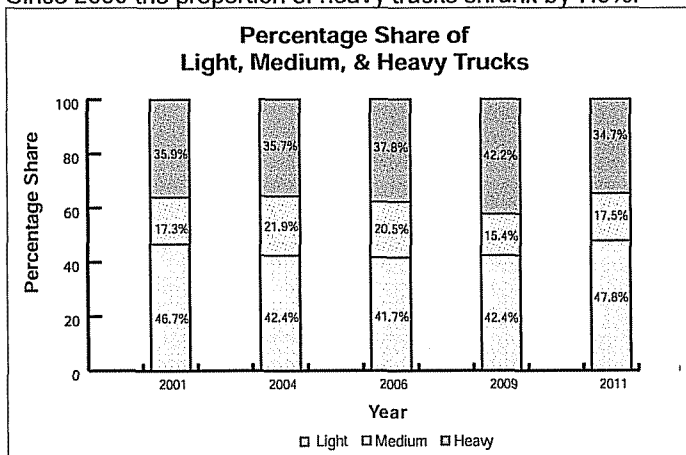
Truck Trips are Decreasing During Daytime Hours

There has been some variability in truck trips since 2001. Notably, there was an increase of 16.7% between 2001 and 2004. However, the average annual decrease between 2001 and 2011 was 0.2%.



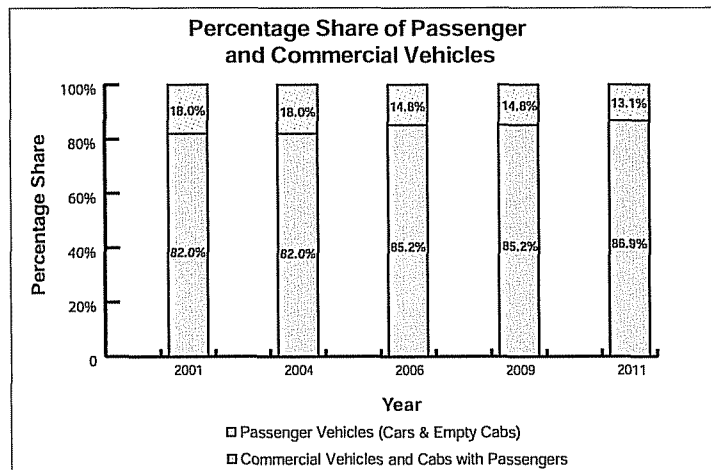
Decrease in Heavy Truck Traffic

There are three main types of trucks: heavy, medium, and light. Light trucks include cars and minivans that are used for commercial purposes. Of the above mentioned truck trips, a greater proportion were being made by heavy trucks, but since 2009 this trend seems to be changing. Between 2001 and 2009, the proportion of heavy trucks grew by 6.3% up to 42.2%. Since 2009 the proportion of heavy trucks shrunk by 7.5%.



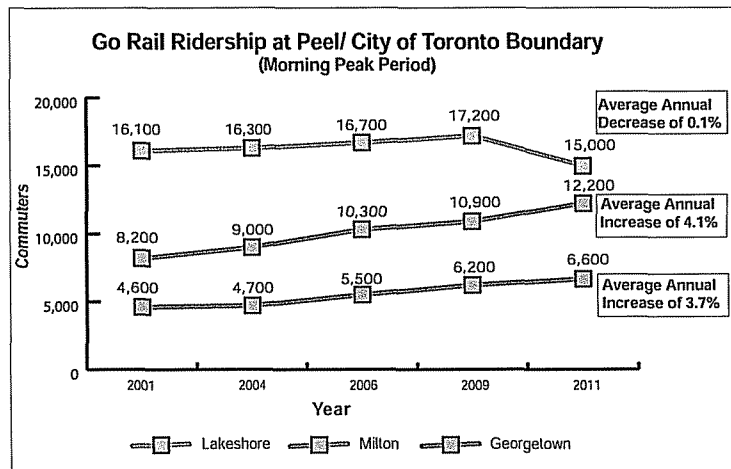
Fewer Commercial, More Passenger Vehicles

Since 2001, the proportion of passenger vehicles to commercial vehicles has grown by 4.6%. The proportions remained consistent between 2006 and 2009: 85.2% passenger vehicles, and 14.8% commercial vehicles. Since 2009 there has been a 1.7% increase in passenger vehicles.



Total GO Rail Trips Increasing

The number of passengers using GO Rail has been steadily increasing over the past eight years. Between 2001 and 2011, the Georgetown line saw an average annual increase of 3.7%, the Milton line saw an average annual increase of 4.1%, however, the Lakeshore line saw an average annual decrease of 0.1%.



Summary

The 2011 Cordon Count Survey provides valuable information pertaining to auto and commercial volumes and occupancy as well as transit data. The survey monitors travel patterns and volume changes in Peel and assists in the planning of Regional transportation improvements.

FOR MORE INFORMATION:

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