

2006 City of Toronto Cordon Count Program Information Bulletin

 **TORONTO** City Planning



JUNE 2007

This bulletin summarizes the results of the 2006 City of Toronto Cordon Count Program by highlighting some of the key findings and trends pertaining to vehicle and person travel across the Central Area Cordon and the City Boundary Cordon. Results from the Cordon Count Program are used for infrastructure planning, the development of transportation policies and as part of the process of monitoring travel trends, assessing the potential impacts of transportation changes and providing baseline transportation information for future projections. The time-series nature of the program enables trends in travel patterns to be analyzed, a particularly useful feature for policy analysis.

1.0 The City of Toronto Cordon Count Program

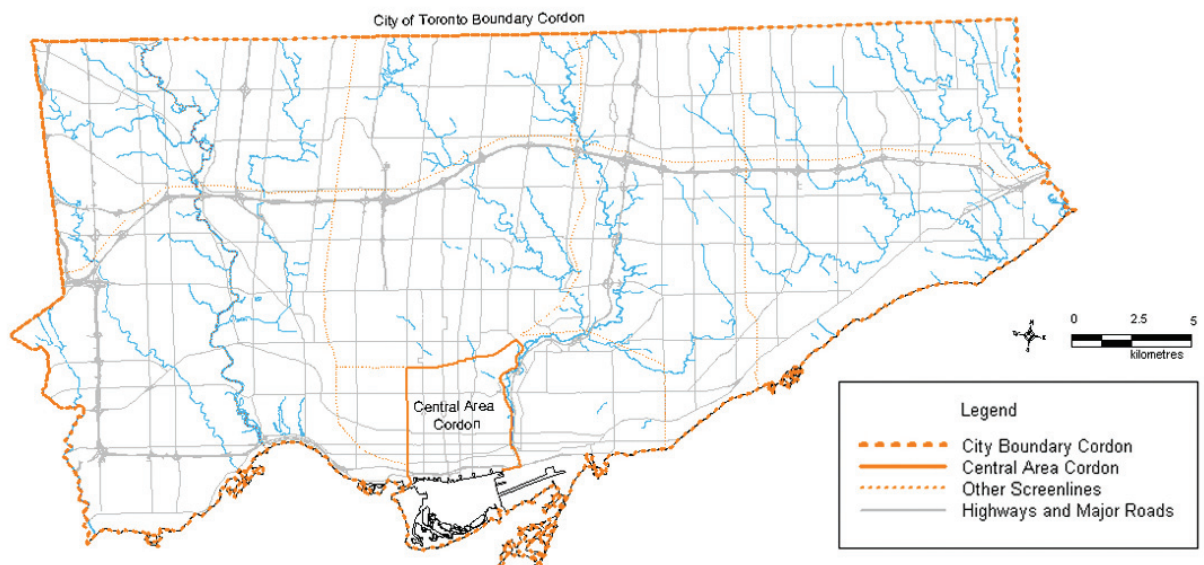
The Cordon Count Program involves counting the number of vehicles (by type) and number of occupants that cross selected counting stations. A series of counting stations along a defined boundary can be grouped to form a “screenline”. Such screenlines usually follow a natural or man-made boundary such as a river, highway or railway corridor. A “cordon” refers to a

geographic area enclosed by a set of screenlines. Figure 1 illustrates the City of Toronto Boundary Cordon and the Central Area Cordon which are the subject of this bulletin (see Sections 3.0 and 4.0 respectively). The Cordon Count program is conducted on a regular basis with surveys being conducted at alternating intervals of three and two years.

Strategic partners in the City of Toronto program include the Province of Ontario, the Toronto Transit Commission (TTC) and GO Transit. The Regions of Durham, Halton, Peel and York also conduct similar Cordon Count Programs.

City of Toronto Cordons and Screenlines – 2006

Figure 1-
City of Toronto
Boundary Cordon
and Central Area
Cordon



2.0 2006 Program Highlights

Among the key findings and trends in vehicle and person travel across the City's two major Cordons are:

HIGHLIGHTS – City of Toronto Cordon: (a.m. peak-period 6:30 a.m. - 9:30 a.m.)

- Between 2004 and 2006, inbound vehicle flow during the a.m. peak-period increased by 1% and outbound vehicle flow decreased by 2%.
every five trips (20%) into the City of Toronto during the morning peak-period is made using transit (TTC, GO train, GO bus, and municipal buses).
- Travel volumes across the City Boundary Cordon can be matched with annual employment figures in the City. The number of inbound person trips have continued to increase steadily and peaked in 2006. Between 2004 and 2006, inbound travel increased from 370,400 trips to 386,400 trips (+4%).
• In 2006, there was a greater volume of inbound trips, at most times during the 12-hour period (6:30 a.m. - 6:30 p.m.), than in all previous cordon count years. Continued population growth in the City combined with strong increases in both population and employment in the surrounding region has led to increased off-peak travel which is reflected in the continued growth of all-day traffic volumes crossing the City's boundary.
- In 2006, approximately 67% of person trips entering the City of Toronto were made in single occupant automobiles. Approximately one in

HIGHLIGHTS - Central Area Cordon: (a.m. peak-period 7:00 a.m. - 10:00 a.m.)

- Between 1985 and 2006, the number of morning peak-period inbound vehicles has not changed significantly. In fact, over the 1985-2006 period, differences in inbound vehicular traffic counts varies between plus and minus 1 to 6%, indicative of a road system operating close to or at capacity during the morning peak-period.
- Between 1985 and 2006, outbound morning peak-period vehicle flow increased by 38% from 54,000 vehicles in 1985 to 74,400 vehicles in 2006. This increase is, in part, attributed to employment growth in other parts of the City of Toronto and surrounding Regions.
- The number of inbound person trips peaked in 2006. Between 1985 and 2006, inbound trips increased by 10% from 300,550 persons in 1985 to 331,600 persons in 2006. Between 2004 and 2006, inbound person trips increased by 5%.
- Transit accounted for almost two out of every three (66%) trips into the Central Area during the a.m. peak-period in 2006. The TTC remains the predominant mode of travel accommodating almost half (46%) of the trips into the Central Area during the a.m. peak period. GO train service accommodates 19% of trips to the Central Area during the morning peak period.

3.0 City Boundary Cordon

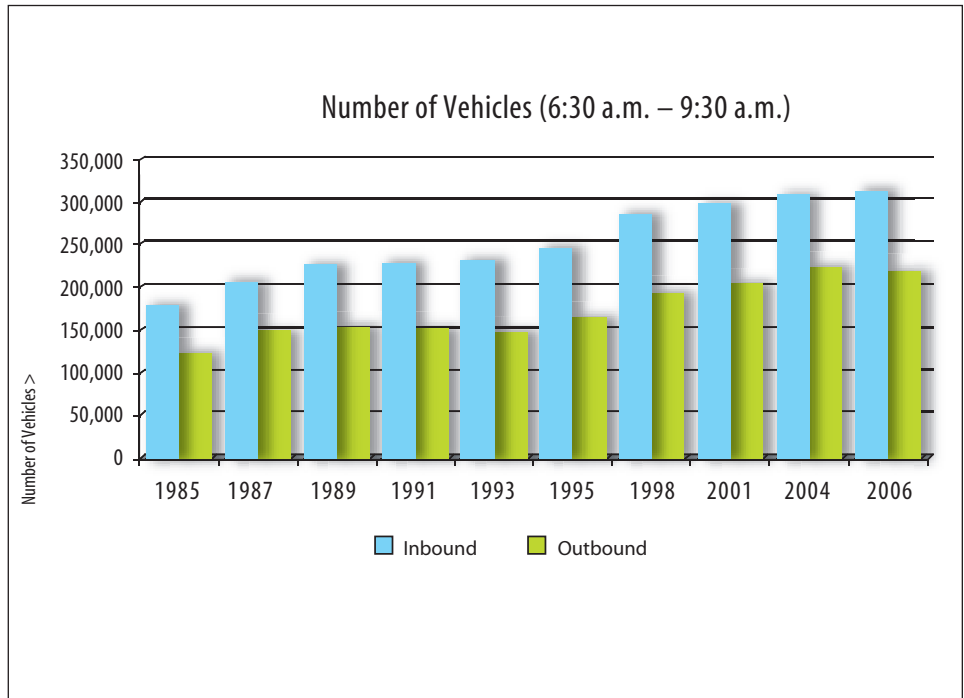
The City of Toronto Boundary Cordon comprises three screenlines. The Etobicoke Creek/Highway 427 screenline forms the west boundary with Peel Region, the Steeles Avenue screenline forms the north boundary with York Region, and the Pickering

Townline/Rouge River screenline forms the east boundary with Durham Region. Lake Ontario forms the southern boundary of the cordon (refer to Figure 1). Section 3.0 of this bulletin examines a number of travel characteristics at the City's border by providing an overview of:

- **Number of Vehicles –** (Section 3.1 - Inbound and Outbound – a.m. peak-period from 6:30 a.m. to 9:30 a.m.)
- **Number of Persons –** (Section 3.2 - Inbound and Outbound – a.m. peak-period from 6:30 a.m. to 9:30 a.m.)
- **Mode of Travel –** (Section 3.3 - Inbound Person Trips – a.m. peak-period from 6:30 a.m. to 9:30 a.m.); and
- **All Day Inbound Travel –** (Section 3.4 – Inbound Person Trips – all day from 6:30 a.m. to 6:30 p.m.)

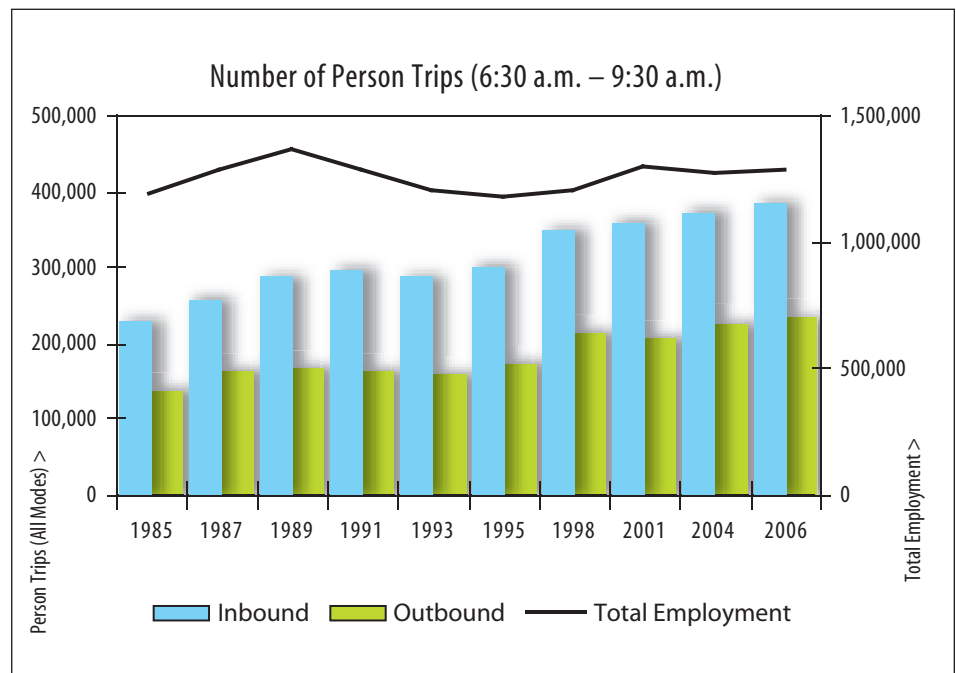
3.1 Number of Vehicles (6:30 a.m. - 9:30 a.m.)

- Inbound vehicle flow has increased during every cordon year since 1985, and reached a new peak in 2006. Between 1985 and 2006, the number of inbound vehicles increased from 179,300 vehicles to 313,900 vehicles (+75%). Between 2004 and 2006, inbound vehicle flow increased by 1%.
- Outbound vehicle flow has fluctuated since 1985 and reached its peak level in 2004 (224,200 vehicles). Between 1985 and 2006, outbound vehicle flow increased from 122,400 vehicles to 219,100 vehicles (+79%). Between 2004 and 2006, outbound vehicle flow decreased marginally by 2%.



3.2 Number of Person Trips (6:30 a.m. - 9:30 a.m.)

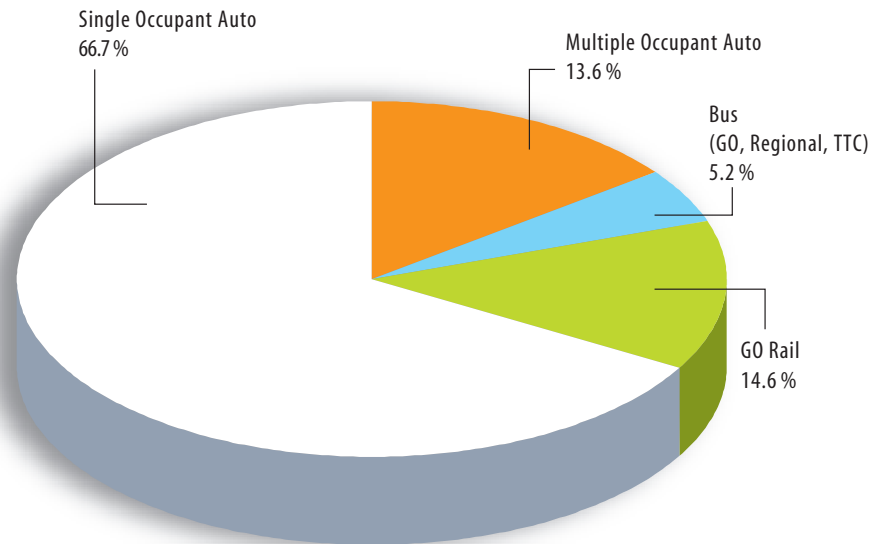
- Travel volumes across the City Boundary Cordon can be matched with annual employment figures in the City. The number of inbound person trips have continued to increase steadily and peaked in 2006. Between 2004 and 2006, inbound travel increased from 370,400 trips to 386,400 trips (+4%).
- Outbound person trips have continued to increase and reached a new peak in 2006. Between 2004 and 2006, outbound travel increased from 226,300 trips to 233,100 trips (+3%).



3.3 Mode of Travel - 2006 (Inbound Person Trips - 6:30 a.m. - 9:30 a.m.)

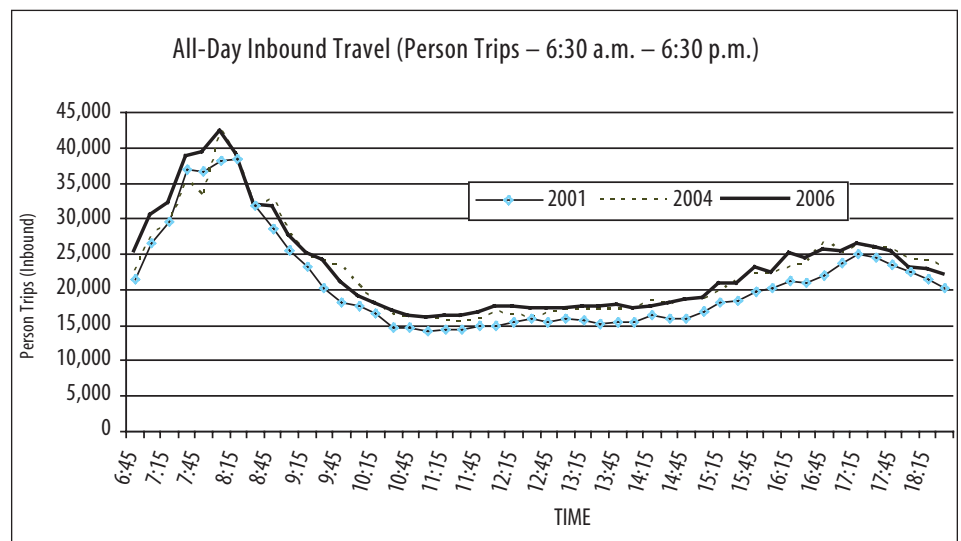
- In 2006, 67% of person trips entering the City of Toronto were made in single occupant automobiles.
- Approximately one in every five trips (20%) into the City of Toronto during the morning peak-period is made using transit (GO train, GO bus, TTC and municipal buses).

Mode of Travel – Inbound Person Trips (6:30 a.m. – 9:30 a.m.) 2006



3.4 All-Day Inbound Travel (Person Trips - 6:30 a.m. - 6:30 p.m.)

- In 2006, there was a greater volume of inbound trips, at most times during the 12-hour period (6:30 a.m. - 6:30 p.m.), than in all previous cordon count years.
- Continued population growth in the City combined with strong increases in both population and employment in the surrounding region has led to increased off-peak travel which is reflected in the growth of all-day traffic volumes crossing the City's boundary.



4.0 Central Area Cordon

The boundary of the Central Area is defined as the Bathurst Street screenline to the west, the CP Rail North Toronto Subdivision (south of Dupont Street) screenline to the north and the Bayview Avenue/ Don River screenline to the east. Lake Ontario forms the southern boundary (refer to Figure 1). The morning peak-period for the Central Area Cordon occurs during the 7:00 a.m. to 10:00 a.m.

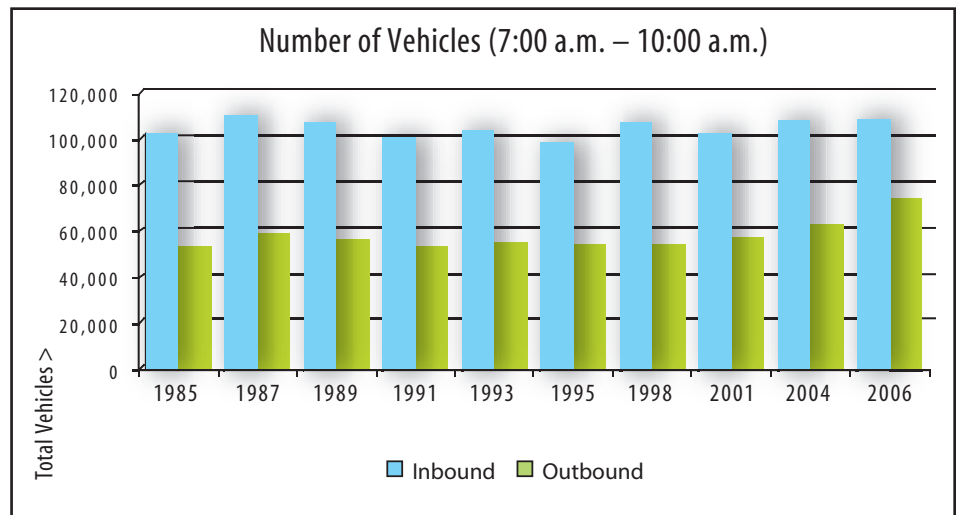
period, compared to the 6:30 a.m. - 9:30 a.m. period for the City boundary. The data include all trips that enter and leave the Central Area but not those that begin and end within the Cordon.

Section 4.0 of this bulletin examines the characteristics of travel into and out of the Central Area of Toronto. Specifically this section provides an overview of:

- **Number of Vehicles** (Section 4.1- Inbound and Outbound from 7:00 a.m. - 10:00 a.m.);
- **Number of Persons** (Section 4.2 - Inbound and Outbound from 7:00 a.m.-10:00 a.m.);
- **Mode of Travel** (Section 4.3 - Inbound Person Trips from 7:00 a.m. -10:00 a.m.);
- **All-Day Inbound Travel** – (Section 4.4 – Inbound Person Trips (all day from 6:30 a.m. to 6:30 p.m.)
- **TTC Commuting Patterns** (Section 4.5 - Inbound Person Trips from 7:00 a.m.-10:00 a.m.); and
- **GO Transit Commuting Patterns** (Section 4.6 - Inbound Person Trips from 7:00 a.m.-10:00 a.m.).

4.1 Number of Vehicles (7:00 a.m. – 10:00 a.m.)

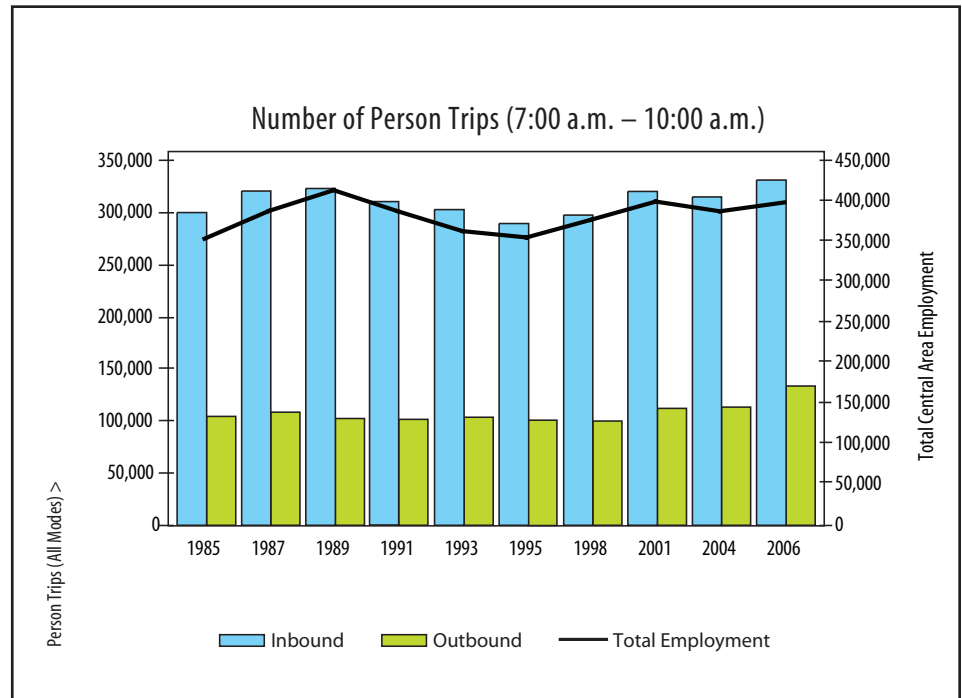
- Between 1985 and 2006 the number of inbound vehicles has not changed significantly. In fact, over the 1985-2006 period, differences in inbound vehicular traffic counts typically vary between plus and minus 1 to 6%, indicative of a road system operating close to or at capacity during the a.m. peak-period. Between 1985 and 2006, inbound vehicle flow increased by 6% from 102,700 vehicles in 1985 to 109,000 vehicles in 2006. Between 2004 and 2006, inbound vehicle flow increased by 1%.



- Outbound vehicle flow has continued to increase since 1995 and reached a peak level in 2006. This increase is, in part, attributed to employment growth in other parts of the City of Toronto and surrounding Regions. Between 1985 and 2006, outbound vehicle flow increased by 38% from 54,000 vehicles in 1985 to 74,400 vehicles in 2006. Between 2004 and 2006, outbound vehicle flow increased by 18%.

4.2 Number of Person Trips (7:00 a.m. - 10:00 a.m.)

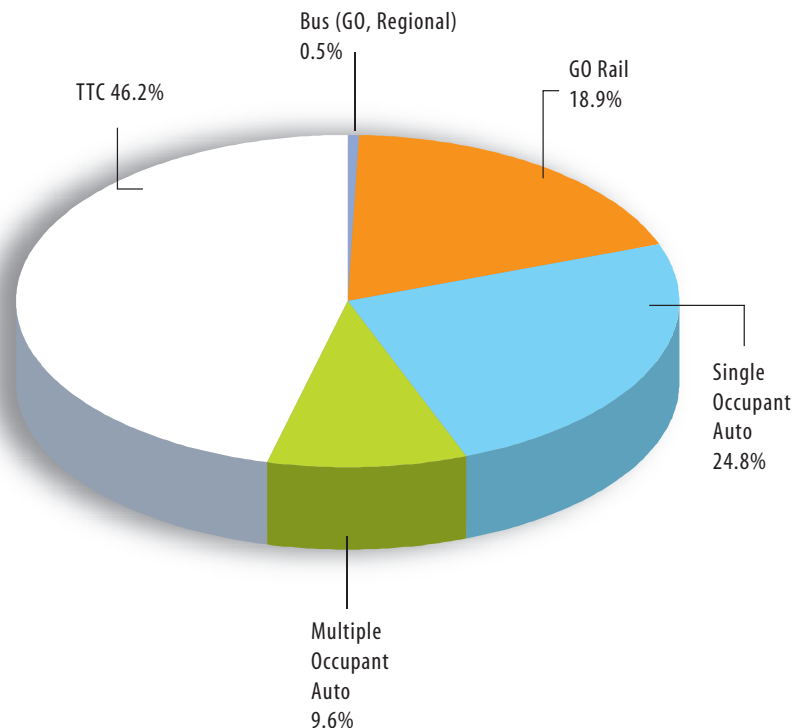
- Travel volumes into the Toronto Central Area can be matched with annual employment figures in the Central Area. The number of inbound person trips peaked in 2006. Between 1985 and 2006, inbound trips increased by 10% from 300,550 persons in 1985 to 331,600 persons in 2006. Between 2004 and 2006, inbound person trips increased by 5%.
- Outbound person trips have continued to grow since 1995 and also reached a peak in 2006. Between 1985 and 2006, outbound trips increased by 28% from 104,700 persons in 1985 to 133,800 persons in 2006. Between 2004 and 2006, outbound person trips increased by 18%.



4.3 Mode of Travel (Inbound Person Trips — 7:00 a.m. - 10:00 a.m.)

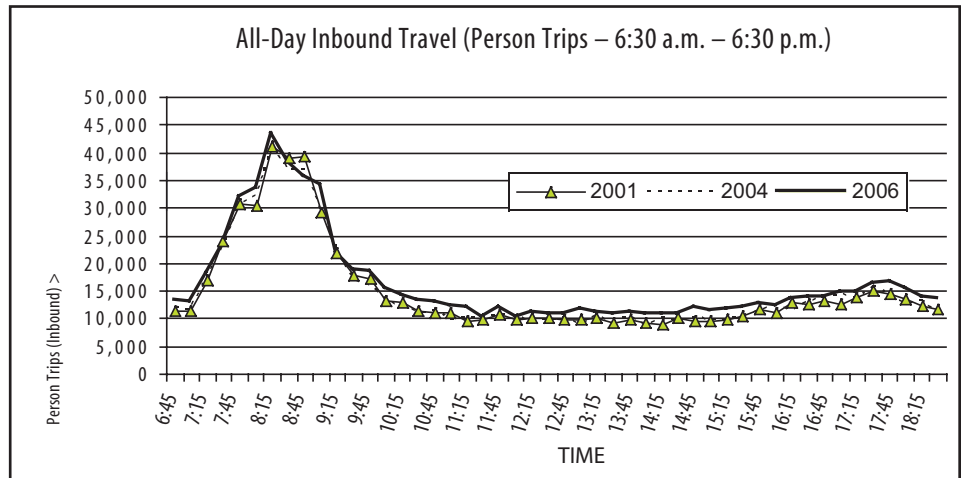
- In 2006, approximately 25% of person trips into Toronto's Central Area were made in single occupant automobiles. It is interesting to note that the proportion of single occupant vehicle trips at the City Boundary Cordon is much higher than the proportion entering the Central Area where transit plays a much more significant role.
- Transit accounted for almost two out of every three (66%) trips into the Central Area during the a.m. peak-period in 2006. It is important to note that the TTC remains the predominant mode of travel accommodating almost half (46%) of the trips into the Central Area during the a.m. peak period. GO train service accommodates approximately 19% of trips to the central area during the a.m. peak period.

Mode of Travel – Inbound Person Trips (7:00 a.m. - 10:00 a.m.) 2006



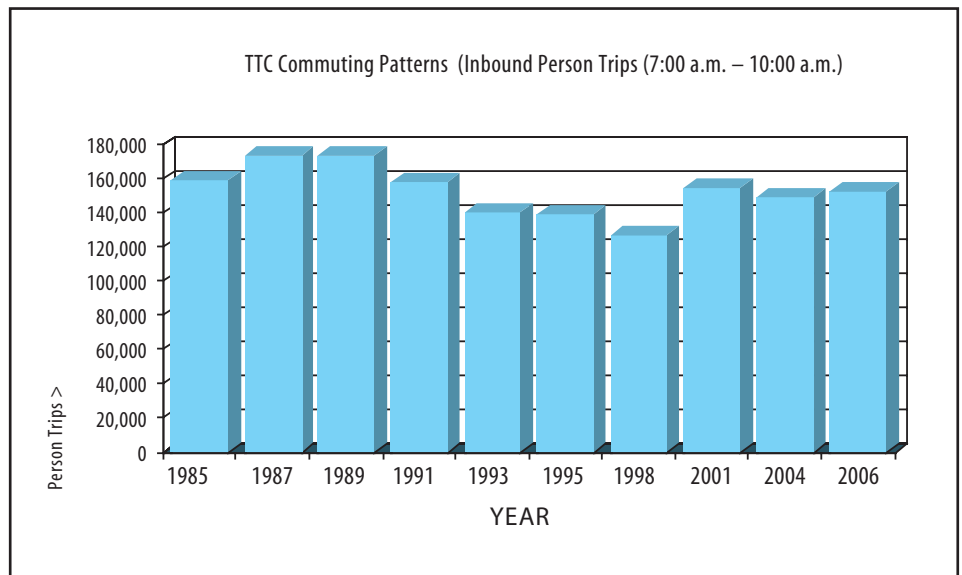
4.4 All-Day Inbound Travel (Person Trips - 6:30 a.m. - 6:30 p.m.)

- Trends in all-day inbound travel (6:30 a.m. - 6:30 p.m.) indicate a general pattern of travel which has not varied significantly since 2001. In 2006, there was a greater volume of inbound trips, at most times during the 12-hour period, than in all previous cordon count years.



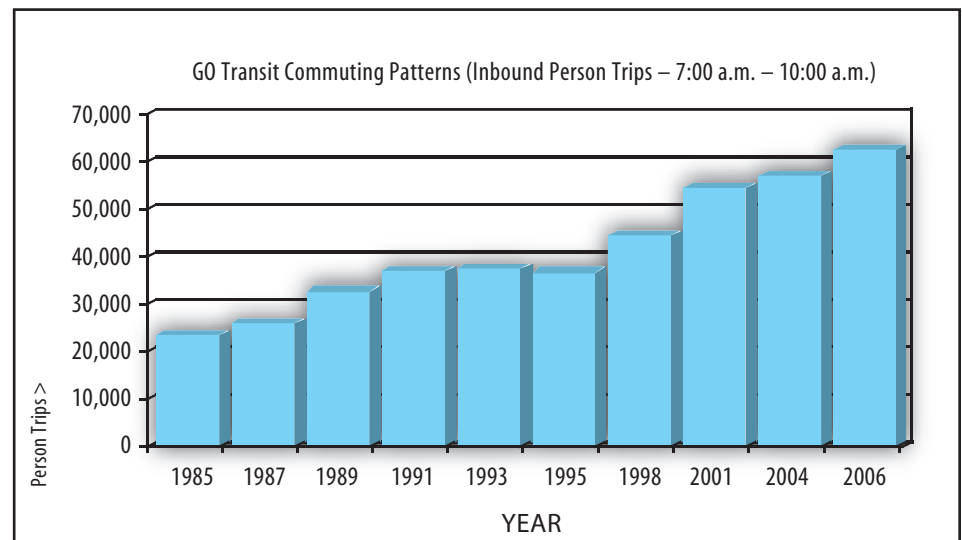
4.5 TTC Commuting Patterns (Inbound Person Trips - 7:00 a.m. - 10:00 a.m.)

- TTC ridership during the a.m. peak period has tended to fluctuate over the 1985 to 2006 period largely in response to prevailing economic conditions. Continued growth in TTC ridership into the Central Area is expected to continue as population and employment activities in the downtown continue to expand and as additional service and capacity is added to the TTC system.
- Between 2004 and 2006, total TTC trips to the Central Area increased by 2% from 149,400 person trips to 152,400 person trips.



4.6 GO Transit Commuting Patterns (Inbound Person Trips - 7:00 a.m. - 10:00 a.m.)

- Most of the growth in trips to the Central Area during the a.m. peak period has been accommodated on the GO rail system. In fact, GO Transit rail ridership has increased some 166%, from 23,500 trips in 1985 to 62,400 trips in 2006. The growth in travel by GO rail is expected to continue as additional service and capacity is added to the rail system.
- Between 2004 and 2006, GO rail ridership increased by 10% from 56,900 trips in 2004 to 62,400 trips in 2006.



5.0 Additional Information

A cordon count counting-station is located at each point where a road or transit route crosses a screenline. Screenlines may be combined to define a cordon to facilitate analysis of trips/vehicles entering or leaving a defined geographic area. Trips that both begin and end inside the cordon area are not counted, as they do not cross any screenline.

One-day counts are taken from Monday through Thursday during the months of May and June. The base counting period in 2006 was from 6:00 a.m. to 8:00 p.m. Field staff manually count vehicles by direction, type and by occupancy. Totals are recorded for every 15-minute period. The following categories of vehicles are recorded:

- **Passenger vehicles** – this category includes cars, passenger vans, pick-ups (with no evidence of a commercial use), motorcycles and bicycles. The number of vehicles and occupants are counted.
- **Taxi cabs/Airport limousines** – this category includes all taxi and airport limousine type vehicles. The number of vehicles and passengers (excluding the driver) are counted.
- **Commercial Vehicles** – this category includes light trucks (passenger type vehicles with evidence of commercial purposes), medium trucks (two axles, dual rear tires), heavy trucks (three or more axles) and heavy trucks with trailers (three or more axles with a trailer). The occupants of commercial vehicles are not counted.
- **Transit Vehicles** – this category includes TTC vehicles (subways, streetcars and buses), Regional buses (Mississauga, VIVA, York Region and Brampton Transit buses), GO rail, GO buses, school buses and all other types of buses (private coaches, tour buses etc). The numbers of passengers/ occupants (including the driver) are collected in this category.

Cordon Count staff are trained to estimate the number of passengers in private automobiles and transit vehicles using established guidelines. This training is particularly relevant to estimating the number of TTC subway riders crossing the Central Area Cordon. Tinted windows, vehicle speed and lighting conditions, as well as the distance of the counter from the vehicles being counted, impact the accuracy of vehicle occupancy counts.

Cordon count summaries are available by cordon, screenline or for a specific cordon count station. Information for various time periods and for any combination of vehicle and person categories is available. Time series comparisons may also be made between different count years.

For further information on the City of Toronto Cordon Count Program please contact:

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