

SYSTEM USAGE



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Transportation System Monitoring



As with other complex systems, York Region monitors the usage and performance of its transportation system. York Region's transportation system is an essential component of the economy allowing people and goods to move efficiently. The main purpose of monitoring is to provide critical data necessary to make informed decisions on improving the performance of our road and transit systems, such as expanding services when and where appropriate.

On the transit side, York Region Transit counts ridership levels on a regular basis on key routes and locations to determine the need for additional bus service and new bus stop facilities.

For the road network, programs to monitor traffic volumes, traffic delays and turning movements at intersections and between intersections are conducted annually. With the help of York Region Police, the number and types of collisions on the road network are also compiled.

YRT/VIVA Routes - Average Daily Ridership

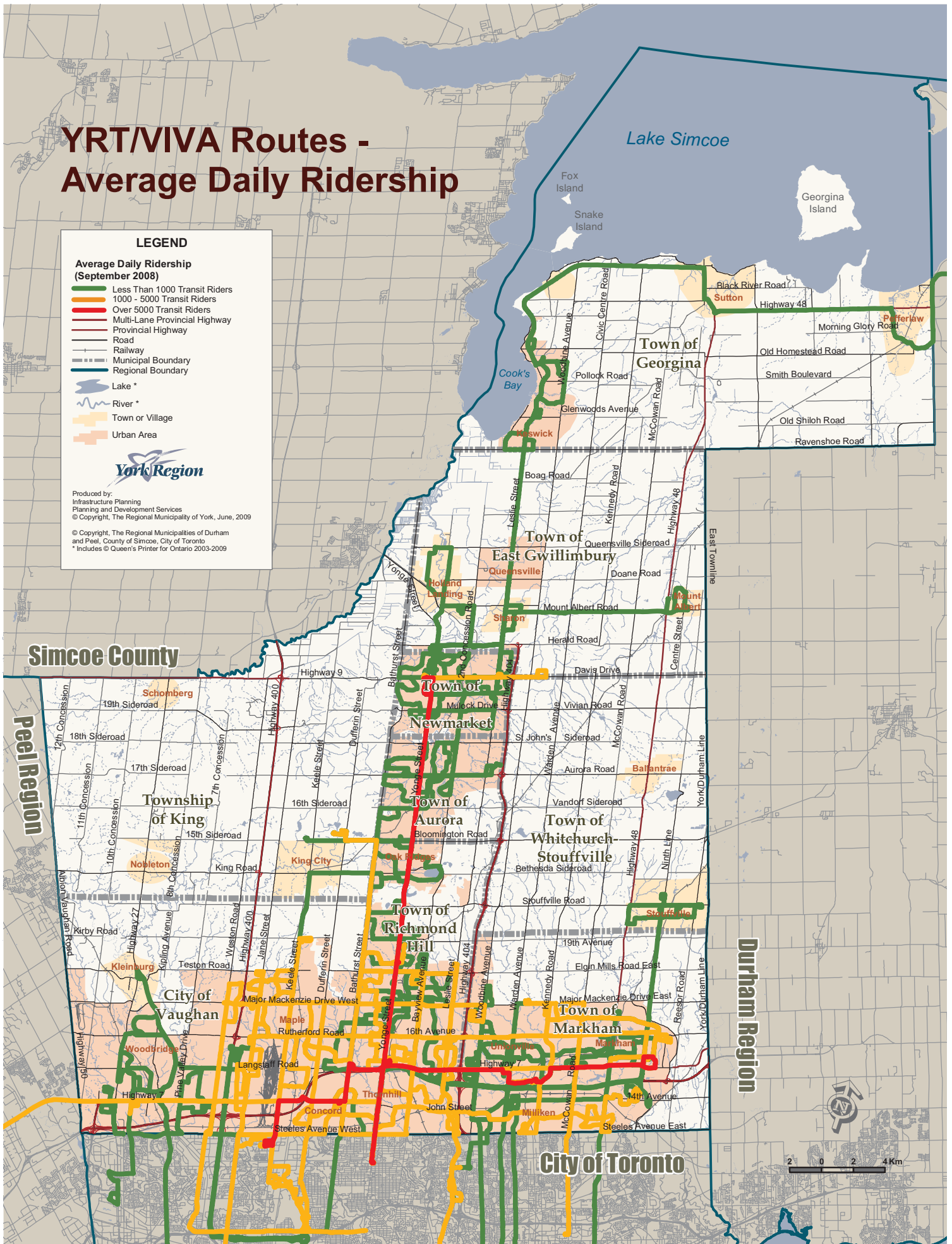
LEGEND

Average Daily Ridership (September 2008)

- Less Than 1000 Transit Riders
- 1000 - 5000 Transit Riders
- Over 5000 Transit Riders
- Multi-Lane Provincial Highway
- Provincial Highway
- Road
- Railway
- Municipal Boundary
- Regional Boundary
- Lake *
- River *
- Town or Village
- Urban Area



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Transit Route Passenger Volume



Since amalgamation of transit services in 2001, ridership in York Region has grown by almost 11 million riders or an average of 10% per year. YRT/Viva has experienced one of the highest growth rates in the Greater Toronto and Hamilton (GTAH) area and also one of the highest in Canada (as per Canadian Urban Transit Association Statistics). The higher rate of transit ridership growth can be attributed to increased population and employment growth, a heightened awareness of environmental stewardship, rising fuel costs and extensive marketing activities.

In 2008, YRT/Viva carried over 18.8 million revenue passenger trips. This figure equates to an average of 81,000 revenue passenger trips on an average weekday (based on September 2008 data).

Since 2001, YRT/Viva revenue hours have increased significantly from 350,000 to almost 1.2 million at the end of 2008, an average increase of almost

20% per year. This unprecedented investment in public transit reflects York Region's commitment to the transit system expansion and the development of a more balanced and transit supportive transportation network.



QUICK FACTS

In 2008, YRT/Viva carried 18.8 million passengers
5th highest ridership in Canada
More than 5,000 transit riders travel along Yonge Street and Highway 7 on a typical weekday

At the end of 2008, YRT/Viva system consisted of 126 routes (including 34 special routes designed for high school trips).

The YRT/Viva system consists of:

- Viva rapid transit routes
- Base routes (operating along major arterial corridors)
- Feeder or local routes operating in local neighbourhoods
- High school specials (which focus on specific student demand)
- GO Train shuttles
- Express services
- Community Bus routes (Richmond Hill, Markham, and Newmarket)

Each category of service plays an important role in the success of the overall network.

Road Traffic Monitoring Program

QUICK FACTS

- 9 Permanent Counting Stations (PCS) to monitor seasonal variations in traffic.
- Approximately 285 mid-block or short duration counts (ATR) annually.
- Over 300 counts at intersections (TMC) capturing turning movements, truck percentages, and pedestrian crossings.

York Region conducts yearly traffic monitoring programs in order to evaluate changes in traffic patterns on the Regional road system. This assists in setting the priority of various road rehabilitation and construction projects, determining warrants for traffic signals, calibrating traffic models, and assessing the impact of new development on the Regional road system. Two traffic volume statistics used in traffic analysis are: annual average daily traffic (AADT) and turning movement counts (TMC). For AADT, the traffic monitoring program consists of a permanent (continuous) count program and a short duration count program. For TMC's, manual counts at intersections must be conducted.

Permanent Count Station (PCS)

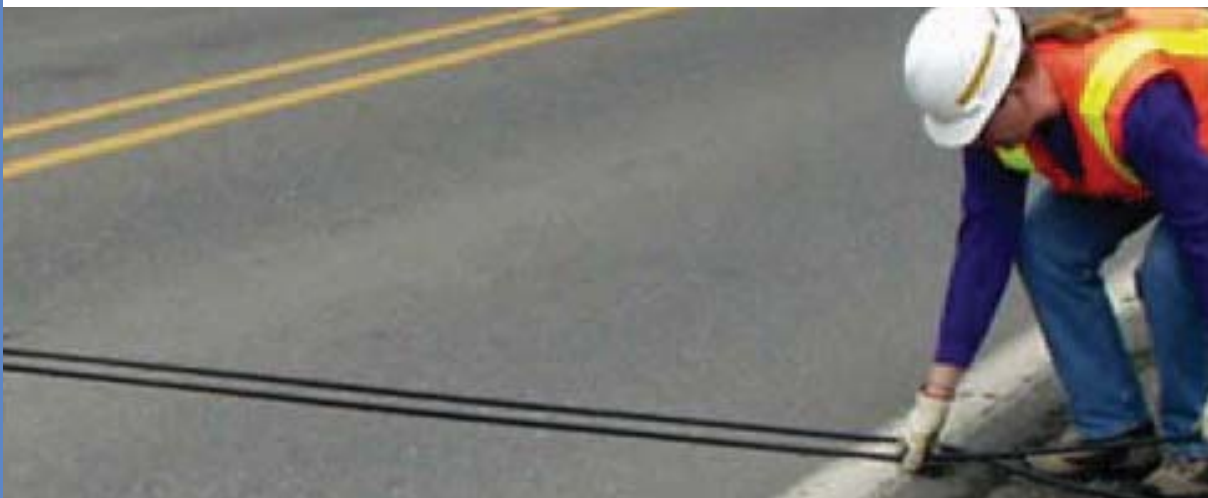
PCS data is needed to understand temporal (day-of-week, month, and seasonal) changes in traffic volume. Seasonal factors are applied to the short duration counts to develop the Region's AADT listing. The PCS program uses permanent vehicle detectors that are embedded into the pavement of the road making traffic data for every day of the year available. PCS detects traffic in each direction and is capable of detecting traffic in each lane. Currently, 9 PCS' are operational across the Region.

Short Duration or Automatic Traffic Recorder (ATR) Counts

The Region's ATR program consists of approximately 285 short duration counts per year along Regional road links. The short duration count program is designed to provide roadway segment-specific traffic count information on an ongoing basis and forms the basic component for calculating annual average daily traffic volumes.

Turning Movement Counts (TMC)

The Region conducts over 300 TMC surveys throughout the Region per year. A TMC is a manual count of an intersection generally over an eight hour period and captures detailed information such as the number of vehicles entering each approach of the intersection and each turning manoeuvre (i.e. left, through, or right). Information on the number of crossing pedestrians, heavy vehicles (3 or more axles), vehicle occupancy, and vehicle queues may also be collected as part of an intersection TMC.



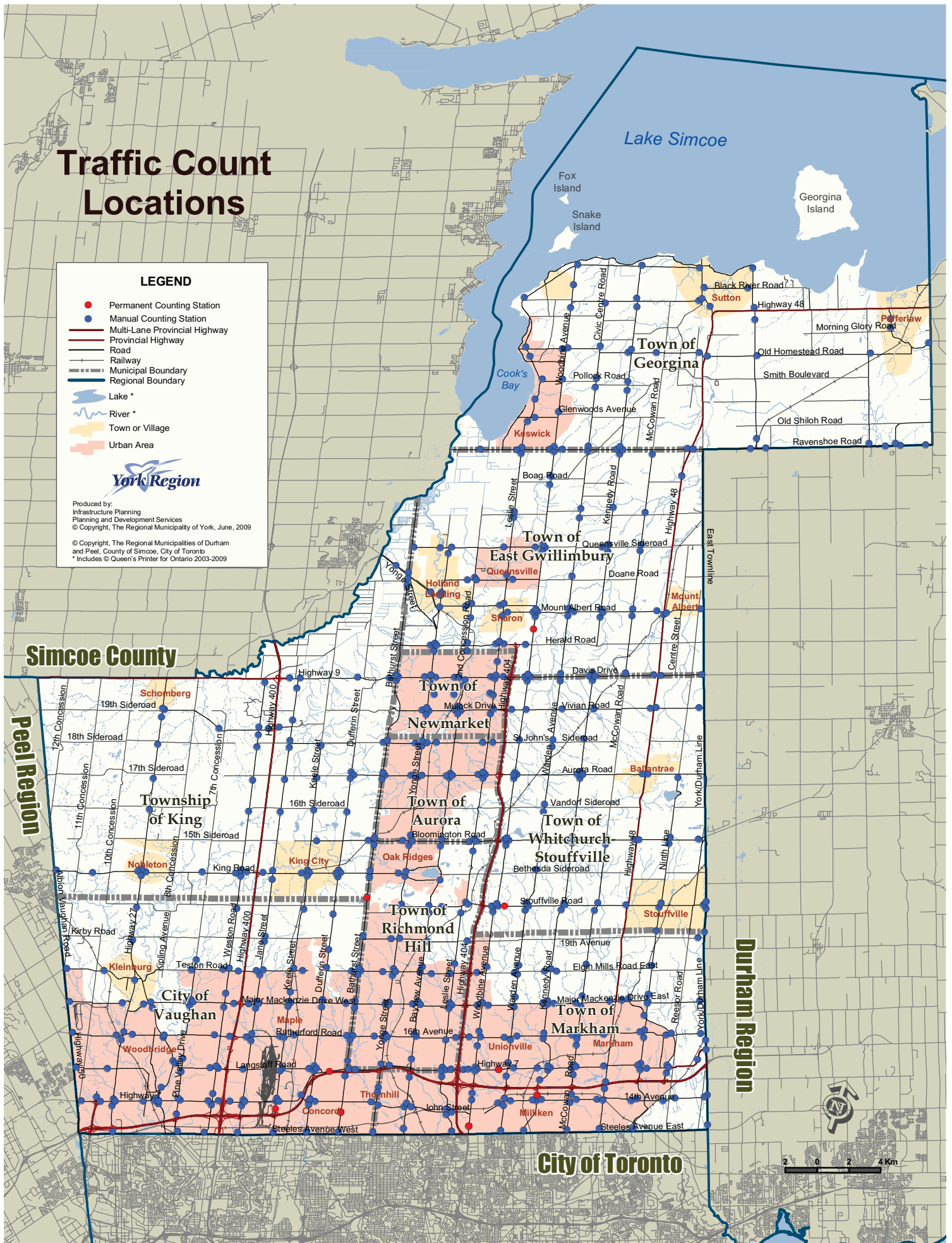
Traffic Count Locations

LEGEND

- Permanent Counting Station
- Manual Counting Station
- Multi-Lane Provincial Highway
- Provincial Highway
- Road
- Railway
- - - Municipal Boundary
- Regional Boundary
- Lake *
- River *
- Town or Village
- Urban Area



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2008 Annual Average Daily Traffic (AADT)

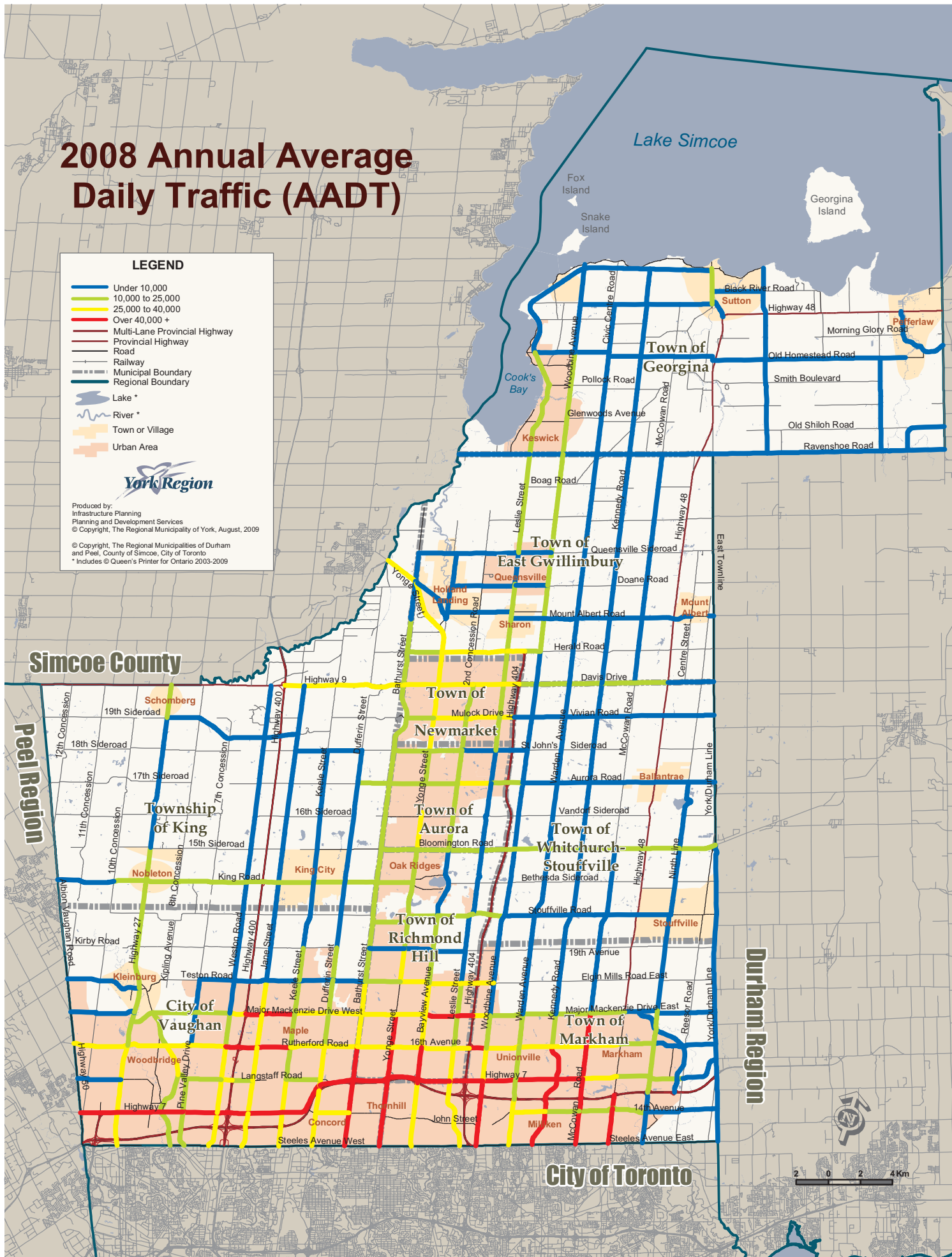
LEGEND

- Under 10,000
- 10,000 to 25,000
- 25,000 to 40,000
- Over 40,000 +
- Multi-Lane Provincial Highway
- Provincial Highway
- Road
- Railway
- Municipal Boundary
- Regional Boundary
- Lake *
- River *
- Town or Village
- Urban Area



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Annual Average Daily Traffic (AADT)

AADT volumes are generated through the use of two types of automated counting stations, Permanent Count Stations (PCS) and Automatic Traffic Recorder (ATR) counts; which are strategically placed throughout the Region.

As each ATR count only captures traffic a few days a year (typically a 7 day period), a PCS station which has similar characteristics is assigned to it as a control station. Since a full year's worth of traffic counts can be obtained from the PCS stations, coefficients (on a half-month basis) for each control station are calculated, and subsequently used to adjust for any seasonal variation in the non-permanent stations to calculate a Week Day (WDAADT) average and a 7 Day average (AADT).

Regional roads in the vicinity of major employment nodes are consistently among the highest volume roads in the Region. Highway 7 continues to be the Region's busiest road.



QUICK FACTS

In 2008, 15.9 million vehicle kilometres are travelled on 3,399 lane kilometres of Regional roads each day.



A full copy of the AADT Report is available through:

Road Safety & Traffic Data Management
Transportation Services Department

☎ 905-895-1200
ext. 5251

☎ 1-877-464-9675
ext. 5251

Truck Volumes on Regional Roads



High truck volumes are generally focused in key industrial areas such as the CN MacMillan Yard in Concord and the CP Intermodal Yard and Sears' Distribution Centre both on the western fringe of the City of Vaughan. Other areas within the Region that can be characterized as major truck routes are Highway 50 and Highway 7 in Vaughan, Woodbine Avenue in Markham, and Bloomington Road in Whitchurch-Stouffville which serves as a major aggregate haulage route. Highway 9 and King Road serve as key access points to and from northern urban York via Highway 400.

On the adjacent map, Regional roads are classified by a range of truck volumes (less than 1,000, 1,000 to 3,000 and over 3,000 trucks) during a typical 8-hour week-day period. Trucks are defined as medium and heavy trucks (three or more axles).



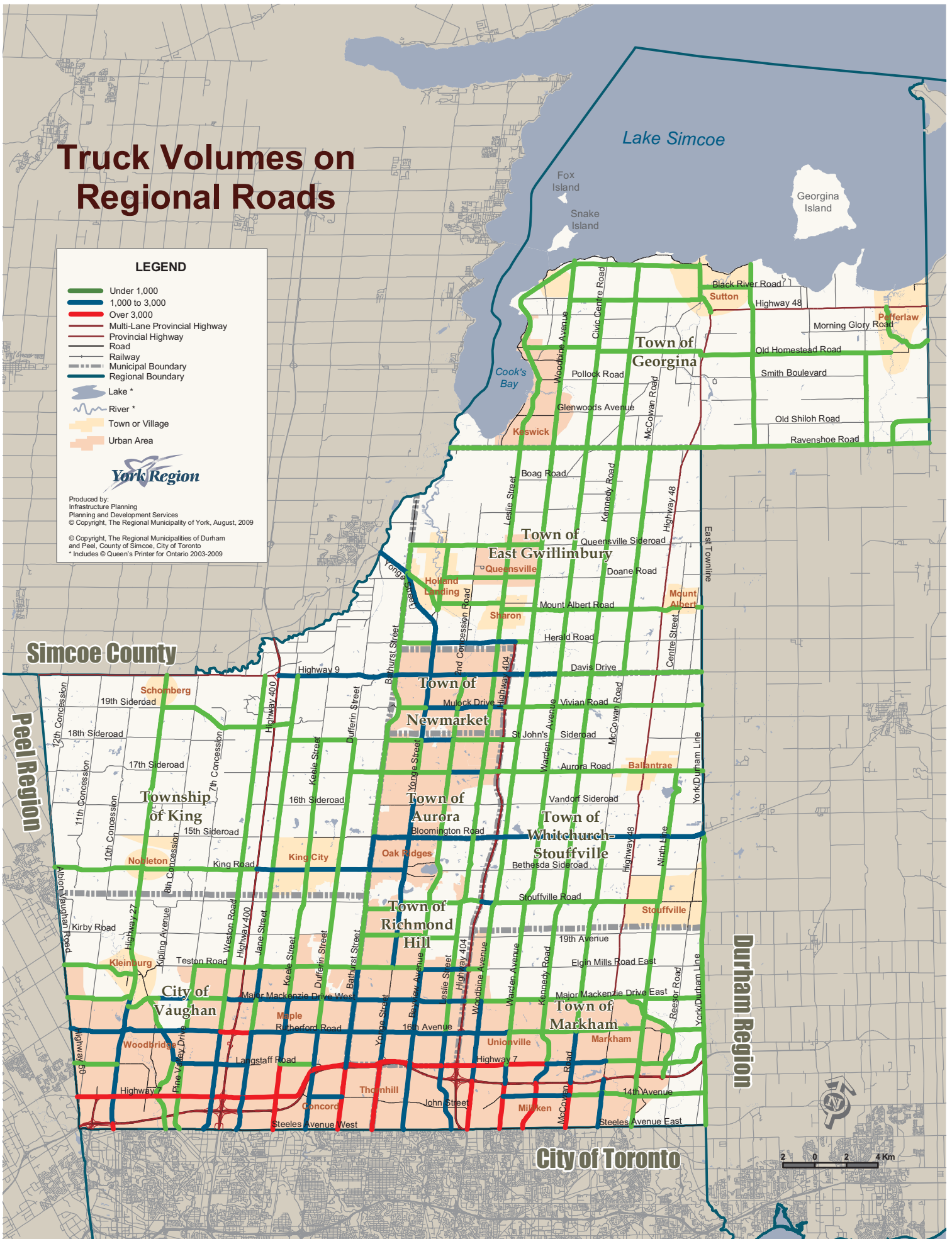
Truck Volumes on Regional Roads

LEGEND

- Under 1,000
- 1,000 to 3,000
- Over 3,000
- Multi-Lane Provincial Highway
- Provincial Highway
- Road
- Railway
- Municipal Boundary
- Regional Boundary
- Lake *
- ~ River *
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Top 10 Highest Volume Intersections



Highway 7 is York Region's most travelled roadway providing a link between Peel Region and Durham Region. Highway 7 is also a major connecting road to Highway 400 and Highway 404.

The volumes presented in the table below are derived from a 8-hour turning movement count (TMC) and represents traffic during a typical weekday.

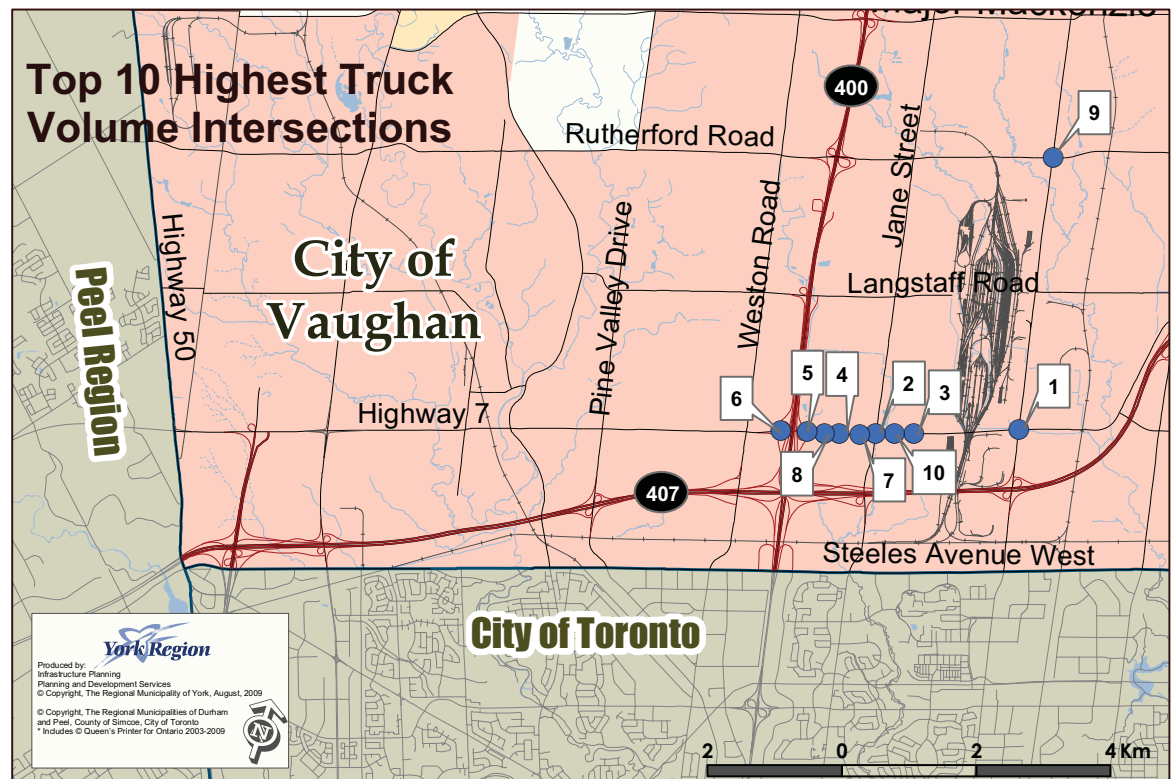
RANK	DESCRIPTION	YEAR COUNTED	TOTAL CARS	TOTAL TRUCKS	TOTAL PEDESTRIANS	% TRUCKS
1	Highway 7 at Highway 400 N.E. Ramp	2006	48,979	4,509	7	9
2	Highway 7 at Colossus Dr/ Highway 400 S.W. Ramp	2006	48,750	4,249	17	9
3	Highway 7 at Keele St.	2008	48,429	5,855	274	12
4	Highway 7 at Weston Rd.	2009	46,915	2,601	425	6
5	Highway 7 at Highway 404 S.W. Ramp	2004	45,685	2,019	5	4
6	Highway 7 at Woodbine Ave.	2003	44,087	2,268	46	5
7	Highway 7 at Leslie St.	2004	42,866	2,064	293	5
8	Highway 7 at Commerce Valley Dr. E.	2004	40,485	2,075	396	5
9	Highway 7 at Jane St.	2006	40,193	4,935	287	12
10	Highway 7 at Commerce St.	2009	39,549	3,716	4	9



Top 10 Highest Truck Volume Intersections

The top 10 highest truck volume intersections are predominately located on Highway 7 between Highway 400 and Keele Street.

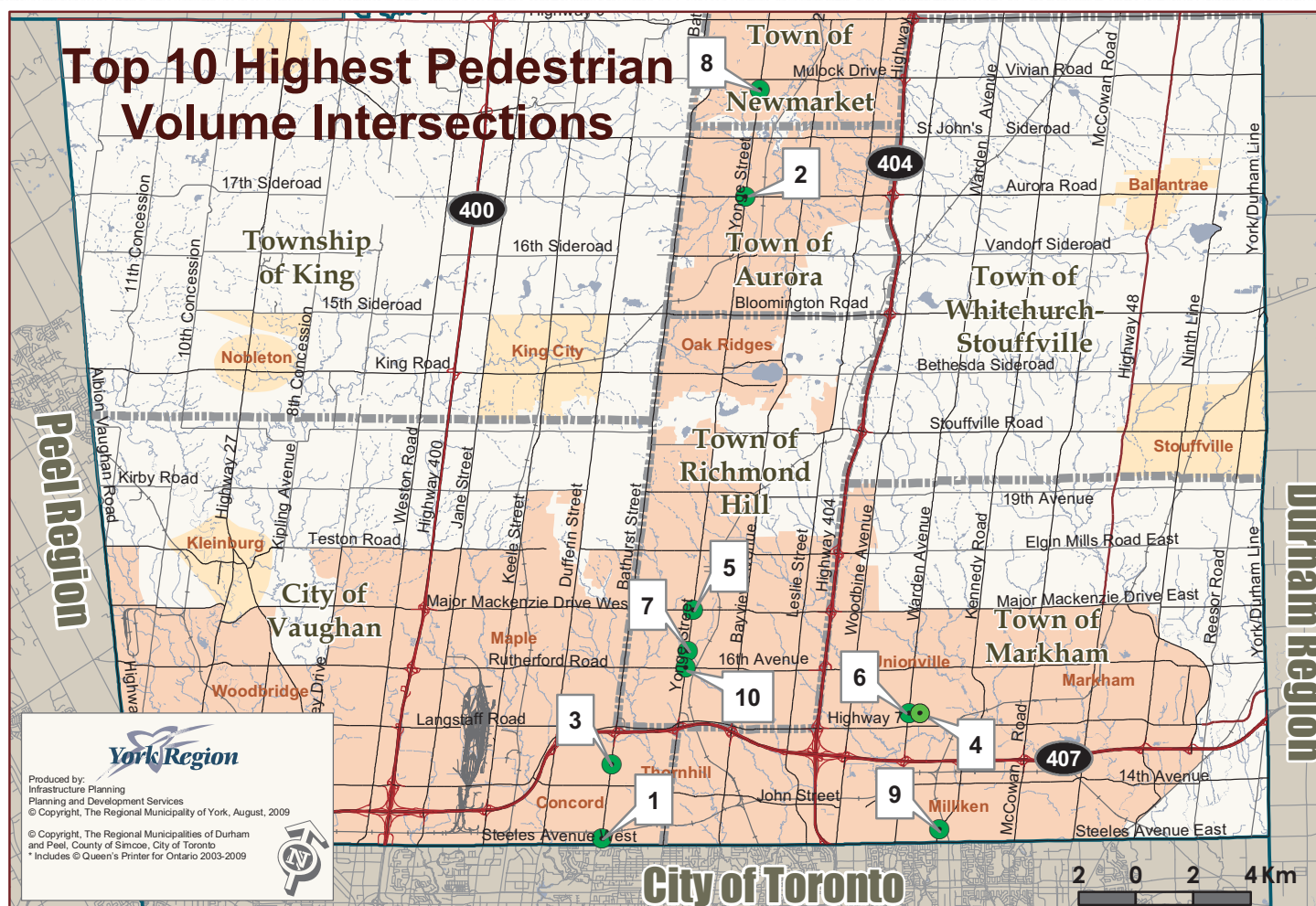
The volumes presented in the table below are also derived from a 8-hour turning movement count (TMC) and represents traffic during a typical weekday.



RANK	DESCRIPTION	YEAR COUNTED	TOTAL TRUCKS	TOTAL CARS	TOTAL PEDESTRIANS	% TRUCKS
1	Highway 7 at Keele St.	2008	5,855	48,429	274	12
2	Highway 7 at Jane St.	2006	4,935	40,193	287	12
3	Highway 7 at Creditstone Rd.	2003	4,569	28,458	51	16
4	Highway 7 at Edgeley Blvd.	2006	4,516	37,841	266	12
5	Highway 7 at Highway 400 N.E. Ramp	2006	4,509	48,979	7	9
6	Highway 7 at Colossus Dr./ Highway 400 S.W. Ramp	2006	4,249	48,750	17	9
7	Highway 7 at Millway Ave.	2006	3,778	30,151	65	13
8	Highway 7 at Commerce St.	2009	3,716	39,549	4	9
9	Keele St. at Rutherford Rd.	2007	3,517	38,887	197	9
10	Highway 7 at Maplecrete Rd.	2009	3,234	29,138	16	11



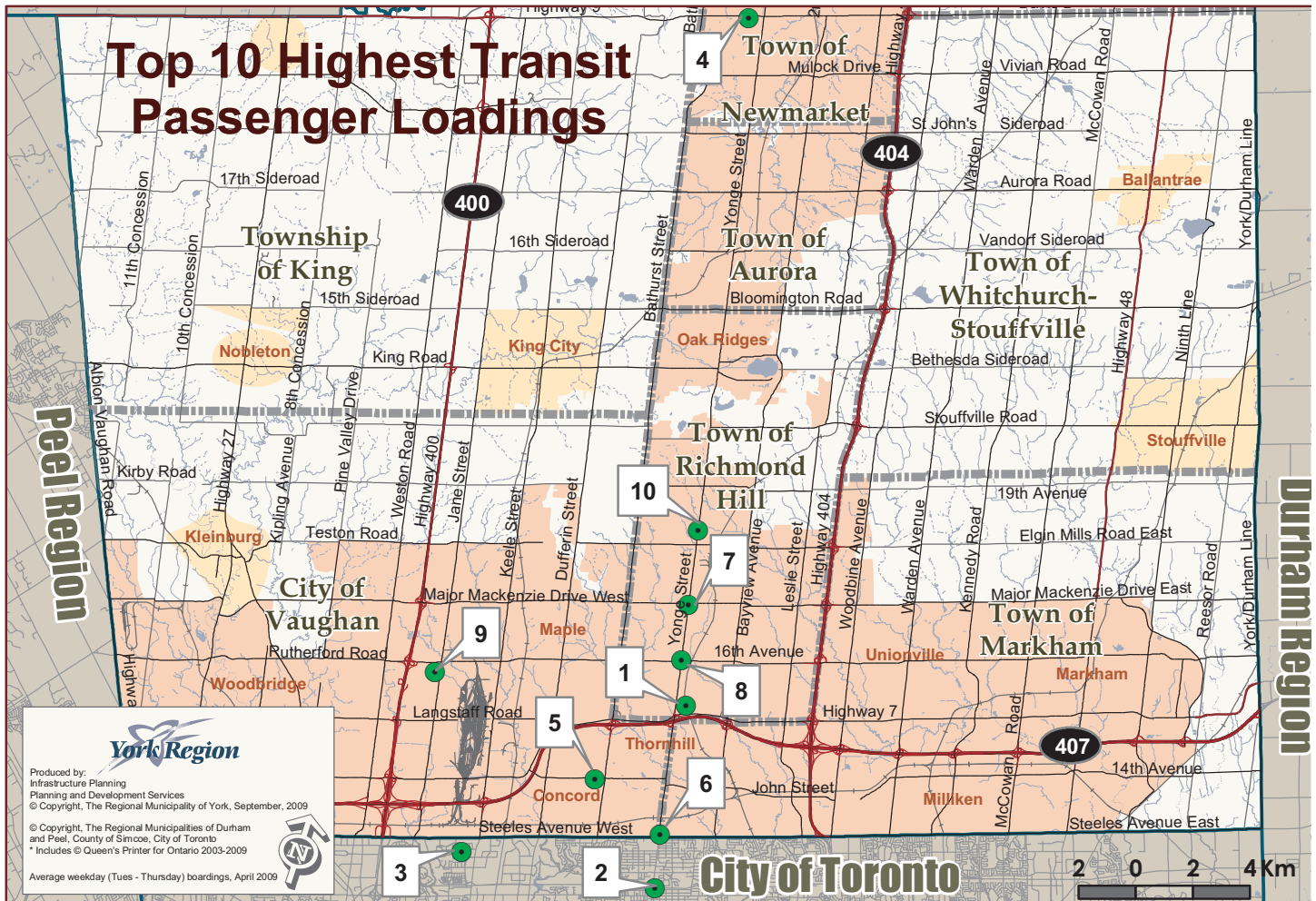
Top 10 Highest Pedestrian Volume Intersections



The Pedestrian volume data is derived from a 8-hour turning movement count (TMC) of the intersection and represents pedestrian crossings during a typical weekday. The intersections identified are within the proximity of large pedestrian generators such as schools, shopping centres and/or transit facilities.

RANK	DESCRIPTION	YEAR COUNTED	TOTAL PEDESTRIANS	TOTAL CARS	TOTAL TRUCKS
1	Bathurst St. at Townsgate Dr.	2008	1,910	26,532	683
2	Wellington St. E at Yonge St.	2008	1,160	20,118	2,840
3	Atkinson Ave/New Westminister Dr. at Bathurst St.	2009	1,092	33,712	958
4	Markham Town Sq. at Warden Ave.	2008	1,031	19,184	343
5	Major Mackenzie Dr. W at Yonge St.	2006	1,027	27,385	1,369
6	Apple Creek Blvd. at Warden Ave.	2008	982	26,834	415
7	Observatory Ln. at Yonge St.	2003	814	25,667	1,000
8	Sawmill Valley Dr. at Yonge St.	2008	798	21,601	766
9	Clayton Dr. at Kennedy Rd.	2008	786	21,057	566
10	16th Ave. at Yonge St.	2006	767	35,226	1,356

Top 10 Highest Transit Passenger Loadings



The Yonge Street Corridor is the highest transit passenger corridor in York Region with seven of the highest loading points being on Yonge Street. Not surprisingly, seven of the ten highest loading points are YRT/Viva terminals. The Richmond Hill Centre at Yonge Street and Highway 7 is becoming the "Union Station" of York Region as the major transfer point for north-south and east-west transit travel.

RANK	LOCATION	AVERAGE WEEKDAY BOARDINGS	AVERAGE WEEKDAY ALIGHTING
1	Richmond Hill Terminal - Highway 7 & Yonge St.	14,278	14,802
2	Finch GO Bus Terminal - Yonge St. & Finch Ave.	10,444	7,981
3	York University Terminal - Steeles Ave. & Keele St.	7,651	6,990
4	Newmarket GO Terminal - Davis Dr. & Eagle St.	5,180	5,356
5	Promenade Terminal - Bathurst St. & Centre St.	4,519	4,893
6	Yonge St. and Steeles Ave.	2,907	2,856
7	Yonge St. and Major Mackenzie Dr.	2,332	2,456
8	Yonge Street and 16th Ave.	2,271	2,760
9	Vaughan Mills Terminal - Rutherford Rd. and Jane St.	2,227	2,351
10	Bernard Terminal - Yonge St. & Bernard Ave.	1,773	2,156