

**TRANSPORTATION TOMORROW SURVEY**

**2006**

**DATA VALIDATION**

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2006

A TELEPHONE INTERVIEW SURVEY ON  
*Household Travel Behaviour in  
Greater Toronto and the Surrounding Areas  
Conducted in the Fall of 2005 and 2006*

VERSION 1.0

DATA VALIDATION

*Prepared for the  
Transportation Information  
Steering Committee*

*by the*

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University of Toronto*

DECEMBER 2008

## PARTICIPATING AGENCIES:

Ministry of Transportation, Ontario • City of Barrie • City of Brantford • City of Guelph  
City of Hamilton • City of Kawartha Lakes • City of Peterborough • City of Toronto  
County of Dufferin • County of Peterborough • County of Simcoe • County of Wellington  
GO Transit • Regional Municipality of Durham • Regional Municipality of Halton  
Regional Municipality of Niagara • Regional Municipality of Peel  
Regional Municipality of Waterloo • Regional Municipality of York  
Toronto Transit Commission • Town of Orangeville

# Table of Contents

<b>Summary</b> .....	<b>1</b>
<b>1 Introduction</b> .....	<b>3</b>
<b>2 Potential Sources of Error and Bias</b> .....	<b>4</b>
2.1 Sample Frame .....	4
2.2 Timing of Sample Selection .....	4
2.3 Bias Due to Non Response.....	5
2.4 Under Reporting of Trips.....	5
2.5 Incorrect Information .....	5
<b>3 Data Validation</b> .....	<b>6</b>
3.1 Dwelling Units and Population .....	6
3.2 Age and Gender.....	13
3.3 Employed Labour Force and Employment.....	16
3.4 School Enrollment.....	19
3.5 Traffic Volumes.....	23
3.6 Municipal Transit Ridership.....	28
3.7 GO Transit Ridership .....	42

## Tables and Charts

Table 1: Comparison of Expanded Totals by Municipality .....	6
Table 2: Comparison of Expanded Totals by Dwelling Type by Municipality .....	10
Table 3: Comparison of Proportion of Dwelling Type by Municipality by TTS Year .....	12
Table 4: Difference in 2006 TTS Female Population Relative to the Census .....	14
Table 5: Difference in 2006 TTS Male Population Relative to the Census .....	15
Table 6: Difference in 2006 TTS Employed Labour Force and Employment Relative to the Census .....	16
Table 7: University Enrollment - Fall 2005/2006 .....	20
Table 8: Community College Enrollment - Fall 2005/2006.....	21
Chart 1: A.M. Peak Period Traffic Volumes in Peak Direction .....	25
Chart 2: A.M. Peak Period Traffic Volumes in Reverse Direction .....	25
Table 9: A.M. Peak Period Traffic Volumes .....	26
Table 10: A.M. Peak 4 Hour Traffic Volumes .....	26
Chart 3: 13 Hour Traffic Volumes.....	27
Table 11: 13 Hour Traffic Volumes (6 a.m. to 7 p.m.) .....	27
Table 12: TTC Boardings .....	29
Table 13: Durham Region Transit Boardings.....	33
Table 14: York Region Transit Boardings .....	34
Table 15: Mississauga Transit Boardings .....	36
Table 16: Brampton Transit Boardings .....	38
Table 17: Oakville Transit Boardings .....	39
Table 18: Milton Transit Boardings .....	39
Table 19: Niagara Falls Transit Ridership.....	40
Table 20: Barrie Transit Ridership .....	41
Table 21: Brantford Transit Ridership .....	41
Table 22: GO Rail Daily Boardings .....	42
Table 23: GO Bus Daily Boardings .....	43

# Summary

## Dwelling Units

Dwelling unit counts from the 2006 census were used as control totals for the purpose of expanding the 2006 TTS data to represent the total population of the survey area. Therefore there is a precise match in dwelling unit totals between the census and TTS for most municipalities. Differences occur in municipalities where census tracts were aggregated due to a requirement of a minimum number of households for calculating expansion factors. As for municipalities without census tracts, expansion factors were calculated based on the municipality as a whole or aggregation of municipalities when there were insufficient data. Other differences in the total number of dwelling units occur due to discrepancies in boundary definition. These differences are minor and should not affect the overall utility of the TTS data. As in previous surveys, there is an under representation of apartment type dwelling in the 2006 TTS. A further investigation of its effect on travel pattern is required.

## Population

The 2006 TTS under represents the population of the survey area by an average of 2.8%, which is consistent with previous surveys. The under representation occurs in all regions with the exception of City of Guelph, which is slightly over represented by 0.5%. The under representation is attributable primarily to the exclusion of collective homes, such as hospitals, nursing homes and prisons. Babies less than 1 year old are under represented by 30%. The 18 to 27 age group is also under represented by 20% which is higher than previous survey. This can be the effect of low response rate and the exclusive use of cell phones. The geographic distribution of this age group is also somewhat different from the census data which can be attributed to the timing and definition of the survey relative to the census and the effect that has on the location of post secondary school students. Unlike previous surveys, people from the 48 to 67 age group are over represented. One possible explanation is that people from this age group are more likely to be included in telephone listings and hence are in the sample frame. In addition this age group has a higher response rate relative to other age groups. These differences in total population and age distribution need to be considered when using the TTS data for demographic purposes but should have minimal or no effect on the reliability of the trip data.

## Employed Labour Force and Employment

There are some discrepancies in the employed labour force and employment between the TTS and Canada Census data. The employed labour force distribution shares a similar pattern as the population distribution. There is an under representation of employment in the fringe of the survey area. This is expected as TTS does not account for employment held by residents in areas outside the TTS coverage. Seasonal variations might also account for the differences. Previous validation of the 1986, 1991, 1996 and 2001 TTS suggest that the 2006 TTS will prove to be a reliable source of information on both employed labour force and employment.

## Post Secondary School Students

Full time post secondary school students are under represented by the 2006 TTS. Further investigation of the discrepancies, and the validity the data used in the comparisons, should be carried out before the TTS data is used for any analysis that is specific to education institutes.

Under representation for part time post secondary enrollment occurred at the universities of Brock, Guelph, Trent and Waterloo, and at nearly all the colleges. Comparison of the TTS data with part time enrollment at post secondary schools is not meaningful without more detailed information on the nature and location of the courses being offered.

### **Travel Data**

The TTS data may be used with a high degree of confidence for the analysis of peak period travel patterns and travel behaviour characteristics specific to the peak period. There is no evidence of any under reporting of work or school trips or of other trips made in the morning peak period. Total daily travel on the TTC Subway, GO Rail, and most municipal bus services are closely represented by the survey data. The survey data under represents total daily automobile travel by about 22% and streetcar use in downtown Toronto by 21%. Total daily bus use in Toronto may be under represented by as much as 16%. These differences need to be considered when using the TTS data for the analysis of off peak or total daily travel. The detailed transit route information contained in the TTS database should be verified against actual boarding counts prior to using it for analysis of ridership characteristics at the individual route level.

The above findings are highly consistent with the results of the validation exercises performed for the 1986, 1991, 1996 and 2001 TTS. The data from the five surveys may therefore be used for almost any type of time series analysis for which there is sufficient data to ensure statistical accuracy.

# 1 Introduction

The 2006 TTS consists of demographic and travel information collected throughout the survey area. The sample frame is listed residential telephone numbers. The survey data has been expanded to represent the total population of the survey area by applying an expansion factor to all of the household, person and trip data associated with each household. The expansion factors are calculated by geographic area using total occupied dwelling unit counts from the 2006 Canada Census. The calculation of the expansion factors is described in the Data Management Group Report, 2006 TTS Working Paper Series: Data Expansion.

Chapter 2 of this report provides a discussion of potential sources of errors and bias due to the survey methodology and expansion process. Chapter 3 is devoted to data validation consisting primarily of comparisons made between the survey results and data obtained from a number of other independent sources. Those sources and data items include:

## Canada Census

- Dwelling units
- Population by age and gender
- Employment and Employed Labour Force

## Universities & Colleges

- Student Enrollment

## Municipal Cordon Counts

- Traffic volumes

## Transit Operators

- Transit ridership

The comparisons identify significant differences between the TTS and other data but the comparisons, of themselves, do not identify either the reason for the difference or which data set is likely to be the most reliable. Subjective evaluations, both as to the quality of the data being compared with and the reason for the differences, are provided where appropriate.

Except as noted the comparisons have been made using version 1.0 of the 2006 TTS database. Some of the earlier comparisons were done using the preliminary version. The differences between the versions are not significant.

## **2 Potential Sources of Error and Bias**

### **2.1 Sample Frame**

Listed residential telephone numbers do not provide total representation of all the households in the survey area. Households without phones or with unlisted numbers are excluded from the sample frame. An example of these would be institutions or collective homes such as prisons and hospitals. This is not a major concern for the purposes of transportation planning since the residents are not likely to be making a large number of trips.

The increasing use of cell phones as a substitute for landlines has become a concern for obtaining a complete sample frame. Cell phone numbers belong to individuals and are unlisted. Its effect on the survey results in terms of either demographics or travel behaviour is uncertain.

Validation done for the 1986 TTS revealed that households with unlisted phone numbers tend to be concentrated at the two opposite extremes of the economic spectrum with regard to household income. It was not possible to identify any specific characteristics that might translate into bias in terms of either demographics or travel behaviour. No further investigations of the effect of excluding unlisted numbers have been carried out for the other surveys. The effect on total population and age distribution is discussed in chapter 3.

The 2006 TTS does not consist of a random selection of households throughout the survey area. Some forward sortation areas (FSAs), the geographic aggregation that sample control processes were based on, have been sampled at a higher rate than others have due to low response rate. Within some areas, apartment buildings are under-represented relative to other types of dwelling. Comparison of number of dwellings with Census data will be presented in chapter 3.

### **2.2 Timing of Sample Selection**

The household composition of the survey area changes continuously as people migrate in and out of an area. The data files from which InfoCanada draws the sample are updated weekly and the lead-time required obtaining and processing the sample in advance of the survey is several weeks.

The samples for areas outside the Greater Toronto and Hamilton area were obtained in early August and mid October of 2005. Additional samples for these areas were obtained May 2007. Areas within GTHA were sampled in mid July and late September of 2006. The sample selection was staggered to ensure a reasonable representation of the student population in the cities outside the GTHA with universities and other post secondary school facilities. Additional samples for the GTHA were obtained in December 2006. Details of the sample selection process and problems encountered are contained in the report 2006 TTS: Design and Conduct of the Survey.

The Canada Census was carried out on May 16, 2006 and may therefore represent a slightly different population from that of the survey. The most significant difference is likely to be in the number and distribution of post secondary school students. These differences, and the effects on the results of the survey, are discussed in chapter 3.

### **2.3 Bias Due to Non Response**

The survey results could be biased if there are significant differences between the demographic and travel behaviour characteristics of households that respond to the survey relative to those that do not. A high response rate minimizes the potential for bias. Non-response may be due to failure to make contact with a household or their refusal to participate. The ease with which each household is contacted could be correlated to household size and frequency of trip making. Approximately 29% of the households in the sample were not contacted despite a minimum of 8 attempts. The potential bias due to that level of non-response is small.

Approximately 25% of the households contacted refused to participate in the survey. Although the number is significantly greater than for non-contact, there is no clear evidence to suggest that the demographic and travel characteristics of these households differ significantly from those that did participate in the survey. Follow up investigations of non-responders, done for other surveys, have generally been inconclusive.

### **2.4 Under Reporting of Trips**

The reliance on one member of each household to report person and trip information for all members of the household is a potential source of error and, more significantly, the under reporting of trip information. Separate studies comparing trip rates for “informants” and “non informants” have been done for both the 1986 and 1996 TTS. These studies showed a significant difference in reported trip rates for discretionary (non work or school related) travel by automobile. There was no significant difference in reported trip rates for travel to and from school or work, or for discretionary trips by public transit. The total extent of the under reporting of trip information is addressed in chapter 3.

### **2.5 Incorrect Information**

Individual items of information contained in the TTS may be incorrect due to errors made by respondents in answering the survey questions, mistakes made by the interviewers in recording the information or the inability of coding staff to assign the correct coordinates on the basis of the geographic information provided. Close monitoring and built in logic checks in the interview and coding software minimize, but do not eliminate, the potential for error.

### 3 Data Validation

#### 3.1 Dwelling Units and Population

The Canada Census provides detailed information on the number of households and the distribution of population throughout the country. It is for that reason that the dwelling unit counts from the census are used as the base for expansion of the TTS data. 2006 TTS Working Paper Series: Data Expansion contains the results of the validation of the 2006 TTS data in which the expanded household and person totals, aggregated by municipality, were compared with the census dwelling unit and population data at the census sub-division (CSD) level. In most cases there is a one to one correspondence between CSDs and municipalities. The results of the comparison are reproduced in Table 1 together with a summary by regional municipality.

A primary source of differences between the expanded TTS population and census population is the exclusion of institutions and collective dwelling units (hospitals, nursing homes, prisons etc.) from the survey. Institutions are included in the census population data but not in the dwelling unit count. The exclusion of institutional residents from the TTS does not necessarily result in a similar under reporting of total travel since most institutional residents do less travelling than the population in general. The difference in the total population of the survey area at 2.8%, compares with differences of 2.9%, 2.8%, 2.5% and 2.2% recorded in the 2001, 1996, 1991 and 1986 TTS respectively. The higher percentage in the more recent surveys is consistent with an increase in the average age of the population, which has, presumably, resulted in an increase in the population of institutions such as nursing homes.

Some of the variations between regions and individual municipalities may be attributed to the number and location of the institutions involved. The difference in timing between the census and the survey may also affect the distribution of population, particularly with respect to post secondary school students. This factor is discussed further in section 3.2.

**Table 1: Comparison of Expanded Totals by Municipality**

Municipality	Census		TTS Records		Expanded Total		Mean Factor	Difference	
	Occ. D.U.	Pop.	House	Person	House	Person		House	Person
1 PD1	100329	186875	4946	9272	100615	187708	20.34	0.3%	0.4%
2 PD2	82976	193619	4337	10335	82973	197539	19.13	0.0%	2.0%
3 PD3	90537	236464	4870	12466	90185	231272	18.52	-0.4%	-2.2%
4 PD4	96585	216317	5336	11868	96008	211016	17.99	-0.6%	-2.5%
5 PD5	46066	119821	2340	5943	46064	117377	19.69	0.0%	-2.0%
6 PD6	86752	206246	4632	11071	87393	208539	18.87	0.7%	1.1%
7 PD7	26245	56906	1250	2738	26244	57191	21.00	0.0%	0.5%
8 PD8	70544	183116	3743	9285	70542	175079	18.85	0.0%	-4.4%
9 PD9	28397	94469	1519	4652	28397	86891	18.69	0.0%	-8.0%
10 PD10	48411	142627	2509	7243	48412	140244	19.30	0.0%	-1.7%
11 PD11	71901	178873	3819	9428	71899	177263	18.83	0.0%	-0.9%
12 PD12	27480	79808	1488	4051	27479	75047	18.47	0.0%	-6.0%
13 PD13	78731	220352	4063	11009	78735	213363	19.38	0.0%	-3.2%
14 PD14	23851	61799	1346	3397	23851	60366	17.72	0.0%	-2.3%
15 PD15	24206	73574	1202	3450	24208	69485	20.14	0.0%	-5.6%
16 PD16	76312	252151	4212	13065	76310	237556	18.12	0.0%	-5.8%
<b>City of Toronto</b>	<b>979323</b>	<b>2503017</b>	<b>51612</b>	<b>129273</b>	<b>979314</b>	<b>2445937</b>	<b>18.97</b>	<b>0.0%</b>	<b>-2.3%</b>

**Table 1: Comparison of Expanded Totals by Municipality (cont'd)**

Municipality	Census		TTS Records		Expanded Total		Mean Factor	Difference	
	Occ. D.U.	Pop	House	Person	House	Person		House	Person
17 Brock	4422	11979	301	790	4422	11605	14.69	0.0%	-3.1%
18 Uxbridge	6658	19169	417	1128	6657	18162	15.96	0.0%	-5.3%
19 Scugog	7705	21439	470	1239	7703	20307	16.39	0.0%	-5.3%
20 Pickering	28210	87838	1289	3862	28212	84235	21.89	0.0%	-4.1%
21 Ajax	28616	90167	1302	3981	28617	87706	21.98	0.0%	-2.7%
22 Whitby	37240	111184	1824	5152	37239	105192	20.42	0.0%	-5.4%
23 Oshawa	54923	141590	2544	6407	54919	137512	21.59	0.0%	-2.9%
24 Clarington	26865	77820	1380	3845	26867	74782	19.47	0.0%	-3.9%
<b>Durham Region</b>	<b>194639</b>	<b>561186</b>	<b>9527</b>	<b>26404</b>	<b>194637</b>	<b>539501</b>	<b>20.43</b>	<b>0.0%</b>	<b>-3.9%</b>
25 Georgina	15392	42699	834	2188	15392	40407	18.46	0.0%	-5.4%
26 East Gwillimbury	6887	21069	400	1188	6887	20487	17.22	0.0%	-2.8%
27 Newmarket	25087	74295	1293	3734	25089	72350	19.40	0.0%	-2.6%
28 Aurora	15656	47629	866	2503	15654	45067	18.08	0.0%	-5.4%
29 Richmond Hill	51000	162704	2532	7822	50998	157970	20.14	0.0%	-2.9%
30 Whitchurch-Stouffville	8526	24390	457	1214	8526	22674	18.66	0.0%	-7.0%
31 Markham	77191	261573	4015	12883	77190	249032	19.23	0.0%	-4.8%
32 King	6398	19487	342	980	6397	18326	18.70	0.0%	-6.0%
33 Vaughan	69536	238866	3484	11540	69535	231209	19.96	0.0%	-3.2%
<b>York Region</b>	<b>275673</b>	<b>892712</b>	<b>14223</b>	<b>44052</b>	<b>275667</b>	<b>857522</b>	<b>19.38</b>	<b>0.0%</b>	<b>-3.9%</b>
34 Caledon	18214	57050	1133	3348	18214	54177	16.08	0.0%	-5.0%
35 Brampton	125934	433806	6060	20106	125935	416369	20.78	0.0%	-4.0%
36 Mississauga	214894	668549	10752	32588	214882	648584	19.99	0.0%	-3.0%
<b>Peel Region</b>	<b>359042</b>	<b>1159405</b>	<b>17945</b>	<b>56042</b>	<b>359031</b>	<b>1119129</b>	<b>20.01</b>	<b>0.0%</b>	<b>-3.5%</b>
37 Halton Hills	18812	55289	1090	3039	18812	52731	17.26	0.0%	-4.6%
38 Milton	18448	53939	1089	3102	18449	52885	16.94	0.0%	-2.0%
39 Oakville	56512	165561	3269	9230	56510	159714	17.29	0.0%	-3.5%
40 Burlington	63159	164415	3761	9374	63159	157397	16.79	0.0%	-4.3%
<b>Halton Region</b>	<b>156931</b>	<b>439204</b>	<b>9209</b>	<b>24745</b>	<b>156931</b>	<b>422726</b>	<b>17.04</b>	<b>0.0%</b>	<b>-3.8%</b>
41 Flamborough	13066	39220	702	2027	13065	37669	18.61	0.0%	-4.0%
42 Dundas	9384	24702	566	1385	9386	22974	16.58	0.0%	-7.0%
43 Ancaster	10785	33232	622	1785	10785	31000	17.34	0.0%	-6.7%
44 Glanbrook	5681	15293	338	866	5682	14613	16.81	0.0%	-4.4%
45 Stoney Creek	21781	62292	1194	3357	21781	60770	18.24	0.0%	-2.4%
46 Hamilton	133778	329820	6548	15760	133780	320043	20.43	0.0%	-3.0%
<b>City of Hamilton</b>	<b>194475</b>	<b>504559</b>	<b>9970</b>	<b>25180</b>	<b>194479</b>	<b>487070</b>	<b>19.51</b>	<b>0.0%</b>	<b>-3.5%</b>
<b>GTHA</b>	<b>2160083</b>	<b>6060083</b>	<b>112486</b>	<b>305696</b>	<b>2160058</b>	<b>5871885</b>	<b>19.20</b>	<b>0.0%</b>	<b>-3.1%</b>
51 Grimsby	8743	23937	530	1398	8744	23003	16.50	0.0%	-3.9%
52 Lincoln	7623	21722	402	1142	7623	21643	18.96	0.0%	-0.4%
53 Pelham	5933	16155	352	900	5934	15155	16.86	0.0%	-6.2%
54 Niagara on the Lake	5447	14587	306	734	5447	13065	17.80	0.0%	-10.4%
55 St Catharines	54730	131989	2837	6785	54727	130598	19.29	0.0%	-1.1%
56 Thorold	7054	18224	371	992	7053	18750	19.01	0.0%	2.9%
57 Niagara Falls	32482	82184	1537	3817	32485	80423	21.14	0.0%	-2.1%
58 Welland	20717	50331	1112	2697	20717	49949	18.63	0.0%	-0.8%
59 Port Colborne	7791	18599	431	1019	7791	18443	18.08	0.0%	-0.8%
60 Fort Erie	12219	29925	623	1443	12218	28231	19.61	0.0%	-5.7%
61 West Lincoln	4296	13167	256	791	4296	13273	16.78	0.0%	0.8%
62 Wainfleet	2390	6601	126	332	2390	6298	18.97	0.0%	-4.6%
<b>Niagara Region</b>	<b>169425</b>	<b>427421</b>	<b>8883</b>	<b>22050</b>	<b>169425</b>	<b>418830</b>	<b>19.07</b>	<b>0.0%</b>	<b>-2.0%</b>

**Table 1: Comparison of Expanded Totals by Municipality (cont'd)**

Municipality	Census		TTS Records		Expanded Total		Mean Factor	Difference	
	Occ. D.U.	Pop.	House	Person	House	Person		House	Person
63 Waterloo	36779	97475	1844	4885	36779	97370	19.95	0.0%	-0.1%
64 Kitchener	79377	204668	3689	9510	79218	202730	21.47	-0.2%	-0.9%
65 Cambridge	43275	120371	2161	5993	43432	120241	20.10	0.4%	-0.1%
66 North Dumfries	3050	9063	171	506	3051	9027	17.84	0.0%	-0.4%
67 Wilmot	6094	17097	321	913	6093	17329	18.98	0.0%	1.4%
68 Wellesley	2839	9789	166	575	2839	9833	17.10	0.0%	0.4%
69 Woolwich	6582	19658	379	1145	6581	19894	17.36	0.0%	1.2%
<b>Waterloo Region</b>	<b>177996</b>	<b>478121</b>	<b>8731</b>	<b>23527</b>	<b>177992</b>	<b>476425</b>	<b>20.39</b>	<b>0.0%</b>	<b>-0.4%</b>
<b>70 City of Guelph</b>	<b>42882</b>	<b>108899</b>	<b>2331</b>	<b>5968</b>	<b>42880</b>	<b>109489</b>	<b>18.40</b>	<b>0.0%</b>	<b>0.5%</b>
71 Puslinch	2341	6689	97	263	2341	6346	24.13	0.0%	-5.1%
72 Guelph/Eramosa	4069	12066	203	588	4068	11784	20.04	0.0%	-2.3%
73 Centre Wellington	9543	26049	577	1465	9544	24231	16.54	0.0%	-7.0%
79 Erin	3808	11148	199	555	3809	10623	19.14	0.0%	-4.7%
<b>Wellington County</b>	<b>19761</b>	<b>55952</b>	<b>1076</b>	<b>2871</b>	<b>19761</b>	<b>52984</b>	<b>18.37</b>	<b>0.0%</b>	<b>-5.3%</b>
<b>80 Town of Orangeville</b>	<b>9429</b>	<b>26925</b>	<b>549</b>	<b>1525</b>	<b>9429</b>	<b>26018</b>	<b>17.17</b>	<b>0.0%</b>	<b>-3.4%</b>
140 Mulmur	1195	3318	84	224	1195	3188	14.23	0.0%	-3.9%
141 Shelburne	1850	5149	207	547	1851	4890	8.94	0.0%	-5.0%
142 Amarath	1241	3845	113	327	1241	3590	10.98	0.0%	-6.6%
143 Melancthon	1004	2895	42	118	1004	2820	23.90	0.0%	-2.6%
144 Mono	2340	7071	137	402	2340	6866	17.08	0.0%	-2.9%
East Luther Grand									
145 Valley	965	2844	121	366	966	2921	7.98	0.1%	2.7%
146 East Garafraxa	773	2389	58	165	773	2199	13.33	0.0%	-7.9%
<b>Dufferin County</b>	<b>9368</b>	<b>27511</b>	<b>762</b>	<b>2149</b>	<b>9369</b>	<b>26475</b>	<b>12.30</b>	<b>0.0%</b>	<b>-3.8%</b>
<b>81 City of Barrie</b>	<b>46533</b>	<b>128430</b>	<b>2085</b>	<b>5579</b>	<b>46536</b>	<b>124651</b>	<b>22.32</b>	<b>0.0%</b>	<b>-2.9%</b>
82 Innisfil	11402	31175	675	1842	11402	31326	16.89	0.0%	0.5%
Bradford-West									
83 Gwillimbury	7946	24039	432	1347	7946	24767	18.39	0.0%	3.0%
84 New Tecumseth	10039	27701	475	1252	10040	26615	21.14	0.0%	-3.9%
85 Adjala-Tosorontio	3540	10695	169	504	3541	10559	20.95	0.0%	-1.3%
86 Essa	5683	16901	292	817	5682	15899	19.46	0.0%	-5.9%
87 Clearview	5011	14088	274	753	5011	13772	18.29	0.0%	-2.2%
88 Springwater	5942	17456	319	904	5941	16836	18.62	0.0%	-3.6%
127 Collingwood	7318	17290	450	1020	7317	16585	16.26	0.0%	-4.1%
128 Wasaga Beach	6236	15029	383	930	6235	15140	16.28	0.0%	0.7%
129 Tiny	4525	11368	233	637	4525	12371	19.42	0.0%	8.8%
130 Penetanguishene	3489	9354	215	561	3489	9105	16.23	0.0%	-2.7%
131 Midland	6897	16300	386	863	6898	15422	17.87	0.0%	-5.4%
132 Tay	3837	9748	211	547	3836	9944	18.18	0.0%	2.0%
133 Oro-Medonte	7322	20031	403	1135	7323	20623	18.17	0.0%	3.0%
134 Severn	4628	12030	244	605	4629	11477	18.97	0.0%	-4.6%
135 Ramara	4088	10273	217	533	4088	10042	18.84	0.0%	-2.3%
<b>Simcoe County</b>	<b>97903</b>	<b>263478</b>	<b>5378</b>	<b>14250</b>	<b>97903</b>	<b>260483</b>	<b>18.20</b>	<b>0.0%</b>	<b>-1.1%</b>
<b>136 City of Orillia</b>	<b>12238</b>	<b>30259</b>	<b>631</b>	<b>1482</b>	<b>12235</b>	<b>28736</b>	<b>19.39</b>	<b>0.0%</b>	<b>-5.0%</b>
<b>89 City of Kawartha lakes</b>	<b>29509</b>	<b>74561</b>	<b>1709</b>	<b>4096</b>	<b>29514</b>	<b>70738</b>	<b>17.27</b>	<b>0.0%</b>	<b>-5.1%</b>
<b>103 City of Peterborough</b>	<b>31204</b>	<b>74898</b>	<b>1733</b>	<b>4059</b>	<b>31204</b>	<b>72655</b>	<b>18.01</b>	<b>0.0%</b>	<b>-3.0%</b>

**Table 1: Comparison of Expanded Totals by Municipality (cont'd)**

Municipality	Census		TTS Records		Expanded Total		Mean Factor	Difference	
	Occ. D.U.	Pop.	House	Person	House	Person		House	Person
104 Cavan-Millbrook-North Monaghan	3018	8828	163	447	3019	8278	18.52	0.0%	-6.2%
Otanabee-South									
107 Monaghan	2749	7417	154	410	2749	7319	17.85	0.0%	-1.3%
108 Asphodel-Norwood	1631	4247	80	195	1631	3976	20.39	0.0%	-6.4%
111 Smith-Ennismore-Lakefield	7137	18473	388	965	7136	17692	18.39	0.0%	-4.2%
112 Douro-Dummer	2559	6954	135	310	2560	5878	18.96	0.0%	-15.5%
<b>Peterborough County</b>	<b>17094</b>	<b>45919</b>	<b>920</b>	<b>2327</b>	<b>17095</b>	<b>43143</b>	<b>18.58</b>	<b>0.0%</b>	<b>-6.0%</b>
<b>144 Brant County</b>	<b>12238</b>	<b>34415</b>	<b>617</b>	<b>1716</b>	<b>12235</b>	<b>34028</b>	<b>19.83</b>	<b>0.0%</b>	<b>-1.1%</b>
<b>145 City of Brantford</b>	<b>35609</b>	<b>90192</b>	<b>1740</b>	<b>4358</b>	<b>35608</b>	<b>88804</b>	<b>20.46</b>	<b>0.0%</b>	<b>-1.5%</b>
<b>Total Survey Area</b>	<b>2871272</b>	<b>7927064</b>	<b>149631</b>	<b>401653</b>	<b>2871245</b>	<b>7705341</b>	<b>19.19</b>	<b>0.0%</b>	<b>-2.8%</b>

Table 2 displays the comparison of 2006 TTS expanded totals and the census data by dwelling unit type. Apartments are under-represented overall in the TTS which might be caused by three factors. First, definitions of the dwelling types are not consistent. There are eight dwelling unit types defined by Statistics Canada and there are only three categories in TTS. At the same time, one of the dwelling unit types was redefined in the 2006 census. Definitions of dwelling types have also changed over time as new concepts were created by developers. Second, there were changes in the enumeration process used to classify dwelling unit type as well as definitions of occupied private households since the 2001 census. According to Statistics Canada, within the City of Toronto, the number of houses decreased by 15% (60,000 units) from 2001 whereas apartments increased by 19% (90,000 units). Further investigations are being carried out by individual regions. Third, apartment numbers are not included in the addresses on the advance letters. The distribution of telephone lists extracted from telephone directory information is governed by Canadian Radio-television and Telecommunications Commission (CRTC) regulations that do not permit the inclusion of information not contained in the white pages. As a general rule apartment numbers are not included in the white pages. As a result most people who live in apartments do not receive the advance letter sent to each household prior to being contacted by phone. Receipt of the advance letter reduces the probability that the recipient will refuse to participate in the survey and generally speeds up the interview process. Table 3 provides a comparison of each dwelling type by municipality by survey year. Although it is not recommended to use the TTS for trend analysis with respect to the number of apartment units, the numbers seem to be in the ballpark.

The fact that one segment of the populations does not receive the letter therefore introduces the possibility of systematic bias in the survey results.

**Table 2: Comparison of Expanded Totals by Dwelling Type by Municipality**

Municipality	TTS			Census			TTS %			Census %		
	House	Apt	T-hse	House	Apt	T-hse	Hse	Apt	T-hse	Hse	Apt	T-hse
<b>City of Toronto</b>	<b>488492</b>	<b>434708</b>	<b>56113</b>	<b>337850</b>	<b>586775</b>	<b>54685</b>	<b>50%</b>	<b>44%</b>	<b>6%</b>	<b>34%</b>	<b>60%</b>	<b>6%</b>
Brock	3893	470	59	3910	390	125	88%	11%	1%	88%	9%	3%
Uxbridge	5871	583	203	5675	725	270	88%	9%	3%	85%	11%	4%
Scugog	6931	673	98	7125	480	90	90%	9%	1%	93%	6%	1%
Pickering	22674	2880	2658	20275	4570	3370	80%	10%	9%	72%	16%	12%
Ajax	23265	2803	2548	20985	4380	3245	81%	10%	9%	73%	15%	11%
Whitby	29465	4013	3761	27805	5430	4000	79%	11%	10%	75%	15%	11%
Oshawa	40411	10324	4185	34850	15330	4750	74%	19%	8%	63%	28%	9%
Clarington	23693	1618	1557	22500	2345	2020	88%	6%	6%	84%	9%	8%
<b>Durham Region</b>	<b>156203</b>	<b>23364</b>	<b>15070</b>	<b>143125</b>	<b>33650</b>	<b>17870</b>	<b>80%</b>	<b>12%</b>	<b>8%</b>	<b>74%</b>	<b>17%</b>	<b>9%</b>
Georgina	13839	900	652	13080	1605	570	90%	6%	4%	86%	11%	4%
East Gwillimbury	6329	390	168	6105	570	215	92%	6%	2%	89%	8%	3%
Newmarket	19659	2977	2453	16820	5360	2910	78%	12%	10%	67%	21%	12%
Aurora	12096	1324	2234	10800	2270	2590	77%	8%	14%	69%	14%	17%
Richmond Hill	37772	6551	6675	34470	9535	7000	74%	13%	13%	68%	19%	14%
Whitchurch-Stouffville	7495	772	260	6995	1270	250	88%	9%	3%	82%	15%	3%
Markham	62645	7265	7279	55540	13215	8445	81%	9%	9%	72%	17%	11%
King	6245	135	17	6090	260	40	98%	2%	0%	95%	4%	1%
Vaughan	58111	5781	5642	53620	9250	6670	84%	8%	8%	77%	13%	10%
<b>York Region</b>	<b>224191</b>	<b>26095</b>	<b>25380</b>	<b>203520</b>	<b>43335</b>	<b>28690</b>	<b>81%</b>	<b>9%</b>	<b>9%</b>	<b>74%</b>	<b>16%</b>	<b>10%</b>
Caledon	17177	549	487	16655	765	790	94%	3%	3%	91%	4%	4%
Brampton	97742	17094	11098	82455	29430	14050	78%	14%	9%	65%	23%	11%
Mississauga	134641	50958	29284	112230	72955	29710	63%	24%	14%	52%	34%	14%
<b>Peel Region</b>	<b>249560</b>	<b>68601</b>	<b>40869</b>	<b>211340</b>	<b>103150</b>	<b>44550</b>	<b>70%</b>	<b>19%</b>	<b>11%</b>	<b>59%</b>	<b>29%</b>	<b>12%</b>
Halton Hills	15827	1784	1202	14835	2610	1365	84%	9%	6%	79%	14%	7%
Milton	14631	1633	2185	13960	1710	2780	79%	9%	12%	76%	9%	15%
Oakville	41800	8191	6519	38915	9640	7975	74%	14%	12%	69%	17%	14%
Burlington	39826	12832	10502	36600	15055	11505	63%	20%	17%	58%	24%	18%
<b>Halton Region</b>	<b>112084</b>	<b>24440</b>	<b>20408</b>	<b>104310</b>	<b>29015</b>	<b>23625</b>	<b>71%</b>	<b>16%</b>	<b>13%</b>	<b>66%</b>	<b>18%</b>	<b>15%</b>
<b>City of Hamilton</b>	<b>131936</b>	<b>47270</b>	<b>15273</b>	<b>118765</b>	<b>57075</b>	<b>18640</b>	<b>68%</b>	<b>24%</b>	<b>8%</b>	<b>61%</b>	<b>29%</b>	<b>10%</b>
Grimsby	6770	910	1064	6555	975	1195	77%	10%	12%	75%	11%	14%
Lincoln	6625	391	607	6270	640	715	87%	5%	8%	82%	8%	9%
Pelham	5169	470	295	5110	565	245	87%	8%	5%	86%	10%	4%
Niagara-On-The-Lake	4984	214	249	5025	150	280	91%	4%	5%	92%	3%	5%
St. Catharines	40808	10887	3031	35100	15510	4120	75%	20%	6%	64%	28%	8%
Thorold	6216	690	147	5725	1125	205	88%	10%	2%	81%	16%	3%
Niagara Falls	26370	4818	1297	23705	7045	1730	81%	15%	4%	73%	22%	5%
Welland	16617	3281	819	15075	4885	750	80%	16%	4%	73%	24%	4%
Port Colborne	6397	1181	213	5955	1715	120	82%	15%	3%	76%	22%	2%
Fort Erie	10654	1443	120	10305	1745	170	87%	12%	1%	84%	14%	1%
West Lincoln	3994	185	117	3915	190	200	93%	4%	3%	91%	4%	5%
Wainfleet	2333	38	19	2335	45	5	98%	2%	1%	98%	2%	0%
<b>Niagara Region</b>	<b>136937</b>	<b>24508</b>	<b>7978</b>	<b>125075</b>	<b>34590</b>	<b>9735</b>	<b>81%</b>	<b>14%</b>	<b>5%</b>	<b>74%</b>	<b>20%</b>	<b>6%</b>

**Table 2: Comparison of Expanded Totals by Dwelling Type by Municipality (cont'd)**

Municipality	TTS			Census			TTS %			Census %		
	House	Apt	T-hse	House	Apt	T-hse	Hse	Apt	T-hse	Hse	Apt	T-hse
Waterloo	26030	6774	3975	22695	9540	4540	71%	18%	11%	62%	26%	12%
Kitchener	54351	18133	6734	44475	26585	8310	69%	23%	9%	56%	33%	10%
Cambridge	34065	6212	3155	29745	8910	4625	78%	14%	7%	69%	21%	11%
North Dumfries	2837	196	18	2875	160	25	93%	6%	1%	94%	5%	1%
Wilmot	5675	342	76	5475	520	100	93%	6%	1%	90%	9%	2%
Wellesley	2633	171	34	2690	100	40	93%	6%	1%	95%	4%	1%
Woolwich	5749	658	174	5930	445	210	87%	10%	3%	90%	7%	3%
<b>Waterloo Region</b>	<b>131339</b>	<b>32486</b>	<b>14166</b>	<b>113885</b>	<b>46260</b>	<b>17850</b>	<b>74%</b>	<b>18%</b>	<b>8%</b>	<b>64%</b>	<b>26%</b>	<b>10%</b>
<b>City of Guelph</b>	<b>29731</b>	<b>9050</b>	<b>4099</b>	<b>25960</b>	<b>13530</b>	<b>5210</b>	<b>69%</b>	<b>21%</b>	<b>10%</b>	<b>58%</b>	<b>30%</b>	<b>12%</b>
Puslinch	2268	48	24	2290	55	0	97%	2%	1%	98%	2%	0%
Guelph/Eramosa	3908	80	80	3775	170	125	96%	2%	2%	93%	4%	3%
Centre Wellington	8154	1207	182	7855	1290	390	85%	13%	2%	82%	14%	4%
Erin	3617	191	0	3620	190	5	95%	5%	0%	95%	5%	0%
<b>Wellington County</b>	<b>17947</b>	<b>1526</b>	<b>286</b>	<b>17540</b>	<b>1705</b>	<b>520</b>	<b>91%</b>	<b>8%</b>	<b>1%</b>	<b>89%</b>	<b>9%</b>	<b>3%</b>
<b>Town of Orangeville</b>	<b>7484</b>	<b>1422</b>	<b>523</b>	<b>6815</b>	<b>1680</b>	<b>935</b>	<b>79%</b>	<b>15%</b>	<b>6%</b>	<b>72%</b>	<b>18%</b>	<b>10%</b>
Mulmur	1167	28	0	1165	15	10	98%	2%	0%	98%	1%	1%
Shelburne	1484	313	54	1385	380	80	80%	17%	3%	75%	21%	4%
Amaranth	1230	11	0	1210	25	0	99%	1%	0%	98%	2%	0%
Melancthon	1004	0	0	960	25	15	100%	0%	0%	96%	3%	2%
Mono	2255	85	0	2305	30	0	96%	4%	0%	99%	1%	0%
East Luther Grand Valley	870	72	24	855	95	15	90%	7%	2%	89%	10%	2%
East Garafraxa	773	0	0	765	5	0	100%	0%	0%	99%	1%	0%
<b>Dufferin County</b>	<b>8783</b>	<b>509</b>	<b>78</b>	<b>8645</b>	<b>575</b>	<b>120</b>	<b>94%</b>	<b>5%</b>	<b>1%</b>	<b>93%</b>	<b>6%</b>	<b>1%</b>
<b>City of Barrie</b>	<b>36856</b>	<b>6198</b>	<b>3482</b>	<b>31150</b>	<b>10800</b>	<b>4590</b>	<b>79%</b>	<b>13%</b>	<b>7%</b>	<b>67%</b>	<b>23%</b>	<b>10%</b>
Innisfil	11030	222	150	10825	305	275	97%	2%	1%	95%	3%	2%
Bradford-West Gwillimbury	7042	672	232	6515	1230	205	89%	8%	3%	82%	15%	3%
New Tecumseth	8718	833	488	7945	1425	675	87%	8%	5%	79%	14%	7%
Adjala-Tosorontio	3184	63	0	3470	65	5	98%	2%	0%	98%	2%	0%
Essa	5368	390	217	5260	290	130	90%	7%	4%	93%	5%	2%
Clearview	4607	294	110	4630	205	170	92%	6%	2%	93%	4%	3%
Springwater	5685	219	36	5635	285	10	96%	4%	1%	95%	5%	0%
Collingwood	5447	1463	406	5000	1745	575	74%	20%	6%	68%	24%	8%
Wasaga Beach	6089	114	33	5935	215	95	98%	2%	1%	95%	3%	2%
Tiny	4486	39	0	4250	95	0	99%	1%	0%	98%	2%	0%
Penetanguishene	2921	536	32	2530	895	65	84%	15%	1%	72%	26%	2%
Midland	5468	1269	161	4920	1710	270	79%	18%	2%	71%	25%	4%
Tay	3727	109	0	3705	135	0	97%	3%	0%	96%	4%	0%
Oro-Medonte	7195	127	0	7110	185	25	98%	2%	0%	97%	3%	0%
Severn	4458	171	0	4405	225	5	96%	4%	0%	95%	5%	0%
Ramara	3900	57	132	3470	70	245	95%	1%	3%	92%	2%	6%
<b>Simcoe County</b>	<b>89326</b>	<b>6578</b>	<b>1997</b>	<b>85605</b>	<b>9080</b>	<b>2750</b>	<b>91%</b>	<b>7%</b>	<b>2%</b>	<b>88%</b>	<b>9%</b>	<b>3%</b>
<b>City of Orillia</b>	<b>8997</b>	<b>2695</b>	<b>543</b>	<b>7650</b>	<b>3760</b>	<b>820</b>	<b>74%</b>	<b>22%</b>	<b>4%</b>	<b>63%</b>	<b>31%</b>	<b>7%</b>

**Table 2: Comparison of Expanded Totals by Dwelling Type by Municipality (cont'd)**

Municipality	TTS			Census			TTS %			Census %		
	House	Apt	T-hse	House	Apt	T-hse	Hse	Apt	T-hse	Hse	Apt	T-hse
<b>City of Kawartha Lakes</b>	<b>26060</b>	<b>3040</b>	<b>414</b>	<b>25535</b>	<b>3525</b>	<b>445</b>	<b>88%</b>	<b>10%</b>	<b>1%</b>	<b>87%</b>	<b>12%</b>	<b>2%</b>
<b>City of Peterborough</b>	<b>22753</b>	<b>7345</b>	<b>1106</b>	<b>19155</b>	<b>9890</b>	<b>2165</b>	<b>73%</b>	<b>24%</b>	<b>4%</b>	<b>61%</b>	<b>32%</b>	<b>7%</b>
Cavan-Millbrook-North Monaghan	2871	148	0	2880	135	0	95%	5%	0%	96%	4%	0%
Otonabee-South Monaghan	2660	89	0	2500	50	25	97%	3%	0%	97%	2%	1%
Asphodel-Norwood	1488	122	20	1490	135	0	91%	7%	1%	92%	8%	0%
Douro-Dummer	2503	57	0	2510	50	0	98%	2%	0%	98%	2%	0%
Smith-Ennismore-Lakefield	6778	301	57	6425	225	85	95%	4%	1%	95%	3%	1%
<b>Peterborough County</b>	<b>16300</b>	<b>717</b>	<b>77</b>	<b>15805</b>	<b>595</b>	<b>110</b>	<b>95%</b>	<b>4%</b>	<b>0%</b>	<b>96%</b>	<b>4%</b>	<b>1%</b>
<b>Brant County</b>	<b>11164</b>	<b>932</b>	<b>139</b>	<b>11195</b>	<b>655</b>	<b>385</b>	<b>91%</b>	<b>8%</b>	<b>1%</b>	<b>91%</b>	<b>5%</b>	<b>3%</b>
<b>City of Brantford</b>	<b>27488</b>	<b>6444</b>	<b>1677</b>	<b>23905</b>	<b>8755</b>	<b>2955</b>	<b>77%</b>	<b>18%</b>	<b>5%</b>	<b>67%</b>	<b>25%</b>	<b>8%</b>

**Table 3: Comparison of Proportion of Dwelling Type by Municipality by TTS Year**

Municipality	%House			%Apartment			%Townhouse		
	1996	2001	2006	1996	2001	2006	1996	2001	2006
City of Toronto	49%	46%	50%	47%	50%	44%	4%	3%	6%
Durham Region	78%	80%	80%	16%	14%	12%	6%	6%	8%
York Region	83%	83%	81%	12%	10%	9%	6%	7%	9%
Peel Region	64%	68%	70%	26%	24%	19%	10%	8%	11%
Halton Region	71%	73%	71%	20%	18%	16%	10%	9%	13%
City of Hamilton	69%	69%	68%	26%	26%	24%	6%	5%	8%
Niagara Region	77%	79%	81%	19%	17%	14%	4%	5%	5%
Waterloo Region	66%		74%	26%		18%	8%		8%
City of Guelph	63%	66%	69%	30%	27%	21%	7%	8%	10%
Wellington County	90%	89%	91%	8%	9%	8%	1%	2%	1%
Town of Orangeville	80%	81%	79%	15%	11%	15%	5%	8%	6%
City of Barrie	70%	75%	79%	24%	18%	13%	7%	7%	7%
City of Orillia		73%	74%		21%	22%		6%	4%
Simcoe County	91%	90%	91%	6%	8%	7%	2%	2%	2%
City of Kawartha Lakes	86%	89%	88%	12%	10%	10%	2%	1%	1%
City of Peterborough	69%	72%	73%	27%	24%	24%	4%	4%	4%
Peterborough County	96%	96%	95%	4%	4%	4%	0%	0%	0%

## 3.2 Age and Gender

Table 4 and 5 compare the expanded TTS female and male population by age groups with data from the 2006 Canada Census respectively. Respondents to the TTS frequently gave their age to the nearest 5 or 10 years. The age groupings have been selected to minimize the effect of this rounding. Unlike previous surveys, males are under represented more than females (3.8% vs. 2.3%). The comparison reveals significant under representation of 3 age groups in the TTS relative to the census.

1. The number of persons under 1 year of age is under represented by approximately 30% for both sexes. The amount of under representation is similar in magnitude for all geographic areas. There is no obvious explanation as to why this should have happened. There is no evidence of any over reporting of age 1 or 2. Similar distribution was observed in the 2001 survey. It seems possible that the under representation is linked in some way to the use of the Direct Data Entry software and/or the training of interviewers. **The under representation of age zero should be taken into account when estimating total population or if the TTS data is used in the calculation of fertility rates.** There should be no effect on the accuracy of the travel information collected.
2. The 18 to 27 age group is under represented by an average of 20% relative to the census with considerable variation between regions and gender. Other than high non-response rate, another likely cause of under representation in this age group is the use of listed residential telephones as the sample frame. There are an increasing number of younger people who do not have landlines and use their cell phones exclusively. Post secondary students also tend to not have a land line or may not acquire them at the start of the school year in time to be included in the drawing of the sample. Variations in geographic distribution may be due to the difference in timing and definition between the census and the conduct of the survey. The census was conducted on May 16<sup>th</sup>, 2006 when many post secondary students were likely to be living at home with their parents or otherwise absent from their normal school locations. If the students were attending school on Census Day, they would still be included in their parents' households according to Statistics Canada.

The under reporting of the 18 to 27 age group accounts for approximately 50% of the total under reporting of population. This is highest for Dufferin County (40%) followed by City of Kawartha Lakes, Halton Region, Brant County and the City of Toronto. On the contrary, this two age group is least represented in the Cities of Guelph (9%) and Peterborough (6%). This pattern is consistent with the difference in timing and definition relative to the census and the availability of post secondary education facilities in the areas.

**The under representation of the 18 to 27 age group needs to be taken into consideration if the TTS data is used for the analysis of demographics and travel behaviour specific to that age group including, specifically, the effect on estimates of public transit ridership.**

3. There is an over representation of persons in the age group of 48 to 87 with the highest between 68 and 77. This over representation occurs for both genders in most of the survey area. The response rate is generally better for people from this age group and these people are more likely to have a listed residential phone line to be included in the sample frame. This is another prove of the effect of the exclusive use of cell phone.

**Table 4: Difference in 2006 TTS Female Population Relative to the Census**

Female	Age												Total	Census Total (000's)
	0	1-7	8-17	18-22	23-27	28-37	38-47	48-57	58-67	68-77	78-87	88-98		
City of Toronto	-26%	-3%	-1%	-23%	-26%	-10%	-1%	6%	16%	23%	15%	-22%	-1.2%	1298
Region of Durham	-28%	-4%	-3%	-30%	-20%	-14%	-4%	7%	18%	18%	11%	-37%	-3.0%	287
Region of York	-43%	-5%	-1%	-26%	-19%	-11%	0%	3%	3%	16%	7%	-31%	-3.7%	455
Region of Peel	-37%	-5%	1%	-22%	-18%	-6%	-2%	1%	10%	13%	0%	-34%	-3.2%	589
Region of Halton	-18%	-4%	1%	-43%	-21%	-11%	-7%	6%	15%	17%	11%	-45%	-3.6%	226
City of Hamilton	-32%	-7%	-6%	-18%	-17%	-10%	-6%	1%	14%	17%	2%	-26%	-3.4%	259
Region of Niagara	-22%	-3%	3%	-19%	-15%	-10%	-3%	3%	12%	11%	-6%	-42%	-2.1%	221
Region of Waterloo	-19%	4%	3%	-16%	-20%	-2%	3%	2%	12%	26%	-12%	-38%	0.2%	242
City of Guelph	-41%	-15%	-3%	14%	-14%	-8%	-6%	8%	2%	6%	6%	-27%	-2.4%	59
County of Wellington	-40%	-13%	-6%	-33%	-6%	-21%	-6%	8%	-2%	26%	-14%	-10%	-5.9%	28
Town of Orangeville	-11%	-4%	-15%	-46%	11%	-10%	-4%	-4%	8%	43%	-6%	-49%	-5.8%	14
City of Barrie	-22%	-12%	1%	-30%	-17%	-11%	1%	13%	9%	15%	7%	-32%	-2.8%	66
County of Simcoe	-24%	0%	8%	-38%	-19%	-3%	1%	1%	1%	17%	2%	-40%	-1.1%	132
City of Kawartha Lakes	-37%	-1%	-10%	-52%	-25%	-9%	-6%	3%	2%	19%	-4%	-55%	-5.9%	38
City of Peterborough	-28%	-1%	0%	18%	-18%	-15%	-6%	1%	12%	16%	2%	-63%	-0.9%	40
County of Peterborough	-24%	-11%	-12%	-34%	-14%	-15%	-8%	2%	5%	23%	8%	-71%	-5.6%	23
City of Orillia	-31%	23%	-7%	-34%	-13%	-18%	3%	0%	11%	12%	-11%	-79%	-4.6%	16
County of Dufferin	-4%	-20%	15%	-46%	-16%	-3%	-9%	-2%	16%	31%	-16%	-79%	-3.0%	14
City of Brantford	-49%	5%	-1%	-25%	-13%	-6%	-4%	9%	15%	1%	24%	-45%	-0.6%	47
County of Brant	-7%	16%	-6%	-31%	-34%	12%	-2%	-7%	2%	31%	-8%	-19%	-1.6%	17
<b>Total</b>	<b>-30%</b>	<b>-4%</b>	<b>0%</b>	<b>-24%</b>	<b>-21%</b>	<b>-9%</b>	<b>-2%</b>	<b>4%</b>	<b>12%</b>	<b>18%</b>	<b>7%</b>	<b>-32%</b>	<b>-2.3%</b>	<b>4070</b>
Census Total (000's)	43	315	516	260	262	577	679	561	376	263	174	43	4070	
Abs. Diff. (000's)	-13	-11	-2	-62	-55	-53	-12	23	44	49	12	-14	-94	

**Table 5: Difference in 2006 TTS Male Population Relative to the Census**

Male	Age												Total	Census Total (000's)
	0	1-7	8-17	18-22	23-27	28-37	38-47	48-57	58-67	68-77	78-87	88-98		
City of Toronto	-36%	0%	3%	-23%	-29%	-19%	-5%	3%	12%	23%	27%	9%	-3.7%	1205
Region of Durham	-27%	-13%	-4%	-20%	-28%	-20%	-5%	4%	15%	22%	22%	-7%	-5.1%	274
Region of York	-38%	-3%	0%	-20%	-22%	-17%	-3%	6%	3%	12%	13%	-6%	-4.3%	437
Region of Peel	-24%	-4%	1%	-19%	-21%	-13%	-3%	3%	7%	14%	12%	-11%	-4.0%	570
Region of Halton	-43%	3%	-4%	-38%	-21%	-15%	-8%	4%	15%	20%	20%	-20%	-4.3%	214
City of Hamilton	-37%	0%	-2%	-18%	-26%	-9%	-9%	-2%	5%	19%	30%	9%	-3.7%	246
Region of Niagara	-25%	-7%	1%	-17%	-21%	-11%	-6%	-1%	6%	20%	10%	-9%	-2.8%	207
Region of Waterloo	-20%	2%	4%	-13%	-24%	-10%	-4%	7%	10%	23%	-4%	-27%	-1.6%	236
City of Guelph	-26%	-6%	7%	-12%	-22%	-24%	-13%	3%	-4%	-3%	28%	-41%	-7.7%	56
County of Wellington	-49%	-12%	0%	-30%	-14%	-22%	-11%	1%	9%	3%	24%	42%	-6.1%	28
Town of Orangeville	-17%	4%	-1%	-36%	-1%	-16%	-5%	13%	12%	44%	-23%	36%	-1.9%	13
City of Barrie	1%	2%	-2%	-29%	-18%	-14%	-5%	1%	12%	22%	19%	-41%	-4.0%	62
County of Simcoe	-25%	3%	6%	-29%	-25%	-13%	-1%	-6%	8%	8%	21%	-9%	-2.5%	131
City of Kawartha Lakes	-44%	-17%	-3%	-16%	-43%	-10%	-8%	-11%	14%	10%	17%	-8%	-5.1%	37
City of Peterborough	-50%	-13%	-3%	-9%	-22%	-22%	-16%	3%	1%	30%	-9%	-15%	-6.5%	35
County of Peterborough	-35%	-23%	-2%	-25%	-22%	-23%	-12%	7%	-6%	39%	-5%	44%	-5.0%	23
City of Orillia	-37%	-7%	-18%	-16%	-20%	-21%	-12%	2%	1%	29%	4%	-44%	-7.4%	14
County of Dufferin	-35%	13%	-1%	-50%	-36%	-12%	-4%	-13%	13%	19%	6%	-3%	-5.9%	14
City of Brantford	-25%	-2%	-2%	-32%	-11%	-6%	-9%	3%	4%	12%	30%	-2%	-3.3%	43
County of Brant	-16%	11%	18%	-19%	-42%	-3%	-4%	-7%	-2%	30%	1%	-60%	-0.8%	17
<b>Total</b>	<b>-31%</b>	<b>-2%</b>	<b>1%</b>	<b>-22%</b>	<b>-25%</b>	<b>-16%</b>	<b>-5%</b>	<b>3%</b>	<b>9%</b>	<b>19%</b>	<b>19%</b>	<b>-3%</b>	<b>-3.8%</b>	<b>3863</b>
Census Total (000's)	46	330	546	269	251	535	652	530	350	223	112	18	3863	
Abs. Diff. (000's)	-14	-7	4	-58	-63	-85	-33	13	31	42	22	-1	-149	

### 3.3 Employed Labour Force and Employment

Table 6 compares TTS employed labour force and employment with data obtained from the 2006 Census. Seasonal variations might account for some differences in both employed labour force and employment. Distribution of employment labour force is similar to population distribution. The under representation in employment in the fringe areas of survey is expected, given that people living outside the survey area were not included.

**Table 6: Difference in 2006 TTS Employed Labour Force and Employment Relative to the Census**

Municipality	Employed Labour Force			Employment		
	Census	TTS	Diff	Census	TTS	Diff
<b>City of Toronto</b>	<b>1242215</b>	<b>1160723</b>	<b>-7%</b>	<b>1336540</b>	<b>1338816</b>	<b>0%</b>
Brock	6110	5670	-7%	3300	3728	13%
Uxbridge	10465	9201	-12%	6040	5386	-11%
Scugog	11455	9768	-15%	6270	6897	10%
Pickering	47665	44633	-6%	32070	32849	2%
Ajax	48400	46549	-4%	24420	24432	0%
Whitby	59380	54364	-8%	38235	35630	-7%
Oshawa	70525	66524	-6%	60285	58893	-2%
Clarington	40115	37018	-8%	18415	17149	-7%
<b>Durham Region</b>	<b>294115</b>	<b>273727</b>	<b>-7%</b>	<b>189035</b>	<b>184964</b>	<b>-2%</b>
Georgina	22445	20724	-8%	7475	7494	0%
East Gwillimbury	11945	11262	-6%	5020	5317	6%
Newmarket	41190	38382	-7%	39430	39904	1%
Aurora	26240	24012	-8%	19575	18974	-3%
Richmond Hill	85445	78814	-8%	54740	54560	0%
Whitchurch-Stouffville	13100	12373	-6%	9410	10226	9%
Markham	135095	124589	-8%	129290	129047	0%
King	10965	9433	-14%	6500	6561	1%
Vaughan	126370	118618	-6%	137600	135590	-1%
<b>York Region</b>	<b>472795</b>	<b>438207</b>	<b>-7%</b>	<b>409040</b>	<b>407673</b>	<b>0%</b>
Caledon	31780	28948	-9%	18555	19194	3%
Brampton	225080	211567	-6%	139560	144461	4%
Mississauga	352410	328089	-7%	383880	391995	2%
<b>Peel Region</b>	<b>609270</b>	<b>568604</b>	<b>-7%</b>	<b>541995</b>	<b>555650</b>	<b>3%</b>
Halton Hills	30730	28022	-9%	17505	17262	-1%
Milton	31635	29149	-8%	24755	22314	-10%
Oakville	87395	79254	-9%	73795	76006	3%
Burlington	88280	79460	-10%	79870	74944	-6%
<b>Halton Region</b>	<b>238040</b>	<b>215885</b>	<b>-9%</b>	<b>195925</b>	<b>190526</b>	<b>-3%</b>
<b>City of Hamilton</b>	<b>246345</b>	<b>222399</b>	<b>-10%</b>	<b>197200</b>	<b>183273</b>	<b>-7%</b>

**Table 6: Difference in 2006 TTS Employed Labour Force and Employment Relative to the Census (cont'd)**

Municipality	Employed Labour Force			Employment		
	Census	TTS	Diff	Census	TTS	Diff
Grimsby	12860	11259	-12%	7400	7110	-4%
Lincoln	11010	9883	-10%	9270	8301	-10%
Pelham	8130	7607	-6%	3870	3303	-15%
Niagara-on-the-Lake	7355	5465	-26%	10020	8189	-18%
St. Catharines	64410	60029	-7%	59745	59192	-1%
Thorold	9505	8571	-10%	7270	7912	9%
Niagara Falls	41650	36740	-12%	38880	34410	-11%
Welland	24105	23368	-3%	18555	18029	-3%
Port Colborne	8435	7680	-9%	6165	5810	-6%
Fort Erie	14270	12798	-10%	10705	10471	-2%
West Lincoln	6980	6527	-6%	3490	3069	-12%
Wainfleet	3535	3225	-9%	1295	1160	-10%
<b>Niagara Region</b>	<b>212245</b>	<b>193152</b>	<b>-9%</b>	<b>176665</b>	<b>166956</b>	<b>-5%</b>
Waterloo	53180	48693	-8%	58855	55018	-7%
Kitchener	110145	105156	-5%	87860	83781	-5%
Cambridge	64110	62457	-3%	65530	61433	-6%
North Dumfries	5215	4781	-8%	5540	4069	-27%
Wilmot	9355	8674	-7%	5670	5247	-7%
Wellesley	4960	4634	-7%	2760	2414	-13%
Woolwich	10680	10177	-5%	12250	10197	-17%
<b>Waterloo Region</b>	<b>257645</b>	<b>244572</b>	<b>-5%</b>	<b>238465</b>	<b>222159</b>	<b>-7%</b>
<b>City of Guelph</b>	<b>62875</b>	<b>55833</b>	<b>-11%</b>	<b>66460</b>	<b>61929</b>	<b>-7%</b>
Puslinch	3870	3523	-9%	3580	3303	-8%
Eramosa/Guelph	6825	5952	-13%	3990	3190	-20%
Centre Wellington	13985	12256	-12%	8985	7256	-19%
Erin	6485	5646	-13%	2600	2450	-6%
<b>Wellington County</b>	<b>31165</b>	<b>27377</b>	<b>-12%</b>	<b>19155</b>	<b>16199</b>	<b>-15%</b>
<b>Town of Orangeville</b>	<b>14620</b>	<b>13685</b>	<b>-6%</b>	<b>12275</b>	<b>10818</b>	<b>-12%</b>
Mulmur	1775	1722	-3%	460	702	53%
Shelburne	2530	2396	-5%	2670	2002	-25%
Amaranth	2185	2075	-5%	675	863	28%
Melancthon	1680	1386	-18%	335	385	15%
Mono Township	3930	3296	-16%	1480	1857	25%
East Luther Grand Valley	1595	1532	-4%	590	592	0%
East Garafraxa	1420	1213	-15%	460	410	-11%
<b>Dufferin County</b>	<b>15115</b>	<b>13620</b>	<b>-10%</b>	<b>6670</b>	<b>6811</b>	<b>2%</b>
<b>City of Barrie</b>	<b>67700</b>	<b>62793</b>	<b>-7%</b>	<b>55055</b>	<b>54119</b>	<b>-2%</b>

**Table 6: Difference in 2006 TTS Employed Labour Force and Employment Relative to the Census (cont'd)**

Municipality	Employed Labour Force			Employment		
	Census	TTS	Diff	Census	TTS	Diff
Innisfil	16140	15517	-4%	5925	6647	12%
Bradford-West Gwillimbury	13515	13774	2%	6835	6869	0%
New Tecumseth	14570	12759	-12%	16855	15857	-6%
Adjala-Tosorontio	6055	5070	-16%	1335	1620	21%
Essa	9380	9447	1%	6575	6300	-4%
Clearview	7455	6493	-13%	3720	2731	-27%
Springwater	9575	8905	-7%	4310	5045	17%
Collingwood	8140	7431	-9%	9240	8553	-7%
Wasaga Beach	6250	5535	-11%	2620	2184	-17%
Tiny & Christian Island	5360	5438	1%	1370	1183	-14%
Penetanguishene	4080	4236	4%	4505	4718	5%
Midland	7575	6934	-8%	10260	10500	2%
Tay	4885	4527	-7%	1285	1233	-4%
Oro-Medonte	10960	10302	-6%	4000	4135	3%
Severn	6265	5615	-10%	3365	2716	-19%
Ramara	5010	4635	-7%	5225	4859	-7%
<b>Simcoe County</b>	<b>135215</b>	<b>126618</b>	<b>-6%</b>	<b>87425</b>	<b>85150</b>	<b>-3%</b>
<b>City of Orillia</b>	<b>14605</b>	<b>13767</b>	<b>-6%</b>	<b>16840</b>	<b>16441</b>	<b>-2%</b>
<b>City of Kawartha Lakes</b>	<b>35420</b>	<b>31328</b>	<b>-12%</b>	<b>21895</b>	<b>19752</b>	<b>-10%</b>
<b>City of Peterborough</b>	<b>35255</b>	<b>32631</b>	<b>-7%</b>	<b>41225</b>	<b>38189</b>	<b>-7%</b>
Cavan-Millbrook-North Monaghan	4775	4500	-6%	2510	2261	-10%
Otonabee-South Monaghan	3630	3659	1%	1625	1257	-23%
Asphodel-Norwood	1985	1754	-12%	1180	786	-33%
Dummer-Douro	3570	2465	-31%	1045	1046	0%
Lakefield-Smith-Ennismore	8745	8892	2%	4100	4154	1%
<b>Peterborough County</b>	<b>22705</b>	<b>21270</b>	<b>-6%</b>	<b>10460</b>	<b>9504</b>	<b>-9%</b>
<b>City of Brantford</b>	<b>44630</b>	<b>42897</b>	<b>-4%</b>	<b>40125</b>	<b>37438</b>	<b>-7%</b>
<b>Brant County</b>	<b>18840</b>	<b>16598</b>	<b>-12%</b>	<b>12115</b>	<b>11267</b>	<b>-7%</b>
<b>Total</b>	<b>4070815</b>	<b>3775686</b>	<b>-7%</b>	<b>3674565</b>	<b>3617634</b>	<b>-2%</b>

### 3.4 School Enrollment

Table 7 provides a comparison between the number of students reported in the TTS and the actual school enrollment in the fall of 2005 or 2006 as reported by the registrar's office of each university. Table 8 provides the same information for community colleges. The TTS numbers were obtained by tabulating the expanded number of students by school name, which was used to identify the location of the school. Comparing to previous surveys, the under representation of students in 2006 TTS is overall higher.

The under representation of full time students at the University of Waterloo is the highest among all universities and colleges. This is because the full time enrollment number provided by the University of Waterloo includes the number of co-op students who were in their work term. These students will not be accounted for in TTS as they would be reported as employed instead. It has become fairly common that some programs are jointly offered by two or more institutes. This perhaps explains the over representation of full time students for Ryerson University, which holds classes for students who enrolled in George Brown College and/or Centennial College. Full time students at universities located in cities where students contribute to a large proportion of the population are generally under reported. Possible explanations for the under representation of enrollment include:

1. students that do not have phones or only have cellular phones, and are therefore excluded from the sample frame
2. the sample being drawn does not include students in residences that are only used during the school year
3. non response

Any judgment as to the importance of each of the above factors cannot be made without further investigation and additional information. **The use of expansion factors based on average response rates instead of census data would increase the expanded number of students in the TTS database for these institutions and provide for better analysis of their travel behaviour characteristics.**

The enrollment records provided by the education institutes might include or exclude non-credit courses. Similarly, persons might be recorded in TTS as students if they went to a half-day course at a university or a college. Therefore, discrepancies exist between the number of part time students reported by TTS and enrollment records provided by the institutes. These differences are larger for community colleges as adult continuing education could include credit and non-credit courses. In addition, information was not provided as to where these courses are given. If they contain a significant off campus component then the comparison with the TTS data is not valid. Without that additional information no assessment can be made as to how well the data from the TTS reflects part time education. Fleming, Conestoga and Georgian College are located on the edge of the survey area. Full time and part time students that live outside the survey are not included in the TTS data.

**Table 7: University Enrollment - Fall 2005/2006**

University	Full-Time			Part-Time		
	Enrollment	TTS	Diff (%)	Enrollment	TTS	Diff (%)
<b>Brock University</b>	<b>13,954</b>	<b>8,599</b>	<b>-38%</b>	<b>3,192</b>	<b>2,307</b>	<b>-28%</b>
St Catharines		8,097			2,089	
Hamilton		468			163	
Sheridan - Oakville		34			55	
<b>McMaster University</b>	<b>22,066</b>	<b>14,030</b>	<b>-36%</b>	<b>3,873</b>	<b>3,669</b>	<b>-5%</b>
Main		12,847			3,000	
Centre For Continuing Education		19			246	
Medical Centre School		719			249	
Mohawk - Mcmaster		446			174	
<b>Ryerson Polytechnic University</b>	<b>16,730</b>	<b>20,641</b>	<b>23%</b>	<b>7,272</b>	<b>10,693</b>	<b>47%</b>
Main		20,232			10,363	
School of Business Management		409			330	
<b>Trent University</b>	<b>6,802</b>	<b>4,334</b>	<b>-36%</b>	<b>1,376</b>	<b>1,110</b>	<b>-19%</b>
Symons Campus		3,749			790	
Trail College		111			51	
Oshawa		474			269	
<b>University of Guelph</b>	<b>19,794</b>	<b>10,372</b>	<b>-48%</b>	<b>1,862</b>	<b>1,500</b>	<b>-19%</b>
Guelph Campus		8,966			1,346	
Guelph Humber Campus		1,406			154	
<b>University of Toronto</b>	<b>63,339</b>	<b>56,837</b>	<b>-10%</b>	<b>8,303</b>	<b>12,829</b>	<b>55%</b>
Downsview Campus		273			57	
Erindale Campus	9,447	8,653		898	1,259	
Scarborough Campus	9,229	9,912		871	614	
St. George Campus	44,663	37,696		6,534	10,782	
Continuing Education in Markham		19			20	
Dentistry		178			37	
Physical Therapy		53				
Social Work		53			61	
<b>University of Waterloo*</b>	<b>23,990</b>	<b>9,307</b>	<b>-61%</b>	<b>1,900</b>	<b>1,683</b>	<b>-11%</b>
Main		8,667			1,522	
Conrad Grebel/St. Paul's		247			97	
Renison College		158			44	
Cambridge		234			21	
(*Waterloo full-time enrollment includes all co-op students.)						
<b>York University</b>	<b>41,817</b>	<b>41,799</b>	<b>0%</b>	<b>8,329</b>	<b>9,579</b>	<b>15%</b>
Glendon Campus		2441			726	
Keele		39,028			8,653	
Miles Nadal Centre		150			59	
Giffard Centre		126			104	
Osgoode Hall		54			37	
<b>Total</b>	<b>208,437</b>	<b>165,919</b>	<b>-20%</b>	<b>36,107</b>	<b>43,371</b>	<b>20%</b>

**Table 8: Community College Enrollment - Fall 2005/2006**

College	Full-Time			Part-Time		
	Enrollment	TTS	Diff (%)	Enrollment	TTS	Diff (%)
<b>Centennial College</b>	<b>10,567</b>	<b>9,655</b>	<b>-9%</b>	<b>28,000</b>	<b>4,989</b>	<b>-82%</b>
Hp Science & Technology	2,474	1,288			314	
Bell Ctr	795	745			136	
GM Training Ctr					79	
Ashtonbee	2,668	1,477			881	
Cowdray Court		16				
Midland		367			110	
Progress	4,630	5,139			3,119	
Shorting		36				
Warden Woods		587			349	
<b>Conestoga College</b>	<b>6,269</b>	<b>4,507</b>	<b>-28%</b>	<b>36,000</b>	<b>5,084</b>	<b>-86%</b>
Guelph		109			936	
Kitchener		3,735			3,066	
Waterloo		430			825	
Cambridge		233			236	
Stratford					21	
<b>Durham College</b>	<b>8,918</b>	<b>8,061</b>	<b>-10%</b>	<b>23,000</b>	<b>3,740</b>	<b>-84%</b>
Oshawa/UIOT		7,312			2,680	
Ajax & Pickering		198			186	
Port Hope		14			40	
Whitby Skill Training Centre		537			816	
Uxbridge					19	
<b>Geroge Brown College</b>	<b>15,300</b>	<b>11,780</b>	<b>-23%</b>	<b>50,000</b>	<b>7,921</b>	<b>-84%</b>
Ryerson		1031			580	
Administration - Toronto		251			150	
Casa Loma		4,350			2,467	
Hospitality & Tourism		391			665	
St. James		5,628			3,909	
Nightingale		56			95	
Theatre School		74			55	
<b>Georgian College</b>	<b>7,000</b>	<b>4,199</b>	<b>-40%</b>	<b>28,000</b>	<b>2,428</b>	<b>-91%</b>
Owen Sound	500				18	
Barrie	5,300	3,284			1,720	
Collingwood		51			102	
Midland		34			173	
Orangeville		15			100	
Orillia	1,200	675			241	
Kempenfelt - Innisfil		140			74	
<b>Humber College</b>	<b>15,000</b>	<b>13,279</b>	<b>-11%</b>	<b>15,000</b>	<b>7,834</b>	<b>-48%</b>
North Campus	4,500	10,049		3,000	6,331	
Lakeshore Campus	10,500	3,230		12,000	1,503	

**Table 8: Community College Enrollment - Fall 2005/2006 (cont'd)**

College	Full-Time			Part-Time		
	Enrollment	TTS	Diff (%)	Enrollment	TTS	Diff (%)
<b>Mohawk College</b>	<b>8,931</b>	<b>8,559</b>	<b>-4%</b>	<b>25,067</b>	<b>6,519</b>	<b>-74%</b>
Wentworth		108			177	
Stoney Creek		704			995	
Chedoke		346			278	
Fennell		6,132			4,109	
Brantford		824			786	
Mohawk - McMaster		446			174	
<b>Niagara College</b>	<b>6,445</b>	<b>4,787</b>	<b>-26%</b>	<b>1,497</b>	<b>2,506</b>	<b>67%</b>
St Catharines		21			17	
Welland		3,208			1,003	
Niagara On The Lake		1,412			1,125	
Maid Of The Mist		145			360	
<b>Ontario College Of Art &amp; Design</b>	<b>2,556</b>	<b>2,301</b>	<b>-10%</b>	<b>857</b>	<b>625</b>	<b>-27%</b>
<b>Seneca College</b>	<b>18,113</b>	<b>14,757</b>	<b>-19%</b>	<b>23,640</b>	<b>9,887</b>	<b>-58%</b>
Newnham	9,644	5,068			3,958	
King	2,677	1,847			535	
York University	4,467	3,443			1,049	
Buttonville	113					
Jane	144	412			229	
Yorkgate		123			75	
Newmarket		93			116	
Markham	1,068	736			643	
Don Mills		2,746			2,876	
Gordon Baker		39			102	
Richmond Hill		97			59	
Eglinton		153			245	
<b>Sheridan College</b>	<b>11,764</b>	<b>10,499</b>	<b>-11%</b>	<b>7,124</b>	<b>n/a</b>	
Trafalgar Road - Oakville		5,164			2,163	
Davis - Brampton		4,092			3,057	
Skills Training Ctr - Oakville		232			680	
Burlington		234			269	
Credit Valley - Mississauga		172			132	
Mississauga		196			722	
Dixie - Brampton		408			102	
<b>Sir Sandford Fleming College</b>	<b>4,961</b>	<b>3,069</b>	<b>-38%</b>	<b>816</b>	<b>n/a</b>	
Sutherland/McRae	3,566	2,651	-26%		747	
Frost	1,323	384	-71%		69	
Lakeshore	72	34	-53%			
<b>Total</b>	<b>115,824</b>	<b>95,454</b>	<b>-18%</b>	<b>231,061</b>	<b>51,531</b>	<b>-78%</b>

### 3.5 Traffic Volumes

Validation of the TTS auto driver trip data was performed using trip matrices extracted from the expanded TTS database. The trip tables are based on the extended 2001 extended GTA traffic zone system. Areas outside the GTHA were aggregated to the 26 super zones in the 1996 and 2001 integrated emme2 networks maintained at the Data Management Group. The TTS trip tables were assigned to the 2001 GTA road network using the free flow minimum time path algorithm in emme2. The resulting link volumes were aggregated along inter-regional boundaries and compared with actual traffic counts collected as part of the 2006 Cordon Count program. Differences between the cordon count and TTS data that must be considered when evaluating the comparisons include:

1. The cordon counts were taken in May and June of 2006, the GTA component of the TTS was done in the fall of 2006 and January/February 2007.
2. The TTS represents average weekday conditions over a 3 to 4 month period for all locations whereas the counts are individual one-day values taken on different days at different locations. Traffic volumes can vary substantially, both by time of year and from one day to another depending on traffic conditions.
3. The TTS data are aggregated on the basis of reported trip start times. Most respondents report trip times to the nearest 10 or 15 minutes. Significant peaks occur right on each hour and half hour with smaller peaks on the quarter hour. The total hourly volume can change significantly depending on which minute the hour is taken to begin and end on. The cordon counts are continuous with precise aggregation to 15 minute time periods for reporting purposes.
4. The TTS data are based on trip start times whereas the time at which a vehicle is counted in the cordon count program can occur at any point in the trip depending on the location of origin and destination. A 15-minute offset has been used in order to average out and minimize this difference but the relationship could be different on each screen line.
5. The use of free flow assignment, also known as “all or nothing”, may not accurately reflect the travel routings that people actually used. This should not affect the total volume across a screen line unless there is potential for diversion to another screen line as could be the case with the Durham/Toronto and Durham/York boundaries.

Chart 1, Chart 2 and Table 9 show the comparison for the a.m. peak 3 hour period. Changing the TTS definition of the peak period by 1 minute, to include the 9 a.m. spike instead of the 6 a.m. spike, produces 5% more trips in the trip matrix but does not produce any increase in the average amount of traffic crossing the screen lines. The average trip length of trips starting at 6 a.m. is presumably much shorter than those starting at 9 a.m. Moving the cordon count definition back or forward by 15 minutes does not result in any significant change in the average count.

The TTS assignments severely under represent the Durham/York boundary in both directions. That under-representation could, however, be due to the assignment procedure not reflecting the diversion of traffic from the 401 corridor onto parallel routes further north including the 407.

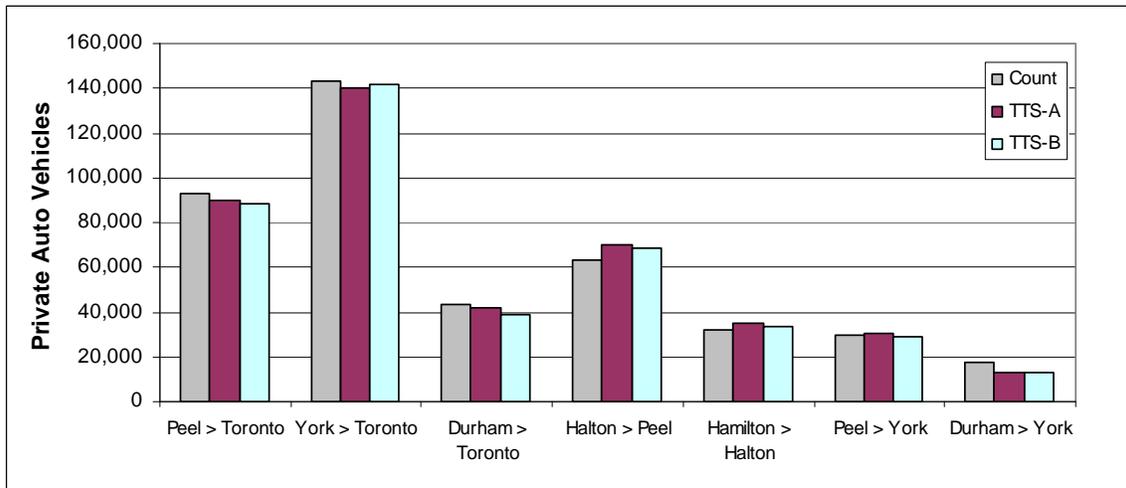
The Hamilton to Halton and Halton to Peel screen lines are both over represented in the peak direction. The build up of congestion in the QEW during the peak period could have the effect of lowering the traffic counts relative to the travel demand as determined by trip start time for trips of widely varying trip length. To test those hypothesis comparisons were also done for a 4 hour period using the highest 4 hour count on each screen line. The results are shown in Table 10. The resulting spreading of the peak period likely has a greater impact on the count data. The peak hour volumes across the Halton screen lines are closer to the counts than for the 3 hour period but the comparison on the other screen lines becomes less favourable.

The differences in the above comparisons are minor given the limitations previously noted. There is no evidence of any measurable under reporting of auto driver trips in the a.m. peak 3 hours. The 2006 validation results are consistent with those for the 2001 TTS.

Chart 3 and Table 11 show the 13 hour daily traffic volumes. The cordon counts for Halton and York end at 7 p.m. so it was not possible to use a 15 minute off-set for the screen lines that used the count data from those two Regions (Hamilton/Halton, Peel/York and Durham/York). The traffic volumes given by the TTS are, on average, 22% lower than the traffic counts. This discrepancy is similar in magnitude to the differences observed in the validation of previous TTS data and is likely due to the under reporting of discretionary (non work or school) trips. **Due allowance must be made for the under reporting of discretionary travel when the TTS data are used for the analysis of off peak and total daily travel.**

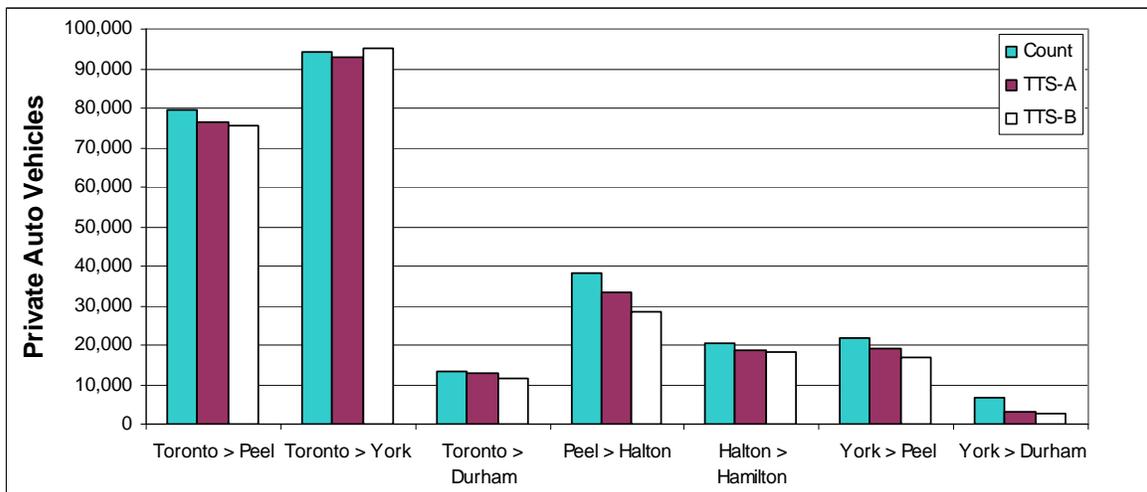
**Chart 1: A.M. Peak Period Traffic Volumes in Peak Direction**

**Count: 6:15 to 9:15**  
**TTS-A: 6:00 to 8:59**  
**TTS-B: 6:01 to 9:00**



**Chart 2: A.M. Peak Period Traffic Volumes in Reverse Direction**

**Count: 6:15 to 9:15**  
**TTS-A: 6:00 to 8:59**  
**TTS-B: 6:01 to 9:00**



**Table 9: A.M. Peak Period Traffic Volumes**

	Peak Direction				
	Cordon Count	TTS 6:00 to	Diff.	TTS 6:01 to 9:00	Diff.
Peel > Toronto	92,692	89,750	-3%	88,448	-5%
York > Toronto	143,230	140,325	-2%	141,886	-1%
Durham > Toronto	43,208	41,696	-3%	38,988	-10%
Halton > Peel	63,202	70,378	11%	68,784	9%
Hamilton > Halton	32,300	35,238	9%	33,577	4%
Peel > York	29,877	30,337	2%	28,762	-4%
Durham > York	17,787	13,209	-26%	12,652	-29%
Total	422,296	420,933	0%	413,097	-2%
2001 Validation	391,403	380,277	-3%		

	Reverse Direction				
	Cordon Count	TTS 6:00 to 8:59	Diff.	TTS 6:01 to 9:00	Diff.
Toronto > Peel	79,722	76,413	-4%	75,683	-5%
Toronto > York	94,233	92,695	-2%	95,172	1%
Toronto > Durham	13,393	12,744	-5%	11,704	-13%
Peel > Halton	38,332	33,243	-13%	28,524	-26%
Halton > Hamilton	20,573	18,807	-9%	18,244	-11%
York > Peel	21,769	19,040	-13%	16,735	-23%
York > Durham	6,495	3,004	-54%	2,532	-61%
Total	274,517	255,946	-7%	248,594	-9%
2001 Validation	242,565	222,837	-8%		

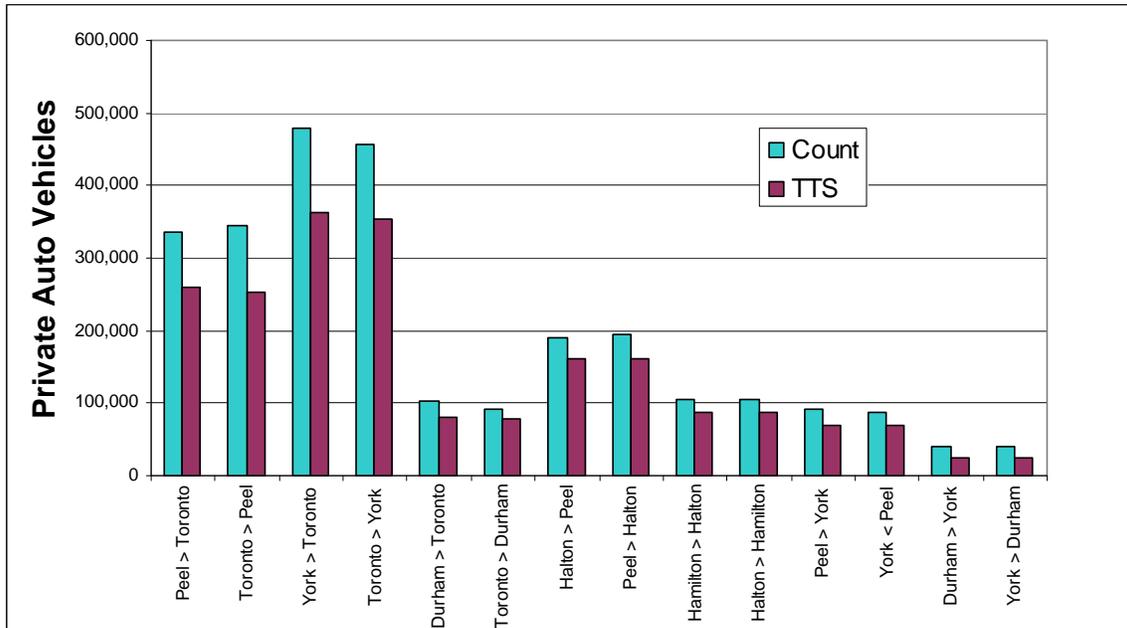
**Table 10: A.M. Peak 4 Hour Traffic Volumes**

	Peak Direction			
	Start time	Cordon Count	TTS (6:00-9:59)	Diff.
Peel > Toronto	6:00	117,150	104,336	-11%
York > Toronto	6:30	177,435	164,097	-8%
Durham > Toronto	6:00	52,669	47,093	-11%
Halton > Peel	5:45	76,242	79,912	5%
Hamilton > Halton	6:00	40,265	40,192	0%
Peel > York	6:00	36,227	34,319	-5%
Durham > York	6:00	20,669	15,192	-26%
Total		520,657	485,141	-7%

	Reverse Direction			
	Start time	Cordon Count	TTS (6:00-9:59)	Diff.
Toronto > Peel	6:15	98,576	88,603	-10%
Toronto > York	6:30	118,665	109,287	-8%
Toronto > Durham	6:45	17,578	14,753	-16%
Peel > Halton	6:30	48,003	38,563	-20%
Halton > Hamilton	7:00	26,667	22,142	-17%
York > Peel	6:15	26,839	21,768	-19%
York > Durham	7:00	8,824	3,933	-55%
Total		345,152	299,049	-13%

**Chart 3: 13 Hour Traffic Volumes**

**6 a.m. to 7 p.m.**



**Table 11: 13 Hour Traffic Volumes (6 a.m. to 7 p.m.)**

	<b>Cordon Count</b>	<b>TTS</b>	<b>Diff.</b>
Peel > Toronto	334,844	258,717	-23%
Toronto > Peel	343,793	253,359	-26%
York > Toronto	478,502	361,693	-24%
Toronto > York	455,817	354,353	-22%
Durham > Toronto	102,968	80,493	-22%
Toronto > Durham	92,584	79,151	-15%
Halton > Peel	190,197	160,113	-16%
Peel > Halton	194,098	161,069	-17%
Hamilton > Halton	104,766	87,353	-17%
Halton > Hamilton	105,890	87,744	-17%
Peel > York	91,538	70,461	-23%
York < Peel	87,758	68,993	-21%
Durham > York	41,376	24,499	-41%
York > Durham	39,761	25,527	-36%
<b>Total</b>	<b>2,663,892</b>	<b>2,073,525</b>	<b>-22%</b>
2001 Validation	2,451,806	1,896,218	-23%

### 3.6 Municipal Transit Ridership

Table 12 gives comparisons between the TTS data and passenger boarding counts collected by the TTC. The table has been sorted in order of the route code within the three sub-categories of subway, streetcar and bus. Comparisons are shown for both the a.m. peak period and total daily boardings. The TTC boarding information is based on one-day counts taken on a rotating basis throughout the TTC system. The time period used by the TTC for the conduct of the counts is nominally from the start of service to 9 a.m. but varies slightly from route to route depending on the transition point from peak to off-peak scheduling. The TTS data is based on trip start time, not actual boarding time. The numbers given for the TTS are obtained from the detailed routing information as reported by each respondent to the survey. Errors can result from routes being incorrectly identified, by the respondent or the interviewer, or incomplete information on the number of different route segments that make up a trip. The actual date of each count is shown in the last column. Asterisks mark the counts that coincide with the period of the survey. There can be significant seasonal variation in the transit ridership on an individual route in addition to normal day-to-day variations. These variations, as well as the accuracy and timing of the TTC counts, need to be taken into consideration when drawing conclusions from the comparisons with the TTS data at the individual route level.

The TTC counts for subway ridership are based on platform counts during the months of January and May of 2006. The number of TTS subway trips during a.m. peak period includes trips with start times prior to 9 a.m. The numbers for the Yonge and University subway lines from the TTS are combined for comparison as they are considered as one line from the TTC counts. Transfers between the two lines are excluded from the numbers. Subway lines used in the TTS were determined by the on and off stations reported by the respondents and rules set by the TTC. The TTS data appears to slightly under represent total daily subway ridership but not significantly given the constraints of the comparison. Since the TTS numbers are based on trip start time and not actual boarding time, two time periods are selected for morning peak period comparison. Over representation of the subway lines for this time period is considerably less by using the trips up to 8:30 a.m. than to 9:00 a.m. This shows that difference in timing can contribute to the discrepancies. Ridership on the Sheppard line is under represented during a.m. peak and 24-hour periods, but it is possible that many survey respondents did not distinguish between that and the Sheppard buses.

Contrary to subway ridership, total streetcar ridership was under represented for 24-hour but slightly over represented for a.m. peak period. A likely explanation is that the streetcar routes predominantly serve the downtown area and that a high proportion of their use is for short discretionary trips in off-peak periods. There is strong evidence that TTS tends to under report this type of travel. The two exceptions are Lake Shore and Harbourfront routes. One possible explanation is that Lake Shore and King streetcars both ran on King Street between St. Andrew subway station and Roncesvalles Avenue. Respondents might not distinguish between them. This might also be the case for Harbourfront streetcar as it shares the route with Spadina streetcar on Queen's Quay West.

There is considerable variation in the accuracy with which the TTS data matches the TTC counts on individual bus routes. A large majority of the routes are under-reported with a few exceptions. The biggest discrepancies occur in Broadview bus, and Downtowvenue Rd. Express bus, with the count information collected over 1 year prior to the TTS and seasonal variation should be considered. It is possible that measurable declines in ridership have occurred on a number of routes so that the actual number of boardings at the time of the survey is less than that given by the TTC counts. It is also possible that there is some under reporting of the number of bus boardings in the TTS due to incomplete routing information. During the conduct of the survey staff from the TTC did a visual review of the information recorded for every transit trip. That review ensured that every route segment belonged to a valid transit route and callbacks and corrections were made to obvious inconsistencies. The review process, however, could not

ensure that every route segment was actually reported nor necessarily identify the correct route where several feasible alternatives actually exist. The detailed validation work performed by the TTC using computer simulations should provide better insight into route-by-route variations and the reliability of the TTS data for analysis at the individual route level.

**Table 12: TTC Boardings**

TTC Route Code Name		Daily Boardings				A.M. Peak Boardings				TTS		Difference Year	
		Count	TTS	Difference		Count (4:00-8:59)	Difference	(4:00-8:29)	TTS				
T593	Yonge - University - /T594 Spadina	625,611	631,673	6,062	1%	149,350	193,057	43,707	29%	168,882	19,532	13%	2006
T596	Bloor - Danforth	469,405	449,564	-19,841	-4%	111,251	136,300	25,049	23%	119,709	8,458	8%	2006
T597	Scarborough RT	41,664	40,677	-987	-2%	10,905	13,331	2,426	22%	12,420	1,515	14%	2006
T598	Sheppard	42,246	36,115	-6,131	-15%	10,794	11,451	657	6%	9,871	-923	-9%	2006
<b>Total Subway</b>		<b>1,178,926</b>	<b>1,158,029</b>	<b>-20,897</b>	<b>-2%</b>	<b>282,300</b>	<b>354,139</b>	<b>71,839</b>	<b>25%</b>	<b>310,882</b>	<b>28,582</b>	<b>10%</b>	

TTC Route Code Name		A.M. Peak Boardings				Daily Boardings				Count Date
		Count	TTS	Difference		Count	TTS	Difference		
T501	Queen	8,696	8,240	-456	-5%	43,464	34,346	-9,118	-21%	27/10/06*
T502	Downtowner	1,098	400	-698	-64%	4,068	1,065	-3,003	-74%	11/02/03
T503	Kingston Rd.	1,023	492	-531	-52%	2,067	1,154	-913	-44%	11/02/03
T504	King	9,620	11,957	2,337	24%	47,279	42,584	-4,695	-10%	23/04/04
T505	Dundas	5,209	5,590	381	7%	35,228	27,286	-7,942	-23%	03/12/04
T506	Carlton	7,863	7,756	-107	-1%	41,185	32,637	-8,548	-21%	08/03/02
T508	Lake Shore	241	198	-43	-18%	610	915	305	50%	17/05/05
T509	Harbourfront	1,029	1,693	664	65%	4,225	5,967	1,742	41%	02/04/04
T510	Spadina	4,678	5,418	740	16%	39,207	27,904	-11,303	-29%	02/04/04
T511	Bathurst	2,780	2,991	211	8%	13,627	12,021	-1,606	-12%	12/01/05
T512	St. Clair	6,272	5,229	-1,043	-17%	28,538	18,604	-9,934	-35%	10/05/05
<b>Total Streetcar</b>		<b>48,509</b>	<b>49,964</b>	<b>1,455</b>	<b>3%</b>	<b>259,498</b>	<b>204,483</b>	<b>-55,015</b>	<b>-21%</b>	

TTC Route Code Name		A.M. Peak Boardings				Daily Boardings				Count Date
		Count	TTS	Difference		Count	TTS	Difference		
T005	Avenue Rd.	432	644	212	49%	1,767	1,946	179	10%	26/01/05
T006	Bay	3,143	2,302	-841	-27%	10,022	6,292	-3,730	-37%	25/01/05
T007	Bathurst	4,586	4,771	185	4%	21,427	18,598	-2,829	-13%	21/01/05
T008	Broadview	202	658	456	226%	882	2,139	1,257	143%	11/03/05
T009	Bellamy	1,042	707	-335	-32%	3,724	2,856	-868	-23%	11/04/06
T010	Van Horne	473	357	-116	-25%	1,612	993	-619	-38%	15/05/06
T011	Bayview	1,613	2,272	659	41%	7,808	7,337	-471	-6%	03/03/06
T012	Kingston Rd.	2,063	1,742	-321	-16%	6,938	5,805	-1,133	-16%	11/02/05
T013	Neville Park	337		-337	-100%	1,310		-1,310	-100%	01/06/05
T014	Glencairn	604	659	55	9%	1,698	1,915	217	13%	27/04/04
T015	Evans	798	549	-249	-31%	2,745	1,581	-1,164	-42%	03/05/05
T016	McCowan	2,103	2,315	212	10%	8,865	8,283	-582	-7%	14/04/05
T017	Birchmount	3,461	2,280	-1,181	-34%	10,714	7,891	-2,823	-26%	12/10/06*
T020	Cliffside	1,285	1,906	621	48%	5,273	5,376	103	2%	13/04/05
T021	Brimley	2,121	2,468	347	16%	8,085	8,355	270	3%	20/04/05
T022	Coxwell	1,071	1,567	496	46%	7,069	6,235	-834	-12%	28/01/05
T023	Dawes	1,289	1,438	149	12%	5,086	5,152	66	1%	17/05/05
T024	Victoria Park	5,886	6,577	691	12%	23,535	21,172	-2,363	-10%	21/03/06
T025	Don Mills	9,046	9,912	866	10%	39,551	33,346	-6,205	-16%	06/12/05
T026	Dupont	921	906	-15	-2%	3,640	3,042	-598	-16%	14/12/05
T028	Davisville	579	371	-208	-36%	1,068	1,491	423	40%	03/03/06

TTC Route		A.M. Peak Boardings				Daily Boardings				Count
Code	Name	Count	TTS	Difference		Count	TTS	Difference		Date
T029	Dufferin	8,180	8,362	182	2%	43,648	33,035	-10,613	-24%	18/04/06
T030	Lambton	719	714	-5	-1%	2,989	2,008	-981	-33%	22/09/06*
T031	Greenwood	927	958	31	3%	3,756	3,756	0	0%	18/10/05
T032	Eglinton West	9,072	8,990	-82	-1%	38,561	30,145	-8,416	-22%	01/02/05
T033	Forest Hill	250	240	-10	-4%	744	500	-244	-33%	11/04/06
T034	Eglinton East	6,439	8,416	1,977	31%	21,991	28,686	6,695	30%	14/01/03
T035	Jane	9,893	7,291	-2,602	-26%	40,638	26,771	-13,867	-34%	29/11/05
T036	Finch West	11,307	8,732	-2,575	-23%	42,613	30,456	-12,157	-29%	02/10/06*
T037	Islington	3,907	3,872	-35	-1%	16,820	12,716	-4,104	-24%	01/11/05
T038	Highland Creek	1,537	911	-626	-41%	8,924	5,232	-3,692	-41%	04/10/06*
T039	Finch East	8,366	9,562	1,196	14%	35,066	32,688	-2,378	-7%	21/10/03
T040	Junction	880	721	-159	-18%	4,315	2,607	-1,708	-40%	18/05/05
T041	Keele	6,054	5,171	-883	-15%	22,765	19,123	-3,642	-16%	25/10/05
T042	Cummer	1,978	2,332	354	18%	7,158	7,661	503	7%	07/12/04
T043	Kennedy	2,462	3,368	906	37%	12,463	12,345	-118	-1%	28/01/05
T044	Kipling South	1,770	1,994	224	13%	6,049	6,775	726	12%	27/04/04
T045	Kipling	4,864	4,089	-775	-16%	18,312	13,961	-4,351	-24%	27/02/04
T046	Martin Grove	2,319	2,377	58	3%	8,565	7,132	-1,433	-17%	20/04/04
T047	Lansdowne	3,829	3,280	-549	-14%	14,076	11,898	-2,178	-15%	03/06/03
T048	Rathburn	645	612	-33	-5%	2,553	1,871	-682	-27%	03/05/05
T049	Bloor West	985	1,036	51	5%	3,514	2,884	-630	-18%	04/05/05
T050	Burnhamthorpe	924	816	-108	-12%	3,124	2,982	-142	-5%	02/05/06
T051	Leslie	837	940	103	12%	3,363	3,049	-314	-9%	02/05/06
T052	Lawrence West	5,486	6,408	922	17%	22,186	22,212	26	0%	08/03/06
T053	Steeles East	4,500	5,119	619	14%	19,555	19,247	-308	-2%	07/02/03
T054	Lawrence East	6,761	6,361	-400	-6%	30,528	23,569	-6,959	-23%	06/02/04
T055	Warren Park	302	243	-59	-20%	640	505	-135	-21%	22/02/06
T056	Leaside	1,083	918	-165	-15%	3,527	3,060	-467	-13%	26/01/05
T057	Midland	3,367	3,147	-220	-7%	11,495	10,605	-890	-8%	07/01/03
T058	Malton	3,774	1,765	-2,009	-53%	14,620	6,114	-8,506	-58%	08/02/06
T059	Maple Leaf	992	316	-676	-68%	2,495	1,084	-1,411	-57%	07/03/06
T060	Steeles West	6,388	6,434	46	1%	27,517	23,718	-3,799	-14%	11/01/05
T061	Avenue Rd. North	968	649	-319	-33%	3,240	2,135	-1,105	-34%	18/10/05
T062	Mortimer	763	882	119	16%	2,806	2,873	67	2%	11/03/05
T063	Ossington	3,297	4,265	968	29%	16,938	14,492	-2,446	-14%	08/05/06
T064	Main	1,182	1,652	470	40%	5,622	5,789	167	3%	19/12/05
T065	Parliament	601	790	189	31%	3,043	2,539	-504	-17%	22/09/06*
T066	Prince Edward	1,071	1,268	197	18%	3,772	3,807	35	1%	04/03/04
T067	Pharmacy	1,209	1,356	147	12%	4,479	4,034	-445	-10%	26/05/06
T068	Warden	4,352	4,593	241	6%	17,267	15,044	-2,223	-13%	10/01/06
T069	Warden South	1,023	1,240	217	21%	4,226	3,788	-438	-10%	26/05/06
T070	O'Connor	1,926	1,119	-807	-42%	7,960	4,559	-3,401	-43%	11/04/06
T071	Runnymede	584	839	255	44%	2,597	2,856	259	10%	18/05/05
T072	Pape	1,825	1,343	-482	-26%	7,772	5,554	-2,218	-29%	06/01/03
T073	Royal York	2,265	2,281	16	1%	8,850	7,791	-1,059	-12%	04/05/05
T074	Mt. Pleasant	231	310	79	34%	866	1,090	224	26%	25/05/05
T075	Sherbourne	1,052	1,070	18	2%	4,803	4,320	-483	-10%	14/04/04
T076	Royal York South	2,440	2,457	17	1%	8,383	7,906	-477	-6%	03/05/05
T077	Swansea	637	540	-97	-15%	2,245	1,854	-391	-17%	18/05/05
T078	St. Andrews	556	417	-139	-25%	1,758	1,323	-435	-25%	21/01/03
T079	Scarlett Rd.	2,052	1,666	-386	-19%	7,019	5,854	-1,165	-17%	08/02/05
T080	Queensway	456	318	-138	-30%	1,850	1,591	-259	-14%	12/03/04
T081	Thornccliffe Park	1,696	1,189	-507	-30%	6,803	3,989	-2,814	-41%	02/02/05

TTC Route		A.M. Peak Boardings				Daily Boardings				Count
Code	Name	Count	TTS	Difference		Count	TTS	Difference		Date
T082	Rosedale	426	399	-27	-6%	1,488	1,074	-414	-28%	14/04/04
T083	Jones	707	810	103	15%	2,083	2,292	209	10%	10/03/04
T084	Sheppard West	4,027	4,841	814	20%	16,019	14,964	-1,055	-7%	19/01/05
T085	Sheppard East	5,509	7,104	1,595	29%	28,339	25,299	-3,040	-11%	04/04/06
T086	Scarborough	3,738	3,310	-428	-11%	14,923	11,187	-3,736	-25%	30/11/04
T087	Cosburn	1,972	1,814	-158	-8%	7,012	5,517	-1,495	-21%	20/04/05
T088	South Leaside	1,060	856	-204	-19%	3,684	2,728	-956	-26%	18/10/05
T089	Weston	3,557	2,733	-824	-23%	14,177	9,810	-4,367	-31%	19/04/05
T090	Vaughan	1,629	1,176	-453	-28%	6,190	3,765	-2,425	-39%	15/05/06
T091	Woodbine	1,577	1,707	130	8%	4,997	5,095	98	2%	26/04/05
T092	Woodbine South		628			1,375	2,105	730	53%	16/08/06
T093	Exhibition W Exp.						18			n/a
T094	Wellesley	1,807	2,623	816	45%	10,065	8,868	-1,197	-12%	01/02/06
T095	York Mills	5,691	7,267	1,576	28%	23,569	24,070	501	2%	07/02/03
T096	Wilson	6,961	6,350	-611	-9%	23,464	20,866	-2,598	-11%	15/09/06*
T097	Yonge	849	819	-30	-4%	3,606	2,919	-687	-19%	14/04/05
T098	Willowdale-Senlac	517	526	9	2%	1,730	1,487	-243	-14%	20/04/04
T099	Arrow Road					128	38	-90	-70%	19/01/05
T100	Flemingdon Park	3,337	2,811	-526	-16%	15,535	10,590	-4,945	-32%	27/10/05
T102	Markham Rd.	4,302	4,625	323	8%	18,152	16,240	-1,912	-11%	24/01/06
T103	Mt. Pleasant North	404	506	102	25%	1,381	1,752	371	27%	25/05/05
T104	Faywood	575	727	152	26%	2,687	2,398	-289	-11%	25/05/05
T105	Dufferin North	859	1,022	163	19%	3,244	3,848	604	19%	19/10/05
T106	York University	1,133	1,488	355	31%	6,025	5,358	-667	-11%	29/10/04
T107	Keele North	1,893	1,097	-796	-42%	4,730	4,227	-503	-11%	17/10/06*
T108	Downsview	1,477	1,687	210	14%	7,124	5,865	-1,259	-18%	17/12/04
T109	Ranee	735	1,125	390	53%	3,815	3,688	-127	-3%	25/05/05
T110	Islington South	2,492	1,663	-829	-33%	9,253	6,200	-3,053	-33%	12/11/04
T111	East Mall	1,407	1,675	268	19%	6,057	6,223	166	3%	01/03/06
T112	West Mall	2,235	1,762	-473	-21%	7,461	5,899	-1,562	-21%	12/11/03
T113	Danforth Rd.	936	559	-377	-40%	4,183	2,950	-1,233	-29%	13/04/05
T115	Silver Hills	296	247	-49	-17%	728	597	-131	-18%	21/01/03
T116	Morningside	3,330	4,649	1,319	40%	16,537	16,613	76	0%	01/12/04
T117	Alness	1,121	480	-641	-57%	2,582	1,381	-1,201	-47%	21/01/03
T120	Calvington	160	128	-32	-20%	367	333	-34	-9%	12/01/07
T122	Graydon Hall	986	922	-64	-6%	3,722	2,552	-1,170	-31%	28/09/05
T123	Shornccliffe	1,263	1,269	6	0%	5,518	4,585	-933	-17%	11/02/05
T124	Sunnybrook	660	1,059	399	60%	3,769	3,994	225	6%	02/03/05
T125	Drewry	698	794	96	14%	2,523	2,447	-76	-3%	20/12/05
T126	Christie	681	478	-203	-30%	2,912	2,074	-838	-29%	04/12/02
T127	Davenport	279	267	-12	-4%	903	686	-217	-24%	15/05/06
T129	McCowan North	4,284	3,826	-458	-11%	16,074	15,163	-911	-6%	18/10/06*
T130	Middlefield	630	651	21	3%	1,962	2,015	53	3%	21/01/03
T131	Nugget	1,715	1,541	-174	-10%	6,187	5,228	-959	-16%	28/04/04
T132	Milner	816	842	26	3%	2,096	2,144	48	2%	28/02/05
T133	Neilson	2,419	3,156	737	30%	9,711	10,393	682	7%	04/10/06*
T134	Progress	2,081	2,323	242	12%	8,079	7,167	-912	-11%	22/09/06*
T135	Gerrard	536	266	-270	-50%	2,087	1,253	-834	-40%	19/12/05
T139	Finch East Express	1,199	416	-783	-65%	3,253	1,471	-1,782	-55%	26/09/06*
T141	Downtown / Mt. Pleasant Expr.	75	76	1	1%	91	96	5	5%	28/02/05
T142	Downtown / Avenue Rd. Expr.	104	251	147	141%	168	406	238	142%	28/02/05
T143	Downtown / Beach Express	159	249	90	57%	310	473	163	53%	28/02/05

TTC Route		A.M. Peak Boardings				Daily Boardings				Count
Code	Name	Count	TTS	Difference		Count	TTS	Difference		Date
	Downtown / Don									
T144	Valley Exp.	297	297	0	0%	526	548	22	4%	28/02/05
T153	Steeles East	282		-282	-100%	282		-282	-100%	07/04/03
T160	Bathurst North	886	431	-455	-51%	3,496	1,987	-1,509	-43%	20/10/06*
T161	Rogers Rd.	1,519	1,341	-178	-12%	6,477	4,879	-1,598	-25%	26/01/05
T162	Lawrence-Donway	104	245	141	136%	340	513	173	51%	02/03/05
T165	Weston Rd. North	4,502	2,783	-1,719	-38%	17,784	9,141	-8,643	-49%	31/01/06*
T167	Pharmacy North	363	289	-74	-20%	1,232	920	-312	-25%	22/03/06
T168	Symington	1,773	1,388	-385	-22%	7,837	4,675	-3,162	-40%	30/04/04
T169	Huntingwood	565	367	-198	-35%	1,307	886	-421	-32%	26/01/04
T172	Cherry Street		15			35	35	0	0%	16/08/06
T190	Scarboro. Rocket	1,787	1,021	-766	-43%	8,758	4,238	-4,520	-52%	26/09/06*
T191	Hwy. 27 Rocket	2,161	1,626	-535	-25%	7,530	5,039	-2,491	-33%	11/10/06*
T192	Airport Rocket	342	206	-136	-40%	2,239	1,376	-863	-39%	07/02/06
T194	Zoo Rocket					559		-559	-100%	19/08/03
T196	York U. Rocket	2,321	3,768	1,447	62%	14,906	13,985	-921	-6%	12/11/04
T197	North Yonge	276		-276	-100%	1,058		-1,058	-100%	14/11/00
T224	Victoria Park North	673	389	-284	-42%	1,898	1,280	-618	-33%	22/11/05
T268	Warden North	692		-692	-100%	2,451		-2,451	-100%	06/11/03
T300	Bloor-Danforth N.B.		109			1,577	949	-628	-40%	13/11/01
T301	Queen N.C.		22			572	44	-528	-92%	11/11/01
T302	Danforth-McCowan N.B.					166	92	-74	-45%	10/06/02
T303	Don Mills N.B.					222	49	-173	-78%	14/11/01
T305	Eglinton East NB		16			257	147	-110	-43%	15/11/01
T306	Carlton N.C.					534		-534	-100%	14/11/01
T307	Eglinton West N.B.					255	77	-178	-70%	15/11/01
T308	Finch East N.B.		17			51	37	-14	-27%	27/05/02
T309	Finch West N.B.					202	125	-77	-38%	27/05/02
T310	Bathurst N.B.					210	91	-119	-57%	27/05/02
T311	Islington N.B.					195	72	-123	-63%	27/05/02
T312	St. Clair N.C.		19			70	58	-12	-17%	10/06/02
T313	Jane N.B.		20			183	277	94	51%	10/06/02
T316	Ossington N.B.					86	75	-11	-13%	10/06/02
T319	Wilson N.B.					98	37	-61	-62%	10/06/02
T320	Yonge N.B.		33			1,285	633	-652	-51%	13/11/01
T321	York Mills N.B.		52			357	104	-253	-71%	10/06/02
T322	Coxwell N.B.					68	41	-27	-40%	27/05/02
T324	Victoria Park N.B.					111		-111	-100%	27/05/02
T329	Dufferin N.B.					209	18	-191	-91%	10/06/02
T352	Lawrence West N.B.					56	20	-36	-64%	19/06/06
T353	Steeles East N.B.					19		-19	-100%	19/06/06
T354	Lawrence East N.B.					100	48	-52	-52%	21/08/06
T385	Sheppard East N.B.					86	93	7	8%	19/06/06
	Lawrence Manor									
T400	Community Bus		22				22			n/a
T402	Parkdale Commun.		20				38			n/a
	South Don Mills									
T403	Community Bus						61			n/a
T404	East York Commun.						55			n/a
T405	Etobicoke Commun.						38			n/a
T498	Wheel Trans		556				5,986			n/a
<b>Total Bus*</b>		<b>296,298</b>	<b>291,263</b>	<b>-5,035</b>	<b>-2%</b>	<b>1,211,123</b>	<b>1,012,370</b>	<b>-198,753</b>	<b>-16%</b>	
<b>Total TTC System*</b>		<b>627,107</b>	<b>652,109</b>	<b>25,002</b>	<b>4%</b>	<b>2,649,547</b>	<b>2,374,882</b>	<b>-274,665</b>	<b>-10%</b>	

\*Totals calculated using routes that have both TTC ridership and TTS counts to ensure proper comparison

Tables 13 through 18 contain comparisons for other municipal transit operators in the GTHA. Unless specified in the table, daily and/or a.m. peak boardings are provided for October or November of 2006. These boardings were generated by averaging the total revenue ridership for the month. The data are presented for all routes for which counts were available but very few meet the criterion of 2000 boardings needed for a reasonable degree of statistical accuracy. Discrepancies in reported ridership by transit authorities and the TTS data could possibly be a result of the method of collection.

Durham transit staff was on strike for three and a half weeks from Oct 5<sup>th</sup>, 2006 to Oct 31<sup>st</sup>, 2006. During this time, interviews were stopped being conducted in Durham Region. Transit service started on November 2<sup>nd</sup>, 2006 and interviews in Durham Region resumed on November 7<sup>th</sup>, 2006 to provide Durham residents time to adjust to the resumption of transit service. Table 13 contains the comparison between the average ridership for November 2006 and TTS counts. The over representation by TTS could be a result of lower ridership in the beginning of the month whereas the TTS data were collected over a 4 month period.

**Table 13: Durham Region Transit Boardings**

Durham Region Transit Route		Daily Boardings			
Code	Name	Count	TTS	Difference	
PI01	Industrial	151	354	203	134%
PI03	Amberlea	248	418	170	69%
PI05/PI06	West Shore, Lookout Pt, Bay Ridges	646	533	-113	-17%
PI07	Rosebank	546	555	9	2%
PI09	Rouge Hill		241		
PI10/AJ10	Ajax	213	543	330	155%
PI02/PI11	Liverpool, Finch Hwy #2	712	941	229	32%
PI02/PI12	Village East/Brock Rd	743	1,295	552	74%
PI04/PI14	Maple Ridge Glendale	340	434	94	28%
PI80	Flag Bus 1and 2 (Ajax)	146	200	54	37%
PI81	Flag Bus 3 (Pickering)	38	114	76	200%
AJ18	Beach	271	312	41	15%
AJ20	Westney	723	1,169	446	62%
AJ22	Audley South		320		
AJ23	Nottingham		467		
AJ24	Harwood	449	484	35	8%
AJ25	Audley North		172		
AJ26	Duffins	364	188	-176	-48%
AJ29	Elm		91		
AJ32	Village	455	449	-6	-1%
AJ35	Puckrin		146		
AJ35	Puckrin/Elm	339	861	522	154%
AJ40	Applecroft	421	84	-337	-80%
AJ97	School Special		734		
OS24	Campus 101	849	590	-259	-31%
WH01	Otter Creek/West Lynde	421	314	-107	-25%
WH02	Brock / Whitby Shores	559	1,009	450	81%
WH03	Garden	253	508	255	101%
WH04	Anderson	325	603	278	86%
WH05	Thickson & Garrard	508	630	122	24%
WH06	White Oaks/ Oshawa	413	364	-49	-12%
OS01	Simcoe	3,810	4,035	225	6%
OS02/OS09	King, Thornton	1,585	1,678	93	6%
OS03/OS10	Park, Olive/ Harmony	2,040	2,244	204	10%
OS04/OS05	College Hill GO, Central Park	748	685	-63	-8%
OS06/OS07	Dean, Ritson	1,296	1,393	97	7%
OS08/OS11/OS12	Stevensen, Grandview, Adelaide	1,848	1,684	-164	-9%

Durham Region Transit Route		Daily Boardings			
Code	Name	Count	TTS	Difference	
OS13	GO Shuttle		178		
OS14	Community Bus	21	19	-2	-10%
WH15/WH17	Taunton		1,390		
WH15/WH16	Taunton E/Rossland W	758	1,007	249	33%
WH17/WH18	Taunton W/Rossland E	851	1,333	482	57%
WH16/WH18	Rossland		950		
OS19/OS20	GO via Thornton, DC/UOIT	238	894	656	276%
OS21	Townline	49	39	-10	-20%
OS22/OS23	Bloor Victoria	84	214	130	155%
OS96	Oshawa School Special		412		
BO01/BO02	Aspen Springs, Liberty	297	410	113	38%
BO03	Orono	3			
BO04	Wilmot Creek	16			
BO97	Clarington School Special		161		
BO99	Bowmanville Transit		176		
	Brock	15			
	Scugog	19			
UX01/UX02	Uxbridge	28			

**Total Durham Region Transit\* 23,758 28,587 4,829 20%**

\*Totals calculated using routes that have both Durham Region Transit ridership and TTS counts to ensure proper comparison.

Table 14 contains comparison of York Region Transit (YRT) and the TTS transit data. Average weekday revenue ridership counts for the month of November of 2006 were used to compare with the TTS data. Several routes are significantly over represented. The numbers of boardings for these routes are relatively small and therefore the comparison is not reliable. Total daily boardings for the YRT are under represented by 15% by TTS.

**Table 14: York Region Transit Boardings**

York Regional Transit Route		Daily Boardings			
Code	Name	Count	TTS	Difference	
Y001	1 Highway 7	2,294	1,480	-814	-35%
Y002	2 14th Avenue	3,092	2,748	-344	-11%
Y003/413	3/413 Thornhill/York University/St. Robert via Green Lane	1,808	1,406	-402	-22%
Y004/462	4/462 Major Mackenzie/Maple High School	2,174	2,562	388	18%
Y005	5 Clark Ave	1,906	1,326	-580	-30%
Y007	7 Martin Grove	824	782	-42	-5%
Y008	8 Kennedy Road	1,068	1,112	44	4%
Y009	9 Stouffville	80	107	27	34%
Y010	10 York University/Woodbridge	434	715	281	65%
Y011	11 Woodbridge	95	60	-35	-37%
Y012	12 Pine Valley	314	261	-53	-17%
Y013/461	13/461 Islington Ave/Emily Carr Secondary School	388	539	151	39%
Y018/409	18/409 Bur Oak/Markham District via Bur Oak	615	565	-50	-8%
Y020	20 Jane/Concord	1,803	1,391	-412	-23%
Y022	22 King City	259	256	-3	-1%
Y023	23 Thornhill Woods	693	547	-146	-21%
Y027	27 Highway 27	150			
Y031	31 Aurora North	310	555	245	79%
Y032	32 Aurora South	256	357	101	39%

York Regional Transit Route		Daily Boardings			
Code	Name	Count	TTS	Difference	
Y033	33 Wellington	38	21	-17	-45%
Y034	34 Industrial Parkway	28	77	49	175%
Y040/41/ 400/410	40/41/400/410 Unionville Local/Markham Local/Brother Andrew School Special/Markham District via 14th Avenue	849	992	143	17%
Y044	44 Bristol/London	168	177	9	5%
Y050	50 Queensway	100	76	-24	-24%
Y051	51 Keswick Local	950	94	-856	-90%
Y052	52 Holland Landing	246	307	61	25%
Y054	54 Bayview North	167	127	-40	-24%
Y055/422	55/422 Davis Drive/Huron Heights High School	1,251	1,138	-113	-9%
Y056	56 Gorham/Eagle	486	333	-153	-31%
Y057	57 Mulock Drive	663	443	-220	-33%
Y058	58 Leslie North	82	107	25	30%
Y077	77 Hwy 7	2,752	2,274	-478	-17%
Y082	82 Vallemede/Spadina	535	413	-122	-23%
Y083/440/441	83/440/441 Trench/Richmond Hill High School 1 & 2	995	707	-288	-29%
Y084	84 Oak Ridges	257	407	150	58%
Y085/463	85/463 Rutherford-16th Avenue/Vellore	3,311	2,787	-524	-16%
Y086	86 Weldrick/Newkirk	582	659	77	13%
Y087/444	87/444 Langstaff/Maple/Langstaff High School Special	923	804	-119	-13%
Y088	88 Bathurst	2,376	2,356	-20	-1%
Y089	89 Richmond Hill Community	102	486	384	376%
Y090/449	90/449 Leslie/Richmond Hill Green High School	992	1,117	125	13%
Y091	91 Bayview	3,842	5,193	1,351	35%
Y098	98 Yonge North	686	623	-63	-9%
Y099	99 Yonge C	3,436	3,032	-404	-12%
Y201	201 Markham Go Shuttle	98	91	-7	-7%
Y202	202 Unionville Go Shuttle	120	301	181	151%
Y222	222 Aurora-Newmarket Go Shuttle	21	34	13	62%
Y223	223 Newmarket Go Shuttle	19	97	78	411%
Y225	225 Bales Drive Shuttle	9			
Y240	240 Mill Pond Go Shuttle	114	38	-76	-67%
Y241	241 Beverly Acres Go Shuttle	79	103	24	30%
Y242	242 North Richvale Go Shuttle	39	42	3	8%
Y243	243 Redstone Go Shuttle	146	63	-83	-57%
Y260	260 Rutherford Go Shuttle	9	44	35	389%
Y300	300 Business Express		356		
Y301	301 Markham Express	409	786	377	92%
Y302	302 Unionville Express	210	80	-130	-62%
Y303	303 Cornell Express	103	116	13	13%
Y360	360 Maple Express	338	323	-15	-4%
Y400	400 Brother Andrew		20		
Y408	408 Markham District via Hwy 7		82		
Y409	409 Markham District via Bur Oak		153		
Y410	410 Markham District via 14th Avenue		19		
Y413	413 St Robert via Green Lane		145		
Y422	422 Huron Heights High School		18		
Y440	440 Richmond Hill High School 1		138		
Y441	441 Richmond Hill High School 2		21		
Y442	442 Bayview High School		17		
Y444	444 Langstaff High School		20		

York Regional Transit Route		Daily Boardings			
Code	Name	Count	TTS	Difference	
Y449	449 Richmond Hill Green High School		40		
Y461	461 Emily Carr Secondary School		83		
Y462	462 Maple High School		60		
Y463	463 Vellore		83		
Y520/521	520/521 Newmarket Community Bus	55			
Y600	Mobility Bus - YRT		101		
Y900	Blue VIVA	15,962	12,804	-3,158	-20%
Y901	Purple VIVA	7,262	3,920	-3,342	-46%
Y902	Green VIVA	1,465	921	-544	-37%
Y903	Pink VIVA	2,293	1,253	-1,040	-45%
Y904	Orange VIVA	2,285	1,501	-784	-34%

**Total York Region Transit\*** **75,202** **64,036** **-11,166** **-15%**

\*Totals calculated using routes that have both York Region Transit ridership and TTS counts to ensure proper comparison

Table 15 presents a comparison of the transit routes operated by Mississauga transit and TTS data. The Mississauga transit boardings are one-day counts collected on weekdays from January to April 2007, which do not coincide with the conduct of TTS. Caution should be used when making comparisons, as seasonal variations should be considered. Morning peak period and total daily boardings as reported by the TTS are within 11% and 19% respectively of the counts provided by Mississauga transit.

**Table 15: Mississauga Transit Boardings**

Mississauga Transit Route		A.M. Peak Boardings				Daily Boardings			
Code	Name	Count	TTS	Difference		Count	TTS	Difference	
MS01	Dundas	2,651	2,441	-210	-8%	15,746	10,763	-4,983	-32%
MS03	Bloor	2,095	1,770	-325	-16%	8,186	7,109	-1,077	-13%
MS04	Sherway Gardens	328	127	-201	-61%	1,569	891	-678	-43%
MS05	Dixie	2,191	1,164	-1,027	-47%	8,798	5,630	-3,168	-36%
MS06	Credit Woodlands	466	319	-147	-32%	1,959	1,184	-775	-40%
MS07	Airport	847	977	130	15%	3,933	3,842	-91	-2%
MS08	Cawthra Indian Road Park	740	894	154	21%	2,918	2,908	-10	0%
MS09	Rathburn Millers Grove	652	469	-183	-28%	2,832	2,128	-704	-25%
MS10	Bristol Britannia	842	808	-34	-4%	3,736	2,659	-1,077	-29%
MS11	Westwood	843	692	-151	-18%	2,795	2,665	-130	-5%
MS12	Rexdale	176	142	-34	-19%	543	557	14	3%
MS13	Glen Erin	818	724	-94	-11%	4,410	3,185	-1,225	-28%
MS15	Drew	602	216	-386	-64%	1,333	576	-757	-57%
MS16	Malton East	177	142	-35	-20%	793	575	-218	-27%
MS17	Timberlea	236	218	-18	-8%	497	573	76	15%
MS18	Northwest Explorer	516	367	-149	-29%	1,086	956	-130	-12%
MS19	Hurontario	4,405	4,072	-333	-8%	23,189	17,601	-5,588	-24%
MS20	Rathburn	775	1,082	307	40%	3,535	3,885	350	10%
MS22	Finch	527	562	35	7%	2,684	2,253	-431	-16%
MS23	Lakeshore	784	866	82	10%	3,630	2,849	-781	-22%
MS24	University	74	404	330	446%	738	1,519	781	106%
MS25	Traders Loop	40		-40	-100%	74	40	-34	-46%
MS26	Burnhamthorpe	2,373	2,865	492	21%	11,860	11,667	-193	-2%
MS27	Matheson	269	237	-32	-12%	596	747	151	25%
MS28	Confederation	288	453	165	57%	1,987	1,885	-102	-5%
MS30	Woodbine		38			419	333	-86	-21%

Mississauga Transit Route		A.M. Peak Boardings				Daily Boardings			
Code	Name	Count	TTS	Difference		Count	TTS	Difference	
MS31	Folkway-Homeland	186	149	-37	-20%	889	643	-246	-28%
MS34	Credit Valley	355	532	177	50%	2,766	2,674	-92	-3%
MS35	Eglinton	448	340	-108	-24%	1,367	1,498	131	10%
MS36	Colonial	345	218	-127	-37%	1,509	880	-629	-42%
MS37	Clarkson Shuttle	56	17	-39	-70%	95	54	-41	-43%
MS38	Creditview	739	754	15	2%	2,634	2,638	4	0%
MS39	Britannia	388	480	92	24%	1,832	1,658	-174	-9%
MS42	Derry	984	880	-104	-11%	4,136	3,347	-789	-19%
MS43	Speakman					54	22	-32	-59%
MS44	Mississauga Road	415	464	49	12%	2,178	1,818	-360	-17%
MS45	Winston Churchill	742	697	-45	-6%	2,197	2,215	18	1%
MS47	Ridgeway Loop	96	80	-16	-17%	309	249	-60	-19%
MS48	Erin Mills Parkway	650	712	62	10%	3,606	3,047	-559	-16%
MS49	McDowell	253	298	45	18%	892	937	45	5%
MS50	Creekbank	113	23	-90	-80%	214	84	-130	-61%
MS51	Tomken	1,169	852	-317	-27%	3,332	2,473	-859	-26%
MS52	Meyerside Indst						44		
MS53	Kennedy	544	456	-88	-16%	1,703	1,611	-92	-5%
MS57	Courtneypark	399	284	-115	-29%	907	736	-171	-19%
MS59	Airport Infield		37			13	55	42	323%
MS60	Meadowvale Shuttle	30	129	99	330%	77	325	248	322%
MS61	Mavis	909	708	-201	-22%	3,894	3,049	-845	-22%
MS62	Cooksville Shuttle-Webb	56	43	-13	-23%	92	135	43	47%
MS63	Cooksville Shuttle-Kanef	15	39	24	160%	44	73	29	66%
MS64	Meadowvale Shuttle	54	20	-34	-63%	101	59	-42	-42%
MS65	Barondale	91	64	-27	-30%	331	333	2	1%
MS66	McLaughlin	610	689	79	13%	2,912	2,735	-177	-6%
MS67	Cantay	190	128	-62	-33%	449	317	-132	-29%
MS68	Windsor Hill	207	150	-57	-28%	839	712	-127	-15%
MS70	Keaton	304	174	-130	-43%	556	403	-153	-28%
MS82	Financial	177	133	-44	-25%	351	349	-2	-1%
MS85	Dixie Express						17		
MS89	Meadowvale Express	1,056	981	-75	-7%	2,540	2,421	-119	-5%
MS90	201 Dundas Express	1,005	390	-615	-61%	2,498	1,158	-1,340	-54%
MS91	202 Hurontario Express	787	321	-466	-59%	1,933	804	-1,129	-58%
MS92	206 Burnhamthorpe Expres	829	382	-447	-54%	2,197	1,060	-1,137	-52%
MS93	230 Sheridan Express	18		-18	-100%	34	40	6	18%
MS94	316 St Francis Xavier					42	21	-21	-50%
MS97	School Special						177		
MS98	Trans Help						257		
MS301	Philip Pocock Special-Tomken/Dundas		48			135	150	15	11%
MS302	Philip Pocock-Bloor					15		-15	-100%
MS303	Father Goetz Special-Square One	10		-10	-100%	105	39	-66	-63%
MS304	Father Goetz Special-Mississauga Valley	35	22	-13	-37%	63	44	-19	-30%
MS305	Streetsville Special-Falconer	9		-9	-100%	50	35	-15	-30%
MS306	Streetsville Special-Square One					28		-28	-100%
MS307	St Aloysuis Gonzaga Special	34		-34	-100%	38		-38	-100%
MS308	St Josephs-Eglinton	8		-8	-100%	29	119	90	310%
MS309	St Josephs-Square One					50	37	-13	-26%
MS310	Clarkson-Winston Churchill					27		-27	-100%
MS311	John Cabot-Square One	21		-21	-100%	87		-87	-100%

Mississauga Transit Route		A.M. Peak Boardings			Daily Boardings				
Code	Name	Count	TTS	Difference	Count	TTS	Difference		
MS312	Gordon Graydon Special				37	21	-16	-43%	
MS314	Rick Hansen-Donway	15		-15	-100%	70		-70	-100%
MS315	Rick Hansen-Square One	10		-10	-100%	77		-77	-100%

**Total Mississauga Transit\***                      **37,912**   **33,620**   **-4,292**   **-11%**   **159,838**   **130,058**   **-29,780**   **-19%**

\*Totals calculated using routes that have both Mississauga Transit ridership and TTS counts to ensure proper comparison.

Comparison between Brampton Transit boardings and TTS counts are displayed in table 16. The result is similar to that for Mississauga Transit. Morning peak period and total daily boardings as reported by the TTS are within 13% and 16% respectively of the counts provided by the transit property.

**Table 16: Brampton Transit Boardings**

Brampton Transit Route		A.M. Peak Boardings			Daily Boardings				Date	
Code	Name	Count	TTS	Difference	Count	TTS	Difference			
BR01	Queen	1,707	1,440	-267	-16%	9,724	5,856	-3,868	-40%	Winter 07
BR02	Main	868	714	-154	-18%	3,633	3,163	-470	-13%	Winter 07
BR03	McLaughlin	482	424	-58	-12%	1,740	1,497	-243	-14%	Fall 06
BR04	Chinguacousy	595	740	145	24%	2,276	2,549	273	12%	Winter 06
BR05	Bovaird	1,075	1,132	57	5%	3,943	3,968	25	1%	Fall 06
BR06	Mackay	135	19	-116	-86%	372	57	-315	-85%	Winter 07
BR07	Kennedy	1,012	1,176	164	16%	3,775	4,029	254	7%	Winter 07
BR08	Centre	602	495	-107	-18%	2,419	2,291	-128	-5%	Winter 06
BR09	Vodden/Williams		483				1,439			
BR10	South Industrial	143	149	6	4%	395	540	145	37%	Winter 06
BR11	Steeles	2,077	1,855	-222	-11%	7,457	6,350	-1,107	-15%	Fall 06
BR12	Grenoble	261	141	-120	-46%	1,442	867	-575	-40%	Winter 06
BR13	Avondale	76	34	-42	-55%	317	184	-133	-42%	Winter 07
BR14	Torbram	825	586	-239	-29%	2,649	1,928	-721	-27%	Winter 06
BR15	Bramalea	630	888	258	41%	2,266	2,548	282	12%	Winter 07
BR16	Southgate	169	60	-109	-64%	728	369	-359	-49%	Winter 07
BR17	Howden		278				966			
BR18	Dixie	1,563	964	-599	-38%	4,747	3,753	-994	-21%	Fall 06
BR19	Fernforest	245	297	52	21%	1,025	1,026	1	0%	Winter 07
BR20	East Industrial	190	19	-171	-90%	446	138	-308	-69%	Winter 07
BR22	Springdale	15	99	84	560%	130	374	244	188%	Winter 06
BR23	Sandalwood	473	372	-101	-21%	1,601	1,273	-328	-20%	Winter 07
BR24	Van Kirk Industrial	170	45	-125	-74%	569	329	-240	-42%	Fall 06
BR25	Edenbrook	120	24	-96	-80%	244	176	-68	-28%	Fall 06
BR26	Fletchers Meadow	95	44	-51	-54%	210	262	52	25%	Fall 06
BR30	Airport Rd	567	548	-19	-3%	1,625	1,986	361	22%	Winter 06
BR40	Central Industrial	76	21	-55	-72%	207	121	-86	-42%	Winter 07
BR50	Gore Road	66	114	48	73%	402	536	134	33%	Winter 07
BR52	McMurchy	555	417	-138	-25%	2,778	2,047	-731	-26%	Fall 06
BR53	Kingknoll	210	166	-44	-21%	1,066	661	-405	-38%	Fall 06
BR77	Finch Subway **		553				2,405			Fall 06
BR91	Go Express A	44	22	-22	-50%	156	121	-35	-22%	Winter 06
BR92	Go Express B	57	104	47	82%	120	230	110	92%	Winter 06
BR97	Brampton School Special		185				631			
<b>Total Brampton Transit*</b>		<b>15,103</b>	<b>13,109</b>	<b>-1,994</b>	<b>-13%</b>	<b>58,462</b>	<b>49,229</b>	<b>-9,233</b>	<b>-16%</b>	

\*Totals calculated using routes that have both Brampton Transit ridership and TTS counts to ensure proper comparison.

\*\* Shared ridership with York Region Transit/ Not included with Brampton Only totals.

Tables 17 and 18 present comparisons of transit routes operated by Oakville Transit and Milton Transit. There are significant discrepancies in both a.m. peak and 24 hour periods. It proves that the accuracy of the data is correlated to the total number of boardings.

**Table 17: Oakville Transit Boardings**

Oakville Transit Route		A.M. Peak Boardings				Daily Boardings			
Code	Name	Count	TTS	Difference		Count	TTS	Difference	
OA10	West Industrial	122	40	-82	-67%	212	130	-82	-39%
OA11	Linbrook	82				431	63	-368	-85%
OA12	Hopedale Mall	13	69	56	431%	29	136	107	369%
OA13	West Oak Trail	80	239	159	199%	332	757	425	128%
OA14	Lakeshore West	374	464	90	24%	1,769	1,905	136	8%
OA15	Bridge	153	129	-24	-16%	595	417	-178	-30%
OA16	Speers	112	124	12	11%	472	420	-52	-11%
OA17	Kerr - East Lake	172	69	-103	-60%	422	292	-130	-31%
OA18	Glen Abbey South/Oakville GO	99	139	40	40%	308	301	-7	-2%
OA19	River Oaks	189	271	82	43%	746	1,036	290	39%
OA20	Iroquois Ridge	200	135	-65	-33%	836	541	-295	-35%
OA21	Clearview	84	54	-30	-36%	247	197	-50	-20%
OA22	Uppler Glen Abbey West	75	36	-39	-52%	170	122	-48	-28%
OA23	Heritage Way	28				69	19	-50	-72%
OA24	South Common Mall	214	524	310	145%	1,398	2,014	616	44%
OA25	Aspen Forest	17	35	18	106%	57	108	51	89%
OA26	Falgarwood	132	99	-33	-25%	539	266	-273	-51%
OA27	White Oaks	105	154	49	47%	389	615	226	58%
OA28	Glen Abbey North/Oakville GO	91	229	138	152%	613	875	262	43%
OA29	Uptown Core	77	52	-25	-32%	202	260	58	29%
OA30	Crosstown	52	16	-36	-69%	191	105	-86	-45%
OA31	Lakeshore Woods	15				29			
OA81	Winston Park	27	74	47	174%	39	74	35	90%
OA82	Glen Abbey Express	11	16	5	45%	11	85	74	673%
OA83	River Oaks Express	25	106	81	324%	94	279	185	197%
OA84	Northridge	13	50	37	285%	35	71	36	103%
OA96	Zone Bus						22		
OA97	Transit School Special		51				173		
OA98	Community Bus		18				101		
<b>Total Oakville Transit*</b>		<b>2437</b>	<b>3124</b>	<b>687</b>	<b>28%</b>	<b>10206</b>	<b>11088</b>	<b>882</b>	<b>9%</b>

\*Totals calculated using routes that have both Oakville Transit ridership and TTS counts to ensure proper comparison.

**Table 18: Milton Transit Boardings**

Milton Transit Route		A.M. Peak Boardings				Daily Boardings			
Code	Name	Count	TTS	Difference		Count	TTS	Difference	
ML01	Blue Route (South West)	26	54	28	108%	77	120	43	56%
ML02	Green Route (South East)	20	82	62	310%	160	229	69	43%
ML03	Orange Route (North West)	17	91	74	435%	122	229	107	88%
ML04	Yellow Route (North East)	25	18	-7	-28%	58	54	-4	-7%
ML05	South East of Main Street	5				34			
<b>Total Milton Transit*</b>		<b>88</b>	<b>245</b>	<b>157</b>	<b>178%</b>	<b>417</b>	<b>632</b>	<b>215</b>	<b>52%</b>

\*Totals calculated using routes that have both Milton Transit ridership and TTS counts to ensure proper comparison.

Individual route boardings are not available for Burlington Transit for comparison with the TTS. The total system boardings were 8,800 for the month of October of 2006. TTS slightly over represented it by 9%. Hamilton Street Railway does not have any data available for comparison.

Table 19 to 21 provide comparisons for Niagara Falls, Barrie and Brantford transit systems with the TTS data. Daily boardings provided are estimated based on monthly ridership which reflects weekday and weekend counts, while the TTS numbers include only weekday ridership. This could be an explanation for the under representation by the TTS counts. Comparisons of daily ridership data from other municipal transit operators outside the GTHA are not shown either due to inconsistency of the data with the TTS or the information is not available.

**Table 19: Niagara Falls Transit Ridership**

Niagara Falls Transit Route		Daily Boardings			
Code	Name	Count	TTS	Difference	
NI01	1 Hospital	296	387	91	31%
NI02	2 Jubilee	419	340	-79	-19%
NI03	3 Westlane	591	119	-472	-80%
NI04	4 Jill	474	68	-406	-86%
NI05	5 Woodbine	685	280	-405	-59%
NI06	6 Chippawa Crosstown	538	174	-364	-68%
NI10/NI11	10A/10B Square Montrose/Square Dorchester	355	262	-93	-26%
NI12	12 Thorold Stone	146	38	-108	-74%
NI14	14 Stamford	168	288	120	71%
NI15	15 McLeod Garner	92	21	-71	-77%
NI30	Brock Rapid	266	327	61	23%
NI31	Niagara College		161		
NI32	Lundys Lane Route Falls Shuttle		89		
NI33	Downtown Route Falls Shuttle		25		
NI97	Niagara Wheel Trans		42		
<b>Total Niagara Falls Transit*</b>		<b>4,030</b>	<b>2,304</b>	<b>-1,726</b>	<b>-43%</b>

\*Totals calculated using routes that have both Niagara Transit ridership and TTS counts to ensure proper comparison.

**Table 20: Barrie Transit Ridership**

Barrie Transit Route		Daily Boardings			
Code	Name	Count	TTS	Difference	
BA10	Livingstone	621	855	234	38%
BA11	Bayfield	833	863	30	4%
BA12	Blake	716	555	-161	-22%
BA13	Cundles East	675	290	-385	-57%
BA14	Eastview	493	178	-315	-64%
BA15	Letitia South	729	698	-31	-4%
BA16	College	555	547	-8	-1%
BA18	St Vincent	567	240	-327	-58%
BA20	RVH	643	756	113	18%
BA22	Crosstown	293	64	-229	-78%
BA24	Edgehill	381	135	-246	-65%
BA26	Sunnidale	168			
BA30	Yonge	836	697	-139	-17%
BA31	Essa	1,081	622	-459	-42%
BA32	Bayview	385	263	-122	-32%
BA33	Innisdale	485	136	-349	-72%
BA34	Ardagh	705	457	-248	-35%
BA35	Saunders	69	44	-25	-36%
BA37	Commercial	24			
BA39	Hurst	222			
BA41	Allandale	1,176	971	-205	-17%
<b>Total Barrie Transit*</b>		<b>11,243</b>	<b>8,371</b>	<b>-2,872</b>	<b>-26%</b>

\*Totals calculated using routes that have both Barrie Transit ridership and TTS counts to ensure proper comparison.

**Table 21: Brantford Transit Ridership**

Brantford Transit Route		Daily Boardings			
Code	Name	Count	TTS	Difference	
BT01	Eagle Place	363	632	269	74%
BT02	West St. Brier Park	714	789	75	11%
BT04	Mall Link #4-A,C	1,828	1,456	-372	-20%
BT05	West Brant/Oakhill	209	320	111	53%
BT06	West Brant /Shellard	472	230	-242	-51%
BT07	East Ward N./Braneida	582	536	-46	-8%
BT08	Holmedale/Mayfair	494	513	19	4%
BT09	Echo Place	875	402	-473	-54%
	#11 & #12 Zone Buses	92			
	Red Route	96			
	Blue Route	106			
	Green Route	116			
<b>Total Brantford Transit*</b>		<b>5,537</b>	<b>4,878</b>	<b>-659</b>	<b>-12%</b>

\*Totals calculated using routes that have both Brantford Transit ridership and TTS counts to ensure proper comparison.

### 3.7 GO Transit Ridership

Table 22 contains a comparison between GO rail ridership provided by GO Transit and the TTS data. The discrepancy for individual rail line could be a result of variations in timing. The daily ridership is a summary derived from on-off counts collected in a chosen day whereas the TTS counts are collected over a four month period. The TTS information on the combined total daily ridership is a good match relative to GO rail count.

Table 23 contain comparisons between the TTS data and average weekday GO bus boarding count information for the month of October from the ticket system supplied by GO transit. Some of the GO bus services are grouped for comparison as respondents might not have distinguished the differences of the lines. The TTS total daily bus ridership counts are under represented by the TTS data with the major difference in the Bolton service. Some of the services on the other hand are over represented. U of T Scarborough campus to Centennial College service was considerably over represented but the number of boardings is less than 50 that the comparison is not reliable. Newmarket "B" bus service is also over reported which could be a result of the confusion between that and the other two services from/to Newmarket.

**Table 22: GO Rail Daily Boardings**

GO Rail Route		Count	Daily Boardings			Count Date
Code	Name		TTS	Difference		
GT01	Lakeshore West	52,230	48,624	-3,606	-7%	24/10/06
GT02	Milton	22,353	23,284	931	4%	03/10/06
GT03	Georgetown	15,649	16,621	972	6%	05/10/06
GT05	Bradford	8,952	9,003	51	1%	12/09/06
GT06	Richmond Hill	7,950	9,355	1,405	18%	14/09/06
GT07	Stouffville	10,058	11,181	1,123	11%	19/09/06
GT09	Lakeshore East	42,852	42,054	-798	-2%	31/10/09
<b>Total GO Rail</b>		<b>160,044</b>	<b>160,122</b>	<b>78</b>	<b>0%</b>	

**Table 23: GO Bus Daily Boardings**

GO Bus Route		Daily Boardings			
Code	Name	Count	TTS	Difference	
GB01	Lakeshore Bus Service (Newcastle/Bowmanville Exp, Lakeshore E & W)	2550	2,470	-80	-3%
GB16	Hamilton QEW Bus Service	2,576	1,849	-727	-28%
GB19	Oakville Hwy 403 Service	561	735	174	31%
GB21	Milton Train & Bus Service	4,197	3,749	-448	-11%
GB27	Milton-Meadowvale Service	1,070	865	-205	-19%
GB31	Georgetown Train & Bus Service	1,168	1,222	54	5%
GB32	Brampton Trinity Common Bus Service	527	405	-122	-23%
GB33/34 /35/36	Guelph/Georgetown/Brampton Hwy 401, Brampton Local, Brampton via hwy27, Bramalea Exp.	3,381	2,797	-584	-17%
GB41	Orangeville Bus Service	214	146	-68	-32%
GB42	Bolton Bus Service	102	41	-61	-60%
GB44/49 /52	York U - Mt. Joy(Markham), Scarborough-Pickering, Oshawa Bus Service	4,419	3,541	-878	-20%
GB15/46 /47/48/53	McMaster U, York U- Oakville/Hamilton/Meadowvale/Streetsville Bus Service	9311	7,070	-2,241	-24%
GB50	U of T Scarborough - Centennial College Bus Service	38	275	237	624%
GB61	Richmond Hill Train & Bus Service	468	361	-107	-23%
GB62	Newmarket "B" Bus Service	636	1,296	660	104%
GB64	Newmarket - York U Bus Service	307	304	-3	-1%
GB65/68	Bradford, Barrie-Bradford Bus Service	1,927	1,286	-641	-33%
GB66	Newmarket Hwy 400 Service	445	304	-141	-32%
GB69	Sutton Bus Service	584	458	-126	-22%
GB71	Stouffville Train & Bus Service	1,537	944	-593	-39%
GB81	Beaverton - Port Perry Bus Service	269	526	257	96%
GB93	Durham College / UOIT Bus Service	423	316	-107	-25%
GB94/96	Oshawa Hwy 2/Finch Bus Service	7,058	6,476	-582	-8%
<b>Total GO Bus*</b>		<b>43,768</b>	<b>37,436</b>	<b>-6,332</b>	<b>-14%</b>

\*Totals calculated using routes that have both GO Bus ridership and TTS counts to ensure proper comparison.