TRANSIT REALITIES
IN THE SUBURBAN GTA

Data Management Group
Joint Program in Transportation
University of Toronto

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Prepared by
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EXECUTIVE SUMMARY

This report looks at current transit realities and trends in the four Regional Municipalities that make up the suburban GTA, based primarily on the analysis of Transportation Tomorrow Survey (TTS) data for 1986, 1991 and 1996. It documents transit use in the Suburban GTA by Region as of 1996 considering how transit is used, who rides, and why they ride, describes recent trends in travel for individual Regions, and assesses possible reasons for observed changes in transit ridership. The report also assesses the implications of recent trends for the future of transit and transportation in the GTA.

As documented in Section 2, most transit use in the suburban GTA can be classified in terms of two distinct travel markets: Toronto oriented cross-boundary travel and intra-municipal travel using local transit.

Toronto-oriented commuters accounted for 58% of all transit trips originating in the Suburban GTA in 1996. This market is dominated by peak period work travel. Most cross-boundary trips to Toronto were made by so-called “choice riders” -- persons who were licensed to drive and had a car available.

Intra-municipal transit travel accounts for approximately 34% of all transit use by residents of the Suburban GTA. School was the most significant trip purpose for intra-municipal transit use accounting for 43% of local transit trips in 1996. Work was the second most important trip purpose for intra-municipal travel, accounting for 31% of local transit trips. Whereas most cross-boundary transit users are “choice riders,” necessity was the primary reason for using transit to travel locally in the suburban GTA.

Total transit ridership grew rapidly between 1986 and 1991 but declined thereafter, as documented in Section 3. The growth in total transit ridership in the 1986-91 period was less than would be expected based on the growth of the suburban population, however. Whereas the four Regions saw their populations increase by 43%, transit ridership by the residents of the suburban GTA increased by only 27%. Between 1991 and 1996, reported transit ridership fell by 2%, whereas the Regions’ combined population grew by 12%. Section 3 reviews these trends by mode focusing on underlying trends in trip rates and mode splits and discusses possible explanations including changing travel patterns, service levels, drivers licensing and auto availability.

Section 4 presents conclusions and implications including discussions of transit’s role in serving suburban growth and transit’s future prospects.

Appendices A through F present selected data for individual municipalities.

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1. INTRODUCTION

In 1996, the year of the most recent Transportation Tomorrow Survey (TTS), 48.5% of GTA residents lived in the Regional Municipalities of Halton, Peel, York and Durham, but they accounted for only 20% of all GTA transit riders. By 1988, more than half of all GTA residents lived in the regions.

The transit market in the suburban GTA is very different from the market for transit services in the City of Toronto, the area served by the Toronto Transit Commission (TTC). The Suburban GTA is served by 13 local transit systems, GO Transit rail and bus services and limited TTC cross-boundary routes. In recent years, transit in the suburban GTA has had to respond to the conflicting pressures of continued growth and reduced funding. Despite "downloading" and reduced service levels, transit will be expected to carry an increased share of peak period travel in the future as continued development results in increasingly congested roads.

This report looks at current transit realities and trends in the four regions that make up the suburban GTA, based primarily on the analysis of TTS data for 1986, 1991 and 1996.

1.1 Objectives:

This report has three major objectives:

1. to document transit use in the suburban GTA by Region as of 1996 considering how transit is used, who rides, and why they ride.
2. to describe recent trends in travel for individual Regions and types of transit services and assess possible reasons for observed changes in transit ridership.
3. to assess the implications of recent trends for the future of transit across the GTA, and begin a discussion of the planning and policy implications of these trends for transit and transportation in the GTA.

The report provides up-to-date profile and trend data on the evolving market for transit services in the suburban GTA and related planning and policy observations based on the latest Transportation Tomorrow Survey (TTS) data. This information is intended to support the development of transportation and transit policies and strategies. It is not intended to be used directly for route-level transit service planning, although transit planners are encouraged to use special tabulations of the 1996 TTS data for route planning purposes.

1.2 TTS Data Strengths and Limitations.

The TTS data, the primary source of information for this report, has strengths and weaknesses. The three TTS surveys each collected large samples including almost 62,000 GTA households in 1986, 22,300 households in 1991, which was a scaled-down

effort, and more than 90,000 households in 1996. The three surveys were conducted using consistent sampling and survey methods, which means that the results for all three surveys are comparable in quality and content. As is the case with all sample surveys, however, the TTS survey data are subject to both sampling and non-sampling errors. The non-sampling errors include an apparent undercount of total daily travel, due to the inability of respondents to report all of the trips made by the members of their households. However, there is no evidence of any significant under reporting of work or school trips or of other trips made in the a.m. peak period. Also, total daily travel on the TTC Subway, GO Rail, GO Bus and most municipal bus services are accurately represented by the survey data. The survey data under represents total daily automobile travel by 20% to 25% and streetcar use in downtown Toronto by about 33%. Total daily bus use in Hamilton and Toronto may be under represented by as much as 15%. These differences need to be considered when using the TTS data for the analysis of off-peak or total daily travel.

The TTS data have been collected using consistent methods over the 1986-96 period. Therefore, the estimates presented are comparable and the data from the three surveys can be used for almost any type of time series analysis for which there is sufficient observations to ensure statistical accuracy. The larger the underlying sample size, the better the estimate. Considering both the strengths and weakness, the TTS is an excellent basis for assessing trends in travel behaviour and the socio-demographic factors that influence travel behaviour.

1.3 Report Outline

This report is organized as follows:

Section 2, “Transit in the Suburban GTA – An Overview”, describes current transit ridership across the Suburban GTA, based on 1996 TTS data, focusing on transit sub-markets, transit destinations and market shares, and auto access and transit use in the suburban setting.

Section 3, “Trends in Transit Use in the Suburban GTA – 1986-96” reviews total ridership and trip rate trends for identified transit sub-markets, changes in transit trip purposes, mode split and related trends, and discusses possible explanations.

Section 4, “Conclusions and Implications”, summarizes the principle findings and conclusions and outlines related issues and possible implications.

The appendices present selected data for individual municipalities:

- Appendix A provides a tabular summary of transit trips originating in the municipality in the Suburban GTA stratified by sub-market for 1986, 1991 and 1996.

- Appendix B summarizes transit mode shares by municipality of residence and major destinations for 1986 and 1996.

- Appendix C presents data on trip rate trends by municipality of residence and transit sub-market for 1986, 1991 and 1996 for total and by selected trip purposes.

- Appendix D presents transit ridership data by municipality, trip purpose and total by sub-market.

- Appendix E presents data on mode split for first work trips by municipality of residence and major destination for 1986 and 1996.

- Appendix F presents data on mode split by first school trips by municipality of residence and major destination for 1986 and 1996.

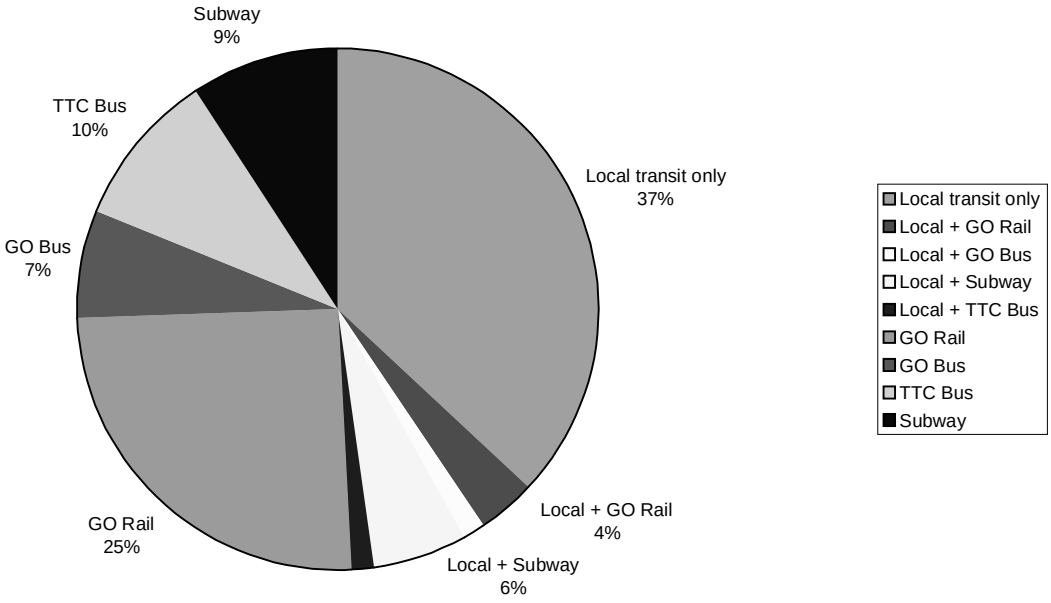
2. TRANSIT IN THE SUBURBAN GTA – AN OVERVIEW

The suburban GTA was home to 48.5% of all GTA residents in 1996, and 20% of GTA transit riders, at the time of the most recent Transportation Tomorrow Survey (TTS) in the fall of 1996. Suburban residents use a wide variety of transit modes and combinations of transit modes, as shown in Exhibit 1, which divides the total population of transit users among nine transit sub-modes.

2.1 Transit Sub-Markets

In 1996, the largest single group of suburban GTA transit users (37%) rode local transit exclusively, while the second largest group (25%) used only GO Transit, accessing this service on foot or by automobile. Municipal transit systems (local transit) were also used to access GO Rail (4%), GO Bus (1%), TTC Subway (6%) and TTC Bus services (1%). Other suburban residents walked or used cars to access GO Bus services (7%), TTC bus services (10%) and the Subway (9%).[1]

Exhibit 1 - Suburban GTA Transit Sub-Markets - 1996



Considering all modes and submodes, about half of all transit users (49%) in the suburban GTA used local transit for all or part of their transit trip, while the other half (51%) walked or used personal vehicles to access GO Transit services and/or the TTC

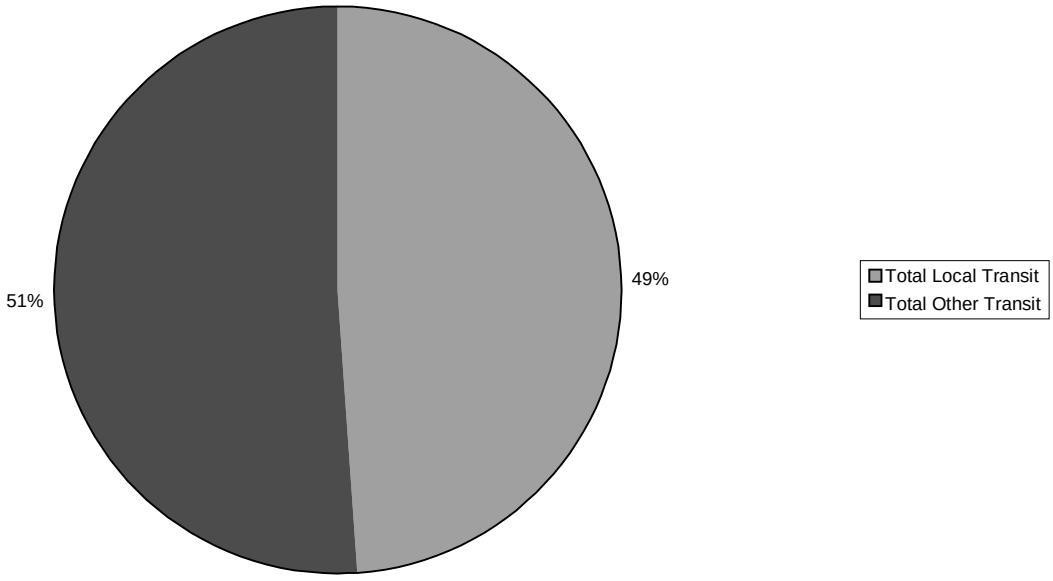
[1] Appendix A presents TTS estimates of transit ridership by municipality of residence and transit sub-market for 1986, 1991 and 1996.

without using local transit services, as shown in Exhibit 2. The latter group, described as "Other Transit" users, in Exhibit 2, are primarily "cross-boundary commuters."

Cross Boundary Commuters

The large majority of "other transit" riders are commuting to jobs or post secondary schools in Toronto. For example, in 1996, 85% of suburban GO Rail patrons were travelling to and from jobs in Toronto, while 6% were students travelling to universities and colleges in Toronto. Seventy-seven per cent of suburban residents who used TTC services were commuting to work or school, 51% for work and 26% for school.

Exhibit 2 – Suburban GTA Major Sub-Markets - 1996



Approximately 25% of local transit users living in the suburban GTA use local transit to access GO Transit services or other local transit services (in most cases the TTC) for cross boundary travel. This group of local transit users is also part of the "cross-boundary commuter" market in that more than 90% are travelling to jobs or post-secondary institutions in Toronto.

Of the cross-boundary commuters who used local transit for part of their trip in 1996, about half used GO Rail services, 14% used GO Bus services, 20% rode TTC subway (using park-n-ride or kiss-n-ride facilities) and 18% rode TTC buses. Most of the latter group were residents of South York Region and used TTC cross-boundary services.

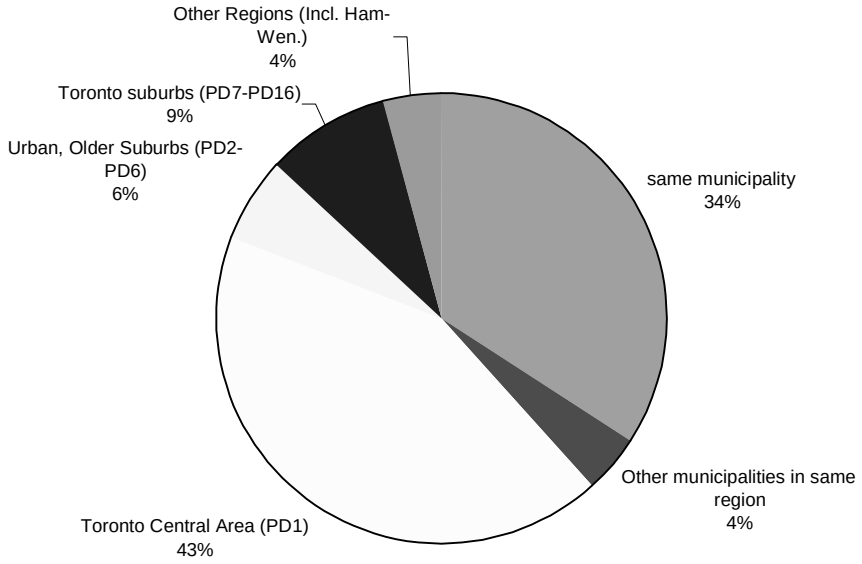
Local (Internal) Transit Use

Approximately 75% of the local transit users living in the GTA suburbs in 1996 were travelling locally. The majority of local transit users who are not cross-boundary commuters were travelling between home and school (43%). Trips between home and work account for about 30% of internal transit use in the GTA suburbs while trips for other purposes including shopping, personal business and recreation account for the remaining 27% of internal trips.

2.2 Suburban GTA Transit Destinations and Market Shares (Mode Splits)

Transit use varies depending on a trips destination. The relative importance of different transit destinations for transit users living in the suburban GTA is illustrated in Exhibit 3.

Exhibit 3 - Suburban GTA Trip Destinations 1996

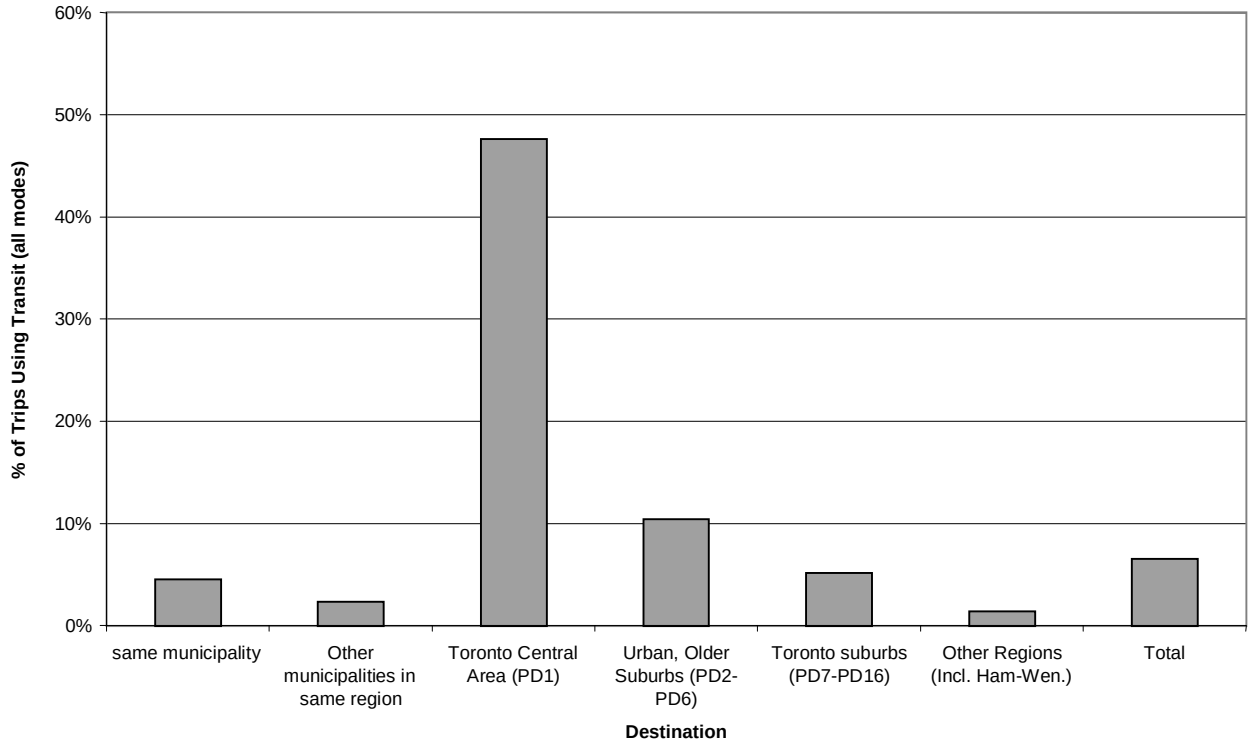


Most suburban transit riders (58%) were travelling to or from Toronto with 43% (or almost three quarters of all persons with Toronto destinations) travelling to/from Toronto's Central Area (Planning District 1). About 9% of GTA suburban residents using transit were travelling to the former outer suburban areas of Toronto (Etobicoke, Scarborough and North York, north of Highway 401 or Metro Planning Districts [PDs] 7-16). A further 6% were travelling to the inner city/mature suburban areas within Toronto including the former City of Toronto, York and East York and parts of North York south of Highway 401. The urban-older suburbs area is defined as in terms of Metro Planning Districts 2-6).

Thirty-four percent (34%) of all suburban transit riders were travelling locally (within same municipality), 4% were travelling to/from another municipality in the same Region and 4% were travelling to another Region (primarily Burlington to/from Hamilton-Wentworth and between Oakville and Mississauga).

The competitive position of transit by trip destination is illustrated by the relative transit market shares (or mode splits) for different destinations. Observed transit mode splits range from 48%, for all trips by Suburban GTA residents to/from Toronto's Central Area to 1% for cross-boundary trips between Regional municipalities, as shown in Exhibit 4.

Exhibit 4 - GTA Suburban Market Shares by Destination 1996



Transit continues to be most competitive for trips to and from Toronto's Central Area (48% market share or transit "mode split") and least competitive for suburban cross-boundary trips (1-2% market shares). Note that in 1996, the average suburban transit mode split for internal (or local) travel was at the same level as the average mode splits for trips from the suburban GTA to Toronto's outer suburban areas, or about 5%. [2]

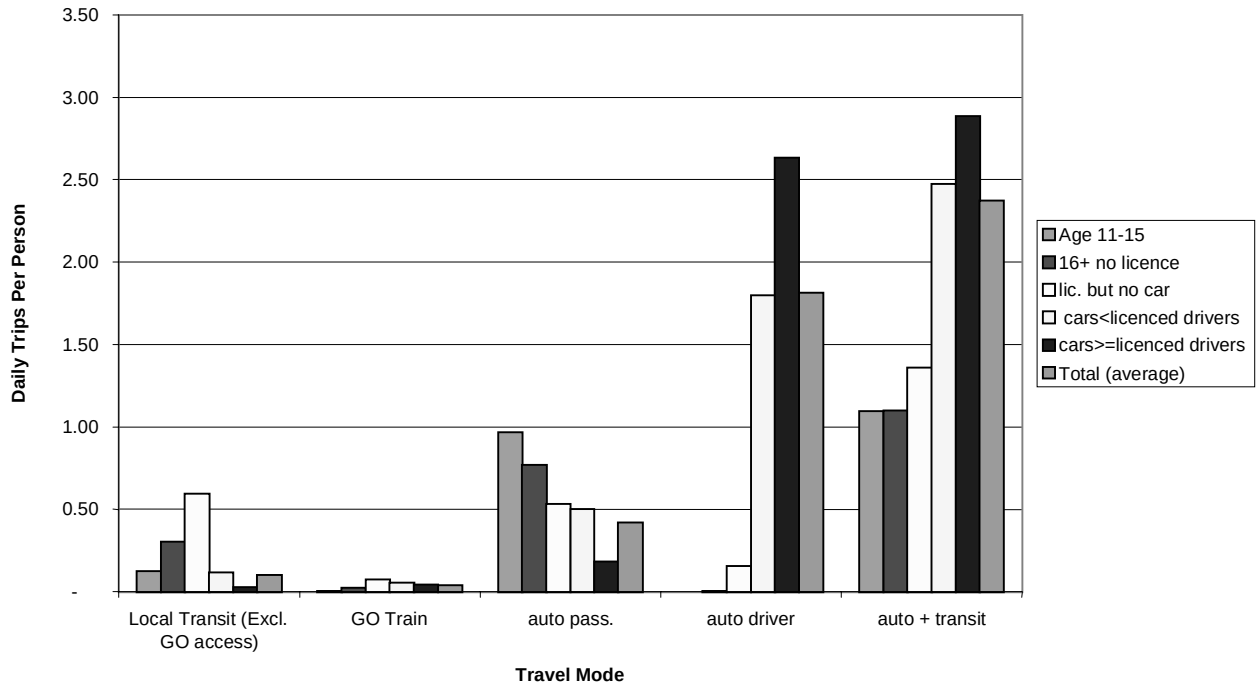
[2] Appendix B provides data on total transit mode shares by municipality of residence and major destinations for 1986 and 1996.

Mode splits vary by trip purpose for each destination. For example, mode splits for home to work trips to Central Toronto in 1996 ranged from a high of 63% (for Oshawa) to a low of 41% (for Aurora) with an overall average of 52%. Mode splits to Toronto's Central Area (PD1) for home to school trips also averaged 52% in 1996 but reported mode splits for school trips ranged from 0% (Oshawa) to 68% (Vaughan).[3]

2.3 Auto access and transit use

Mode choice and transit use in the GTA suburbs is closely tied to auto access and possession of a valid driver's license, as shown in Exhibit 5. Exhibit 5 summarizes daily trip rates by mode (local transit excluding GO access, GO Train, auto passenger and auto driver) and total (auto + transit) for suburban populations defined in terms of possession of a driver's license and/or access to private vehicles.

Exhibit 5 - Trip Rates by Mode Considering Availability of Driver's License and Vehicle Access 1996



For each of four modes, there are six bars showing the daily trip rate per person for different groups of suburban residents as follows:

- persons age 11-15,
- 16 and over and unlicensed,

[3] See Appendices E and F for detailed tabulations of mode splits by trip purpose and local municipality.

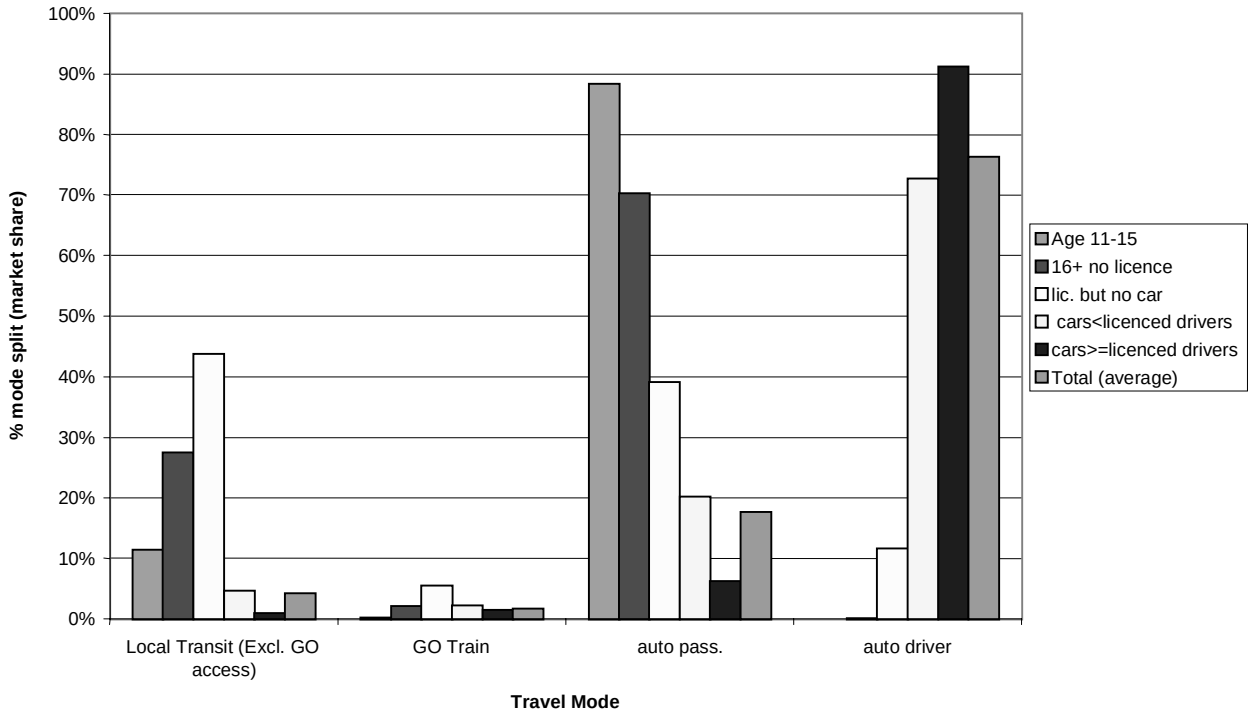
- licensed but without access to a car,
- licensed and in household with fewer cars than drivers (cars<licenced drivers)
- licensed and in household where cars equal or exceed the number of licensed drivers (cars>=licensed drivers)
- total (or average)

Not surprisingly, transit trip rates and auto passenger trip rates are above average for persons who do not drive or do not have access to a car and below average for persons who can drive and have a car available. For example, whereas local transit trip rates averaged 0.10 daily trips per week-day per suburban resident 11 years of age or older, transit use varied from a high of .60 trips per day, for those who were licensed to drive but did not have a car available, to a low of .03 for persons with a driver's license living in a house where the number of cars equalled or exceeded the number of licensed drivers. Persons who were 16 years of age and older and not licensed had an average local transit trip rate of .30 trips per day. Persons living in houses with fewer cars than licensed drivers had an average transit trip rate that was 20% above the average (.12 transit trips per day versus .10).

GO Train use also varied with auto access with the highest daily trip rates being for persons who were licensed but without access to a car and the lowest use, among adults, being for those licensed individuals who had a car available at all times (cars greater than or equal to the number of licensed drivers). The latter group also had the highest auto use averaging more than 2.5 auto driver trips per day.

Market shares (mode splits) also vary with driver's license possession and vehicle availability, as shown in Exhibit 6. For example, the average local transit mode splits among residents the suburban GTA who were 16+ and did not have a license (10% of the total population 16+) was 27% in 1996. For those suburban residents who were licensed but did not have access to a car (1% of the population 16+) the transit mode split was 44%. The average mode split for GTA suburban residents for licensed persons living in homes where licensed drivers exceed the number of cars (23% of population 16+) was 5%. However, where the number of cars equals or exceeds the number of licensed drivers, as is the case for 41% of 16+ population living in the GTA suburbs, the average mode split was only 1%.

Exhibit 6 - Market Shares by Mode Considering Availability of Driver's License and Vehicle Access 1996



Auto passenger and auto driver splits show consistent patterns. Where people had access to a car, all the time, the auto driver mode share was more than 90%. Where people were not eligible to drive, because they are under age, 88% of all trips (excluding school bus trips) were as auto passengers. Transit accounted for the remaining 12% of trips made by persons aged 11-15, again excluding school bus travel.

2.4 Summary and Conclusions

Most transit use in the suburban GTA can be classified in terms of two distinct travel markets: Toronto oriented cross-boundary travel and intra-municipal travel.

Toronto-oriented commuters accounted for 58% of all transit trips originating in the Suburban GTA in 1996. This market is dominated by peak period work travel. In 1996, seventy-seven per cent of cross-boundary trips to/from Toronto were work related.

Most cross-boundary trips to Toronto were made by so-called “choice riders” -- persons who were licensed to drive and had a car available. This is especially true for GO Rail patrons and those suburban residents who used the TTC subway, two groups that are primarily commuting to jobs in Toronto’s Central Area. Ninety-one percent of GO Rail patrons who lived in the Suburban GTA were licensed and had a car available, as were 80% of TTC Subway riders.

Intra-municipal transit travel accounts for approximately 34% of all transit use by residents of the Suburban GTA. Whereas work is the major trip purpose for the cross-boundary market, school was the most significant trip purpose for intra-municipal transit use accounting for 43% of local transit trips in 1996. Work was the second most important trip purpose for intra-municipal travel, accounting for 31% of local transit trips. Whereas most cross-boundary transit users are "choice riders," necessity was the primary reason for using transit to travel locally in the suburban GTA. In 1996, 76% of intra-municipal transit trips were made by persons who did not have a driver's license and/or did not have access to an automobile.

The remaining 8% of transit use by residents of the suburban GTA is for cross-boundary travel within the suburban regions or to neighbouring regions (excluding Toronto). These riders have more in common with intra-municipal transit customers than with Toronto-oriented cross-boundary riders. They, like most suburban transit users, are strongly influenced by auto availability.

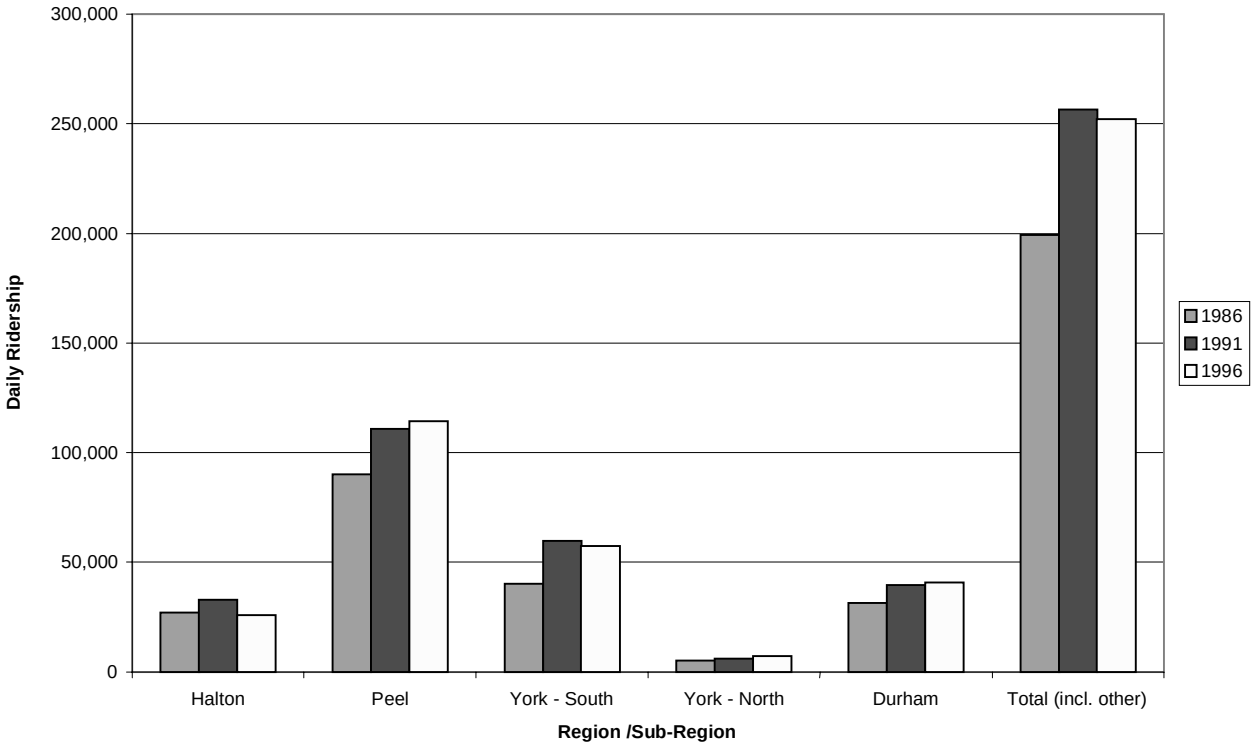
Suburban transit services in 1996 were only competitive with the automobile for travel to Toronto's Central Area. For trips to the Central Area, the combination of high parking costs and the time advantage of fixed rail transit relative to congested roads were key factors in attracting those riders who had a choice. Nevertheless, only 52% or workers and students commuting to Downtown Toronto and area on the average weekday chose to ride transit rather than to drive to their destination. Note that transit mode splits are somewhat higher during the peak hours of travel, when transit service levels and traffic congestion are highest.

3. TRENDS IN TRANSIT USE IN SUBURBAN GTA – 1986-1996

3.1 Transit Ridership Trends

Total transit ridership grew rapidly between 1986 and 1991 but declined thereafter, as shown in Exhibit 7. The growth in total transit ridership in the 1986-91 period was less than would be expected based on the growth of the suburban population, however. Whereas the four Regions saw their populations increase by 43%, transit ridership by the residents of the suburban GTA increased by only 27%. Between 1991 and 1996, transit ridership fell by 2%, whereas the Regions combined population grew by 12%.

Exhibit 7 - Total Transit Ridership by Region and Year



Changes in transit ridership varied by Region. Comparing 1991 and 1996 transit ridership (local and non-local), the largest decline was in Halton (-7000 rides per weekday) while greatest increase (+3000 rides per weekday) was in Peel. Despite rapid population growth, York Region[4] lost transit ridership (-3000 rides per weekday) between 1991 and 1996. Losses were in non-local transit use (persons who walk or drive to

[4] York Region is divided into two sub-regions: York South includes Vaughan, Richmond Hill and Markham while York North includes Aurora and Newmarket. The other rural municipalities within York do not have local transit service.

transit for cross-boundary travel). Local transit use increased during this period, as shown in Exhibit 8.

Growth in local transit use in the 1986-96 period (from 94,000 to 123,000 or 30%) was still below the population increase of 43%. Ridership declined in Halton (between 1986 and 1996) and York-South (after 1991). The growth in local transit ridership during the 1986-96 period was concentrated in Peel Region, which had a 22,000 increase over decade (of the total suburban increase of 29,000). Durham and York North also had consistent increases in local transit ridership over the decade.

Without growth in Peel (primarily Mississauga), local transit use in GTA suburbs would have declined absolutely. Most of Mississauga's ridership increase was internal transit use, rather than commuter travel (feeding GO and/or TTC subway).

Exhibit 8 - Total Local Transit Ridership by Region and Year
(All trips that use local transit for at least one leg)

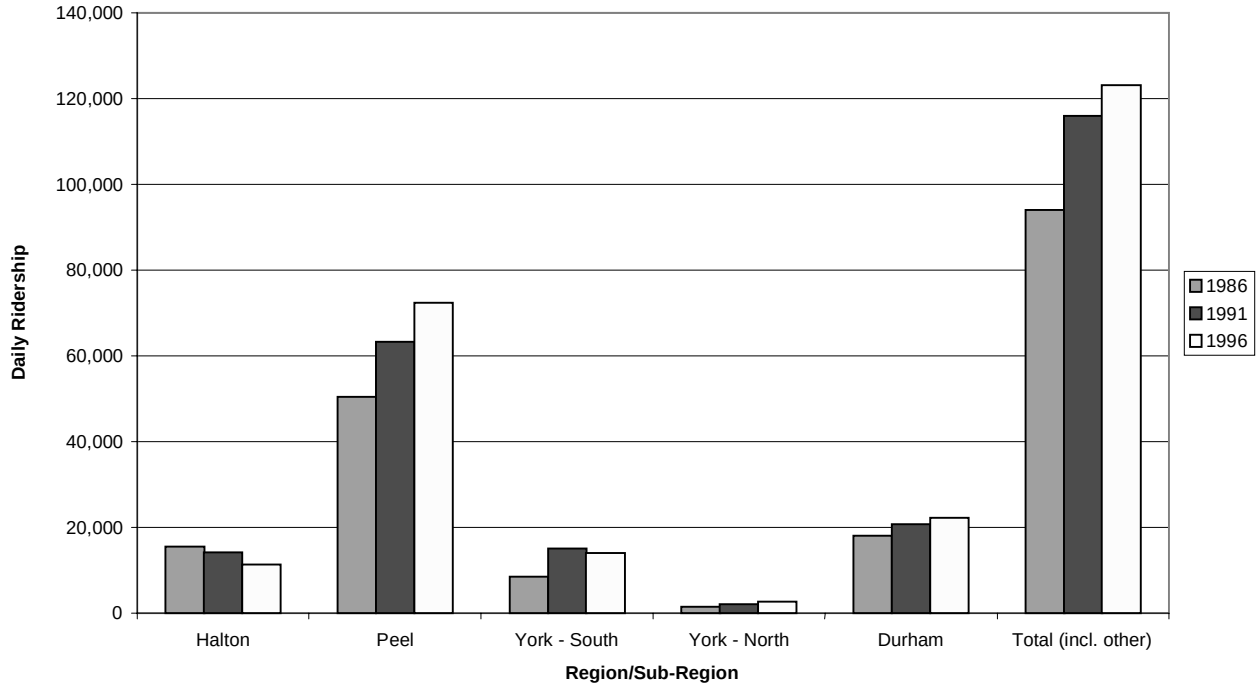
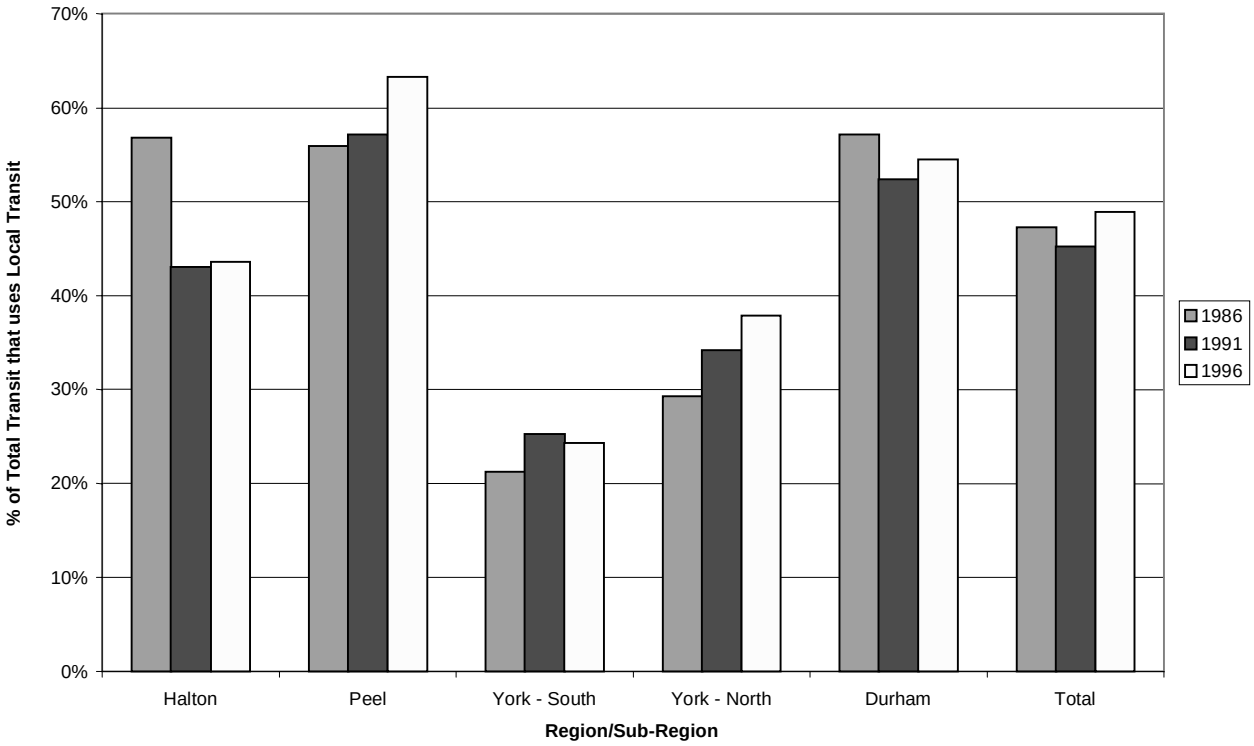


Exhibit 9 shows the changing proportion of total transit ridership that is accounted for by local transit (including internal and cross-boundary use). There is not a consistent pattern of change over the decade or across the Suburban GTA. There was a small increase in the share of suburban transit ridership served by local municipal systems, between 1986 and 1996, from 47% to 49%, recovering from a decline between 1986 and 1991 when local transit accounted for about 45% of suburban transit patronage. However, local transit's share of total suburban transit ridership increased consistently in

Peel and York-North, and fell in Halton and Durham. Halton's local transit share fell dramatically between 1986 and 1991, showing limited recovery after 1991. In Durham, local transit's share fell between 1986-91, recovering somewhat in the 1991-96 period. York Region also saw an increase in the relative share of transit ridership served by local transit over the decade, although it declined somewhat in South York Region, after 1991.

Exhibit 9 - Local Transit (total) as Percent of Total Transit Ridership



Exhibits 10 and 11, summarize data for Local Transit Only ridership and Total Non-Local Transit ridership. Whereas Local-only ridership generally saw increases over the decade, with the exception of Halton Region, total Non-Local Transit ridership generally fell after 1991, with the exception of Durham, which showed no decline and York-North (Aurora and Newmarket), where a small, but statistically insignificant increase is shown.

Exhibit 10 - Local Transit Only Ridership by Region and Year

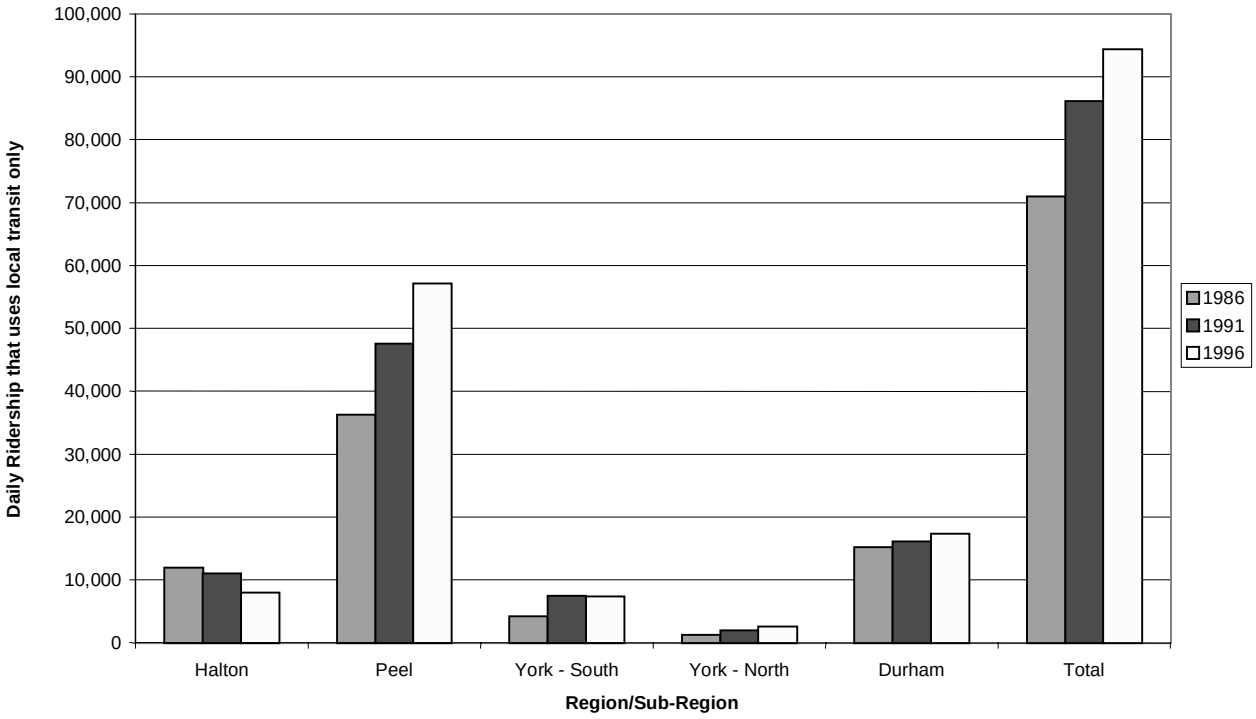
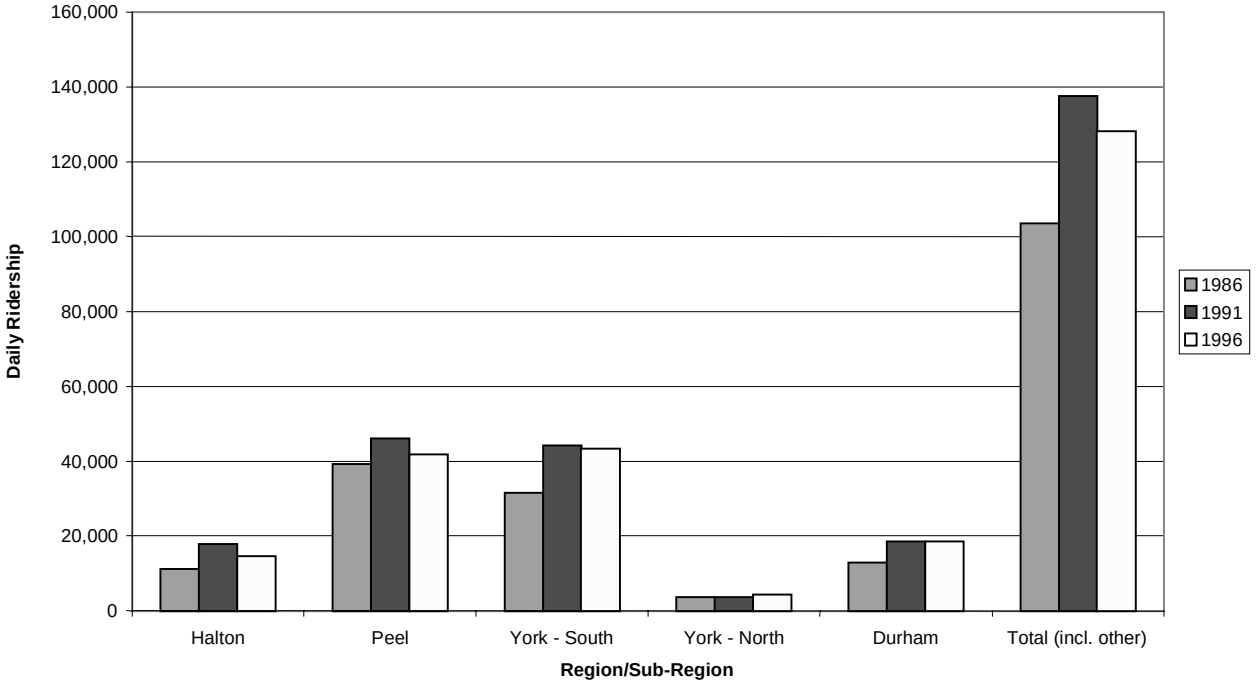
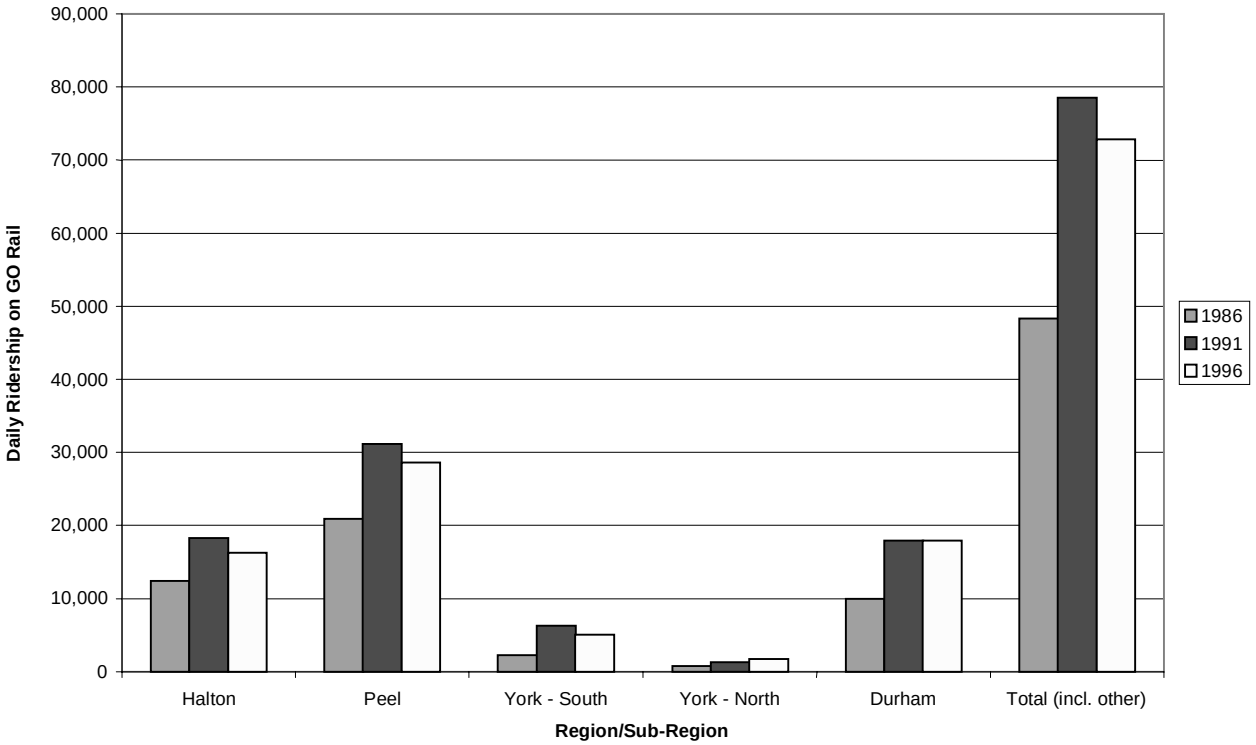


Exhibit 11 - Total Non-Local Transit Ridership by Region and Year (Total Ridership - All Local Ridership)



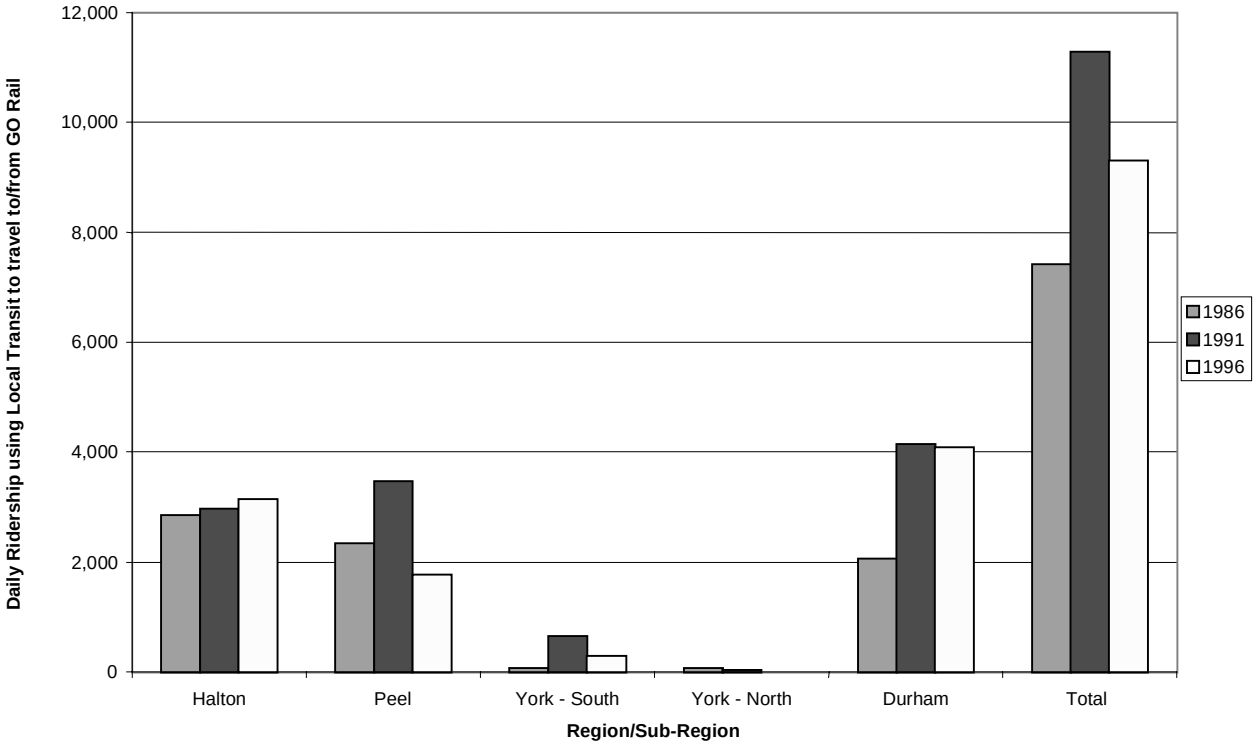
Exhibits 12 and 13, present TTS estimates of total GO Rail ridership and Local Transit and GO ridership. GO Rail ridership grew rapidly between 1986 and 1991, from 48,000 to 78,000 per week-day, despite the loss of jobs in Downtown Toronto (Central Area) in the 1989-91 period, as documented in 1986-1996 Travel Trends in the GTA and Hamilton-Wentworth (March 1998). However, GO Rail ridership declined to 73,000 in 1996, apparently reflecting declining work travel to the Downtown from the Suburban GTA.

Exhibit 12 - Total GO Rail Ridership by Region and Year



The declines in total GO Rail ridership were generally reflected in Local transit use related to GO Rail, as shown in Exhibit 13, except in Halton and York North. In Halton, local transit access to GO continued to increase despite a small decline in GO Rail ridership between 1991 and 1996, probably because GO feeder services in both Burlington and Halton were improved after 1991. The role of local transit in serving GO Rail services in York-North appears to have declined from 4% to 0% over the decade, but the results may not be statistically significant.

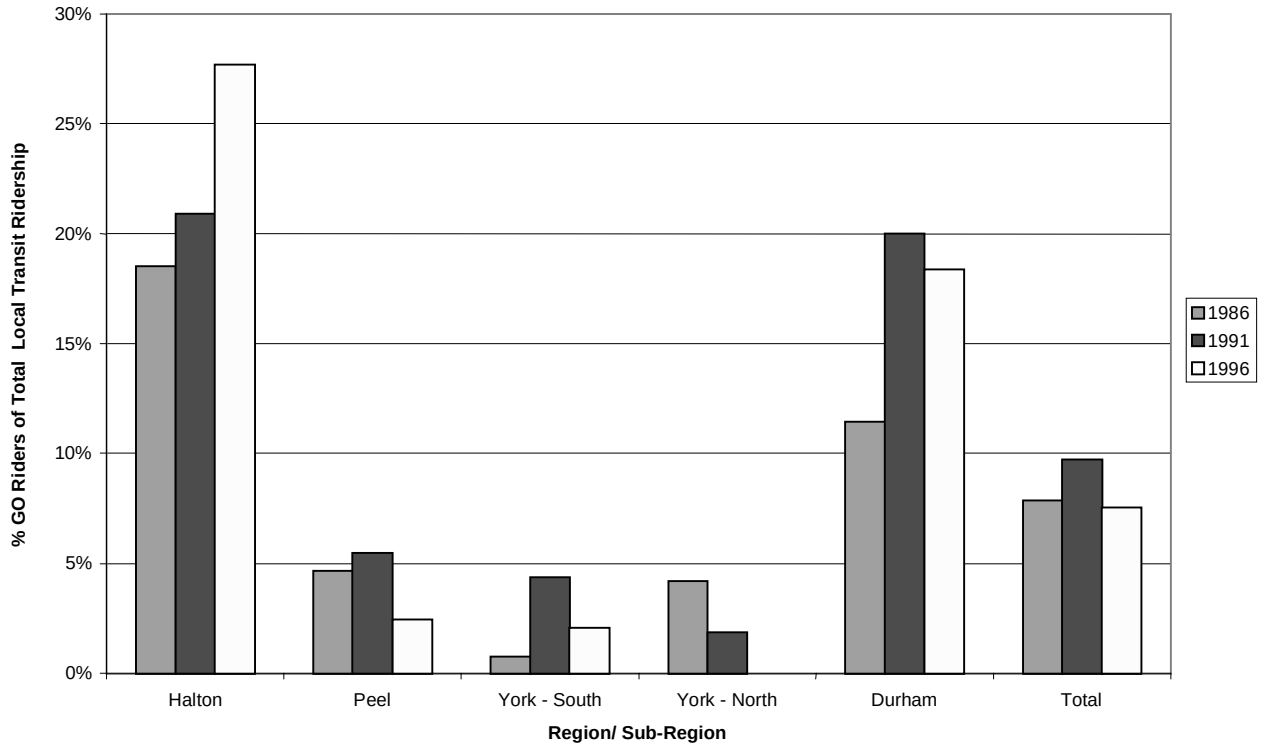
Exhibit 13 - Local Transit and GO Rail



As shown in Exhibit 14, local transit access to GO Rail, as a percentage of total Local Transit, declined somewhat over the decade from 7.9% in 1986 to 7.5% by 1996. Nevertheless, GO Rail related ridership increased proportionately (as a % of local transit ridership) in Halton over the decade, going from 18.5% in 1986, to 20.9% in 1991, and 27.7% by 1996. Local transit in Durham also experienced increased GO-related local transit ridership increasing from 11.4% of local transit use in 1986, to 20% in 1991 and 18.4% by 1996. In contrast, GO Rail related local transit use declined proportionately in Peel and York Region.

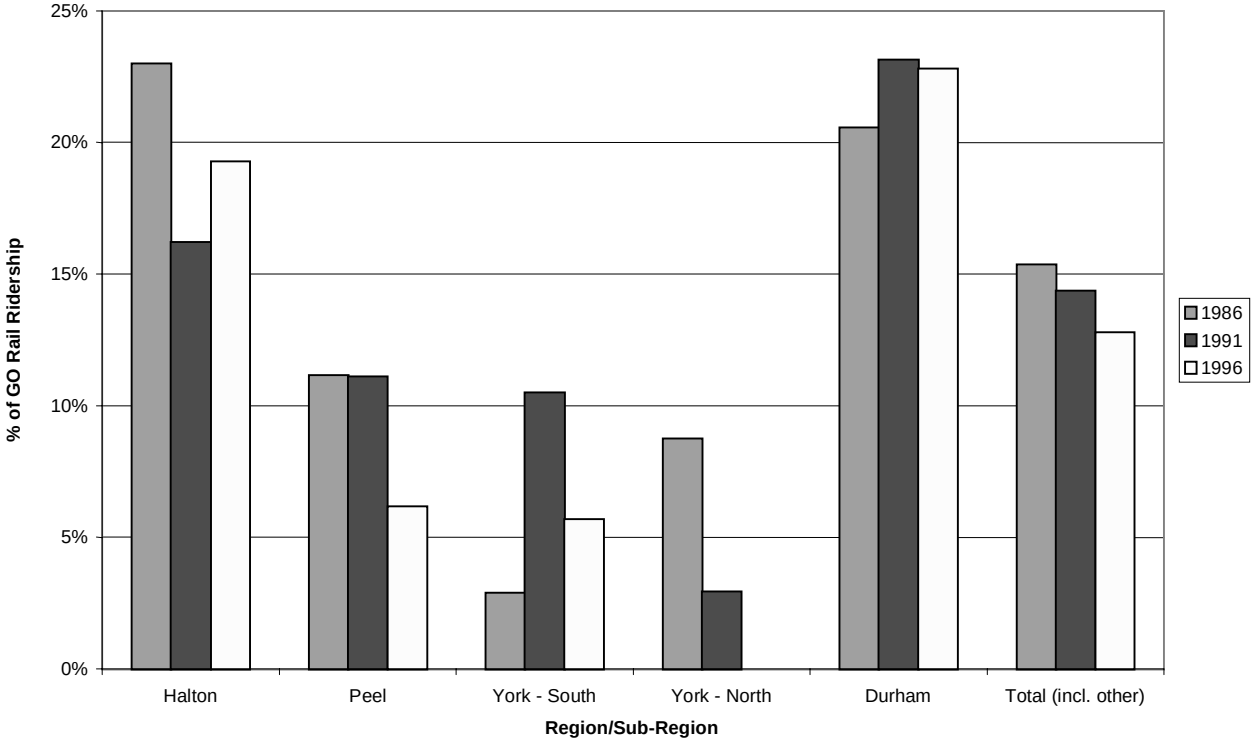
York and Peel each experienced a small increase in the percent of total local transit ridership associated with GO Rail between 1986 and 1991 but losses after 1991. South York Region went from .8% in 1986 to 4.4% by 1991, before falling back to 2.1% in 1996. Peel saw the percent of local transit ridership associated with GO Rail go from 4.6% in 1986, to 5.5% in 1991 and 2.4% in 1996.

Exhibit 14 - Local Transit Access to GO as Percent of Local Transit Ridership



Another way to look at local transit and GO is to track any changes in the proportion of total GO Rail ridership that use local transit. Seen this way, local transit access/egress as a proportion of reported GO Rail ridership fell over the decade from 15.4% in 1986 to 14.4% in 1991 and 12.8% in 1996, as shown in Exhibit 15. The 1996, the proportion of GO Rail ridership carried by local transit was lower than 1986 everywhere but in Durham and York South where there were increases from 21% to 23% for Durham and 2.9% to 5.7% for York-South (Vaughan, Richmond Hill and Markham).

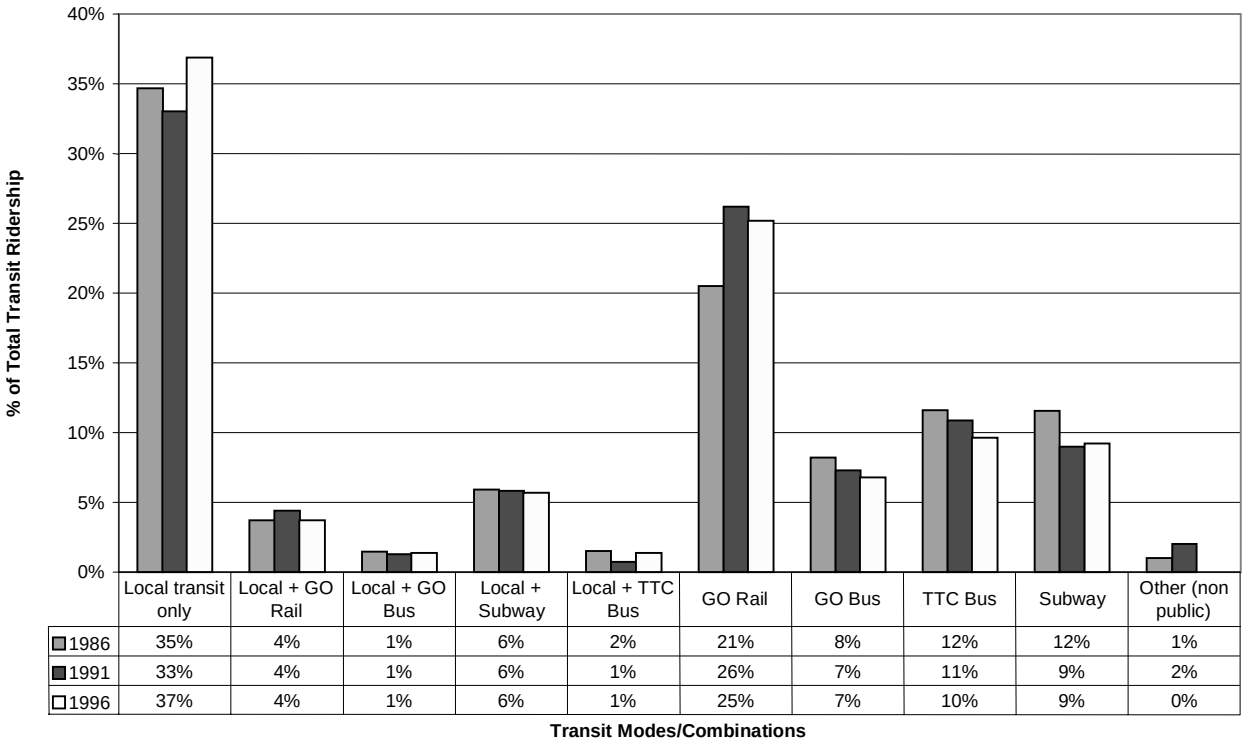
Exhibit 15 - Local Transit Access as Percent of GO Rail Ridership



Exhibits 16 and 17 summarize TTS data on the changing transit sub-market shares between 1986 and 1996. Given the trends in transit use by mode documented in the proceeding sections, there was a small increase in the proportion of total suburban transit ridership using local transit only or using GO Rail only, and a decline in the proportion of total transit riders using TTC and GO bus services.

When the local and non-local categories of transit are combined, as shown in Exhibit 17, local transit use declined in the 1986-91 period but increased in 1996. The shift to local transit reflects the small increase in local ridership shown in 1996 compared to 1991, and the absolute decline in non-local ridership, as documented in Exhibits 8, 10 and 11

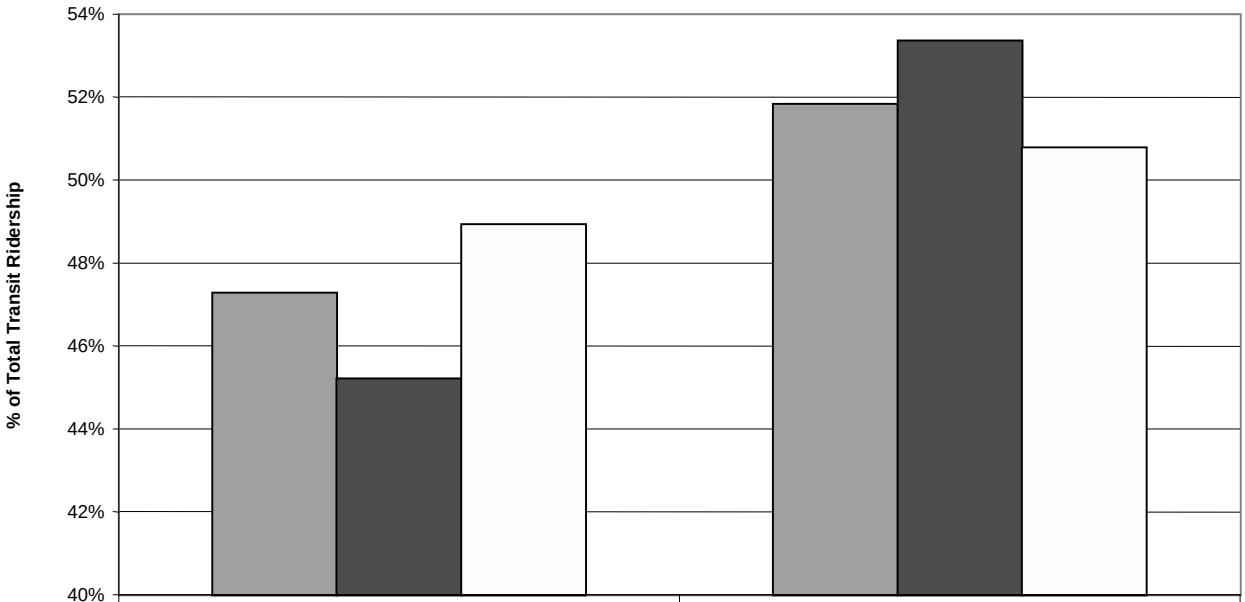
Exhibit 16 - Suburban GTA Transit Sub-Market Shares - 1986-1996



	Local transit only	Local + GO Rail	Local + GO Bus	Local + Subway	Local + TTC Bus	GO Rail	GO Bus	TTC Bus	Subway	Other (non public)
1986	35%	4%	1%	6%	2%	21%	8%	12%	12%	1%
1991	33%	4%	1%	6%	1%	26%	7%	11%	9%	2%
1996	37%	4%	1%	6%	1%	25%	7%	10%	9%	0%

Transit Modes/Combinations

Exhibit 17 - Suburban GTA Major Transit Sub-Market Shares - 1986-96



	Total Local Transit	Total Other Public Transit
1986	47%	52%
1991	45%	53%
1996	49%	51%

Major Transit Modes

3.2 Underlying Transit Usage Trends- Transit Trip Rates

Changes in the propensity to use transit can be understood by measuring ridership in relation to population, expressed in terms of daily transit trip rates (trips per day) per 1000 residents, or work trips per 1000 resident workers (employed labour force) or school trips per 1000 students. Exhibits 18-25 illustrate trends in trip making in terms of transit trip rates, considering transit modes used (local, non-local), and trip purposes (home-based work and school trips and other purpose trips).[5]

Exhibit 18 documents the overall decline in local transit trip making per 1000 residents over the 1986-96 period, from 63 rides per weekday in 1986 to 57 by 1996. Continuous declines are evident in total local transit trip rates in Halton and Durham, with the largest declines being evident in Halton, which saw weekday trips on local transit decline from 67 to 39 rides per 1000 residents. Despite continuous declines in Durham, local transit use remained above the average for the Suburban GTA.

Small but consistent increases were observed in Total Local Transit Trip Rates for Peel and York-North, while York-South experienced a substantial increase in local transit use in the 1986-91 period, followed by an even larger decline, after 1991.

Peel Region transit operators (Mississauga Transit and Brampton Transit) maintained the highest levels of local transit use in the Suburban GTA, at more than 90 local transit trips per weekday per 1000 residents, while per capita use either declined, or was at a low level, in the other Regional Municipalities.

Exhibit 19 documents changes in non-local transit trip rates per 1000 residents. In contrast to local transit ridership, overall non-local transit use increased between 1986 and 1991, from 70 to 74 weekday rides per 1000 residents, before falling to 60 rides per 1000 residents, in 1996.

The use of non-local transit operators, including GO and TTC, varies by Regional Municipality. Whereas Halton, Peel, York-North and Durham, all have similar levels of non-local transit use, and all experienced a drop in ridership after 1991, York-South had a much higher level of non-local use because Vaughan, Richmond Hill and Markham are served by cross-boundary services operated by TTC and GO Transit. Despite a high level of service, however, and continuous development and growth, South York Region saw continued declines in non-local transit use over the 1986-96 period.

[5] Appendix C presents data on trip rates by municipality of residence and transit sub-market for total and by trip purpose.

Exhibit 18 - Total Local Trip Rates by Region and Year (Daily Trips per 1000 Residents)

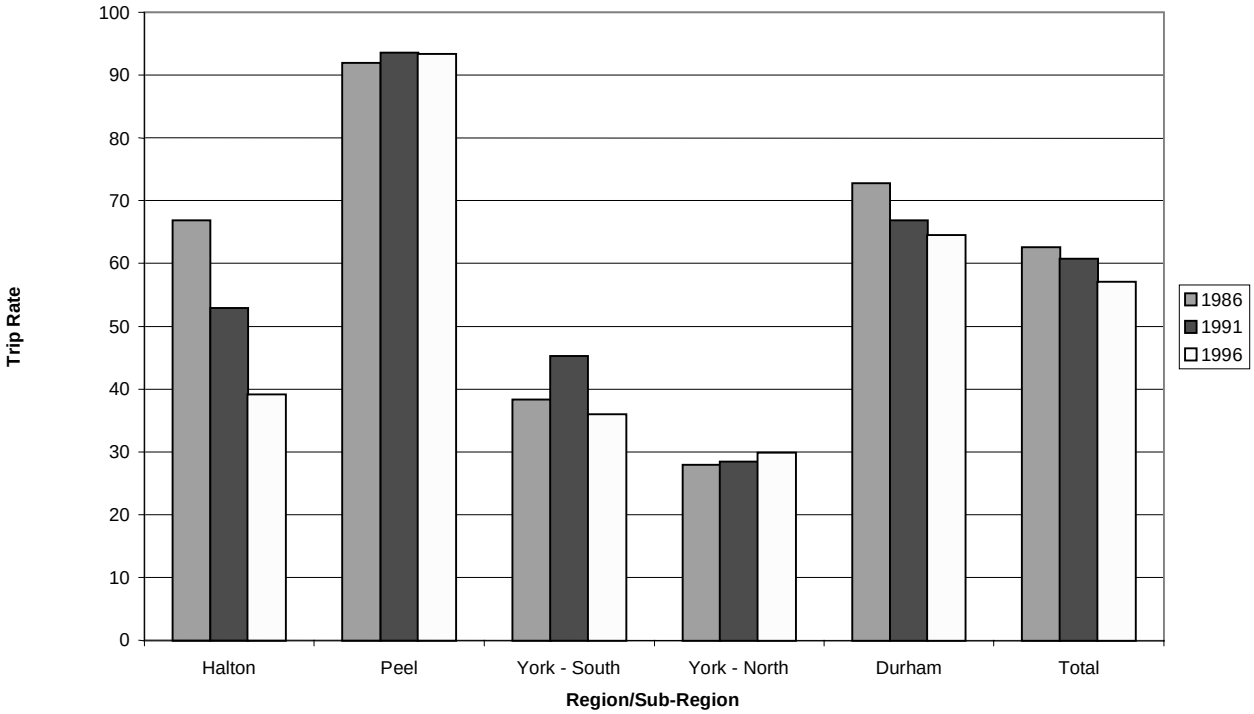
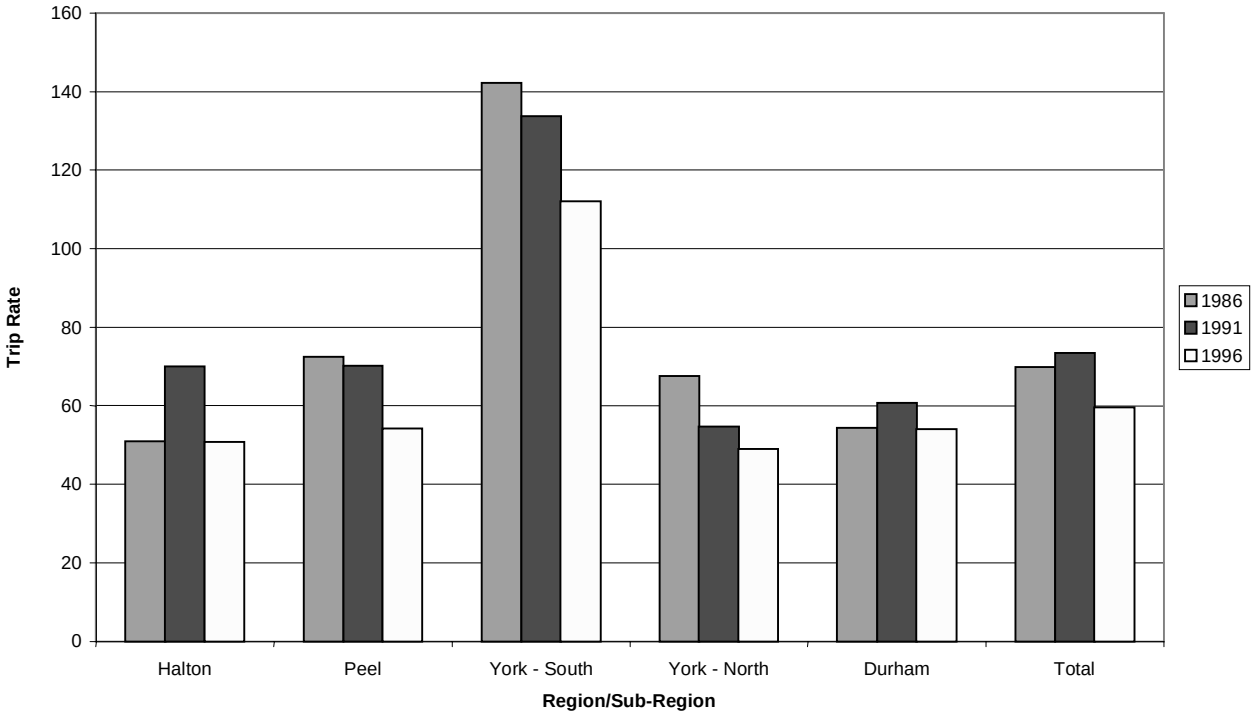


Exhibit 19 - Non-Local Transit Trip Rates by Region and Year (Trips per 1000 Residents)



3.3 Changes in Transit Trip Purposes

Exhibit 20 documents changes in Local Transit Only (or internal) trip rates for home-based work trips while Exhibit 21 shows the same trip purpose information for Total Local Transit trip making, including both local and cross-boundary travel.

Declines were experienced in work travel per resident worker (ELF) both for local, internal travel, and for total local transit trip making. For example, local internal work trip making declined from 31 daily trips per 1000 workers to 26, over the decade, while total work related travel using local transit declined from 50 daily trips per 1000 workers to 44.

The largest drops in work travel were experienced for internal travel in Halton, York-North, and Durham. Local transit use for internal work trips was stable for Peel Region ranging from 53 to 55 home based work trips per 1000 workers but total work-related local transit ridership (including internal and cross-boundary travel) fell after 1986 from 84 to 78 trips per 1000 workers. York Region saw a small decline in its already low local transit use for work trips and in total local transit use, especially after 1991 in York-South.

Exhibit 20 - Local Transit Trip Rates for Home-based Work Trips
(Daily Trips Using "Local Transit Only" per 1000 Employed Labour Force)

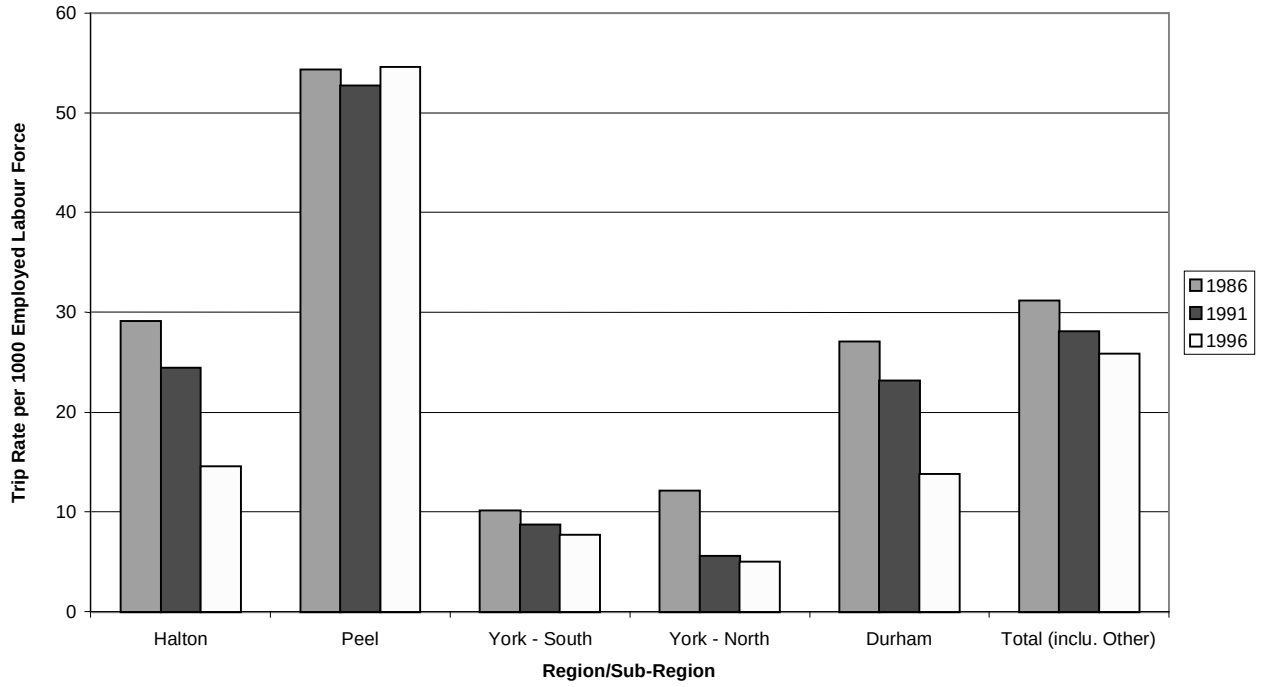


Exhibit 21 - Total Local Transit Trip Rates for Home-Based Work Trips (Daily Trips Using "Local Transit for at least 1 leg" per 1000 Employed Labour Force)

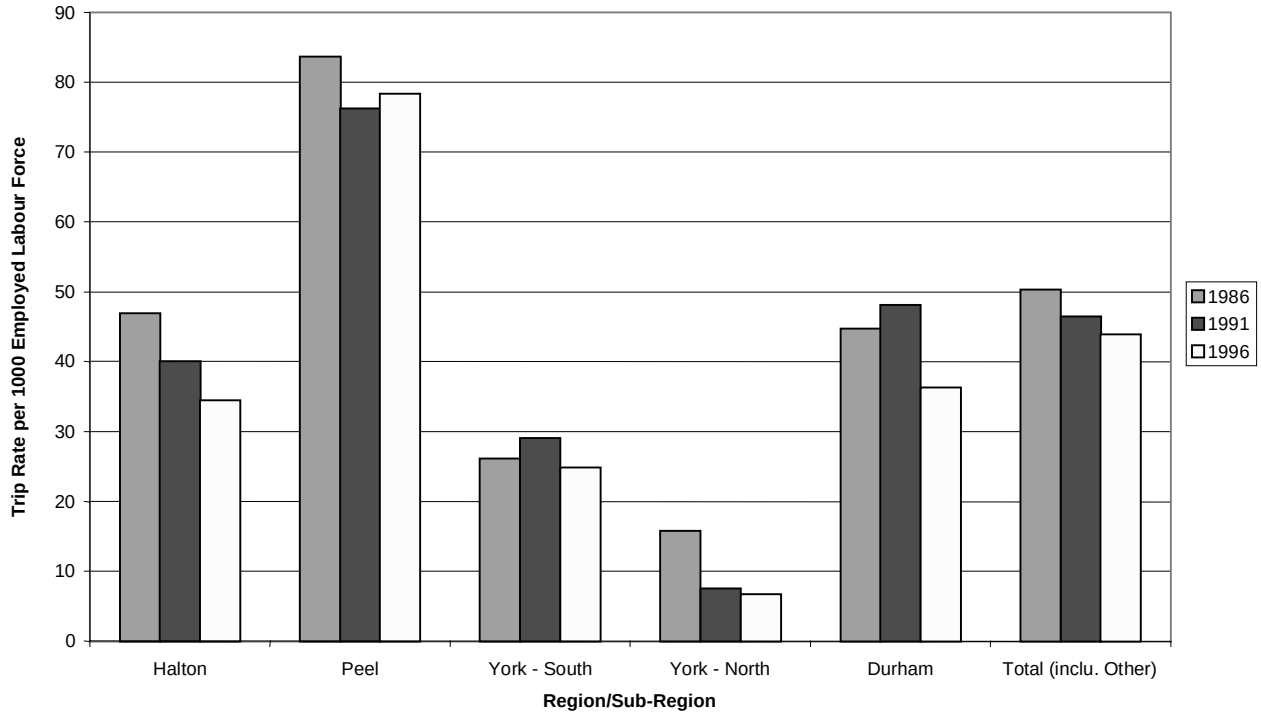


Exhibit 22 summarizes data on non-local transit use for home-based work trips. As with total non-local transit trips for all purposes (as Shown in Exhibit 19), non-local transit use for work increased marginally between 1986 and 1991, from 85 to 92 transit trips per 1000 workers, before declining to 80 in 1996. The trends in work–related non-local transit use shown in Exhibit 22 are very similar to those shown in Exhibit 19 for total travel. York-South continues to have the highest level of non-local transit use, despite the decline from the 150 level in 1986 and 1991 to 125 in 1996.

Exhibit 22 - Total Non-Local Transit Trip Rates for Home-Based Work Trips (Daily Trips Using "Non-Local Transit" per 1000 Employed Labour Force)

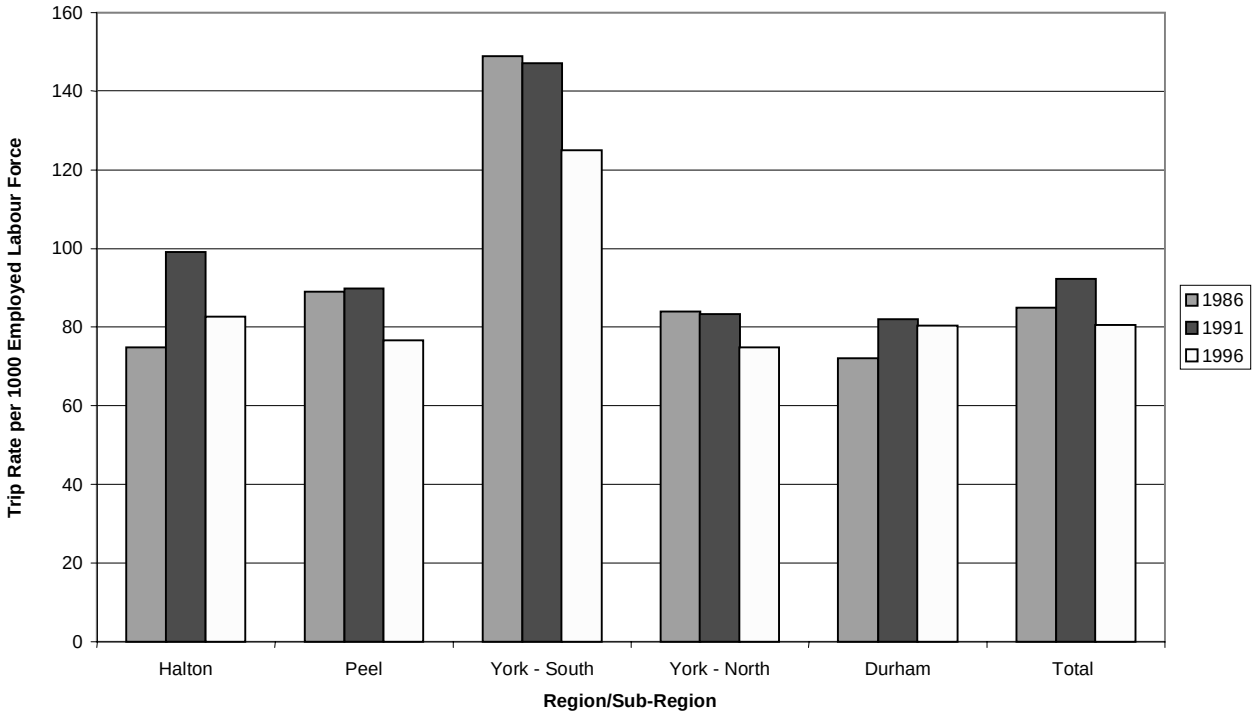
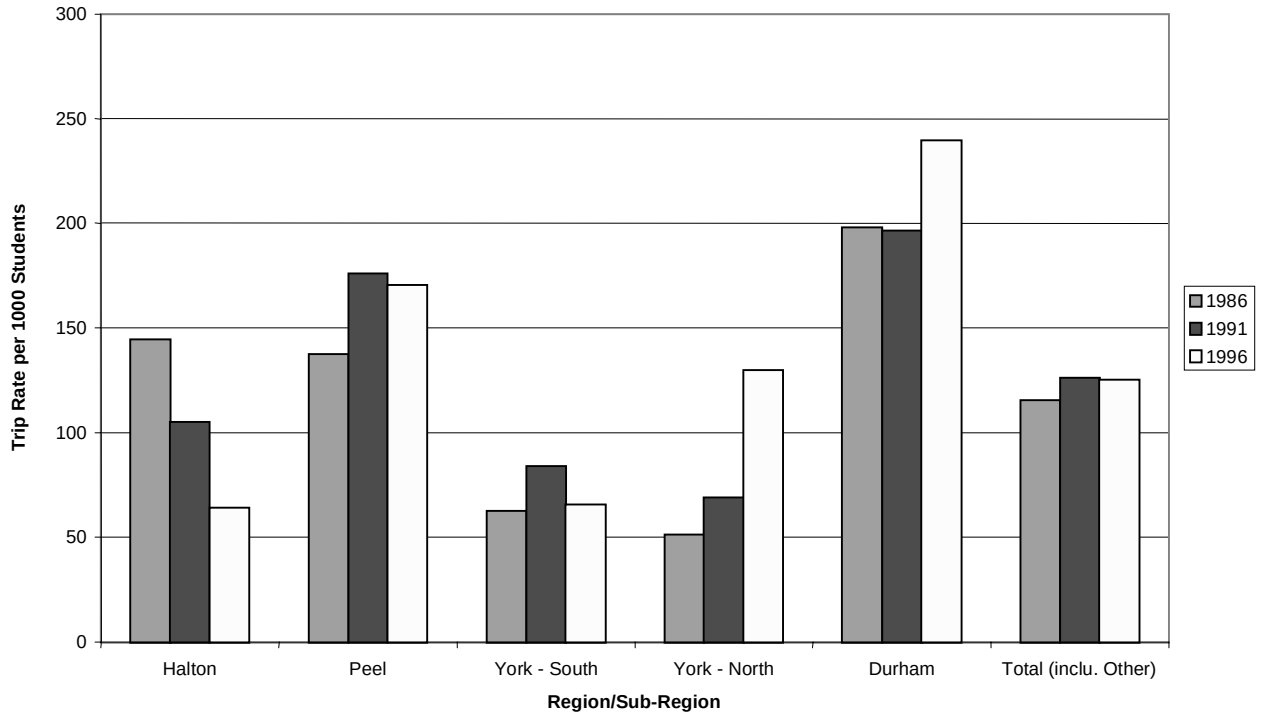


Exhibit 23 illustrates changes in local transit trip rates for home-based school travel, expressed in terms of weekday trips per 1000 students, living in the Suburban GTA and in the individual Regions or Sub-Regions (in the case of York Region).

Looking at the suburban GTA as a whole, student ridership to and from school increased between 1986 and 1991, rising from 116 home-based school trips per 1000 students to 126 by 1991. Overall student use of local transit was at the same level in 1996 as 1991. The apparent stability in student ridership reflects a more complex pattern of increases in Peel, York-North and Durham and declines in Halton and York-South. While Halton experienced continuous declines of the 1986-96 period, York-South saw an increase between 1986 and 1991 followed by a larger decline between 1991 and 1996. Durham Region had the highest student ridership in all three survey years, having twice the per-capita use of transit for travel between home and school compared to the average for the Suburban GTA.

Exhibit 23 - Local Transit Trip Rates for Home-Based School Trips (Daily Trips Using Local Transit per 1000 Students)



Exhibits 24 and 25 summarize trip rate information for Other Trip Purposes, other than work or school.

While the overall rate was stable at 11-12 daily trips on local transit for 1000 residents and 13-15 daily trips using local transit and another transit mode. The apparent stability masks substantial declines in transit use in Halton, Durham, and York North (after 1991) and significant increases in "other purpose" transit trip making in Peel Region, after 1991.

Peel now has the highest local transit use for trip purposes other than work or school and York-South has the lowest ridership. York-South's low ridership reflects the way services are provided, rather than lower levels of transit use. Most residents of York-South who use transit for Other purposes ride TTC bus or GO Bus services that provide cross-boundary connections to Toronto.

Exhibit 24 - Other Trip Rates for Local Transit Only Trips for Other Purposes (excluding work and school) per 1000 residents

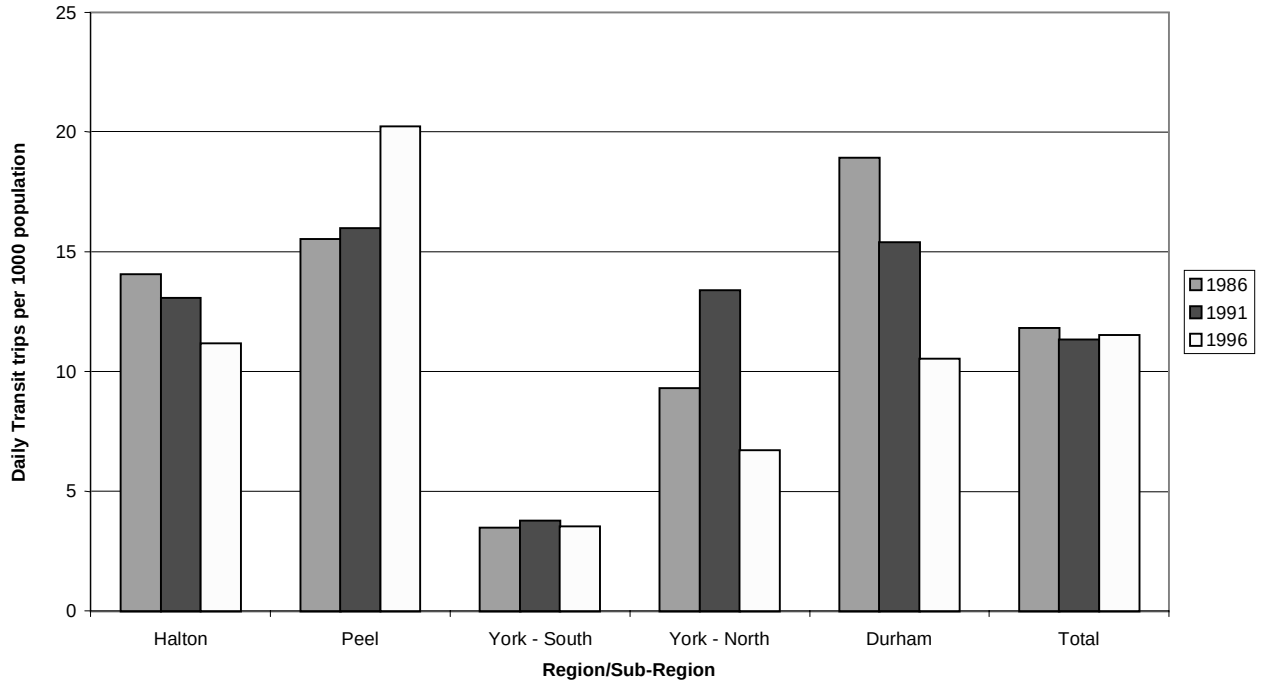
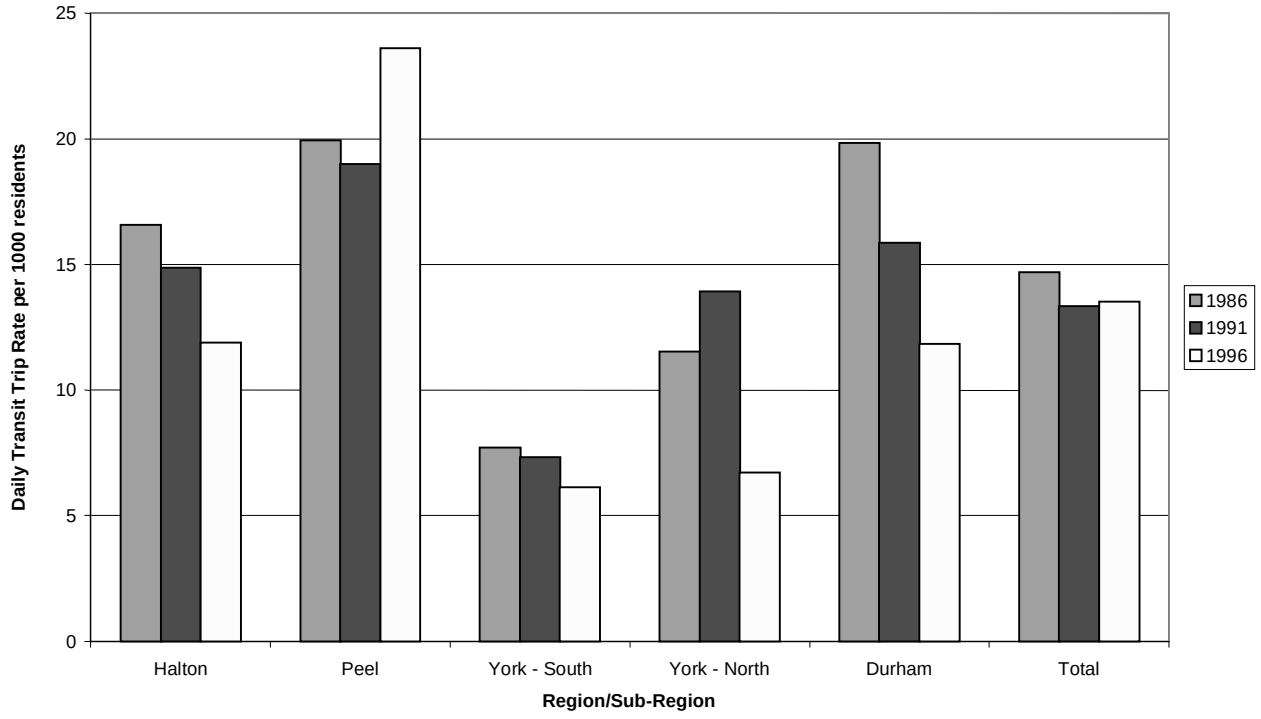


Exhibit 25 - Other Transit Trip Rates for Local Transit (All Users) Trips for Other Purposes (excluding work and school) per 1000 residents

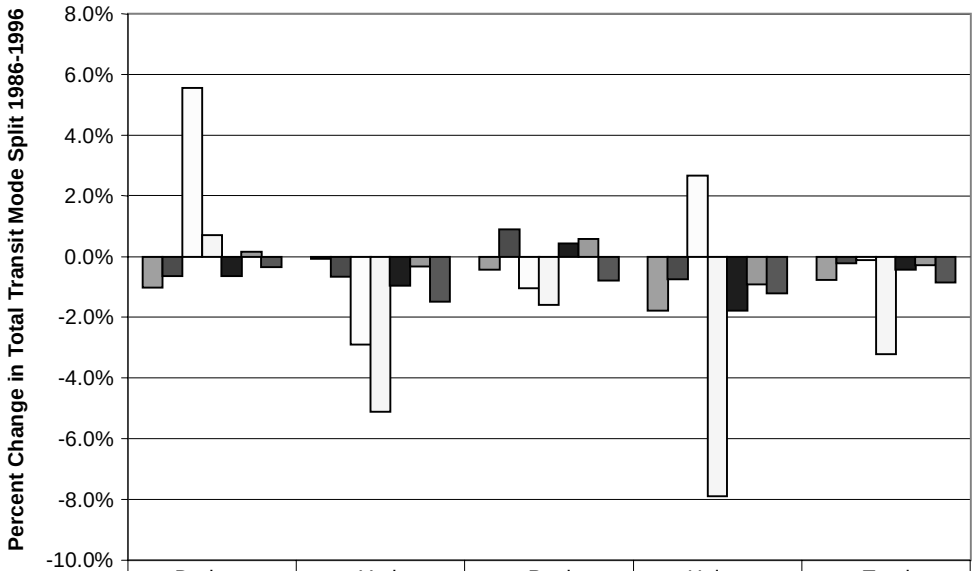


3.4 Mode Split Trends:

Changes in trip rates are also reflected in shifts in mode split between 1986 and 1996. Exhibit 26 summarizes changes in average daily mode splits for trips made by residents of the suburban GTA by major destinations including Downtown Toronto, Toronto's inner City/suburbs and Outer suburbs, internal (same municipality) and other cross-boundary including intra-regional and between regions. The reported mode splits for both years are presented in Table 1. The major changes in mode split between 1986 and 1996 related to travel to Downtown Toronto (Planning District 1) and the Inner City/suburban areas.

While the overall average mode split PD 1 was 48% in 1986 and 1996, reported mode splits by Region did change with reported increases in transit use in those regions that benefited from GO Rail extensions (6% increase for Durham from 48% in 1986 to 54% in

Exhibit 26 -Transit Mode Split Changes by Region 1986-1996



	Durham	York	Peel	Halton	Total
same municipality	-1.0%	-0.1%	-0.4%	-1.8%	-0.8%
Other municipalities in same region	-0.6%	-0.7%	0.9%	-0.7%	-0.2%
Downtown (PD1)	5.6%	-2.9%	-1.0%	2.7%	-0.1%
Inner city/suburbs (PD2-PD6)	0.7%	-5.1%	-1.6%	-7.9%	-3.2%
Outer suburbs (PD7-PD16)	-0.6%	-0.9%	0.4%	-1.8%	-0.4%
Other Regions (Incl. Ham-Wen.)	0.2%	-0.3%	0.6%	-0.9%	-0.3%
Total	-0.3%	-1.5%	-0.8%	-1.2%	-0.8%

Table 1 - Transit Mode Shares for Trips Starting at Home - 1986 to 1996

Place of Residence	same municipality 1986	same municipality 1996	Other municipalities in same region 1986	Other municipalities in same region 1996	Toronto						Other Regions (Incl. Ham-Wen.) 1986	Other Regions (Incl. Ham-Wen.) 1996	Total 1986	Total 1996
					Downtown (PD1) 1986	Downtown (PD1) 1996	Inner city/ suburbs (PD2-PD6) 1986	Inner city/ suburbs (PD2-PD6) 1996	Outer suburbs (PD7-PD16) 1986	Outer suburbs (PD7-PD16) 1996				
Durham	6%	5%	3%	2%	48%	54%	6%	7%	3%	2%	0%	0%	7%	7%
York	3%	3%	3%	2%	48%	45%	14%	9%	7%	6%	1%	1%	9%	7%
Peel	6%	6%	2%	3%	47%	46%	15%	13%	5%	6%	3%	3%	9%	8%
Halton	4%	2%	1%	1%	50%	53%	21%	13%	3%	1%	2%	1%	6%	5%
Total	5%	5%	3%	2%	48%	48%	14%	10%	6%	5%	2%	2%	8%	7%

1996) and peak period service improvements (3% increase for Halton from 50% in 1986 to 53% in 1996) and declines elsewhere. Mode splits declined for trips from Peel, and York to Downtown Toronto.[6]

Overall transit use declined for trips to Toronto's inner city and mature suburbs from all areas except Durham, which showed a small increase (from 6% to 7%). Halton and York saw 8% and 5% declines in transit mode splits between 1986 and 1996 for trips to the inner city area outside the Downtown.

[6] Appendices B, E and F present data on transit mode splits by origin (municipality of residence) and major destinations for total, work and school trips.

3.5 Related Trends

Two additional factors were considered in reviewing trends in travel in the suburban GTA: trends in trip lengths and trip start times.

Exhibit 27 documents the continued increases in transit trip lengths in the Suburban GTA for all transit modes. This trend reflects the ongoing decentralisation of the GTA population and the changing 0-D patterns, as discussed in Section 3.5.

Exhibit 27 - Trip Lengths by Mode for Suburban GTA Residents

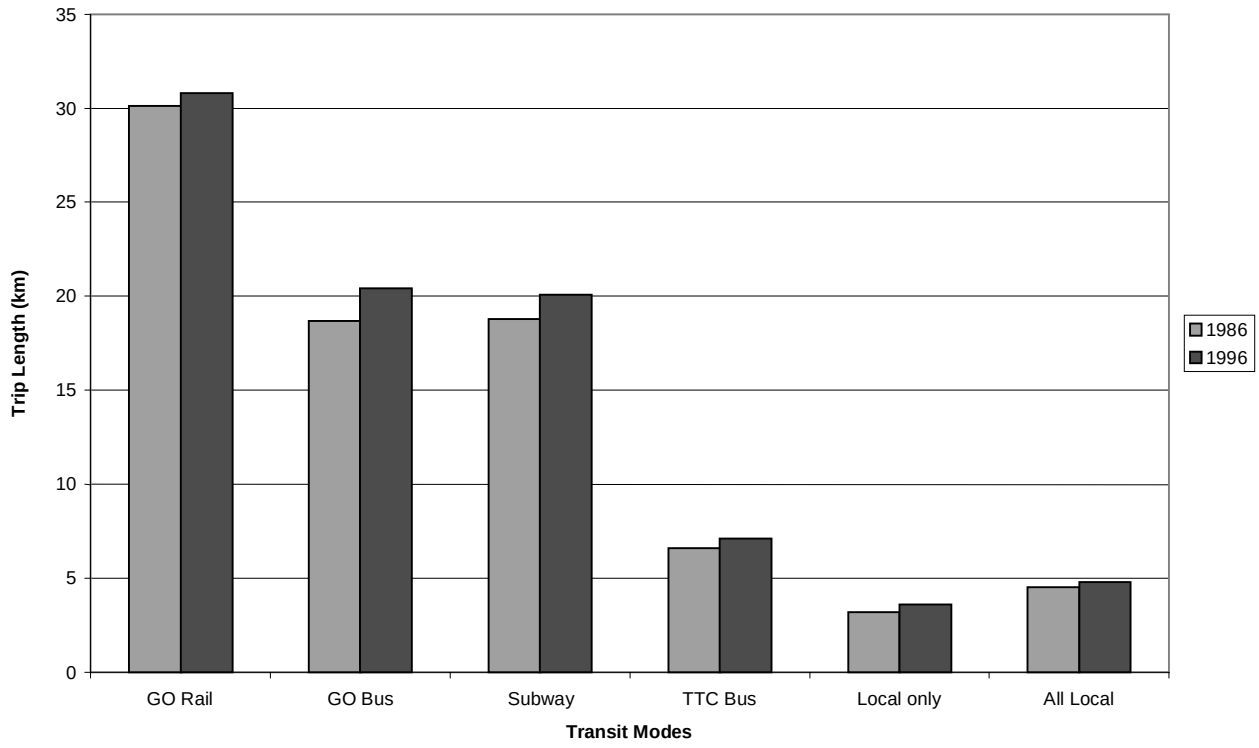
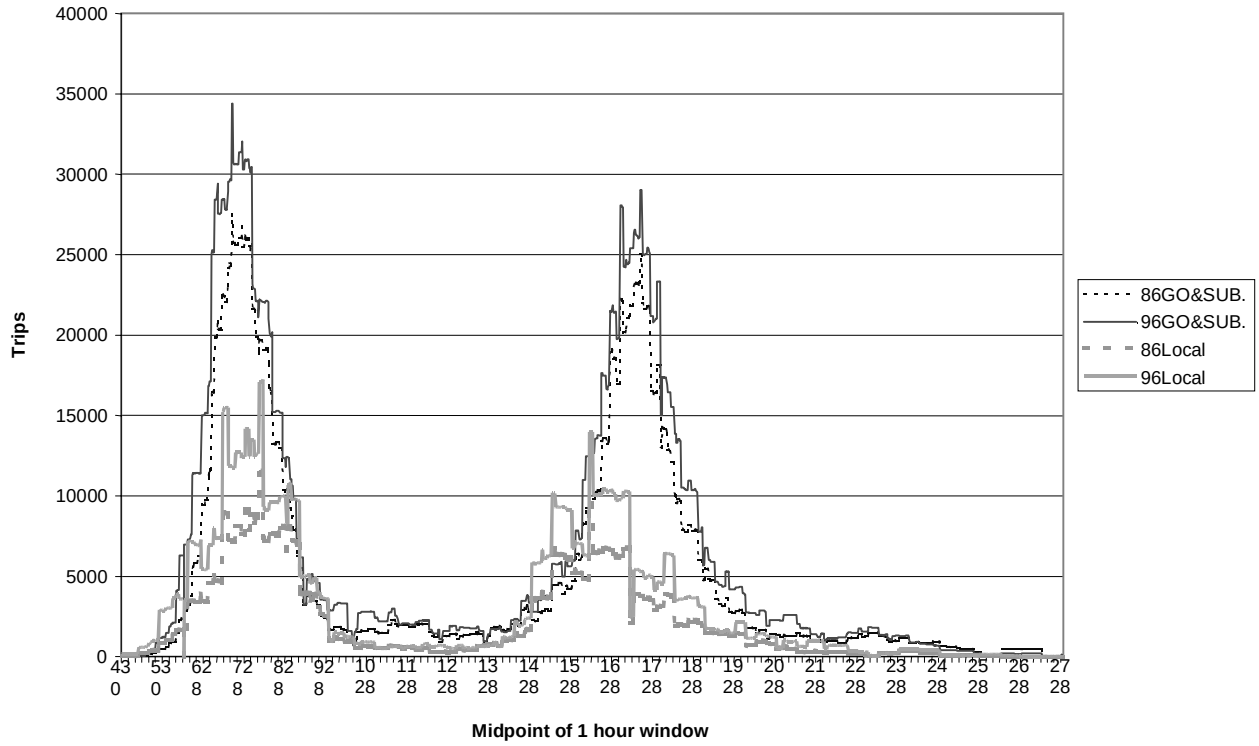


Exhibit 28 documents changes in trip start times by mode between 1986 and 1996 for cross-boundary (GO and Subway) and local transit. While the graphic suggests some shifting of trip start times, the accompanying table shows that there was not a significant shift in work trip start times across the Suburban GTA when considering the peak, one, two and three hour periods. The apparent stability in trip start times by transit mode for all Suburban GTA areas is probably not indicative of stability within individual Regional Municipalities or municipalities. Changes in trip-making by purpose and sub-mode are larger at the local level than for the Suburban GTA as a whole and, therefore, changes in trip start times would also be greater.

Exhibit 28 - Distribution of Trip Start Times - Residents of Dur. York Peel & Hal.



Transit trips by residents of Durham, York, Peel & Halton

Commuters (GO Rail, GO Bus or Subway)

Hours	peak	year	time	of daily
1	am	1986	6:40 - 7:39	23.8%
		1996	6:40 - 7:39	23.6%
	pm	1986	4:41 - 5:40	21.7%
		1996	4:41 - 5:40	19.9%
2	am	1986	6:26 - 8:25	36.0%
		1996	6:26 - 8:25	34.6%
	pm	1986	4:12 - 6:12	31.6%
		1996	4:12 - 6:12	31.1%
3	am	1986	6:02 - 9:01	39.9%
		1996	6:02 - 9:01	40.0%
	pm	1986	3:26 - 6:25	37.4%
		1996	3:26 - 6:25	36.6%

Local transit only

Hours	peak	year	time	of daily
1	am	1986	7:25 - 8.24	23.0%
		1996	7:25 - 8.24	23.1%
	pm	1986	3:27 - 4:26	19.0%
		1996	3:27 - 4:26	18.8%
2	am	1986	7:03 - 9:02	34.5%
		1996	7:03 - 9:02	33.4%
	pm	1986	2:28 - 4:27	26.4%
		1996	2:28 - 4:27	27.2%
3	am	1986	6:03 - 9:02	40.0%
		1996	6:03 - 9:02	40.6%
	pm	1986	2:31 - 5:30	34.3%
		1996	2:31 - 5:30	34.4%

3.6 Possible Explanations

A variety of possible explanations were reviewed in trying to understand the declines in transit use observed in the Suburban GTA. These included changing travel patterns, transit service levels, and auto availability.

Changing Suburban Travel and Transit Use

Changes in transit ridership in the Suburban GTA must be understood in relation to overall changes in travel patterns, as development has shifted from Toronto to the suburbs. Table 2 summarizes changes in home to work travel between 1986 and 1996 focusing on the relative growth in different travel markets and the role transit has played in each.

Table 2 - Changes in Home to First Work Trips 1986-1996

Trip Type (Orientation)	Increase in Home to Work Trips (number)	Increase in Trips (percentage of 1986)	Transit Change/ Total Change (% of Total Trips)
Internal (within local municipality)	56,000	+29%	-1%
Cross Boundary (within Regional Municipality)	37,000	+51%	1%
To Toronto Suburbs (Etob., Scarb. and NY, north of 401)	33,000	+35%	4%
Between Regions	31,000	+65%	1%
To Downtown Toronto (Central Area)	23,000	+40%	50%
To Toronto Inner City/Mature Suburbs (excluding CA)	7,000	+18%	-4%

The largest increases in daily home to work travel between 1986 and 1996 were internal (within local municipalities). Internal trips increased by 56,000 daily trips representing an

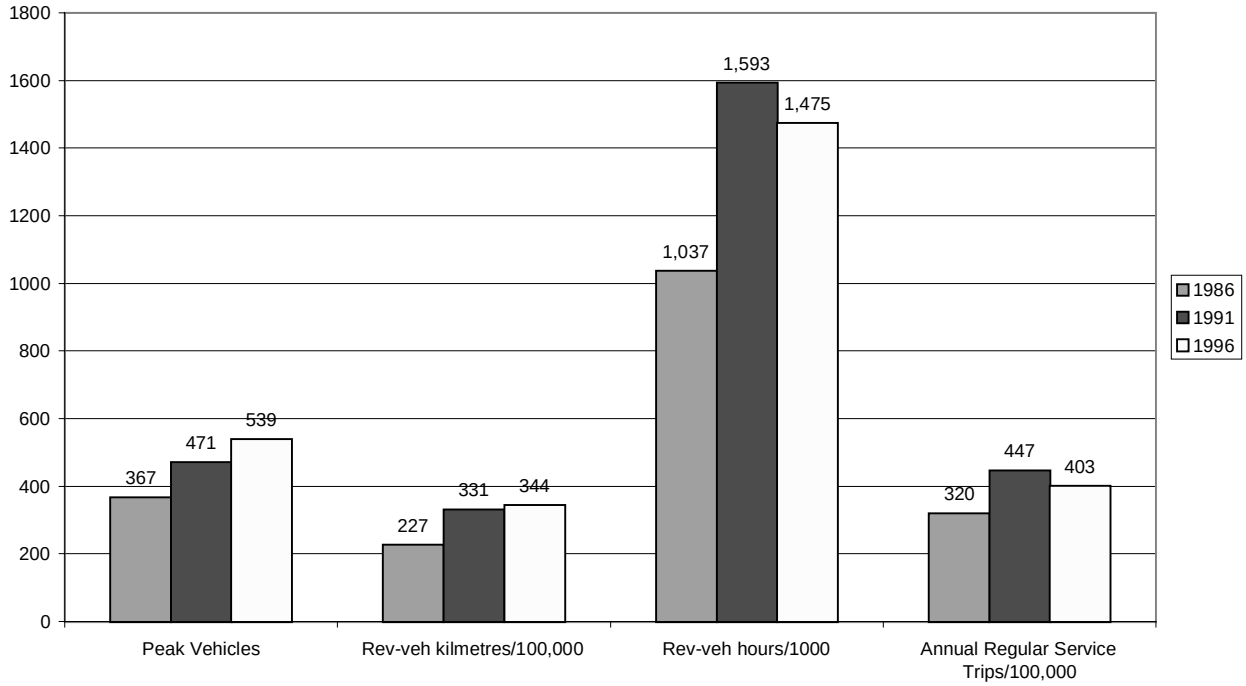
increase of 29% compared to 1986. Cross boundary trips within the Regional Municipalities increased by 37,000 daily home to work trips or 51%. Transit was not a factor in accommodating either of these travel increases, as shown in the third column (Transit Change over Total Change). Internal transit trips to work within municipalities actually declined between 1986-96 while there was a 1% increase in transit use for cross-boundary travel (compared to a 51% increase in total travel).

Transit did accommodate about 50% of the increase in travel from the GTA suburbs to Downtown Toronto, the fifth largest travel market. Transit accommodated 4% of the increase in travel to suburban Toronto but –4% of the small increase in travel to the Inner City, excluding the Central Area. Whereas total travel to the inner city increased by about 7000 home to work trips per day, transit ridership in this market declined by an estimated 300 daily trips.

Transit Ridership and Service Levels

Trends in transit ridership, as evidenced in the three TTS surveys, should also be understood in relation to changing service levels. Exhibit 29 summarizes transit service and ridership data from the Canadian Urban Transit Association data base in an effort to compare ridership and various measures of service for those municipal transit systems which provided consistent data for 1986, 1991 and 1996.

Exhibit 29 - Reported Vehicles, Kilometres, Hours and Ridership (Based on CUTA "Transit Facts" data for Suburban GTA Operators excluding GO, Aurora and Vaughan)



The suburban GTA transit fleet increased from 367 buses to 539 between 1986 and 1996 or by 47%, according to the available CUTA data. During the same period local transit ridership reported to CUTA increased by 26%.[7] In comparison, the TTS data suggest a 31% increase in total local transit ridership between 1986 and 1996.

Note that between 1986 and 1991 period the transit fleet increased by 28% while reported ridership (annual regular service trips reported to CUTA) increased by 40%, apparently reflecting the combined effects of continued growth and improved service. The CUTA data tell a different story for the period after 1991, however.

In the 1991-96 period the suburban transit fleet grew by 14% but reported ridership fell by 10%. Revenue vehicle hours declined by 7.5% after 1991, despite a reported increase in fleet size and hours of service. This suggests reduced average speeds, resulting from widespread reductions in off-peak service levels. Peak services typically operate as slower speeds than off-peak services, due to higher ridership and increased traffic congestion.

[7] These estimates exclude GO Transit buses and Aurora and Vaughan. GO bus services generally serve a cross-boundary function rather than a local transit function and are therefore excluded. The CUTA fact book did not provide data for 1986 for Vaughan and Aurora.

The TTS and CUTA data are not entirely consistent, especially for the 1991-1996 period, due to differences between the two data sources and the higher level of sampling error associated with small sample 1991 TTS.[8] Nevertheless, the ridership trends indicated by the TTS data are consistent with the CUTA level of service data. The rapid expansion of service in the 1986-91 period, as measured by fleet size, and hours and km of service, is consistent with the relatively strong increase in reported ridership in this period (23% according to TTS or 40% based on reported CUTA annual ridership data).[9] After the recession, which began in 1990, transit funding was constrained by Provincial and local budget cuts, which led to reduced growth of suburban transit fleets and reduced hours of service. These cuts would have accelerated the trend toward reducing transit ridership that was associated with changing travel patterns.

[8] The CUTA data reflect reported annual ridership whereas the TTS represents an estimate of total ridership by suburban residents for a typical weekday during the fall of each year. The ridership figures reported for 1996 in the CUTA "Fact Book" are higher than the 1996 TTS figures for the Suburban GTA by approximately 15% due primarily to the exclusion of rides by non-residents. For example, Toronto residents were reported to have made almost 10,000 rides per weekday on Mississauga Transit in 1996.

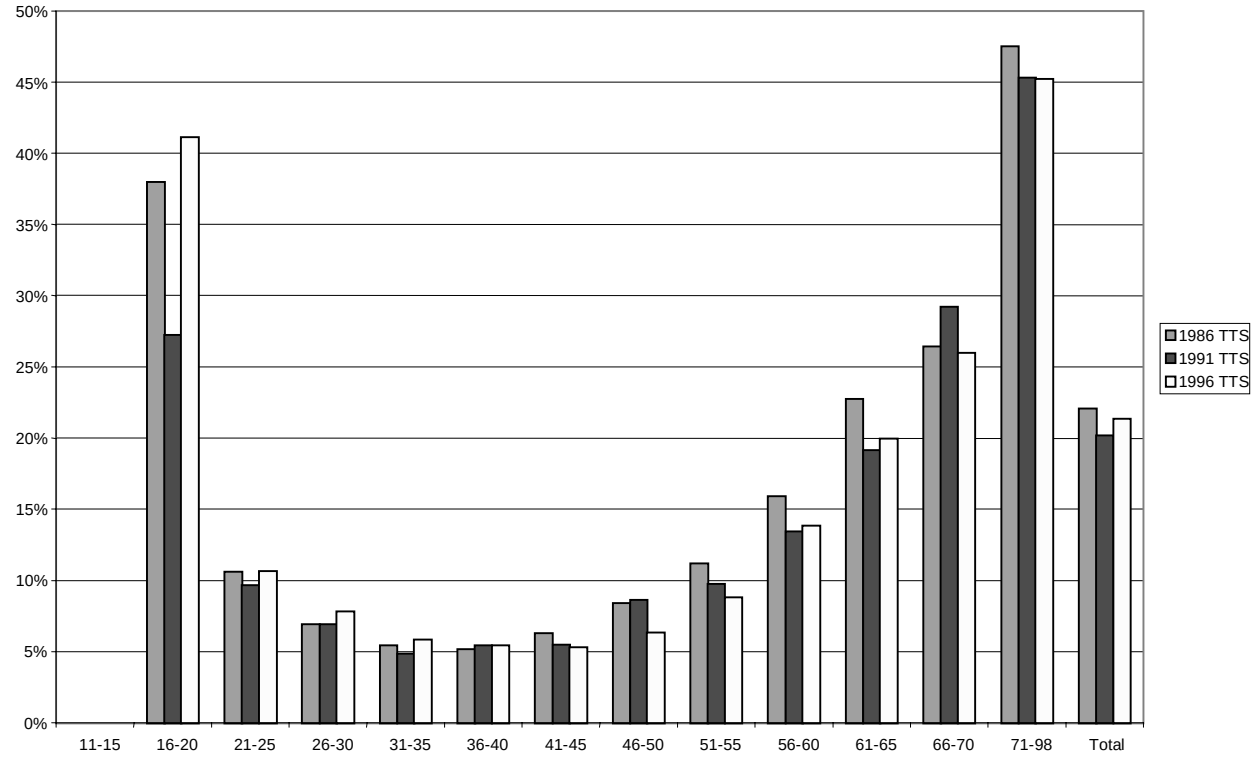
[9] The TTS data suggests reduced ridership growth whereas the CUTA data shows absolute declines in ridership. The 1991 TTS data may underestimate local transit ridership in the suburban GTA and, therefore, understate the growth in ridership in the 1986-91 period and mistakenly suggest a ridership increase after 1991 when there was actually a loss in ridership.

Drivers Licensing and Auto Availability

Driver's licensing trends provide an indication of trends in auto access and transit dependency. Exhibit 30 illustrates the recent trends in driver's licensing, by showing the proportion of each age group, for the suburban GTA, that did not have a driver's licence in 1986, 1991 and 1996. While there was a substantial increase in the percentage of suburban GTA residents who were not licensed among people aged 16-20 after 1991, there was a marked reduction in the percentage not licensed among those over age 40, with the largest declines being for persons aged 46-70.

The increase in percentage not licensed observed for persons aged 16-20, and smaller increases among persons aged 21-35, appears to reflect the economic recession that began in 1990 and possibly, the effects of the graduated licensing procedures introduced in the early 1990's. The decline in the non-licensed population aged 41 and over reflects

Exhibit 30 - Proportion of Suburban GTA Population Not Licensed by Age

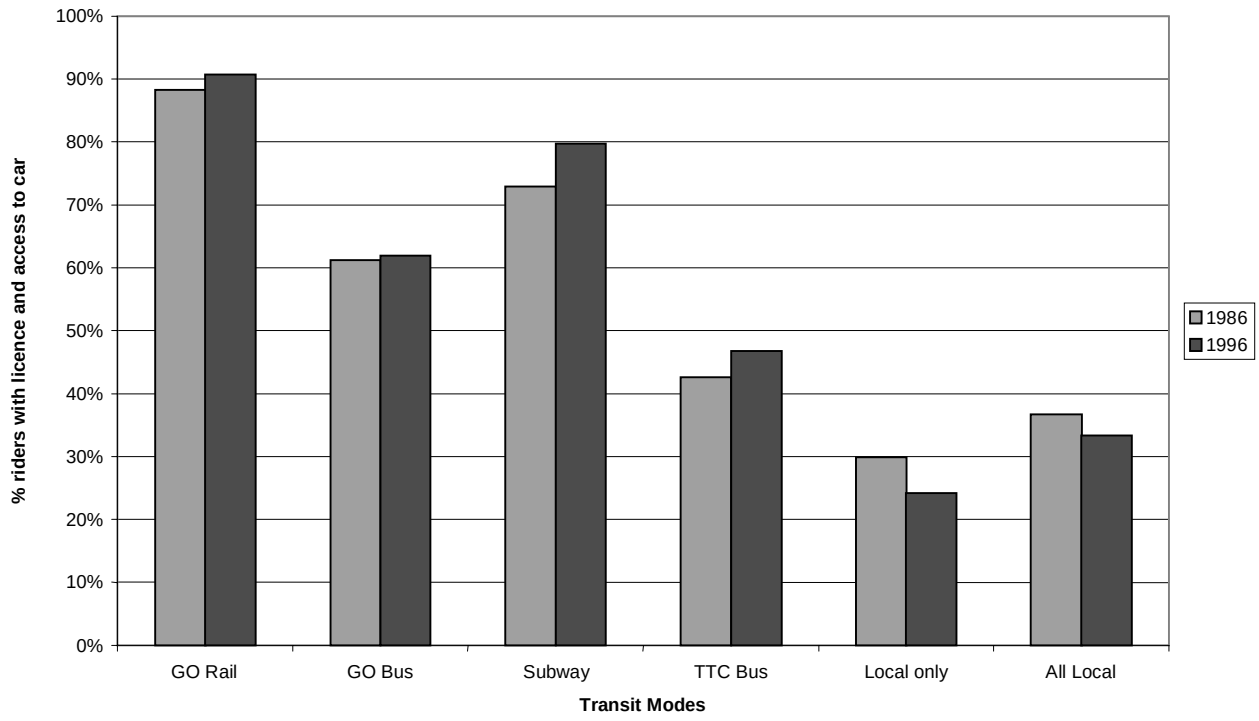


a long term trend that has reduced "transit dependency" among the middle aged and seniors living in the suburban GTA.

Driver's licensing trends would tend to support increased transit use among young adults living in the Suburban GTA, but reduced transit use among middle aged residents and seniors.

As shown in Exhibit 31, during the 1986-96 period there was an increased availability of cars and driver's licenses, among Suburban GTA residents who used GO Rail and Bus services and TTC services and a decline in auto availability among local transit users.

Exhibit 31 - Car Availability and Transit Use by Suburban GTA Residents



The available data suggests that the persons using transit for cross-boundary travel to Toronto, those riding GO Rail, TTC Subway and TTC Bus services, were increasingly "choice" riders who hold a driver's licence and have a car available. A high proportion of these riders were middle aged.

In contrast, those suburban GTA residents who are travelling internally within their local communities using local transit are less likely to have a driver's licence and have access to an automobile. By 1996 only 24% of "local only" (intra-municipal) transit riders had access to a personal use vehicle. This group includes a very high proportion of young adults.

4. CONCLUSIONS AND IMPLICATIONS

4.1 Transit Use in the Suburban GTA

Toronto as a Model

Toronto remains the major transit market in the GTA, as evidenced by the fact that in 1996, 80% of regular transit trips in the GTA originated in the new City of Toronto. Toronto has been seen as the model for transit in the Suburban GTA, with some suburban municipalities aspiring to achieve the levels of transit use that Toronto has achieved for work and school travel, in an effort to reduce future peak period road requirements.

Transit in Toronto has some unique advantages, compared to the four Regions, given the city's size, history, built form and its socio-demographic character. Higher transit service levels, combined with lower auto ownership, limited road capacity and parking, and widespread paid parking, mean that transit is more competitive in Toronto than in the remainder of the GTA. Therefore, travellers are more likely to use transit for non-discretionary trip purposes, such as work and school, than is the case in the Suburban GTA.

The highest transit use is for travel to Downtown Toronto. Whereas the average transit market share for first work trips was 30% for travel within Toronto in 1996, the average for work trips destined for Downtown Toronto (defined as the Central Area or Planning District 1), was 54%. Transit accounted for 24% of total first work trips to Toronto destinations outside the Downtown, on average.[10] Therefore, transit in Toronto can be seen in terms of two major travel markets: Downtown-oriented travel and travel to non-central destinations within Toronto.

The major trip purpose served by transit in Toronto in 1996 was work. Trips between home and work accounted for 45% of transit trips (compared to 52% in 1986). Trips between home and school accounted for 24% in 1996, up from 21% in 1986, while all other purposes accounted for 31% of total transit use in 1996 (compared to 27% in 1986).

Transit use has declined across the GTA, as documented in "1986-1996 Travel Trends in the GTA & Hamilton-Wentworth", Data Management Group, March 1996. The loss in ridership was greatest within the new City of Toronto, (formerly Metropolitan Toronto). Whereas the average transit market share (or mode split) for work trips originating in Toronto was 34% in 1986, it had declined to 30% by 1996. During this period, the average transit market share for work trips from within Toronto that were destined for Downtown Toronto declined from 59% (in 1986) to 54% (in 1996). Transit's market

[10] Mode splits to other destinations within Toronto outside the Central Area vary from a high of 40% (Yonge/St.Clair) to less than 10% for suburban employment areas such as Consumer's Road Business Park.

share for work trips from Toronto to Toronto destinations outside the Downtown declined from 26% in 1986 to 24% in 1996. Mode splits for work trips by Toronto residents to workplaces in the suburban GTA was 10% in 1986 and 9% in 1996.

Suburban GTA Overview

Most transit use in the suburban GTA can be classified in terms of two distinct travel markets: Toronto oriented cross-boundary travel and intra-municipal travel. These two markets account for 92% of all transit travel originating in the suburban GTA. Table 3 summarizes the major characteristics of these two very different transit markets.

Toronto-oriented commuters accounted for 58% of all transit trips originating in the Suburban GTA in 1996. This market is dominated by peak period work travel by persons who choose to use transit over the auto. For example, in 1996, sixty-six per cent of cross-boundary trips to/from Toronto were work related, which is reflected in the trip start times (a.m. and p.m. peak hours). Most of these trips were made by so-called “choice riders” - persons who were licensed to drive and had a car available. Only 23% of the Toronto-oriented commuters did not have an auto available for their use.

Among Toronto-oriented cross-boundary commuters, the overall transit market share was 18%, compared to 48% for persons travelling to/from Downtown Toronto. The comparable transit market share for work trips to Downtown Toronto was 52% close to the 54% mode split observed for work trips originating in Toronto.

The intra-municipal market accounted for 34% of total transit travel in the GTA in 1996. Whereas work is the major trip purpose for the cross-boundary market, school was the most significant trip purpose for intra-municipal transit use accounting for 43% of local transit trips in 1996. Work was the second most important trip purpose for intra-municipal travel, accounting for 31% of local transit trips. The a.m. and p.m. peak hour times reflect the dominance of school rather than work trips.

Table 3 - Major Suburban GTA Transit Markets

	Toronto Orientated commuters	Intra-municipal trips
% of total transit	58%	34%
Main trip purpose	Work	School
Work purpose	66%	31%
Auto definitely not available	23%	76%
Median trip length	25.6 km	3.6 km
Mode share	18% (48% to PD 1)	5%
a.m. peak hour	6:40 - 7:39	7:25 - 8:24
p.m. peak hour	4:41 - 5:40	3:27 - 4:26
Change between 1986 and 1996		
Total trips	33%	41%
Transit trips	28%	21%
Increase in transit relative to total growth	16%	3%

In 1996, 76% of intra-municipal transit trips were made by persons who did not have a driver's license and/or did not have access to an automobile. Necessity was the primary reason for using transit to travel locally in the suburban GTA and the average transit mode split in this market was 5%. Furthermore, 5% of persons travelling locally to work used transit. This 5% average transit market share for local work trips in the Suburban GTA compares to the average 24% transit share observed for work trips within Toronto that were not destined for Downtown.

Both major markets continued to grow during the 1986-96 period. Total travel in the Toronto-oriented commuter market grew by 33% with transit ridership in this market growing by 28%. Transit captured 16% of the total growth in the Toronto-oriented travel market, with most of this growth being for travel to Downtown Toronto, where transit captured 50% of the total increase in demand, as documented in Table 2.

The local (intra-municipal) travel market grew by 41% between 1986 and 1996 while transit travel in this market grew by 21%. Transit captured only 3% of the increase in travel in the intra-municipal travel market.

4.2 Issues and Implications

This paper raises a number of issues related to transit's future role and future prospects in the suburban GTA.

Transit and Growth

Based on the 1986-96 data, transit has not played a significant role in accommodating new travel in the Suburban GTA. Suburban transit services in 1996 were only competitive with the automobile for travel to Toronto's Central Area, as documented in Table 2. For trips to the Central Area, the combination of high parking costs and the time advantage of fixed rail transit relative to congested roads were key factors in attracting those riders who had a choice. Nevertheless, only 52% of workers commuting to Downtown Toronto on the average weekday chose to ride transit rather than to drive to their destination. During the a.m. peak period transit has traditionally accounted for almost 60% of total travel destined for Downtown Toronto (defined here as the Central Area). In 1986, transit carried 59% of peak period demand. The 1996 TTS results suggest that transit currently served about 53% of a.m. peak period travel demands to Toronto's Central Area that originate outside Toronto. *Transit can and should be carrying a higher proportion of work trips to and from Downtown Toronto.*

Transit mode splits to Downtown Toronto from individual suburban municipalities in 1996 varied depending on the level of transit service with the highest mode splits being observed for those communities in Halton and Durham that were served by the Lakeshore GO Rail line. Those communities that benefited from improved GO Rail services experienced increased ridership, most notably Burlington, Whitby and Oshawa.

The GO Rail system is the only transit service in the GTA that has been planned to serve GTA cross-boundary travel and, in the current context, it will remain the only transit system providing competitive connections between the growing suburbs and the Downtown. GO, like commuter rail systems elsewhere in North America, serves the Downtown Core area. *Despite efforts to make GO more attractive for persons travelling elsewhere in the Central Area and to other areas served by the TTC subway, most notably the Twin-Pass, the proportion of GO Rail patrons travelling to destinations outside the Downtown core has not increased significantly.*

Transit has lost market share in most travel markets since 1986 including for work travel to jobs in Downtown Toronto and in Toronto's inner city and mature suburbs, areas with a much higher level of transit accessibility than other areas of the GTA. The major exception to the general declines in transit use was in Peel Region, where Mississauga Transit appears to have succeeded in maintaining the local (internal) work ridership (as measured by trip rates) while increasing school use.

The reasons for the observed ridership trends are not always clear. The general trend toward reduced work use across most of the Suburban GTA is consistent with the increasing availability of cars for work trips and the decentralization of travel patterns. Declines in transit use for work and school in Halton Region is consistent with service reductions in these areas, especially after 1991 and the loss of school board business to the private sector.

Peel Region's success in maintaining per capita ridership over the period reflects the fact that Mississauga, the largest operator in the suburban GTA, has maintained a high level

of transit service in all operating periods. *While most municipalities have adopted policy headways of 60 minutes for mid-day service, Mississauga has generally maintained 30 minute or better service during the mid-day operating period. Mississauga Transit also provided services to students travelling to and from school, as local boards of education reduced subsidized student transportation. Despite Mississauga's success, however, mode splits for first work trips within Mississauga averaged only 8%. The reported mode split for trips to Mississauga City Centre, was also 8%.*[11]

Based on the available data for 1986-96, Transit has not accommodated a significant proportion of the growth in local work travel, even in Mississauga. At the present time transit is competitive for travel to the Downtown and it has reduced auto traffic to this location. In the suburban GTA, transit has also reduced the volume of traffic attracted to GO Rail stations, where local feeder bus services are co-ordinated with GO Rail schedules.

Future Prospects

Based on recent experience and given current and planned transit services, the Toronto-oriented cross-boundary market stands out as the only growth market for transit in the GTA. As shown in Table 2, which summarizes data on travel patterns and transit use, travel to Toronto can be thought of as serving three markets: Toronto's Central Area, Toronto Inner City/Mature Suburbs, and Suburban Toronto. Home to work trips in these three markets increased by 63,000 between 1986 and 1996, with more than half of this increase being for travel from the suburban GTA to Toronto's outer suburbs, where transit captured only 4% of the increase in travel demand. Most of the growth in cross-boundary transit ridership (75%) was oriented to Downtown Toronto where transit captured 50% of the growth in daily work travel, and a higher share of peak period work travel. Historically, however, increases in transit service to accommodate downtown growth have resulted in improved transit service levels to other locations within Metropolitan Toronto.

The challenge in serving Toronto oriented travel is that it is increasingly a "choice" market, as evidenced by the increasing auto availability for cross-boundary travel. This market will demand higher levels of service and amenities, which suggests the need to consider new service options designed to respond to the travel needs of Toronto-oriented commuters.

The Toronto-oriented market is significant for local transit systems in that it accounts for approximately 25% of local transit ridership, with most riders using local transit to access the GO Rail system or the TTC subway. Where services were designed to serve the needs of GO Rail commuters, as was the case for Burlington and Whitby, this segment of local transit ridership increased.

[11] As reported in "An Assessment of Transportation Trends in the GTA: Transportation Node Analysis – Final Report" - October 1997, Exhibit 2.1, IBI Group for Ministry of Transportation Ontario.

Intra-municipal travel, the most rapidly growing transit market, has become more a of a social service issue than a transportation capacity issue. Ridership increasingly consists of "passenger captives" who are travelling to school, off-peak jobs and/or for shopping, personal business or recreation purposes. Note the distinction between "passenger captives" and "transit captives". It is often assumed that people who do not have access to their own car are captive to transit and will continue to ride, even in the face of continued transit service cuts. For most workers and students, however, transit captivity is a short-term condition. In the medium to long term, most people who must travel for work or education do not remain transit captives. When transit services deteriorate, as they have in most of the suburban GTA since 1991, most so called transit captives find alternatives – they walk, get rides with relatives, friends or co-workers, or they buy their own car. Those passenger captives who do not have motorized alternatives will walk or travel less. Those who must ride with others will have lost their ability to determine their own schedules and priorities.

In planning future transit services for the Suburban GTA it will be necessary to focus on the travel needs of the local residents and the emerging origin-destination patterns. The long-held concept of developing "transit-oriented" development nodes offers the possibility of increased transit ridership, and reduced traffic and parking. However, earlier assumptions about the level of transit use (and mode split) that can be assumed for travel from locations in the suburban GTA to suburban development nodes need to be revised downward, to reflect reality.[12] *Furthermore, suburban centres in Toronto and the four regions will only be successful if competitive transit services are introduced early in the development process. Transit will only be competitive if it is relevant (serves growing origin-destination patterns) and convenient, in comparison to the automobile.*

While local transit in most communities in the Suburban GTA plays a limited role in accommodating peak hour travel demands, it will continue to serve an important social purpose. Local transit provides basic mobility to persons who do not have access to a vehicle, because they cannot drive or do not own a car. It maintains the independence of students, seniors and others who are passenger captives.

[12] The 1996 TTS results indicate that North York City Centre had an overall transit mode split of 24% whereas Mississauga City Centre area had an average transit mode split of 8%. Policy mode splits of 50-60% are unrealistic given current auto ownership levels and changing travel patterns.

APPENDICES

Appendix A - Transit Trips by Transit Sub-Markets

Local Transit Trips by Sub-Market

Place of Residence	Trips that use local transit for at least 1 leg														
	Local only			Local + GO Rail			Local + GO Bus			Local + Subway			Local + TTC Bus		
	1986	1991	1996	1986	1991	1996	1986	1991	1996	1986	1991	1996	1986	1991	1996
Burlington	7397	5485	3848	487	589	889	353	113	147	0	0	0	0	0	0
Oakville	4289	4742	3914	2367	2380	2250	236	49	118	0	0	0	0	0	0
Milton	264	839	164	0	0	0	0	0	0	0	0	0	0	0	0
Mississauga	23450	33888	43407	1503	2957	1294	145	43	242	9316	10858	10554	1601	317	1568
Brampton	12857	13708	13746	836	511	473	406	352	344	207	209	404	75	478	282
Vaughan	139	2080	1906	0	0	0	52	112	208	297	1409	1154	791	542	456
Richmond Hill	770	2129	2548	0	356	290	446	1821	1152	0	186	204	0	0	71
Markham	3359	3226	2904	65	303	0	165	126	154	1870	2282	1874	557	531	1082
Aurora	191	359	442	63	39	0	166	77	38	0	0	0	0	0	0
Newmarket	1064	1592	2099	0	0	0	20	0	81	0	0	0	0	0	0
Pickering	1110	640	2972	1265	1416	1164	132	23	169	44	0	0	0	0	0
Ajax	2450	1164	2703	375	1815	1606	222	411	212	0	0	0	0	0	0
Whitby	1070	2302	2309	72	742	811	241	45	80	0	0	0	0	0	0
Oshawa	10541	12000	9410	351	179	513	154	0	317	0	0	0	0	0	0
Other	181	548	592	0	0	0	0	0	0	0	0	0	0	0	0
Total	**69130**	**84702**	**92964**	**7424**	**11285**	**9307**	**2837**	**3228**	**3359**	**11773**	**14944**	**14234**	**3023**	**1867**	**3458**
Halton	11949	11067	7926	2854	2969	3138	589	162	265	0	0	0	0	0	0
Peel	36306	47596	57153	2339	3468	1767	551	396	586	9523	11067	10958	1676	794	1849
York - South	4268	7434	7358	65	659	290	663	2060	1513	2166	3877	3232	1348	1073	1609
York - North	1255	1951	2541	63	39	0	186	77	119	0	0	0	0	0	0
Durham	15171	16106	17394	2063	4151	4094	748	478	778	44	0	0	0	0	0

Total and Non-Local Transit Trips by Sub-Market

Place of Residence	Total transit trips			Transit trips that do not use local transit											
				GO Rail			GO Bus			TTC Bus			Subway		
	1986	1991	1996	1986	1991	1996	1986	1991	1996	1986	1991	1996	1986	1991	1996
Burlington	12915	11964	9017	3298	4594	3708	742	520	189	118	21	40	140	0	177
Oakville	13054	18978	15742	5682	10061	8674	204	142	361	94	687	135	81	507	252
Milton	1135	2014	1229	576	671	744	113	168	83	0	0	0	183	336	219
Mississauga	67681	83764	90011	15381	22315	21958	888	1242	1546	7013	5145	3717	8057	6050	5515
Brampton	22390	27014	24283	3210	5384	4901	1420	2596	2204	1262	553	661	1978	2704	1246
Vaughan	10417	16782	16786	161	741	719	496	580	259	5716	7167	6169	2743	4106	5916
Richmond Hill	8003	15592	15600	570	2697	1710	4544	4852	5459	381	1479	1686	1292	1971	2480
Markham	21618	27371	25161	1469	2185	2371	2355	3410	1824	6890	11089	10560	4865	3955	4296
Aurora	2145	2529	2498	292	404	673	1010	1147	748	46	125	95	353	340	502
Newmarket	2989	3515	4522	368	862	1084	880	531	827	205	0	18	389	175	413
Pickering	7142	9172	10522	2998	4729	4305	597	605	807	398	754	376	554	1005	729
Ajax	7176	7749	9319	2684	3403	3576	781	404	726	197	149	181	324	353	314
Whitby	4051	6565	7022	1330	3024	3171	724	361	395	97	68	60	368	23	157
Oshawa	13151	16081	14013	956	2624	2793	514	539	531	199	355	264	136	178	148
Other	5181	7375	6117	1901	3573	3078	1075	1561	1150	669	954	385	1530	1389	899
Total	**199227**	**256520**	**252002**	**40874**	**67267**	**63464**	**16342**	**18659**	**17108**	**23074**	**27838**	**24173**	**22993**	**23089**	**23264**
Halton	27104	32956	25988	9555	15327	13126	1059	830	633	213	708	174	404	842	648
Peel	90071	110778	114293	18591	27699	26859	2308	3838	3750	8275	5698	4377	10035	8754	6761
York - South	40038	59745	57547	2200	5623	4799	7395	8842	7542	12987	19735	18416	8900	10031	12692
York - North	5134	6044	7020	661	1266	1757	1890	1678	1574	251	125	114	742	514	915
Durham	31520	39567	40876	7967	13780	13844	2615	1910	2459	892	1326	881	1383	1558	1349

Appendix B - Transit mode share for trips starting at home survey - 1986 TTS

pd_hhld	same municipality	Other municipalities in same region	Toronto			Other Regions (Incl. Ham-Wen.)	Total
			Downtown (PD1)	Inner suburbs (PD2-PD6)	Outer suburbs (PD7-PD16)		
Pickering	3%	2%	53%	7%	4%	0%	8%
Ajax	10%	6%	61%	10%	3%	0%	12%
Whitby	3%	3%	43%	5%	3%	0%	5%
Oshawa	7%	2%	27%	3%	2%	0%	6%
Newmarket	3%	2%	45%	8%	3%	2%	5%
Aurora	1%	4%	42%	10%	6%	0%	6%
Richmond Hill	5%	4%	54%	17%	9%	0%	10%
Markham	4%	4%	46%	11%	7%	1%	10%
Vaughan	1%	1%	50%	18%	8%	2%	9%
Brampton	7%	2%	45%	14%	2%	3%	7%
Mississauga	6%	3%	47%	15%	7%	3%	10%
Milton	1%	0%	33%	18%	2%	0%	2%
Oakville	4%	0%	54%	22%	6%	1%	8%
Burlington	5%	2%	47%	21%	0%	3%	5%
Total	5%	3%	48%	14%	6%	2%	7%

survey - 1996 TTS

Pickering	5%	4%	50%	6%	2%	0%	8%
Ajax	5%	4%	56%	6%	3%	0%	8%
Whitby	3%	2%	52%	11%	2%	0%	5%
Oshawa	6%	2%	59%	8%	2%	1%	6%
Newmarket	4%	0%	40%	2%	2%	1%	4%
Aurora	2%	1%	33%	11%	6%	0%	4%
Richmond Hill	5%	3%	47%	7%	9%	0%	9%
Markham	3%	3%	44%	9%	7%	2%	8%
Vaughan	2%	2%	49%	10%	4%	1%	7%
Brampton	4%	3%	44%	10%	2%	2%	5%
Mississauga	7%	4%	46%	14%	7%	3%	10%
Milton	0%	0%	43%	5%	0%	1%	2%
Oakville	3%	1%	54%	14%	1%	1%	7%
Burlington	2%	0%	50%	15%	2%	1%	3%
Total	5%	2%	48%	10%	5%	1%	6%

Appendix C - Trip Rate Trends by Transit Sub-Markets

Total Local Transit Trip Rate (Trips per 1000 population)

Place of Residence	Trips that use local transit for at least 1 leg														
	Local only			Local + GO Rail			Local + GO Bus			Local + Subway			Local + TTC Bus		
	1986	1991	1996	1986	1991	1996	1986	1991	1996	1986	1991	1996	1986	1991	1996
Burlington	64	43	29	4	5	7	3	1	1	0	0	0	0	0	0
Oakville	51	42	32	28	21	18	3	0	1	0	0	0	0	0	0
Milton	9	28	5	0	0	0	0	0	0	0	0	0	0	0	0
Mississauga	64	76	84	4	7	2	0	0	0	25	24	20	4	1	3
Brampton	71	59	54	5	2	2	2	2	1	1	1	2	0	2	1
Vaughan	2	19	15	0	0	0	1	1	2	5	13	9	12	5	4
Richmond Hill	17	27	26	0	5	3	10	23	12	0	2	2	0	0	1
Markham	30	22	18	1	2	0	1	1	1	17	16	11	5	4	7
Aurora	10	13	13	3	1	0	8	3	1	0	0	0	0	0	0
Newmarket	31	36	39	0	0	0	1	0	2	0	0	0	0	0	0
Pickering	24	9	40	27	21	16	3	0	2	1	0	0	0	0	0
Ajax	68	20	42	10	32	25	6	7	3	0	0	0	0	0	0
Whitby	24	37	32	2	12	11	5	1	1	0	0	0	0	0	0
Oshawa	88	97	70	3	1	4	1	0	2	0	0	0	0	0	0
Other	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0
Total	**46**	**44**	**43**	**5**	**6**	**4**	**2**	**2**	**2**	**8**	**8**	**7**	**2**	**1**	**2**
Halton	52	41	27	12	11	11	3	1	1	0	0	0	0	0	0
Peel	66	70	74	4	5	2	1	1	1	17	16	14	3	1	2
York - South	19	22	19	0	2	1	3	6	4	10	12	8	6	3	4
York - North	23	27	29	1	1	0	3	1	1	0	0	0	0	0	0
Durham	61	52	50	8	13	12	3	2	2	0	0	0	0	0	0

Total and Non-Local Transit Trip Rate (Trips per 1000 population)

Place of Residence	Total transit trips			Transit trips that do not use local transit											
				GO Rail			GO Bus			TTC Bus			Subway		
	1986	1991	1996	1986	1991	1996	1986	1991	1996	1986	1991	1996	1986	1991	1996
Burlington	112	94	67	29	36	28	6	4	1	1	0	0	1	0	1
Oakville	155	170	127	67	90	70	2	1	3	1	6	1	1	5	2
Milton	37	67	40	19	22	24	4	6	3	0	0	0	6	11	7
Mississauga	184	188	174	42	50	42	2	3	3	19	12	7	22	14	11
Brampton	124	116	95	18	23	19	8	11	9	7	2	3	11	12	5
Vaughan	163	152	131	3	7	6	8	5	2	89	65	48	43	37	46
Richmond Hill	177	200	160	13	35	18	100	62	56	8	19	17	29	25	25
Markham	192	188	154	13	15	15	21	23	11	61	76	65	43	27	26
Aurora	108	90	72	15	14	19	51	41	21	2	4	3	18	12	14
Newmarket	88	79	83	11	19	20	26	12	15	6	0	0	11	4	8
Pickering	152	135	142	64	70	58	13	9	11	8	11	5	12	15	10
Ajax	200	136	144	75	60	55	22	7	11	6	3	3	9	6	5
Whitby	90	106	97	30	49	44	16	6	5	2	1	1	8	0	2
Oshawa	110	130	105	8	21	21	4	4	4	2	3	2	1	1	1
Other	25	30	22	9	14	11	5	6	4	3	4	1	8	6	3
Total	**132**	**134**	**117**	**27**	**35**	**29**	**11**	**10**	**8**	**15**	**15**	**11**	**15**	**12**	**11**
Halton	118	123	90	42	57	45	5	3	2	1	3	1	2	3	2
Peel	164	164	148	34	41	35	4	6	5	15	8	6	18	13	9
York - South	181	179	148	10	17	12	33	26	19	59	59	47	40	30	33
York - North	96	83	79	12	17	20	35	23	18	5	2	1	14	7	10
Durham	127	127	119	32	44	40	11	6	7	4	4	3	6	5	4

Appendix C - Daily Trip Rates (continued)

Place of Residence	Trips that only use local transit					
	Home Based Work (Per 1000 ELF)			Home Based School (Per 1000 Full Time Students age 11+)		
	1986	1991	1996	1986	1991	1996
Burlington	26	30	18	194	109	61
Oakville	42	26	15	119	89	83
Milton	4	0	0	20	135	15
Mississauga	58	63	63	108	155	181
Brampton	47	33	39	197	219	148
Vaughan	2	9	7	7	74	56
Richmond Hill	11	5	7	49	118	112
Markham	15	11	9	96	75	49
Aurora	4	1	0	39	70	81
Newmarket	17	8	8	57	68	161
Pickering	15	10	3	14	15	212
Ajax	8	5	12	352	93	221
Whitby	7	1	9	120	287	150
Oshawa	45	49	24	247	312	319
Other	0	0	0	3	6	5
Total	**31**	**28**	**26**	**116**	**126**	**125**
Halton	29	24	15	145	105	64
Peel	54	53	55	137	176	171
York - South	10	9	8	63	84	66
York - North	12	6	5	51	69	130
Durham	27	23	14	198	197	240

Place of Residence	Local transit and GO Transit (Rail or bus)					
	Home Based Work (Per 1000 ELF)			Home Based School (Per 1000 Full Time Students age 11+)		
	1986	1991	1996	1986	1991	1996
Burlington	8	4	13	13	2	2
Oakville	37	34	33	34	23	10
Milton	0	0	0	0	0	0
Mississauga	6	4	4	6	29	3
Brampton	10	4	5	3	9	4
Vaughan	0	0	0	0	0	0
Richmond Hill	9	29	18	17	65	26
Markham	1	1	1	7	16	3
Aurora	10	5	2	9	0	0
Newmarket	0	0	0	0	0	0
Pickering	44	36	25	35	5	15
Ajax	26	61	44	5	47	22
Whitby	12	26	20	7	0	8
Oshawa	6	2	11	2	3	6
Other	10	11	7	9	1	5
Total	**9**	**9**	**9**	**8**	**15**	**5**
Halton	18	16	20	19	10	5
Peel	7	4	4	5	22	3
York - South	3	7	5	7	22	7
York - North	4	2	2	3	0	3
Durham	10	17	17	3	10	9

Appendix C - Daily Trip Rates (continued)

Place of Residence	Local transit and TTC (Bus or subway)					
	Home Based Work (Per 1000 ELF)			Home Based School (Per 1000 Full Time Students age 11+)		
	1986	1991	1996	1986	1991	1996
Burlington	0	0	0	0	0	0
Oakville	0	0	0	0	0	0
Milton	0	0	0	0	0	0
Mississauga	32	28	28	38	38	31
Brampton	2	1	3	5	11	4
Vaughan	14	17	16	43	31	15
Richmond Hill	0	1	4	0	9	3
Markham	18	16	13	36	45	48
Aurora	0	0	0	0	0	0
Newmarket	0	0	0	0	0	0
Pickering	0	0	0	0	0	0
Ajax	0	0	0	0	0	0
Whitby	0	0	0	0	0	0
Oshawa	0	0	0	0	0	0
Other	0	0	0	1	0	1
Total	**10**	**9**	**9**	**15**	**17**	**14**
Halton	0	0	0	0	0	0
Peel	22	19	19	27	29	23
York - South	13	13	12	32	32	27
York - North	0	0	0	0	0	0
Durham	0	0	0	0	0	0

Place of Residence	All trips that use local transit for at least 1 leg					
	Home Based Work (Per 1000 ELF)			Home Based School (Per 1000 Full Time Students age 11+)		
	1986	1991	1996	1986	1991	1996
Burlington	35	34	31	207	112	63
Oakville	79	59	47	153	112	93
Milton	4	0	0	20	135	15
Mississauga	96	96	95	152	222	216
Brampton	59	39	46	205	240	155
Vaughan	17	27	24	49	107	72
Richmond Hill	20	35	29	66	192	140
Markham	34	27	23	139	136	100
Aurora	14	6	2	48	70	81
Newmarket	17	8	9	57	68	166
Pickering	60	47	28	49	20	227
Ajax	34	66	56	357	140	243
Whitby	19	27	29	127	287	159
Oshawa	51	51	35	248	315	325
Other	1	1	1	6	6	7
Total	**50**	**46**	**44**	**138**	**158**	**145**
Halton	47	40	34	164	115	70
Peel	84	76	78	170	228	197
York - South	26	29	25	101	138	100
York - North	16	8	7	54	69	133
Durham	45	48	36	207	207	251

Appendix C - Daily Trip Rates (continued)

Place of Residence	GO Rail trips that do not use local transit for access					
	Home Based Work (Per 1000 ELF)			Home Based School (Per 1000 Full Time Students age 11+)		
	1986	1991	1996	1986	1991	1996
Burlington	45	55	48	12	17	2
Oakville	113	146	120	14	31	17
Milton	29	38	43	10	0	0
Mississauga	61	81	67	23	31	24
Brampton	27	37	33	7	19	7
Vaughan	5	13	9	0	0	0
Richmond Hill	21	60	32	7	29	5
Markham	22	28	27	2	0	5
Aurora	20	26	38	11	0	0
Newmarket	18	36	33	4	0	10
Pickering	95	108	85	21	37	23
Ajax	115	84	89	10	7	14
Whitby	46	84	76	28	0	10
Oshawa	14	37	35	3	2	5
Other	15	24	19	5	10	4
Total	**42**	**58**	**49**	**11**	**17**	**11**
Halton	68	90	78	12	20	9
Peel	50	66	55	17	27	19
York - South	17	30	22	2	6	3
York - North	19	32	35	6	0	6
Durham	51	71	65	12	11	12

Place of Residence	GO Bus trips that do not use local transit for access					
	Home Based Work (Per 1000 ELF)			Home Based School (Per 1000 Full Time Students age 11+)		
	1986	1991	1996	1986	1991	1996
Burlington	7	8	1	9	0	4
Oakville	3	2	4	2	3	3
Milton	4	0	5	10	0	0
Mississauga	3	4	4	1	3	4
Brampton	10	15	12	9	13	12
Vaughan	10	5	0	10	8	7
Richmond Hill	103	51	59	211	154	110
Markham	19	25	11	30	21	16
Aurora	60	56	35	9	29	11
Newmarket	33	19	22	23	0	12
Pickering	7	10	10	28	20	25
Ajax	26	6	11	21	22	19
Whitby	20	4	5	18	13	12
Oshawa	5	3	8	2	24	3
Other	7	6	6	6	2	2
Total	**12**	**11**	**9**	**15**	**15**	**13**
Halton	5	4	3	6	1	3
Peel	5	8	7	4	6	7
York - South	34	25	19	56	45	35
York - North	43	34	27	19	10	12
Durham	11	5	8	12	21	13

Appendix C - Daily Trip Rates (continued)

Place of Residence	TTC (bus or subway) trips that do not use local transit					
	Home Based Work (Per 1000 ELF)			Home Based School (Per 1000 Full Time Students age 11+)		
	1986	1991	1996	1986	1991	1996
Burlington	1	0	1	0	0	0
Oakville	2	1	2	0	0	0
Milton	0	0	0	0	0	0
Mississauga	43	22	18	30	20	19
Brampton	14	2	7	26	15	10
Vaughan	142	108	93	197	138	148
Richmond Hill	0	40	49	27	55	54
Markham	102	107	96	151	145	132
Aurora	29	16	18	0	0	15
Newmarket	18	4	9	15	0	9
Pickering	17	21	16	7	15	8
Ajax	11	7	7	5	7	4
Whitby	13	0	1	8	0	0
Oshawa	2	0	3	2	0	0
Other	8	4	3	12	15	4
Total	**30**	**23**	**22**	**37**	**34**	**33**
Halton	1	3	2	3	0	1
Peel	33	15	14	29	18	16
York - South	98	92	83	143	124	120
York - North	22	9	13	11	0	11
Durham	8	6	6	4	5	3

Place of Residence	All transit trips that do not use local transit					
	Home Based Work (Per 1000 ELF)			Home Based School (Per 1000 Full Time Students age 11+)		
	1986	1991	1996	1986	1991	1996
Burlington	54	68	49	24	38	6
Oakville	118	148	126	21	34	21
Milton	35	57	55	42	0	4
Mississauga	108	108	89	55	53	50
Brampton	51	54	52	42	49	28
Vaughan	157	126	102	207	146	155
Richmond Hill	152	151	141	245	238	169
Markham	143	161	134	183	166	153
Aurora	110	98	91	20	29	26
Newmarket	68	74	65	42	0	31
Pickering	121	140	111	56	72	56
Ajax	156	97	106	35	45	37
Whitby	81	88	84	55	13	22
Oshawa	22	40	46	6	26	8
Other	30	34	29	22	28	11
Total	**85**	**92**	**80**	**63**	**67**	**58**
Halton	75	99	83	25	30	12
Peel	89	90	77	51	52	43
York - South	149	147	125	201	175	158
York - North	84	83	75	35	10	29
Durham	72	82	80	28	38	27

Appendix D Transit Trips by Purpose and Total

Place of Residence	Trips that only use local transit											
	Home Based Work			Home Based School			Other			Total		
	1986	1991	1996	1986	1991	1996	1986	1991	1996	1986	1991	1996
Burlington	1603	2014	1252	3451	1869	1008	2343	1602	1588	7397	5485	3848
Oakville	1898	1508	942	1613	1333	1412	778	1902	1560	4289	4742	3914
Milton	65	0	0	86	839	83	113	0	82	264	839	164
Mississauga	12012	15115	16883	5805	10227	14038	5633	8547	12486	23450	33888	43407
Brampton	4809	4170	5219	5175	7263	5337	2872	2275	3190	12857	13708	13746
Vaughan	67	502	423	71	1400	1249	0	179	234	139	2080	1906
Richmond Hill	274	178	342	309	1416	1756	188	534	450	770	2129	2548
Markham	869	794	704	1905	1883	1508	586	549	691	3359	3226	2904
Aurora	49	19	0	92	257	423	49	83	19	191	359	442
Newmarket	307	203	226	307	499	1295	450	890	579	1064	1592	2099
Pickering	378	388	131	89	137	2412	643	114	429	1110	640	2972
Ajax	166	139	412	1865	644	1895	419	381	395	2450	1164	2703
Whitby	158	45	329	750	2099	1510	161	158	470	1070	2302	2309
Oshawa	2843	3206	1492	4232	4671	5577	3467	4123	2341	10541	12000	9410
Other	0	57	48	91	184	157	90	307	387	181	548	592
Total	**25498**	**28339**	**28403**	**25841**	**34720**	**39660**	**17791**	**21644**	**24901**	**69130**	**84702**	**92964**
Halton	3566	3522	2194	5150	4041	2503	3233	3504	3229	11949	11067	7926
Peel	16821	19285	22102	10980	17490	19376	8505	10822	15676	36306	47596	57153
York - South	1210	1474	1469	2285	4699	4513	773	1262	1375	4268	7434	7358
York - North	356	222	226	399	755	1718	500	973	598	1255	1951	2541
Durham	3545	3778	2364	6936	7551	11394	4690	4776	3635	15171	16106	17394

Place of Residence	Local transit and GO Transit (Rail or bus)											
	Home Based Work			Home Based School			Other			Total		
	1986	1991	1996	1986	1991	1996	1986	1991	1996	1986	1991	1996
Burlington	514	274	912	225	41	40	101	387	84	840	702	1036
Oakville	1669	1983	2076	459	348	173	421	99	59	2603	2429	2368
Milton	0	0	0	0	0	0	0	0	0	0	0	0
Mississauga	1158	1063	1119	306	1917	242	106	20	116	1647	3000	1537
Brampton	1050	557	644	91	307	132	75	0	20	1243	864	817
Vaughan	0	0	0	0	0	0	0	0	0	0	0	0
Richmond Hill	237	1112	859	108	783	403	101	282	180	446	2177	1441
Markham	46	39	59	138	391	78	24	0	17	231	429	154
Aurora	109	77	38	21	0	0	99	39	0	229	116	38
Newmarket	0	0	0	0	0	0	0	0	0	0	0	0
Pickering	1131	1348	977	222	46	168	44	46	131	1397	1439	1333
Ajax	500	1806	1468	26	322	192	72	98	118	597	2225	1818
Whitby	270	787	729	43	0	82	0	0	79	312	787	891
Oshawa	371	128	698	28	51	110	106	0	22	505	179	830
Other	1084	1380	982	268	46	186	52	46	56	1404	1471	1281
Total	**7169**	**9271**	**9755**	**1712**	**4252**	**1736**	**1198**	**990**	**940**	**10261**	**14513**	**12667**
Halton	2183	2256	2988	684	389	213	521	486	143	3443	3131	3404
Peel	2208	1620	1763	397	2224	374	181	20	136	2890	3864	2353
York - South	335	1195	993	246	1220	499	125	303	310	729	2719	1803
York - North	109	77	77	21	0	42	119	39	0	250	116	119
Durham	1251	2743	2950	96	373	423	199	98	295	1546	3213	3707

Appendix D Transit Trips by Purpose and Total (continued)

Place of Residence	Local transit and TTC (Bus or subway)											
	Home Based Work			Home Based School			Other			Total		
	1986	1991	1996	1986	1991	1996	1986	1991	1996	1986	1991	1996
Burlington	0	0	0	0	0	0	0	0	0	0	0	0
Oakville	0	0	0	0	0	0	0	0	0	0	0	0
Milton	0	0	0	0	0	0	0	0	0	0	0	0
Mississauga	6715	6852	7497	2063	2510	2434	2139	1814	2190	10916	11175	12121
Brampton	157	126	339	126	361	141	0	199	206	282	686	686
Vaughan	472	972	1042	437	575	335	178	403	233	1087	1951	1610
Richmond Hill	0	53	180	0	106	51	0	27	44	0	186	275
Markham	1095	1227	1053	722	1132	1479	609	454	425	2427	2813	2956
Aurora	0	0	0	0	0	0	0	0	0	0	0	0
Newmarket	0	0	0	0	0	0	0	0	0	0	0	0
Pickering	0	0	0	0	0	0	0	0	0	0	0	0
Ajax	0	0	0	0	0	0	0	0	0	0	0	0
Whitby	0	0	0	0	0	0	0	0	0	0	0	0
Oshawa	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	20	40	0	24	0	0	0	40	0	44
Total	**8483**	**9231**	**10131**	**3388**	**4685**	**4463**	**2926**	**2896**	**3098**	**14797**	**16811**	**17692**
Halton	0	0	0	0	0	0	0	0	0	0	0	0
Peel	6871	6978	7836	2189	2871	2575	2139	2013	2396	11199	11861	12807
York - South	1567	2253	2275	1160	1814	1865	787	883	702	3514	4950	4841
York - North	0	0	0	0	0	0	0	0	0	0	0	0
Durham	44	0	0	0	0	0	0	0	0	44	0	0

Place of Residence	All trips that use local transit for at least 1 leg											
	Home Based Work			Home Based School			Other			Total		
	1986	1991	1996	1986	1991	1996	1986	1991	1996	1986	1991	1996
Burlington	2117	2288	2164	3676	1910	1048	2443	1989	1672	8237	6187	4884
Oakville	3567	3491	3018	2072	1681	1585	1253	2000	1679	6892	7171	6282
Milton	65	0	0	86	839	83	113	0	82	264	839	164
Mississauga	19884	23029	25499	8174	14653	16714	7955	10381	14852	36013	48063	57065
Brampton	6017	4853	6202	5392	7931	5610	2973	2473	3436	14382	15258	15248
Vaughan	591	1518	1541	509	2022	1602	178	603	580	1278	4143	3723
Richmond Hill	510	1344	1380	416	2305	2211	289	843	674	1216	4492	4265
Markham	2010	2060	1816	2765	3406	3064	1242	1002	1134	6017	6469	6014
Aurora	159	96	38	113	257	423	148	122	19	420	475	480
Newmarket	307	203	265	307	499	1336	471	890	579	1085	1592	2180
Pickering	1553	1736	1108	311	183	2580	687	160	617	2550	2079	4304
Ajax	666	1945	1881	1890	966	2088	491	479	553	3047	3389	4521
Whitby	428	832	1058	793	2099	1593	161	158	549	1382	3089	3199
Oshawa	3214	3333	2190	4260	4722	5687	3572	4123	2363	11046	12179	10240
Other	62	112	129	177	184	236	119	307	387	359	603	752
Total	**41150**	**46841**	**48288**	**30942**	**43656**	**45859**	**22096**	**25529**	**29175**	**94187**	**116026**	**123323**
Halton	5749	5779	5182	5834	4430	2716	3809	3989	3432	15392	14198	11330
Peel	25901	27883	31701	13566	22585	22324	10928	12854	18288	50395	63321	72314
York - South	3112	4922	4737	3690	7733	6877	1709	2448	2388	8511	15103	14002
York - North	466	299	303	420	755	1759	619	1012	598	1504	2066	2660
Durham	5861	7846	6236	7254	7970	11947	4911	4920	4082	18026	20735	22265

Appendix D Transit Trips by Purpose and Total (continued)

Place of Residence	GO Rail trips that do not use local transit for access											
	Home Based Work			Home Based School			Other			Total		
	1986	1991	1996	1986	1991	1996	1986	1991	1996	1986	1991	1996
Burlington	2740	3750	3330	213	294	36	345	551	342	3298	4594	3708
Oakville	5084	8560	7671	185	468	297	412	1034	706	5682	10061	8674
Milton	463	671	723	43	0	0	70	0	21	576	671	744
Mississauga	12585	19479	17955	1211	2068	1885	1585	767	2118	15381	22315	21958
Brampton	2787	4615	4428	187	639	266	236	130	208	3210	5384	4901
Vaughan	161	697	601	0	0	0	0	43	118	161	741	719
Richmond Hill	527	2292	1534	43	354	73	0	51	102	570	2697	1710
Markham	1322	2136	2106	48	0	153	99	49	112	1469	2185	2371
Aurora	218	404	655	25	0	0	49	0	19	292	404	673
Newmarket	328	862	921	20	0	81	20	0	82	368	862	1084
Pickering	2465	4044	3311	134	343	265	399	343	728	2998	4729	4305
Ajax	2254	2486	2984	51	51	117	379	865	475	2684	3403	3576
Whitby	1038	2578	2776	175	0	99	117	446	296	1330	3024	3171
Oshawa	865	2421	2185	47	26	84	44	178	524	956	2624	2793
Other	1578	3037	2589	146	319	151	177	217	338	1901	3573	3078
Total	**34413**	**58031**	**53769**	**2528**	**4562**	**3508**	**3934**	**4674**	**6187**	**40874**	**67267**	**63464**
Halton	8287	12981	11725	441	762	334	827	1584	1068	9555	15327	13126
Peel	15371	24094	22382	1398	2708	2151	1821	897	2326	18591	27699	26859
York - South	2010	5126	4241	91	354	226	99	143	332	2200	5623	4799
York - North	546	1266	1575	45	0	81	70	0	101	661	1266	1757
Durham	6621	11528	11256	407	420	565	940	1832	2023	7967	13780	13844

Daily Trips

Place of Residence	GO Bus trips that do not use local transit for access											
	Home Based Work			Home Based School			Other			Total		
	1986	1991	1996	1986	1991	1996	1986	1991	1996	1986	1991	1996
Burlington	414	520	80	164	0	63	164	0	45	742	520	189
Oakville	133	93	227	22	49	57	49	0	77	204	142	361
Milton	70	0	83	43	0	0	0	168	0	113	168	83
Mississauga	707	1066	1178	80	176	347	101	0	22	888	1242	1546
Brampton	995	1887	1584	226	431	417	199	277	202	1420	2596	2204
Vaughan	340	303	20	104	149	156	52	128	84	496	580	259
Richmond Hill	2566	1957	2811	1323	1847	1736	655	1048	912	4544	4852	5459
Markham	1153	1910	854	598	530	495	604	970	474	2355	3410	1824
Aurora	672	878	611	21	106	59	317	163	78	1010	1147	748
Newmarket	594	456	629	123	0	96	164	75	102	880	531	827
Pickering	177	377	377	177	183	280	243	46	151	597	605	807
Ajax	505	178	369	110	154	161	166	72	196	781	404	726
Whitby	445	113	176	115	91	119	164	157	100	724	361	395
Oshawa	333	178	482	28	362	49	153	0	0	514	539	531
Other	723	756	769	161	49	61	191	756	320	1075	1561	1150
Total	**9827**	**10671**	**10252**	**3294**	**4128**	**4095**	**3221**	**3860**	**2761**	**16342**	**18659**	**17108**
Halton	617	613	390	229	49	120	213	168	122	1059	830	633
Peel	1702	2953	2763	305	607	764	300	277	223	2308	3838	3750
York - South	4059	4170	3686	2025	2526	2386	1311	2146	1470	7395	8842	7542
York - North	1266	1334	1239	144	106	155	481	238	179	1890	1678	1574
Durham	1460	845	1404	429	790	608	726	275	446	2615	1910	2459

Appendix D Transit Trips by Purpose and Total (continued)

Place of Residence	TTC (bus or subway) trips that do not use local transit											
	Home Based Work			Home Based School			Other			Total		
	1986	1991	1996	1986	1991	1996	1986	1991	1996	1986	1991	1996
Burlington	70	0	40	0	0	0	188	21	177	258	21	217
Oakville	69	46	143	0	0	0	106	1148	244	175	1194	387
Milton	0	0	0	0	0	0	0	0	0	0	0	0
Mississauga	8970	5189	4832	1633	1290	1485	4467	4716	2914	15069	11195	9232
Brampton	1386	277	1007	681	508	346	1174	2473	553	3241	3257	1907
Vaughan	4888	6036	5913	2025	2605	3303	1546	2632	2869	8459	11273	12085
Richmond Hill	0	1543	2334	172	660	851	804	1246	982	1673	3449	4167
Markham	6078	8038	7574	2997	3646	4041	2679	3360	3241	11755	15044	14856
Aurora	328	247	307	0	0	78	71	218	212	398	465	597
Newmarket	328	100	258	82	0	74	184	75	99	594	175	431
Pickering	444	788	614	44	137	93	464	834	399	952	1759	1106
Ajax	210	201	219	26	51	38	286	250	238	521	502	496
Whitby	303	0	40	50	0	0	113	91	177	466	91	217
Oshawa	105	0	210	29	0	0	201	533	203	335	533	413
Other	823	533	475	337	494	126	827	608	508	1987	1635	1109
Total	**24742**	**23333**	**24065**	**8172**	**9392**	**10455**	**13153**	**18203**	**12916**	**46067**	**50927**	**47436**
Halton	182	382	282	97	0	20	337	1168	521	617	1550	822
Peel	10356	5466	5839	2314	1797	1831	5641	7188	3467	18310	14452	11138
York - South	11664	15616	15821	5194	6912	8195	5029	7238	7091	21887	29766	31108
York - North	655	347	565	82	0	152	255	293	311	992	639	1028
Durham	1062	989	1082	148	189	131	1064	1707	1017	2274	2884	2231

Daily Trips

Place of Residence	All transit trips that do not use local transit											
	Home Based Work			Home Based School			Other			Total		
	1986	1991	1996	1986	1991	1996	1986	1991	1996	1986	1991	1996
Burlington	3296	4564	3451	429	642	100	953	571	583	4678	5777	4133
Oakville	5286	8699	8041	288	517	354	588	2590	1064	6162	11806	9460
Milton	576	1007	925	183	0	20	113	168	121	871	1175	1065
Mississauga	22310	26044	23965	2947	3534	3833	6410	6122	5147	31668	35701	32945
Brampton	5238	6801	7019	1093	1618	1029	1677	3337	986	8008	11756	9034
Vaughan	5412	7036	6534	2129	2754	3459	1598	2850	3071	9139	12640	13063
Richmond Hill	3791	5792	6679	1538	2861	2660	1458	2447	1996	6787	11100	11335
Markham	8553	12084	10593	3643	4177	4689	3405	4641	3865	15601	20902	19147
Aurora	1218	1529	1572	46	106	138	462	420	308	1726	2055	2018
Newmarket	1249	1773	1808	225	0	251	430	150	283	1904	1923	2342
Pickering	3130	5209	4302	354	663	638	1107	1222	1278	4591	7093	6218
Ajax	3061	2864	3572	187	309	317	882	1187	909	4129	4360	4798
Whitby	1836	2691	3031	340	91	217	493	694	573	2669	3476	3822
Oshawa	1401	2599	2914	104	387	132	601	917	727	2105	3903	3773
Other	3144	4346	3959	645	899	377	1212	1581	1189	5001	6827	5525
Total	**69500**	**93037**	**88366**	**14151**	**18558**	**18213**	**21388**	**28898**	**22100**	**105039**	**140494**	**128680**
Halton	9158	14270	12417	900	1159	474	1653	3329	1768	11711	18758	14659
Peel	27548	32845	30984	4041	5152	4862	8087	9459	6133	39676	47457	41980
York - South	17756	24912	23807	7310	9792	10808	6461	9939	8931	31527	44642	43546
York - North	2467	3302	3380	271	106	389	892	570	591	3629	3977	4360
Durham	9428	13362	13820	984	1450	1304	3082	4020	3487	13494	18832	18611

Appendix E - Mode Splits By Destination for Home to First Work Trips

1986 Transit mode share

Zone of Residence	same municipality	Other municipalities in same region	Toronto			Other Regions (Incl. Ham-Wen.)	Total
			Downtown (PD1)	Inner suburbs (PD2-PD6)	Outer suburbs (PD7-PD16)		
Pickering	8%	2%	57%	6%	3%	0%	14%
Ajax	3%	9%	67%	11%	2%	0%	14%
Whitby	2%	5%	49%	7%	4%	0%	8%
Oshawa	6%	2%	35%	5%	1%	0%	5%
Newmarket	4%	2%	49%	10%	2%	0%	6%
Aurora	1%	5%	50%	13%	3%	0%	9%
Richmond Hill	12%	5%	54%	19%	5%	0%	14%
Markham	6%	5%	49%	12%	5%	1%	13%
Vaughan	1%	3%	56%	16%	6%	2%	13%
Brampton	7%	3%	49%	16%	2%	2%	8%
Mississauga	9%	2%	52%	14%	7%	2%	15%
Milton	2%	0%	36%	13%	0%	0%	3%
Oakville	8%	0%	58%	25%	4%	1%	14%
Burlington	4%	1%	52%	22%	0%	2%	6%
Total	7%	3%	52%	14%	5%	2%	11%

1996 Transit mode share

Pickering	2%	4%	54%	4%	2%	0%	11%
Ajax	4%	3%	56%	7%	3%	0%	12%
Whitby	3%	1%	57%	10%	2%	0%	8%
Oshawa	4%	2%	63%	6%	3%	1%	6%
Newmarket	2%	0%	46%	3%	2%	2%	5%
Aurora	0%	1%	41%	13%	6%	0%	7%
Richmond Hill	7%	3%	50%	11%	7%	0%	12%
Markham	3%	3%	44%	9%	6%	2%	11%
Vaughan	1%	2%	51%	8%	5%	0%	9%
Brampton	5%	3%	49%	12%	1%	3%	7%
Mississauga	8%	4%	51%	16%	7%	3%	13%
Milton	0%	0%	46%	10%	0%	1%	4%
Oakville	3%	1%	59%	15%	2%	1%	13%
Burlington	3%	0%	56%	20%	2%	1%	6%
Total	5%	2%	52%	11%	5%	1%	10%

Appendix F - Mode Splits By Destination for Home to First School Trips

1986 Transit mode share

pd_hhld	same municipality	Other municipalities in same region	Toronto			Other Regions (Incl. Ham-Wen.)	Total
			Downtown (PD1)	Inner suburbs (PD2-PD6)	Outer suburbs (PD7-PD16)		
Pickering	1%	1%	86%	20%	32%	0%	6%
Ajax	24%	37%	100%	0%	0%	0%	25%
Whitby	10%	5%	100%	0%	0%	0%	10%
Oshawa	15%	0%	42%	0%	12%	0%	15%
Newmarket	2%	12%	100%	33%	25%	0%	5%
Aurora	3%	5%	0%	0%	32%	0%	5%
Richmond Hill	4%	4%	79%	32%	28%	0%	15%
Markham	7%	6%	75%	23%	30%	0%	17%
Vaughan	1%	0%	59%	45%	29%	33%	14%
Brampton	13%	2%	72%	48%	9%	8%	14%
Mississauga	6%	12%	64%	40%	25%	12%	11%
Milton	2%	0%	76%	0%	0%	0%	3%
Oakville	8%	0%	100%	32%	23%	0%	10%
Burlington	12%	15%	100%	76%	0%	6%	12%
Total	9%	5%	72%	35%	25%	7%	12%

1996 Transit mode share

Pickering	13%	15%	42%	14%	8%	0%	13%
Ajax	14%	14%	16%	0%	14%	0%	14%
Whitby	9%	9%	33%	49%	0%	0%	9%
Oshawa	18%	9%	0%	0%	7%	0%	17%
Newmarket	11%	3%	47%	0%	12%	0%	10%
Aurora	7%	2%	61%	0%	0%	0%	6%
Richmond Hill	10%	13%	43%	5%	22%	0%	15%
Markham	6%	14%	58%	22%	21%	12%	13%
Vaughan	5%	7%	68%	38%	13%	0%	12%
Brampton	8%	3%	38%	22%	15%	6%	9%
Mississauga	10%	19%	55%	21%	22%	14%	13%
Milton	1%	0%	0%	0%	0%	9%	1%
Oakville	5%	14%	12%	0%	0%	5%	5%
Burlington	4%	2%	48%	0%	0%	6%	4%
Total	9%	10%	52%	22%	17%	9%	11%