

**1986 - 1996 TRAVEL TRENDS IN THE
GTA & HAMILTON-WENTWORTH**

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EXECUTIVE SUMMARY

This report documents changes in Greater Toronto Area (GTA) and Hamilton-Wentworth locational and socio-demographic patterns and related changes in travel behaviour since 1986, with reference to the 1986, 1991 and 1996 TTS results.

The analysis of changing travel characteristics focuses on work trip generation and distribution and mode choice issues. The report considers how and why such changes have emerged, and the implications of the identified changes for the planning of road and transit facilities and services across the GTA.

Population, Labour Force and Employment

Changes in population, labour force and employment over the 1986 to 1996 period are discussed in section 2, along with changes in the student population. The documented trends largely determined changes in the work-related trip making that dominates the peak travel periods and determines transportation requirements.

Section 2.2 documents the economic conditions across the GTA and Hamilton-Wentworth with reference to available data from Statistics Canada and the Metro Toronto employment surveys (MTES) for the new City of Toronto.

The number of employed residents in the GTA and Hamilton-Wentworth increased rapidly in the 1986-1989 period until the onset of the recession in 1990. The GTA lost more than 180,000 jobs in the 1989-1992 period, as a result of the recession. However, most of the employment losses were in the cities of Toronto and Hamilton.

In Toronto, the declining employment resulted in substantial declines in employed labour force between 1986 and 1991 and between 1991 and 1996, despite continued increases in population. The available data suggest that whereas Toronto saw continuous declines in employment and labour force over the 1986-1996 period, the four suburban Regions in the GTA experienced continuous growth during the same period, at a slightly reduced growth rate rather than losses in both employment and labour force.

Other Relevant Socio-demographic Factors

Section 3 discusses “other relevant socio-demographic factors” that influence travel behaviour including changing age structure, possession of driver’s licences, and auto availability.

The evolving age structure of Toronto, the four Suburban Regions, and Hamilton-Wentworth is discussed in relation to migration trends and mode choice in section 3.1.

Section 3.2 documents changes in the possession of valid driver's licences among men and women, including declines after 1991. The major declines in driver's licence possession were among men and women under the age of 21, particularly among students. However, there were continued increases in the proportion of working women who possessed a valid driver's licence in Toronto, Hamilton-Wentworth and the suburban regions. Across the GTA, driver's licence possession among working women is approaching the levels observed for working males.

Section 3.3 discusses vehicle availability, noting a small decline in overall availability between 1986 and 1996, but increases in the average number of vehicles available per worker.

Transportation Implications – Changing Travel Patterns

Section 4 documents changes in travel patterns resulting from the land use and socio-demographic shifts discussed in sections 2 and 3.

As shown in Sections 4.1 and 4.2, the amount and timing of peak period trips was directly influenced by the changing nature of work activities including the reduced labour force participation rate and increased part-time work opportunities.

The trends in labour force activity resulted in proportionately fewer work trips due to decline in labour force participation rate and shift from full-time to part-time work. However, during the 1986-1996 period, changes in the number of work trips per worker were also noted, including increased numbers of first work trips per day for both full-time and part-time workers. The GTA and Hamilton-Wentworth data suggest a 5% increase in first work trips for male and female full time workers, a 14% increase in first work trips for part time males and an 8% increase in first work trips for part time females.

Both work and school trip start times have shifted as a result of changes in the nature of work activities and changes in school start and finish times. For example, the Toronto data shows a large decline in work trips starting between 6:00 and 8:00 and a consistent increase in work trips starting between 8:30 and 15:00 hours. Significant shifts in school start and finish times are also discussed.

Job losses in Toronto and Hamilton combined with continued population and employment growth in the suburban Regions led to changes in live-work relationships and commuting patterns between 1986 and 1996, as documented in Section 4.3, with reference to exhibits showing changes in first work trips ending in seven destinations across the GTA and Hamilton-Wentworth.

Section 4.4 discusses observed declines in transit mode splits for men and women between 1986 and 1996, in relation to changing age structure and observed changes in transit trip rates by gender.

Conclusions and Recommendations

The TTS data, along with MTES employment counts for Toronto and Statistics Canada Labour Force Survey data, document the impact of the recession on the economies of Toronto and Hamilton and the loss of jobs in both cities. The 1990 recession reversed the long standing trend toward increased female labour force participation, particularly in Toronto and Hamilton-Wentworth and accelerated the trend toward reduced male labour force participation, that had been associated with early retirements among men aged 55-64. The recession also resulted in a dramatic decentralization of employment opportunities that resulted in the changes in travel patterns documented in Section 4.

The GTA and Hamilton-Wentworth currently has high unemployment rates among men and women, particularly those living in the cities of Toronto and Hamilton. However, this situation could change rapidly in the future assuming the continued recovery of the economy and recognizing future changes in age structure that can be expected to reduce the size of the working age population.

The declines in employment and employed labour force relative to population reported in the TTS are not consistent with OGTA land use forecasts for the GTA and particularly the new City of Toronto. The Hemson estimates of employment for 2011 and 2021 do not appear to recognize the large declines in employment in Toronto and Hamilton that occurred after 1989 or the failure of the Toronto economy and Toronto's Central Area to recover from these job losses.

The TTS results suggest that the land use assumptions that underlie recent and ongoing transportation planning activities should be updated to recognize the distinct possibility that Toronto's employment will be substantially below the expected 2011 and 2021 levels. Current estimates of 2011 and 2021 employment for Toronto and the GTA represent the highest levels that might be achieved, rather than the most likely scenario.

The findings with respect to land use forecasts highlight the need for GTA planning agencies to maintain accurate and up-to-date employment data at both the municipal and traffic zone level. The former Metropolitan Toronto Planning Department's employment surveys provide one model that should be considered by the other Regions in order to establish time-series information on employment trends at the traffic zone level.

The 1996 TTS results also indicate that trip generation rates and mode-split forecasting relationships developed on the basis of the 1986 Transportation Tomorrow Survey should be reassessed in the light of the results of the 1996 Survey. For example, the observed declines in employed labour force/ population ratios, increases in part-time work, changes in work trip rates for full and part-time workers, and the spreading of work and school peaks, suggests that trip generation rates and peaking factors should be adjusted downward.

A number of land use/location, demographic, socio-economic and behavioural changes over the 1986-1996 period imply reduced transit ridership potential in

the future and the need to update current approaches to estimating transit mode choice.

The relevant changes include:

- The aging of the population and related transit ridership losses, as documented in sections 3.1 and 4.5.
- Changes in travel patterns related to the suburbanization of employment and decentralization of inner city workers, as documented in section 4.3.
- Increases in driver's licences among working women, as documented in section 3.2.
- Increasing numbers of cars available per worker (section 3.3).
- Declining mode splits and transit trip rates for some age/gender cohorts (discussed in sections 3.1 and 4.5).

These factors are all inter-related. For example, aging is related to the observed declines in transit trip making by age group, in that younger cohorts take their unique characteristics with them as they get older. Also, the decentralization of employment opportunities may well have made car ownership and operation necessary. Developing suburban job opportunities are often not accessible by transit.

Only GO Transit benefited from the decentralization of the downtown Toronto workforce. GO Rail services enjoyed substantial increases in ridership between 1985 and 1990, but lost ridership in the early 1990's when total employment in downtown Toronto fell. GO Rail's future depends on the future of the downtown Toronto economy.

The findings presented in Section 4 related to work trip generation and distribution underscore the need to update current forecasting models to incorporate the results of the 1996 TTS survey.

The changes in labour force activity, employment and trip distribution patterns observed in the 1986 to 1996 period were unexpected and are not reflected in current forecasts. These changes highlight the benefits of the Transportation Tomorrow Survey and the need to continue to monitor travel behaviour on a regular basis.

1. INTRODUCTION

The Transportation Tomorrow Survey (TTS) provides a unique time-series data base that captures the evolving travel behaviour of the GTA and Hamilton-Wentworth residents at three points in time: 1986, 1991 and 1996. Equally important, the TTS documents changes in the demographic and socio-economic characteristics that influence travel behaviour including changes in age structure, employment or student status, and vehicle availability.

The survey instrument and data collection methods used in 1991 and 1996 were consistent with those used in the initial 1986 TTS survey. Therefore, the three TTS surveys provide an excellent database for identifying, describing and understanding changes in travel behaviour and travel patterns over the period 1986 to 1996.

This report documents changes in Greater Toronto Area (GTA) locational and socio-demographic patterns and related changes in travel behaviour since 1986. The analysis of changing travel characteristics focuses on work trip generation and distribution and mode choice issues including the propensity to use transit. The report considers how and why such changes have emerged, and what the implications of the identified changes might be for the planning of road and transit facilities and services across the GTA.

For this report, the GTA is defined to include the amalgamated City of Toronto and the Regional Municipalities of Durham, Halton, Peel and York. All references to Toronto refers to the new amalgamated City of Toronto.

1.1 Understanding the Changes

Any interpretation of changes in travel behaviour during the 1986-1996 period must recognize the impact of the 1990-1991 recession on the GTA's economic base and related evolutionary changes in the distribution of population, labour force and employment. Therefore, this report refers to available labour force and employment data for the GTA and for Toronto in specific, and related information on auto availability and driver's licence possession, in an effort to put the TTS data in context.

The analysis presented in this report focuses on the 1986 and 1996 TTS data with limited references to 1991. The 1986 and 1996 surveys sampled approximately 5% of all households across the GTA and Hamilton-Wentworth. The 1991 TTS sampled 5% of households in growth areas but only 0.5% in low growth areas, including most of the City of Toronto (previously defined as Metropolitan Toronto) and all those areas within the other Regions that were substantially developed in 1986. The smaller sample size in developed areas in 1991 results in much wider confidence intervals for all estimates.

2. POPULATION, LABOUR FORCE AND EMPLOYMENT

The changing distribution of population, labour force and employment in the GTA and Hamilton-Wentworth between 1986 and 1996 largely determined changes in the work-related trip making that dominates the peak travel periods and determines transportation requirements.

2.1 Population

The growth of the GTA population is summarized in Exhibit 1 for Toronto, Hamilton-Wentworth and the remaining GTA Regional Municipalities. While all areas experienced population increases over the 1986-1996 period, the Regions accounted for more than 75% of the total increase in population.¹

Exhibit 1 - Population Change (TTS estimates*)

	1986	1991	1996
(Metro)Toronto	2,135,000	2,214,000	2,305,600
Hamilton-Wentworth	423,400	445,000	462,000
Halton, Peel, York, Durham	1,504,500	1,910,500	2,158,800
GTA	4,062,900	4,569,500	4,926,400

* The TTS understates population by 2-3%. For example, the 1996 Census figure for (Metro)Toronto is 2,385,421

2.2 Labour Force and Employment

During the 1986-1996 period, the GTA experienced varied economic conditions as shown in Exhibit 2, Total Employed Labour Force by CMA (Census Metropolitan Area) and GTA. The number of employed residents in the GTA increased rapidly in the 1986-1989 period until the onset of the recession in 1990. The GTA lost more than 180,000 jobs in the 1989-1992 period, as a result of the recession. Most of these losses were in the cities of Toronto and Hamilton.

The Metro Toronto Employment Surveys (MTES), the only ongoing employment survey in the GTA, indicate that between 1989 and 1992 Toronto lost 124,000 jobs, including 60,000 jobs in industrial areas and more than 35,000 office jobs. Toronto's Central Area (i.e., Planning District 1) lost 47,000 jobs during this period.

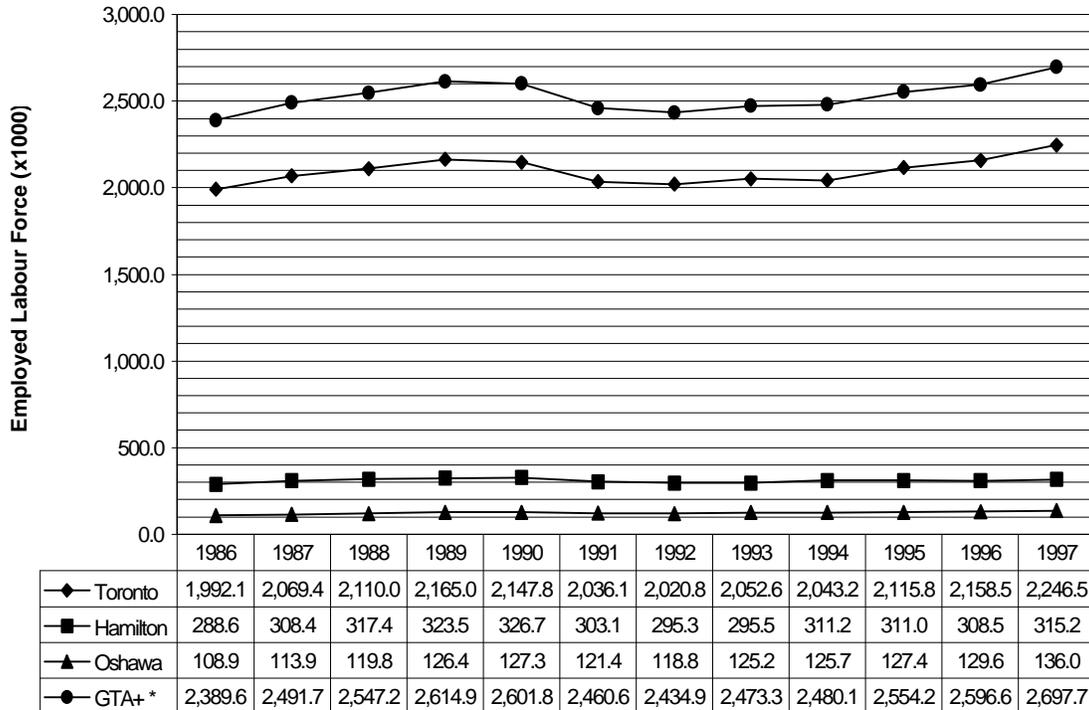
According to reported MTES results, further employment losses of approximately 80,000 were experienced in Toronto between 1992 and 1996, despite the recovery of the GTA economy (and the estimated 162,000 increase in employed labour force across the GTA). It was not until 1997 that Toronto began to experience a modest

¹ One factor in Toronto's continued population increase during this period was the reversal of a long-standing trend of declining household size. Whereas household size in Toronto had fallen continually since 1945, it was stable in the 1986-1996 period.

recovery in employment and the GTA surpassed the 1989 pre-recession employment total.

Exhibit 2 - Total Employed Labour Force by C(M)A and GTA+*

(Source: 1986 Census and Statistics Canada Labour Force Surveys)
 * [Hamilton includes Grimsby, Toronto includes New Tecumseh, Bradford and West Gwillimbury]



The TTS estimates of employed labour force and employment for Toronto and municipalities outside Toronto for 1986, 1991 and 1996 are presented in Exhibits 3 and 4 by planning districts. The planning districts are illustrated in Map 1.

The TTS estimates of labour force and employment, while not being directly comparable to Statistics Canada Labour force estimates or the Metro Toronto Employment Survey figures, are generally consistent with these sources in terms of the magnitude and nature of labour force and employment changes between the three survey years.²

² The TTS data shows an increase in employed labour force of 183,000 between 1986 and 1996, whereas Statistics Canada labour force survey suggests that the employed labour force resident in the GTA plus the neighboring municipalities of Grimsby, Bradford/East Gwillimbury, and New Tecumseh increased by approximately 207,000.

All three data sets point to reduced labour force participation for men of all ages and women ages 15-24 between 1986 and 1996, with reduction in full time employment being partially counter-balanced by increases in part-time employment as documented in Appendix A.

Map 1 - The 46 Planning Districts

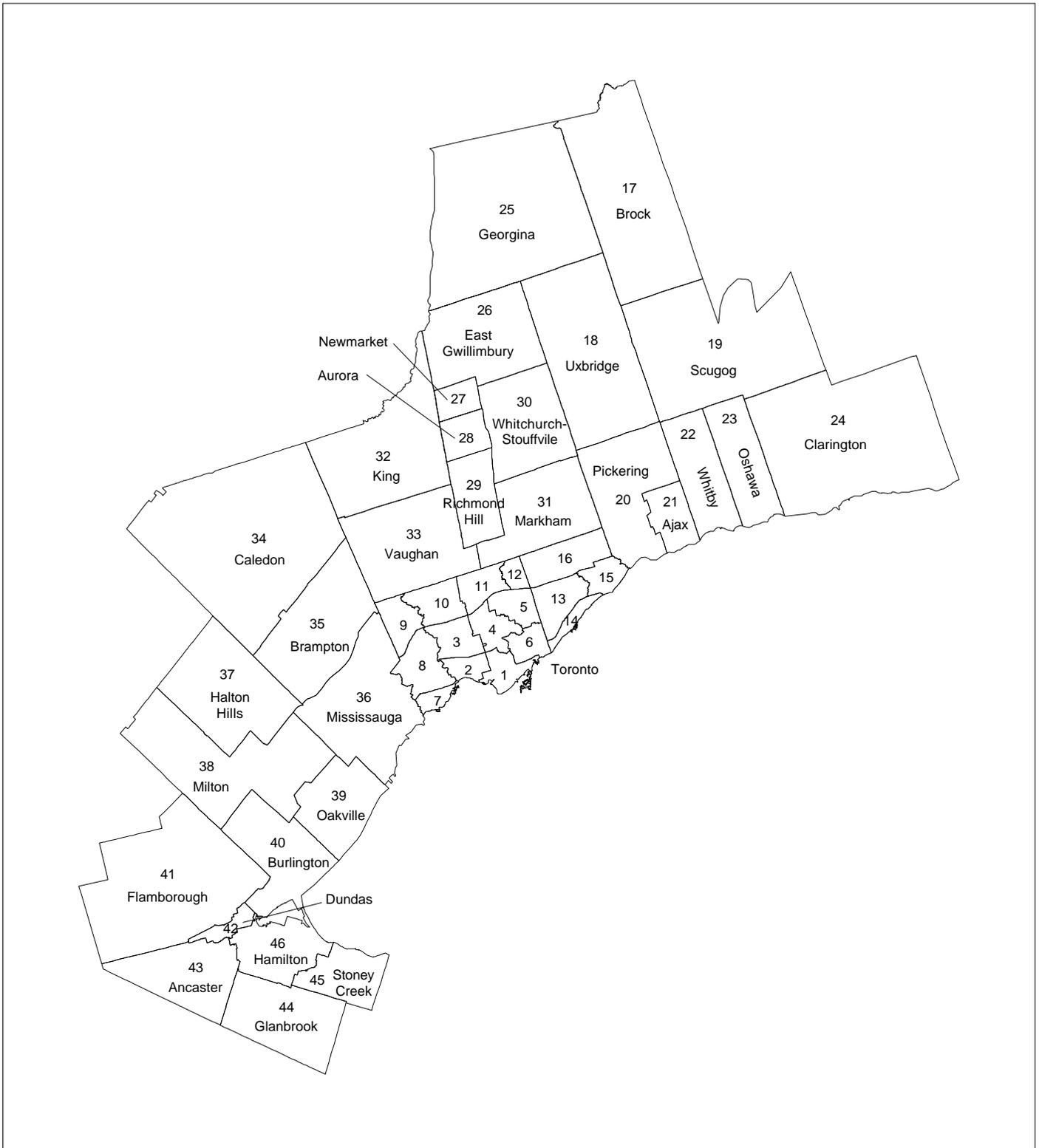


Exhibit 3 – GTA Employed Labour Force (at place of residence)*

Location	1986 TTS	1991 TTS	1996 TTS	1996/1986	change	
					1991/1986	1996/1991
PD1-Metro	80,277	79,996	83,205	1.04	1.00	1.04
PD2-Metro	108,265	105,832	103,407	0.96	0.98	0.98
PD3-Metro	120,724	107,750	105,673	0.88	0.89	0.98
PD4-Metro	106,636	102,321	103,601	0.97	0.96	1.01
PD5-Metro	58,842	58,186	51,637	0.88	0.99	0.89
PD6-Metro	114,232	117,622	106,444	0.93	1.03	0.90
PD7-Metro	29,676	26,845	27,331	0.92	0.90	1.02
PD8-Metro	99,794	88,664	79,034	0.79	0.89	0.89
PD9-Metro	42,289	37,804	38,889	0.92	0.89	1.03
PD10-Metro	79,351	66,623	63,098	0.80	0.84	0.95
PD11-Metro	66,249	63,467	65,811	0.99	0.96	1.04
PD12-Metro	44,419	38,567	36,532	0.82	0.87	0.95
PD13-Metro	100,788	94,433	87,571	0.87	0.94	0.93
PD14-Metro	29,762	29,446	27,509	0.92	0.99	0.93
PD15-Metro	38,372	44,473	37,589	0.98	1.16	0.85
PD16-Metro	94,887	96,508	92,403	0.97	1.02	0.96
Total Toronto	1,214,561	1,158,534	1,109,733	0.91	0.95	0.96
Brock	4,578	4,410	4,521	0.99	0.96	1.03
Uxbridge	5,726	6,823	7,106	1.24	1.19	1.04
Scugog	7,941	9,607	9,493	1.20	1.21	0.99
Pickering	25,970	37,315	38,924	1.50	1.44	1.04
Ajax	19,581	29,670	33,647	1.72	1.52	1.13
Whitby	22,747	30,615	36,290	1.60	1.35	1.19
Oshawa	62,602	65,416	63,058	1.01	1.04	0.96
Clarington	16,380	23,425	29,112	1.78	1.43	1.24
Total Durham	165,525	207,282	222,151	1.34	1.25	1.07
Georgina	12,467	16,128	16,192	1.30	1.29	1.00
East Gwillimbury	7,607	9,698	9,520	1.25	1.27	0.98
Newmarket	18,239	24,059	28,016	1.54	1.32	1.16
Aurora	11,118	15,597	17,202	1.55	1.40	1.10
Richmond Hill	24,952	38,481	47,380	1.90	1.54	1.23
Whit.-Stouff.	7,510	9,407	9,736	1.30	1.25	1.03
Markham	59,843	75,010	79,273	1.32	1.25	1.06
King	9,048	9,734	9,182	1.01	1.08	0.94
Vaughan	34,444	55,756	63,834	1.85	1.62	1.14
Total York	185,228	253,870	280,336	1.51	1.37	1.10
Caledon	16,313	17,956	19,888	1.22	1.10	1.11
Brampton	102,076	125,330	135,260	1.33	1.23	1.08
Mississauga	207,537	240,486	269,491	1.30	1.16	1.12
Total Peel	325,926	383,771	424,639	1.30	1.18	1.11
Halton Hills	18,617	19,306	21,355	1.15	1.04	1.11
Milton	16,214	17,790	16,769	1.03	1.10	0.94
Oakville	44,964	58,724	63,737	1.42	1.31	1.09
Burlington	61,348	67,582	69,836	1.14	1.10	1.03
Total Halton	141,143	163,402	171,697	1.22	1.16	1.05
Flamborough	12,811	14,369	15,988	1.25	1.12	1.11
Dundas	9,360	10,018	10,702	1.14	1.07	1.07
Ancaster	8,329	10,468	11,201	1.34	1.26	1.07
Glanbrook	4,859	5,291	4,756	0.98	1.09	0.90
Stoney Creek	20,566	24,794	25,756	1.25	1.21	1.04
Hamilton	148,858	147,380	142,795	0.96	0.99	0.97
Total H-W	204,783	212,319	211,196	1.03	1.04	0.99
GTA Total	2,237,166	2,379,180	2,419,753	1.08	1.06	1.02

* TTS estimates

Exhibit 4 – GTA Employment Estimates

Location	1986 Estimate*	1991 TTS	1996 TTS	1996/1986	1991/1986	1996/1991
PD1-Metro	400,080	415,937	394,541	0.99	1.04	0.95
PD2-Metro	53,398	48,307	51,488	0.96	0.90	1.07
PD3-Metro	83,477	70,548	69,887	0.84	0.85	0.99
PD4-Metro	101,874	95,912	91,696	0.90	0.94	0.96
PD5-Metro	64,820	69,953	60,625	0.94	1.08	0.87
PD6-Metro	50,541	42,638	45,249	0.90	0.84	1.06
PD7-Metro	29,469	26,363	22,254	0.76	0.89	0.84
PD8-Metro	77,317	73,929	74,079	0.96	0.96	1.00
PD9-Metro	65,148	56,194	56,757	0.87	0.86	1.01
PD10-Metro	92,016	93,002	92,486	1.01	1.01	0.99
PD11-Metro	52,068	63,980	61,942	1.19	1.23	0.97
PD12-Metro	34,522	42,063	36,740	1.06	1.22	0.87
PD13-Metro	107,337	98,009	82,066	0.76	0.91	0.84
PD14-Metro	9,339	10,854	9,023	0.97	1.16	0.83
PD15-Metro	11,866	13,355	13,470	1.14	1.13	1.01
PD16-Metro	53,483	70,153	73,439	1.37	1.31	1.05
Total Toronto	1,286,756	1,291,196	1,235,741	0.96	1.00	0.96
Brock	2,987	2,360	2,190	0.73	0.79	0.93
Uxbridge	2,581	5,340	3,875	1.50	2.07	0.73
Scugog	3,623	4,387	4,205	1.16	1.21	0.96
Pickering	16,843	25,840	24,518	1.46	1.53	0.95
Ajax	13,097	15,087	18,808	1.44	1.15	1.25
Whitby	16,453	21,128	24,473	1.49	1.28	1.16
Oshawa	55,764	54,975	51,325	0.92	0.99	0.93
Clarington	12,093	10,508	11,945	0.99	0.87	1.14
Total Durham	123,440	139,625	141,339	1.15	1.13	1.01
Georgina	4,887	5,817	5,966	1.22	1.19	1.03
East Gwillimbury	1,392	2,159	3,044	2.19	1.55	1.41
Newmarket	13,583	15,448	20,664	1.52	1.14	1.34
Aurora	7,857	10,367	9,917	1.26	1.32	0.96
Richmond Hill	19,436	27,089	36,636	1.88	1.39	1.35
Whit.-Stouff.	5,524	6,760	6,129	1.11	1.22	0.91
Markham	58,846	83,149	93,782	1.59	1.41	1.13
King	4,199	4,339	3,880	0.92	1.03	0.89
Vaughan	48,121	62,728	81,084	1.68	1.30	1.29
Total York	163,846	217,855	261,101	1.59	1.33	1.20
Caledon	5,849	7,579	9,300	1.59	1.30	1.23
Brampton	74,114	86,847	91,233	1.23	1.17	1.05
Mississauga	197,808	246,377	269,906	1.36	1.25	1.10
Total Peel	277,771	340,804	370,439	1.33	1.23	1.09
Halton Hills	12,355	8,760	9,990	0.81	0.71	1.14
Milton	10,185	11,946	13,454	1.32	1.17	1.13
Oakville	42,817	46,408	54,251	1.27	1.08	1.17
Burlington	44,019	52,934	55,191	1.25	1.20	1.04
Total Halton	109,377	120,048	132,886	1.21	1.10	1.11
Flamborough	7,154	5,864	7,209	1.01	0.82	1.23
Dundas	4,483	3,875	6,217	1.39	0.86	1.60
Ancaster	3,706	5,733	5,446	1.47	1.55	0.95
Glanbrook	2,264	2,271	2,086	0.92	1.00	0.92
Stoney Creek	12,793	13,872	14,722	1.15	1.08	1.06
Hamilton	157,349	145,761	133,244	0.85	0.93	0.91
Total H-W	187,748	177,376	168,925	0.90	0.94	0.95
GTA Total	2,148,938	2,286,904	2,310,431	1.08	1.06	1.01

NOTES:

Total Employment (Full time and part time including work at home)

Excludes employed people who live outside the GTA

*1986 estimate = $\frac{(1991 \text{ Employment}) * (1986 \text{ first work trips}) * (1986 \text{ global home end work trip rate})}{(1991 \text{ first work trips}) * (1991 \text{ global home end work trip rate})}$

The TTS data reflect the recession's influence on the distribution of employed labour force (at place of residence) and employment (at place of work). The numbers demonstrate that the recession's effects were concentrated in Toronto and Hamilton-Wentworth, municipalities that both saw absolute declines in employment after 1989. The TTS employment estimates suggest that the four suburban Regional Municipalities saw continued employment increases over the decade despite the recession.

Toronto experienced substantial declines in employed labour force between 1986 and 1991 and between 1991 and 1996, despite continued increases in population as shown in Exhibit 1.

Exhibits 5 and 6 summarize trends in Employed Labour Force (ELF)/ population ratios for men and women by Regions of residence and the GTA. Exhibit 5 documents reduced male labour force activity across the GTA and the relatively larger job losses in Toronto where the ELF/population ratio fell from 0.63 in 1986 to 0.53 in 1996.

In contrast, while female labour force activity fell overall during the 1986-1996 period, female labour force participation continued to increase in Hamilton-Wentworth, Durham and Halton between 1986 and 1991, and the Halton female ELF/population ratio continued to increase after 1991, as shown in Exhibit 6.

The trends in labour force activity shown in Exhibits 5 and 6 mask some important differences in labour force activity trends by age and gender, as illustrated in Appendix A.

Whereas there was a consistent pattern of reduced employment among workers of both genders aged 15-24 across the GTA and among males 55-64, Toronto (and Hamilton-Wentworth) experienced much higher levels of unemployment among males in the peak working ages, 25-34, 35-44 and 45-54.

For example, the proportion of Toronto males aged 35-44 with full time jobs fell from 93.3% to 81.4% between 1986 and 1996. In contrast, the comparable GTA-wide decline was from 95% (in 1986) to 86.6% in 1996. By 1996 more than 90% of males aged 35-44 who lived in the suburban Regional Municipalities held full-time jobs, despite the recession with Halton having the highest full time labour force participation. An estimated 94% of Halton males aged 35-44 held full time jobs in 1996, down from 97.5% in 1986.

The data for the period 1986 to 1996 suggest the stalling of the longstanding trend toward increased female labour force participation, particularly after 1991. The decline in the employment/population ratios for women resulted from reduced employment among women aged 15-24 in all areas, and declining employment among women in other age groups as well, particularly in Toronto and Hamilton-Wentworth.

Exhibit 5 - Changes in Employed Labour Force/Population for Males

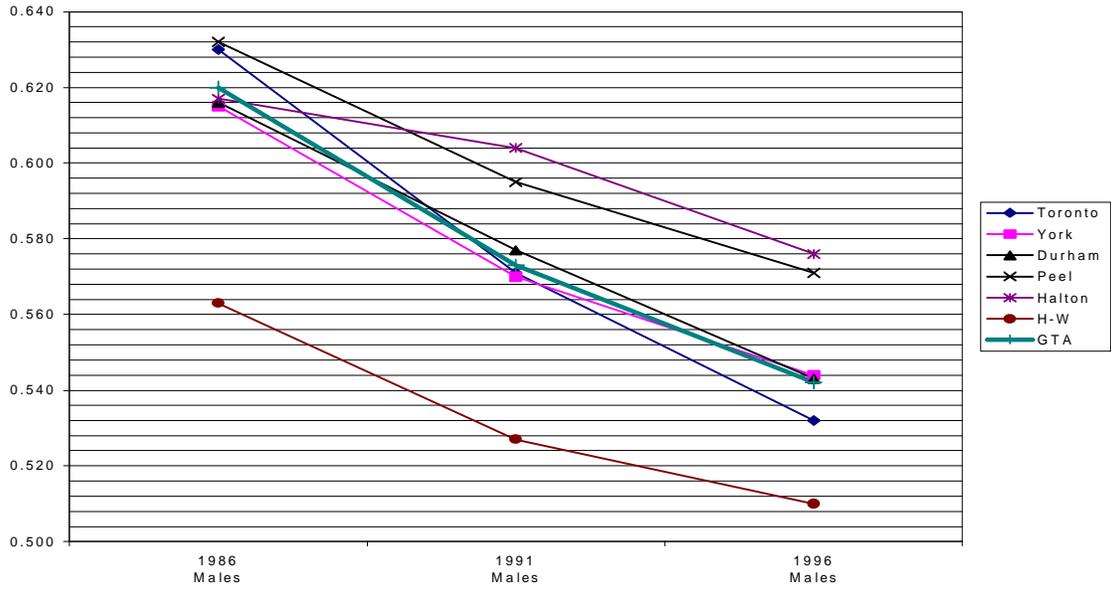
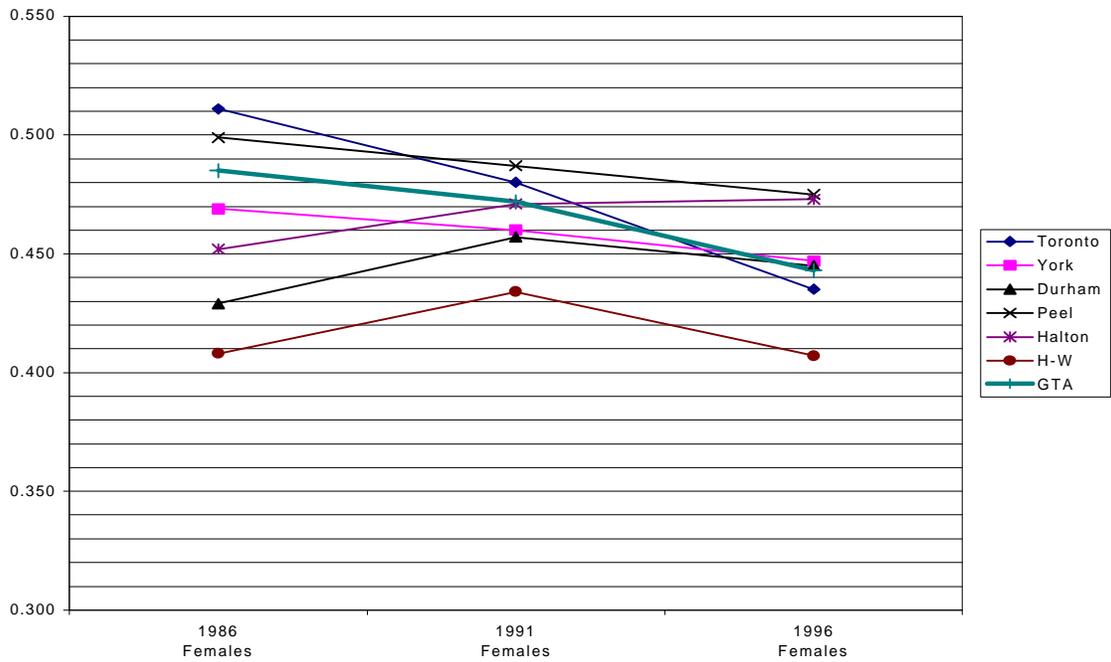


Exhibit 6 - Changes in Employed Labour Force/Population Ratios for Females



Toronto saw declines in employment/population ratios for women of all ages after 1991, and declines for all age groups except the 45-54 cohort, relative to 1986.

Hamilton-Wentworth saw increases in employment/population ratios for women in all age groups between 1986 and 1991 but declines after 1991, particularly among women aged 45-54 and 55-64.

Labour force activity levels among women over the age of 25 living in the Suburban Regions varied. Total employment/population ratios were generally stable among women aged 35-44 during the 1986-96 period but for women aged 55 and older, labour force activity declined during this period.

2.3 Changes in the Student Population

The changes in labour force participation described above would be expected to influence the numbers of persons who are enrolled as full-time students. It is reasonable to assume that when the job market is tight, more people stay in school. This is indeed the case. Among both men and women, there was an increase in the percentage of persons aged 15-19 and 20-24 who were reported to be full time students between 1986 and 1996.

The percentage of GTA males aged 15-19 who were full time students increased from 85% in 1986 to 90% by 1996 while the percentage of GTA females of the same age who were full time students increased from 84% to 92%.

For GTA males aged 20-24, the percentage who were full time students increased from 26% to 37% between 1986 and 1996, while the comparable increase for GTA females of this age was from 23% to 39%.

Similar increases were observed for men and women living in Toronto, Durham, York and Peel regions. In Halton and Hamilton-Wentworth, women in the 15-19 and 20-24 age groups showed consistent increases in school attendance.

3. OTHER RELEVANT SOCIO-DEMOGRAPHIC FACTORS

The TTS also provides data on other relevant socio-demographic factors that would be expected to influence travel behaviour. These include the changing age structure of the population, possession of driver's licences, and auto availability, three factors that have all been shown to influence transit (and auto) trip making and mode choice behaviour.

3.1 Changing Age Structure

The changing age structure is summarized in Exhibits 7a, 7b and 7c for Toronto, the four suburban Regions and Hamilton-Wentworth, respectively. The population of a given area changes as a result of natural increase (births minus deaths), migration, an issue discussed briefly in the following paragraphs, and the aging of those people who remain within the area.

The TTS does not provide information on the intra-urban, provincial, national and international migration patterns that influence the distribution of population across the study area. However, the Metro Toronto Planning Department reported on "Migration Trends 1981-1993" in a brief Metro Facts report dated December 1994. This report documented large net movements from Toronto to the Regional Municipalities, especially during the 1986-1993 period, and a large inflow of new immigrants to Toronto. During the period 1986-1993, international migration to Toronto increased while inter-provincial migration changed from positive (in 1986-1989) to negative, starting in 1990 as the recession took hold.

For example, between 1992 and 1993, approximately 61,000 persons came to Toronto from other countries while about 35,000 left Toronto for the four GTA regions excluding Hamilton-Wentworth, 5,000 moved to the Hinterland (the Counties adjacent to the GTA) and 2,000 migrated to other Ontario destinations. New immigrants continued to come to Toronto after 1989, despite the poor employment prospects.

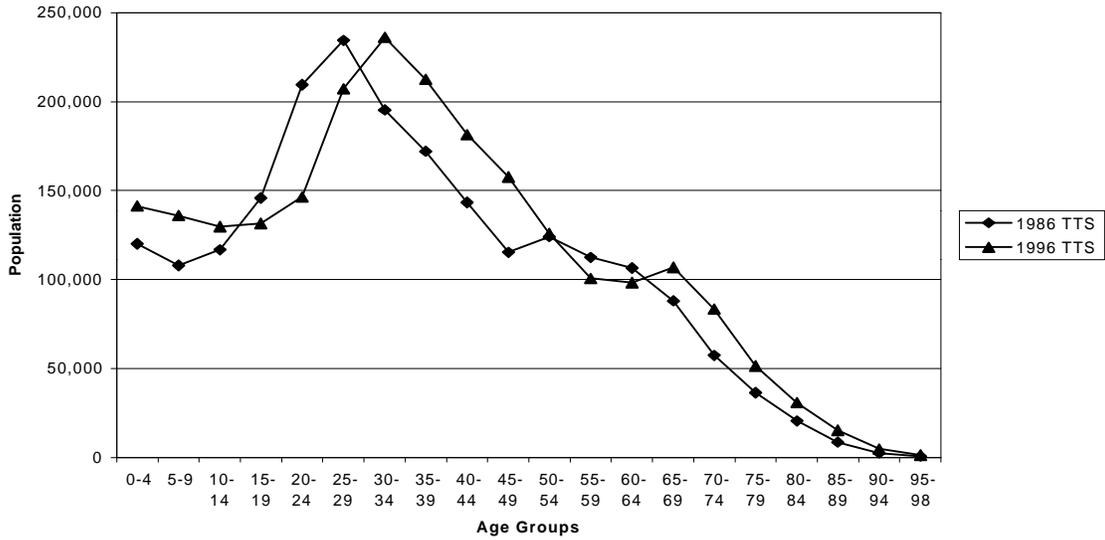
The age structure of migrants arriving in Toronto and leaving Toronto influenced the age structure of both Toronto and the suburban Regions. The Metro Planning report suggests that most net in-migrants during the 1986-1993 period were 18-24 years of age and most net out-migrants were aged 24-44 or children under age 18.

The changing distribution of people and workers resulting from these migration patterns, and the decentralization of jobs, had important implications for trip making and travel patterns, as discussed in Section 4.

Toronto's population aged by about 5 years over the 1986-1996 period, as a result of the combined effects of natural increase, migration patterns and the aging of Toronto residents. The observed changes in Toronto's age structure resulted in

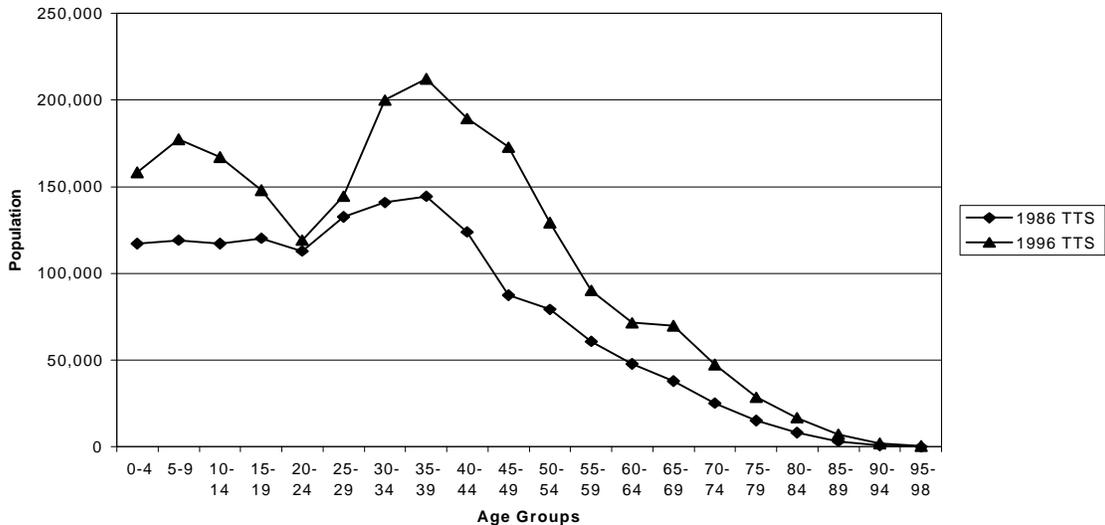
increases in the population aged 30 to 45, and over 65 years of age and reductions in the numbers aged 15 to 29, with the largest decline in the population aged 20-24. The “echo boom” increased the number of Toronto residents under the age of 15.

Exhibit 7a - Toronto's Evolving Age Structure



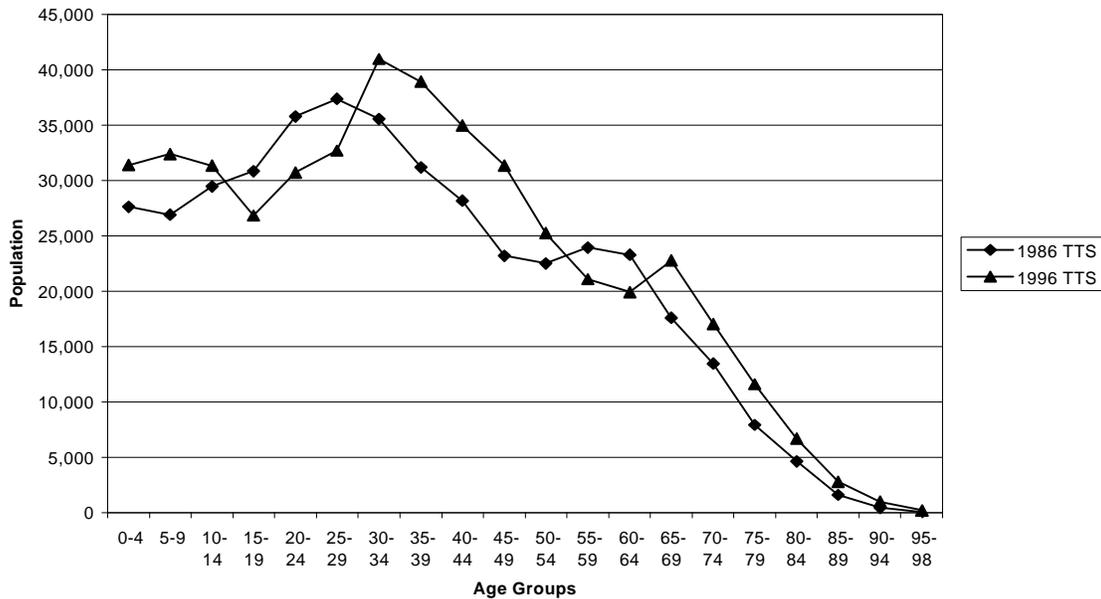
The suburban Regions saw increases in population across all age groups except the 20-24 cohort. This is the group that is most likely to migrate to Toronto or other cities to work or attend university. The largest increases in the Regions' populations were for children (under 19) and for adults aged 30 to 54, as would be expected given the migration patterns discussed above.

Exhibit 7b - The Evolving Age Structure of the Suburban Regions



The Hamilton-Wentworth age profiles show the effect of the aging of the population, with a 10 year shift in the 1986 age profile, and the effect of the “echo boom”.

Exhibit 7c - The Evolving Age Structure of Hamilton-Wentworth



Aging and Mode Choice

The 15-19 and 20-24 age groups are the peak transit users, as shown in Exhibits 8a, 8b and 8c, which summarize transit trip rates by age and gender for Toronto, the 4 suburban Regions, and Hamilton-Wentworth. Declines in the size of these groups in Toronto and Hamilton would be expected to reduce transit use, all other things being equal. The decline in the proportion of the suburban population in the 15-24 age group would also tend to reduce the increases in transit ridership that would be expected given the high growth observed in the suburban regions during the decade. As shown in Exhibit 7b, all age groups except the 20-24 cohort, grew rapidly between 1986 and 1996. The 20-24 age group barely increased.

Similarly, increases in the number and/or proportion of the population between the ages of 35 and 44, the peak ages for auto driver trip rates, would tend to increase auto travel relative to transit ridership.

Exhibit 8a - 1996 Transit Trip Rates by Gender for Toronto

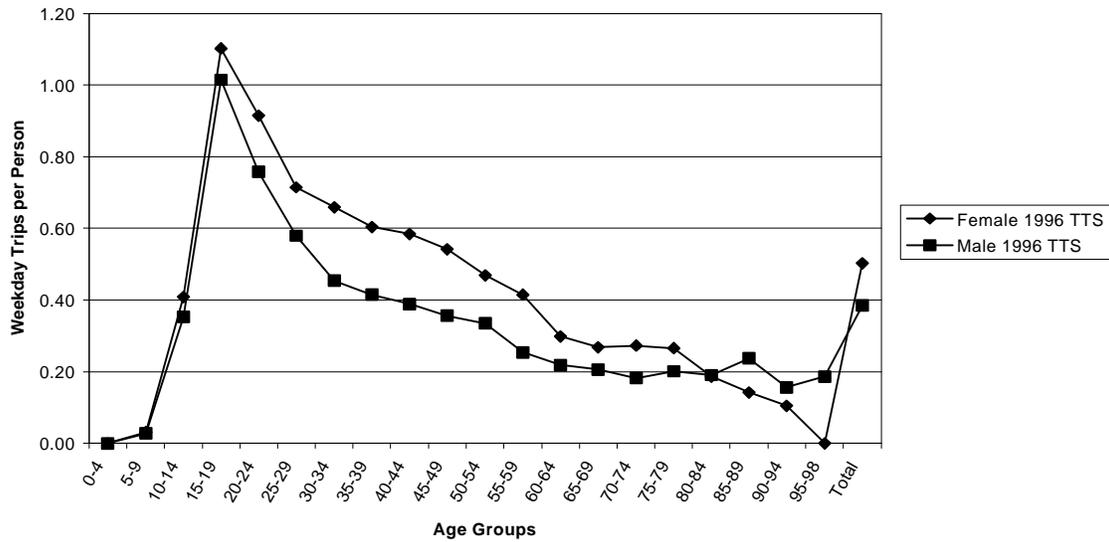


Exhibit 8b - 1996 Transit Trip Rates by Gender for Durham, Halton, Peel and York

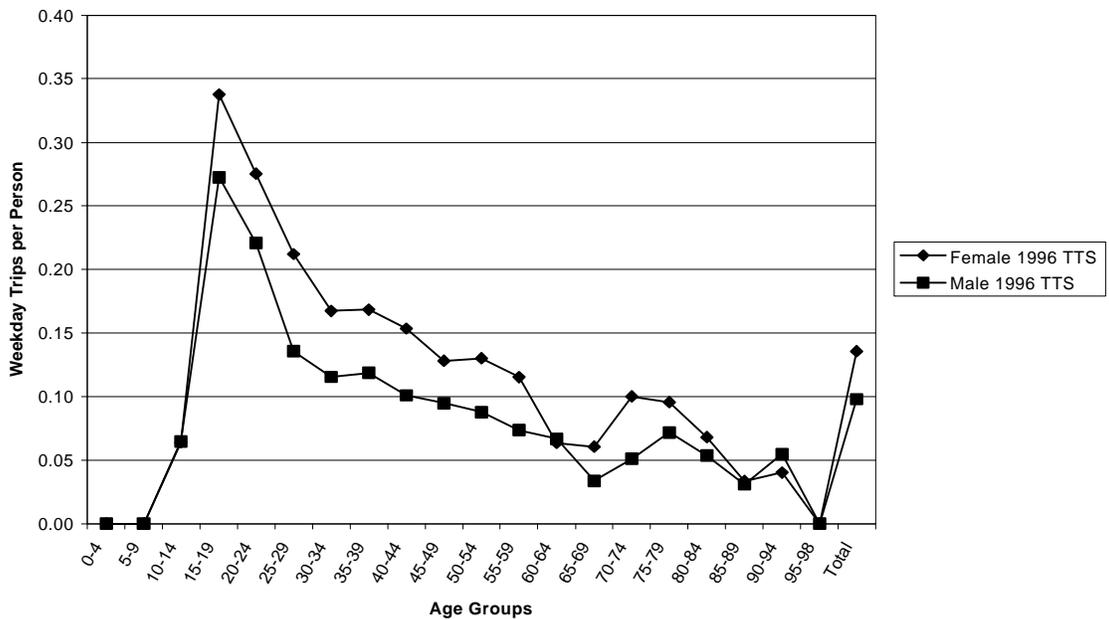
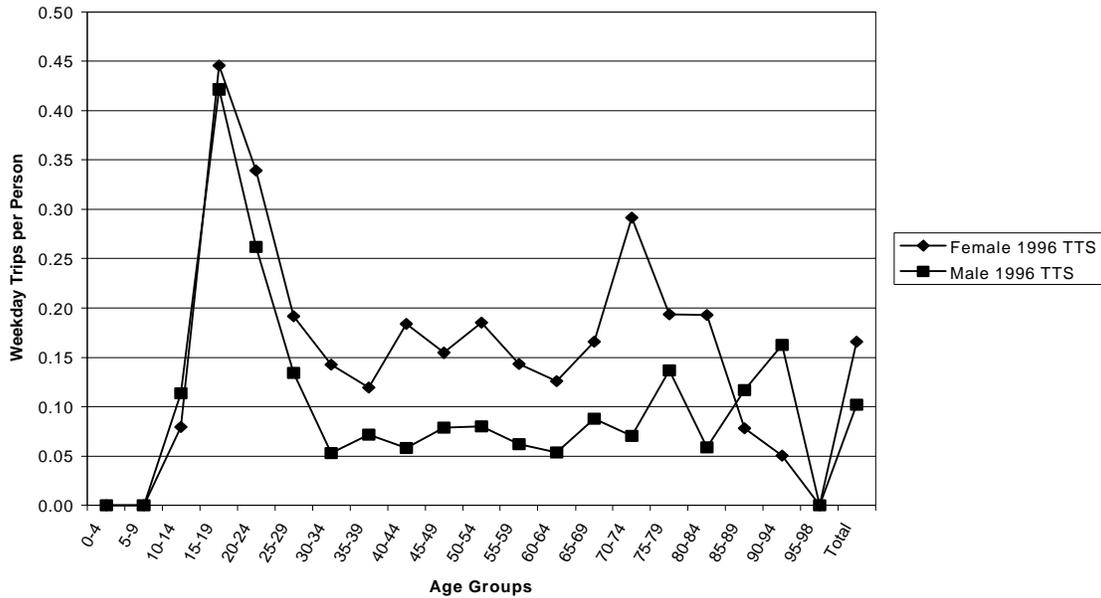


Exhibit 8c - 1996 Transit Trip Rates by Gender for Hamilton - Wentworth



3.2 Drivers Licensing Trends

The proportion of the GTA and Hamilton-Wentworth population in possession of a valid driver’s licence declined among men and women after 1991. The major declines in driver’s licence possession were among men and women under the age of 21, particularly among students. However, there were continued increases in the proportion of working women who possessed a valid driver’s licence in Toronto, Hamilton-Wentworth and the suburban regions.

Whereas 93% of Toronto males working full-time had a drivers licence in 1986 and 1996, the percentage of Toronto women working full time with a drivers licence increased from 72% to 78%.

Across the study area, driver’s licence possession among working women is approaching the levels observed for working males. In 1996, 89% of Hamilton-Wentworth women working full-time had a licence (compared to 98% for their male counterparts). The comparable figures for the four suburban Regional Municipalities were 92.6% for women with full time jobs and 98% for men.

Decline in driver’s licensing among students and part-time workers appears to primarily reflect economic conditions because those who are working full time were more likely to drive in 1996 than in 1986 and 1991. However, the new Ministry of Transportation “graduated licence” requirement may have played a role in the observed declines in licensing among persons 16, 17, and 18 years of age. The requirements associated with graduated licensing may be resulting in some young people putting-off getting their licences.

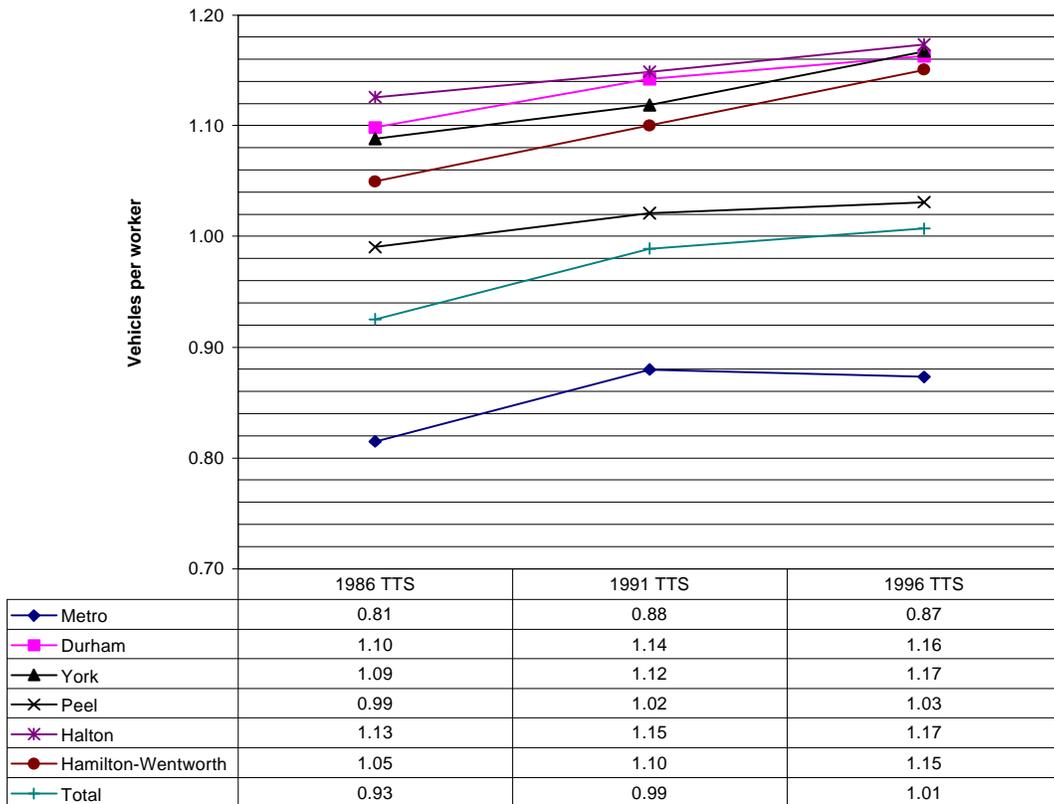
The observed reductions in driver's licences among young men and women would normally be expected to lead to increased transit use, especially in Toronto, where transit services are relatively competitive. However, the available data on driver's licensing, suggest that once people obtain a full-time job they are more likely to get a driver's licence.

3.3 Vehicle Availability

The TTS data suggest a small decline in auto availability between 1986 and 1996. Vehicles per household declined from 1.41 in 1986 to 1.35 in 1996 for the GTA and Hamilton-Wentworth as a whole, and in particular, from 1.21 to 1.07 for Toronto. The number of households without a car in the GTA and Hamilton-Wentworth area increased from 15% in 1986 to 17% in 1996. However, vehicles per worker increased over the same period from 0.93 to 1.01, as labour force activity decreased relative to the total population and the total number of vehicles³. The number of vehicles per worker increased across the study area, as shown in Exhibit 9, rising 7% in Toronto, 10% in Hamilton-Wentworth, and between 4% to 7% in the Suburban Regions.

³ Whereas the GTA population increased by approximately 864,000 between 1986 and 1996, the number of personal use vehicles grew by about 370,000.

Exhibit 9 - Personal Use Vehicles per Worker - 1986 - 96



The fact that the number of vehicles per worker increased in each region as a whole does not necessarily translate into an increase in the availability of vehicles for making trips to and from work since some vehicles are owned by households with no workers. Further analysis would be required to determine the number of vehicles available to households with no workers, 1 worker, 2 workers etc.

4. TRANSPORTATION IMPLICATIONS - CHANGING TRAVEL PATTERNS

The land use and socio-demographic changes identified in Sections 2 and 3 led to the significant changes in work trip generation, distribution and mode choice over the 1986 to 1996 period. There were also changes in travel behaviour during this period that do not relate in any obvious way to the observed land and socio-demographic changes. The following sub-sections outline changes in travel behaviour and, where appropriate, discuss how and why these changes came about.

4.1 Work Trip Generation

The volume and timing of peak period trips was directly influenced by the changing nature of work trips. For example, the reduced labour force participation and increased part-time work.

The trends in labour force activity resulted in proportionately fewer work trips due to the decline in labour force participation and the shift from full-time to part-time work. However, during the 1986-1996 period changes in the number of work trips per worker were also noted. There was an increase in the numbers of first work trips per day for both full time and part-time workers.

The GTA and Hamilton-Wentworth data suggests a 5% increase in first work trips for male and female full time workers, a 14% increase in first work trips for part time males and an 8% increase in first work trips for part time females.

The Toronto results are consistent with the observed GTA and Hamilton-Wentworth pattern. The Toronto data show a 6% increase in work trip making for men and women with full time jobs, a 16% increase for men with part-time jobs and a 9% increase for women with part-time jobs.

The increase in first work trips per worker between 1986 and 1996 suggests that these workers are working more days per week, on average, although the increases for full-time workers are relatively small at plus 5 or 6%.

Nevertheless, part-time workers across the study area, particularly males, are working more days per week and this is resulting in more travel than would be expected based on observed changes in ELF/population ratios.

4.2 Work and School Trip Start Times

Profiles of work and school trip start times are distinct for different Regions. Appendix B documents the 1996 trip start times distribution for each region by

trip purpose and mode. In light of earlier discussions on the changes in the nature of work and school trips, one would expect shifts in work and school trip start times.

The shift in home-based work and school trip times were compared to isolate changes in trip start times between 1986 and 1996 in Exhibits 10a to 10f. The observed shifts in work start times appear to relate to increase in part time work and, possibly, avoidance of congestion (in the suburban Regions) where there are some significant increases in the percentage of trips starting before 6:30 in the morning.

The Toronto data shows a large decline in work trips starting between 6:00 and 8:00 and a consistent increase in work trips starting between 8:30 and 15:00 hours. Toronto saw a similar, but larger decline between 15:30 and 17:00 and increase after 17:30 (until 23:30). The Toronto changes reflect the large job losses in the Toronto area and the shift from full-time to part-time work.

Exhibit 10a - Shifts in Trip Start Times for Toronto 1986 to 1996

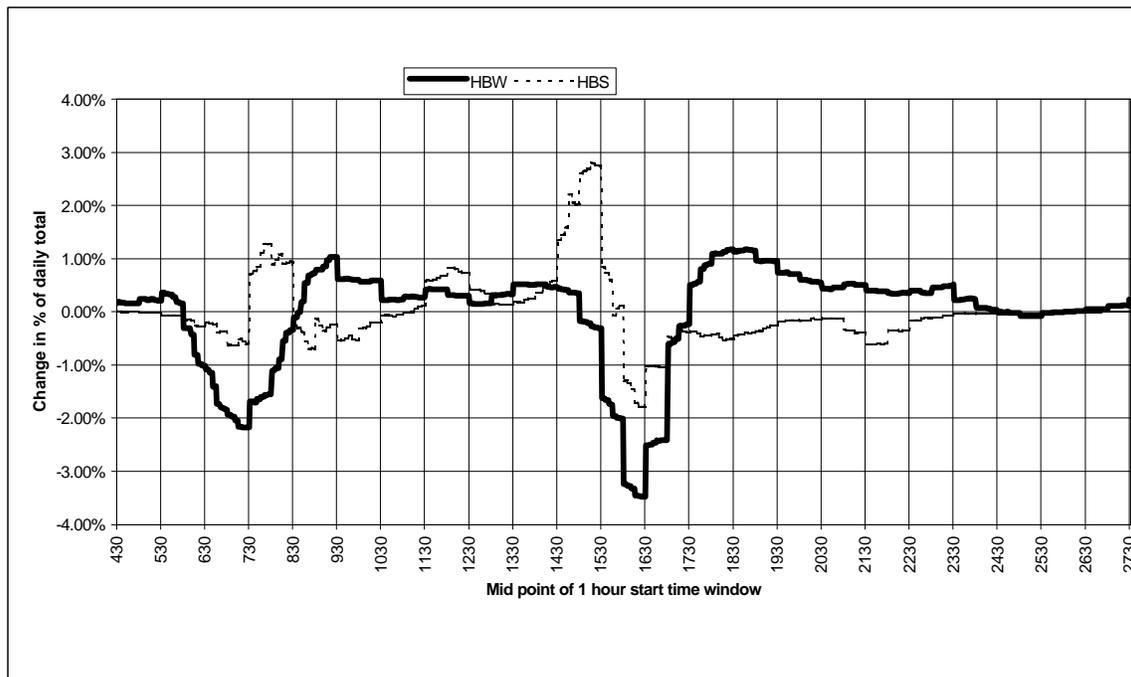


Exhibit 10b - Shifts in Trip Start Times for Durham 1986 to 1996

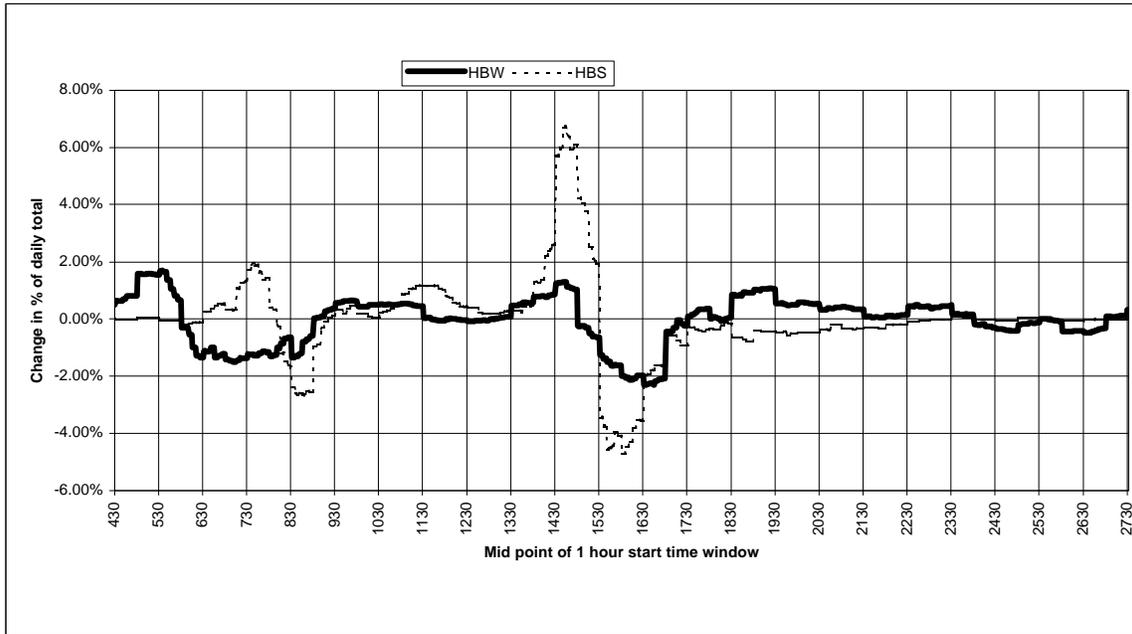


Exhibit 10c - Shifts in Trip Start Times for York 1986 to 1996

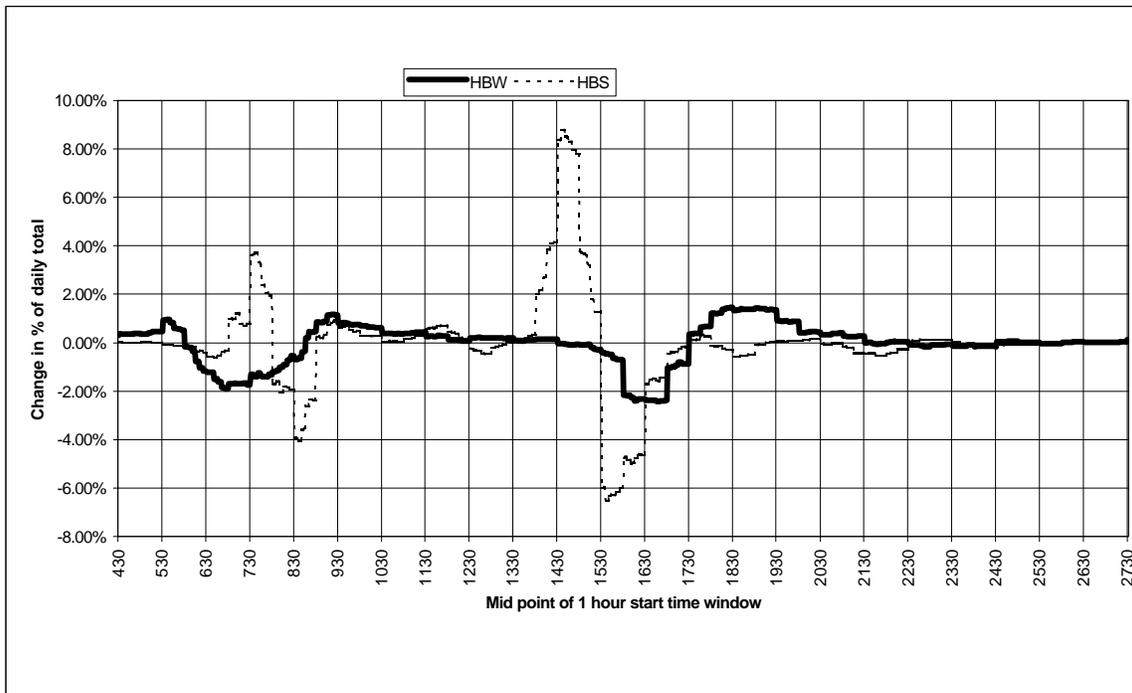


Exhibit 10d - Shifts in Trip Start Times for Peel 1986 to 1996

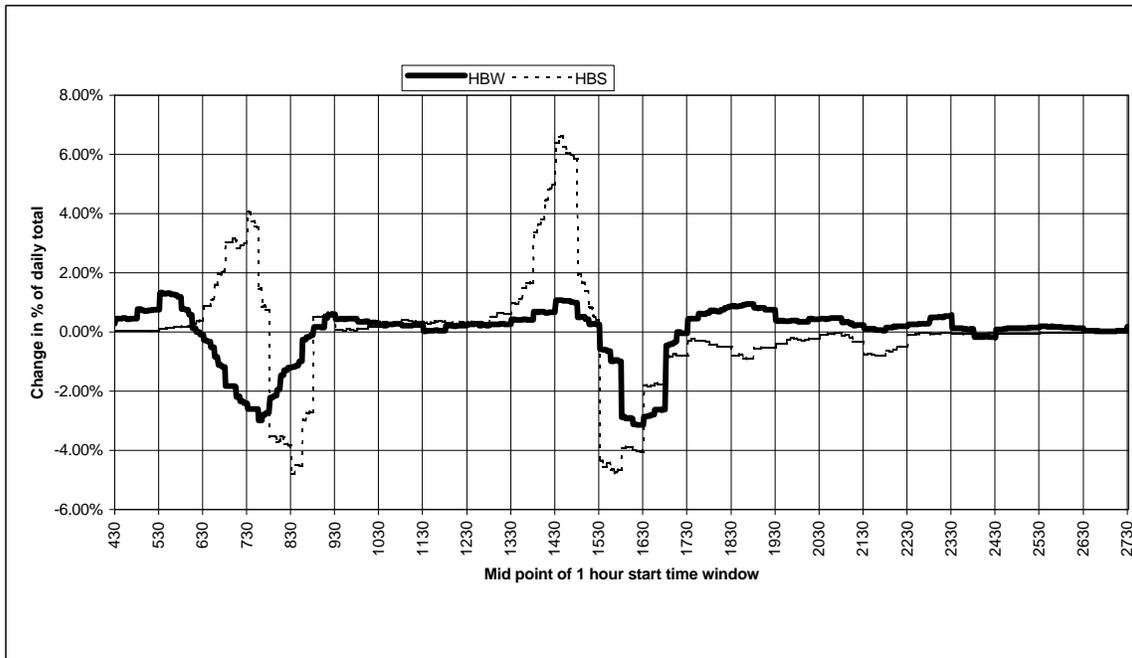


Exhibit 10e - Shifts in Trip Start Times for Halton 1986 to 1996

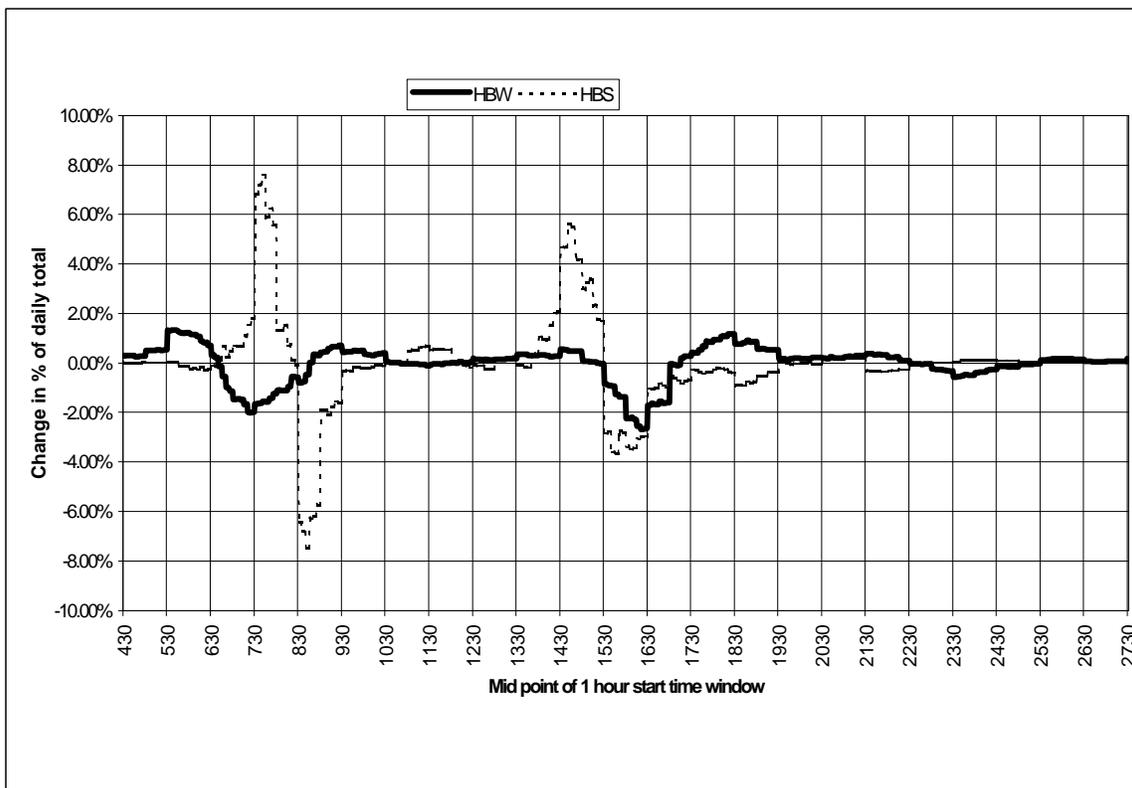
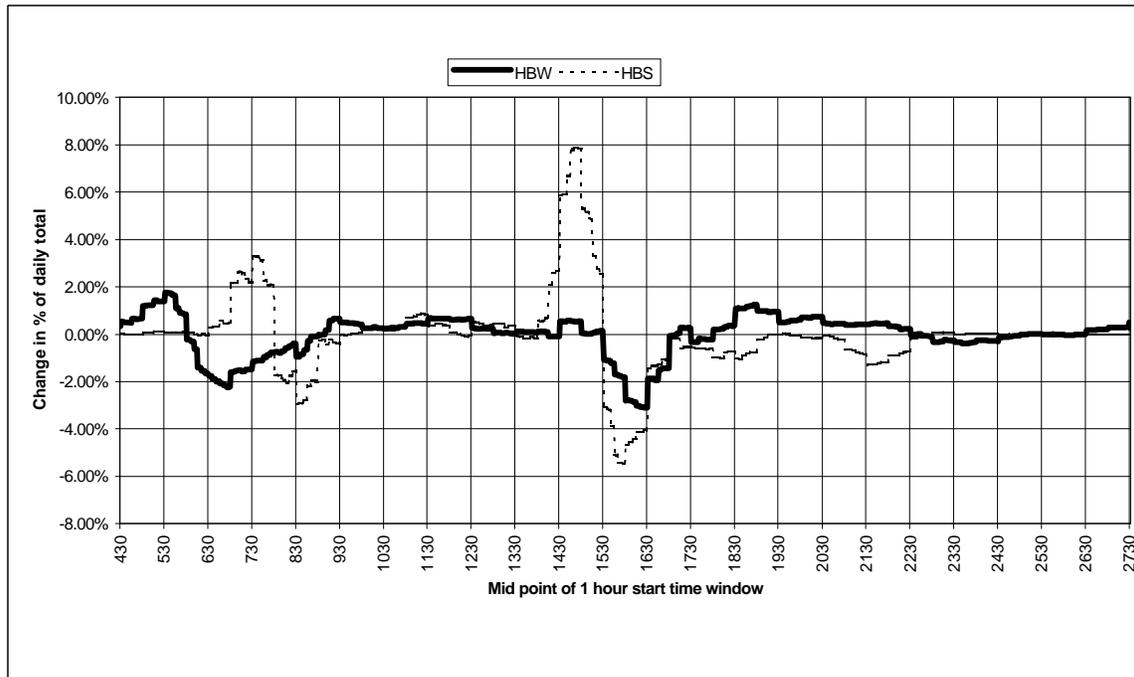


Exhibit 10f - Shifts in Trip Start Times for Hamilton-Wentworth 1986 to 1996



The four suburban Regions and Hamilton-Wentworth did not experience the large PM peak decline seen for Toronto but the other patterns are generally similar to the Toronto case.

The observed shifts in school start time reflect changes in school hour policies during the early 1990's that were largely driven by pressures to reduce the costs of school busing. Whereas schools typically started at 9:00 AM and ended at 3:15 or 3:30 in 1986, school boards now stagger school start times between 8:00 and 9:00 AM and school end times between 2:30 and 3:30.

4.3 Work Trip Distribution

Job losses in Toronto and Hamilton combined with continued population and employment growth in the suburban Regions led to changes in live-work relationships and commuting patterns. Changes in work trip distribution reflect changing live-work relationships that are associated with the migration patterns discussed in Section 2.4.

Changes in work travel distribution are summarized in Exhibits 11a to 11g which illustrate the absolute and percentage changes in first work trips destined to 7 destinations across the GTA including: Toronto Planning District 1 (Toronto's

Central Area), Planning District 13 (West-central Scarborough area), Oshawa, Vaughan, Mississauga, Oakville, and (the City of) Hamilton.

The recessionary employment losses in Toronto and Hamilton and related out-migration trends appear to have had a dramatic impact on travel patterns, especially to Toronto and Hamilton (and especially for internal Toronto trips serviced by TTC Subway).

In the Toronto case, both the Central Area (PD1) and PD 13 workers have moved to the surrounding Regions reducing travel within Toronto and creating new inbound flows to Toronto.

Growing suburban employment areas such as Mississauga and Vaughan are attracting large numbers of Toronto and Regional residents leading to increased outbound and cross-town traffic (south York to Mississauga, and Brampton to Mississauga). These changes in travel patterns are consistent with a reduced role for the TTC and, in the case of work travel to PD1, an increased role for GO Rail services, as long as Toronto's Central Area continues to thrive.

Hamilton exhibits a similar pattern to Toronto, reflecting an absolute loss of jobs, the out-migration of Hamilton workers to Ancaster and Stoney Creek, and a reduced flow from Burlington, which has historically been strongly oriented to jobs in Hamilton.

While fewer Burlington residents commuted to Hamilton in 1996 than in 1986, Oakville's growing employment attracted more workers from Burlington, Hamilton and Peel Region.

The observed changes in trip distribution suggest increased reliance on the private auto to serve the emerging travel patterns and a reduced role for transit.

Exhibit 11a - Changes in Work Travel Distribution to PD1 in Toronto

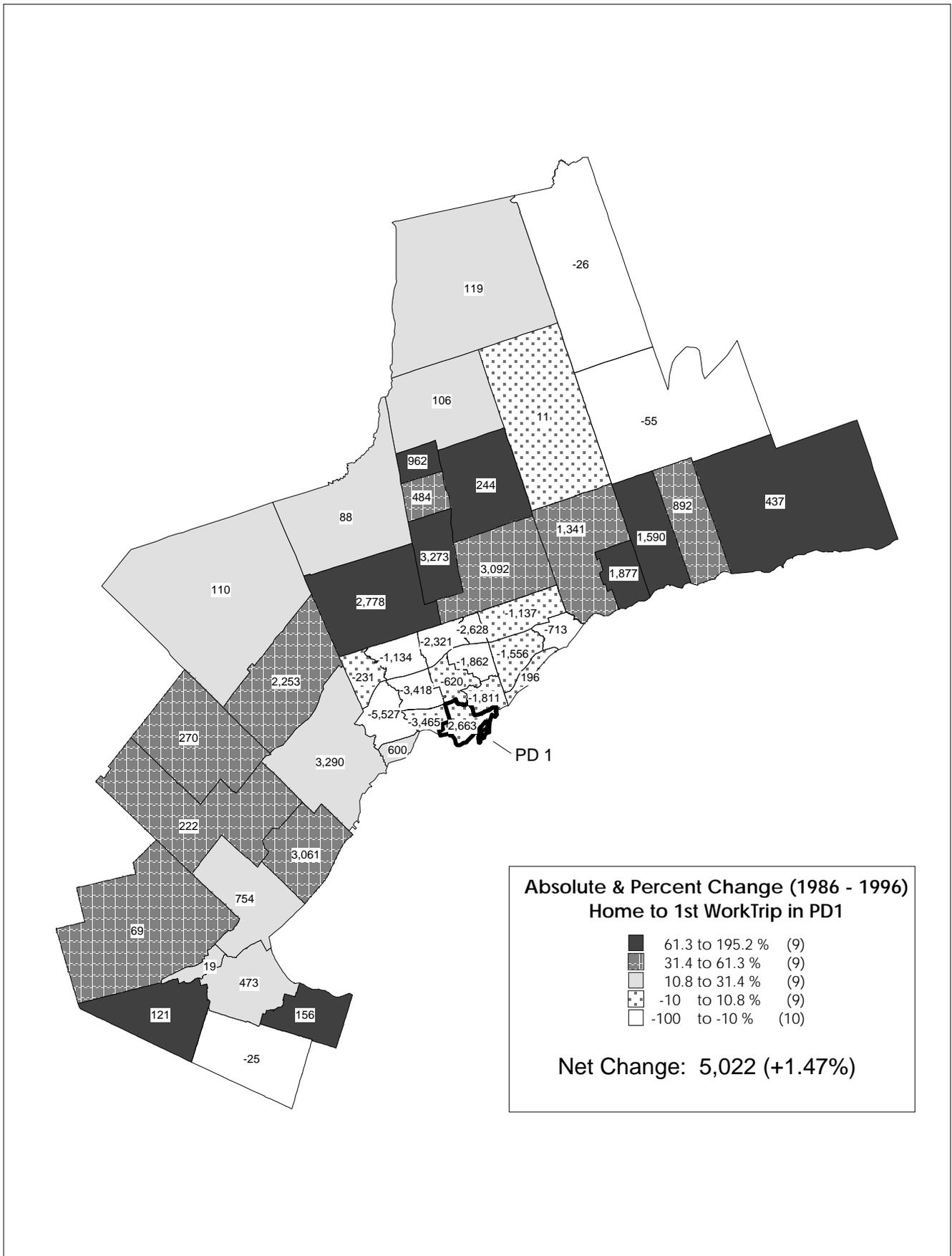


Exhibit 11b - Changes in Work Travel Distribution to PD13 in Toronto

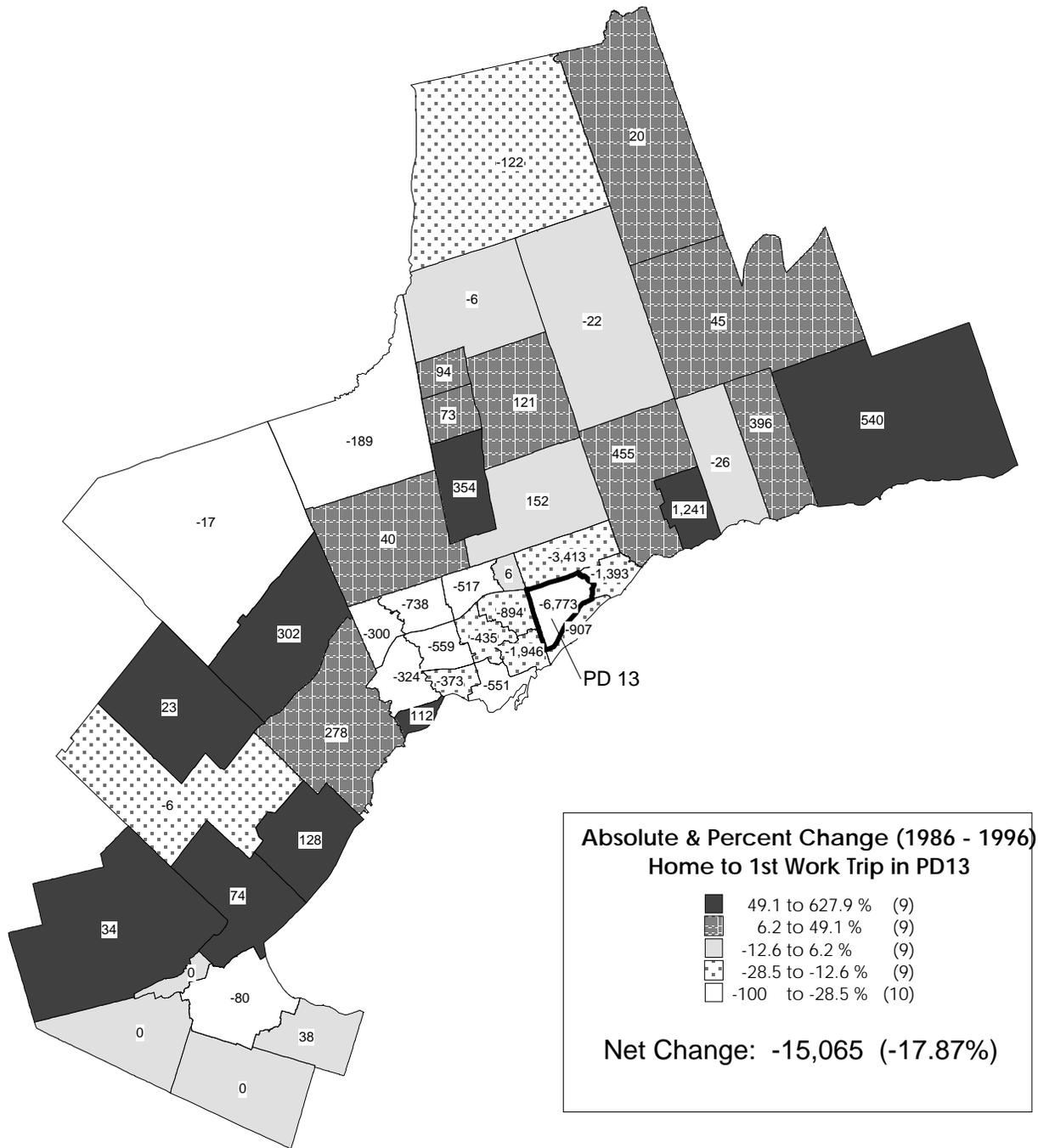


Exhibit 11c - Changes in Work Travel Distribution to Oshawa

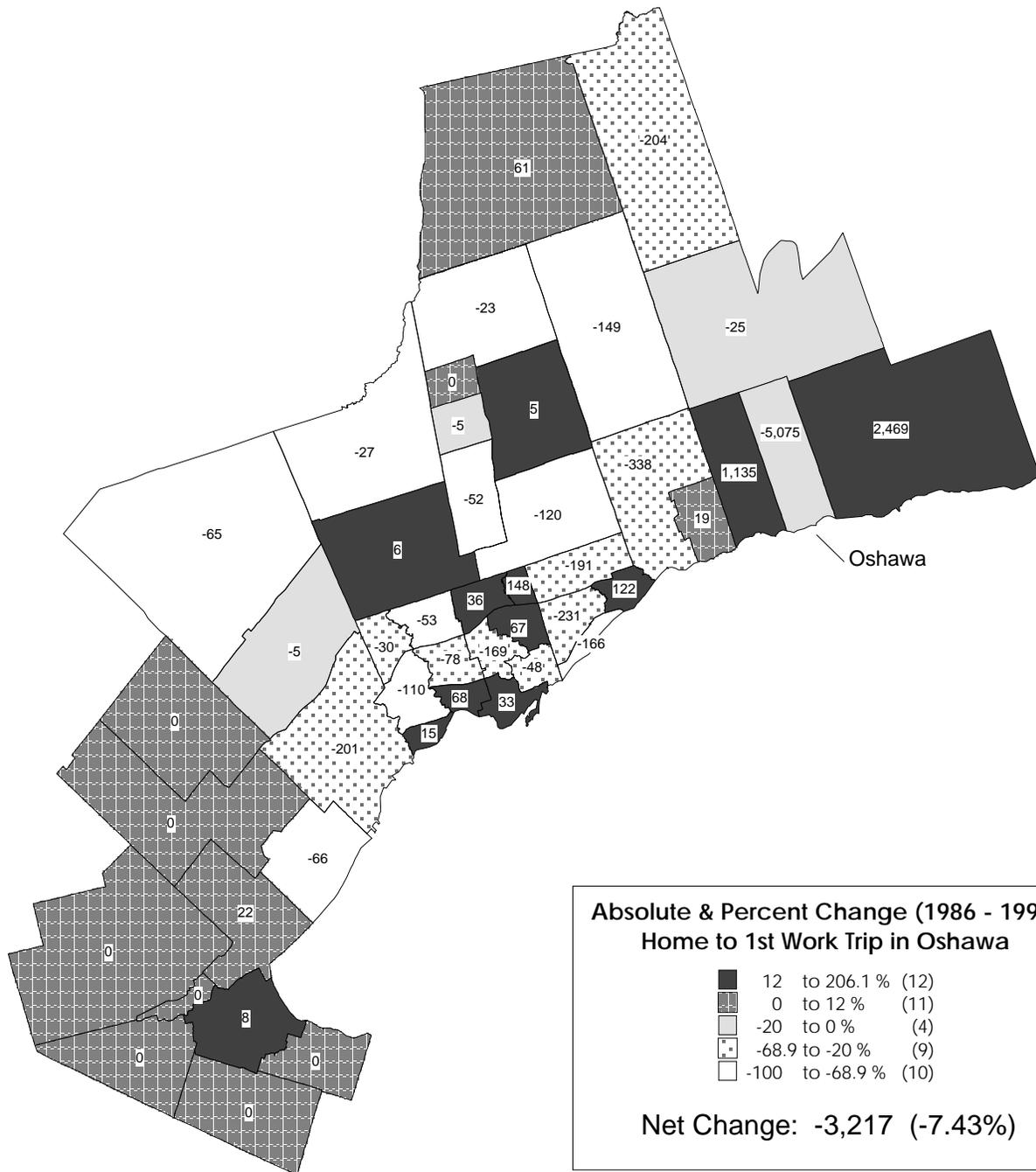


Exhibit 11d - Changes in Work Travel Distribution to Vaughan

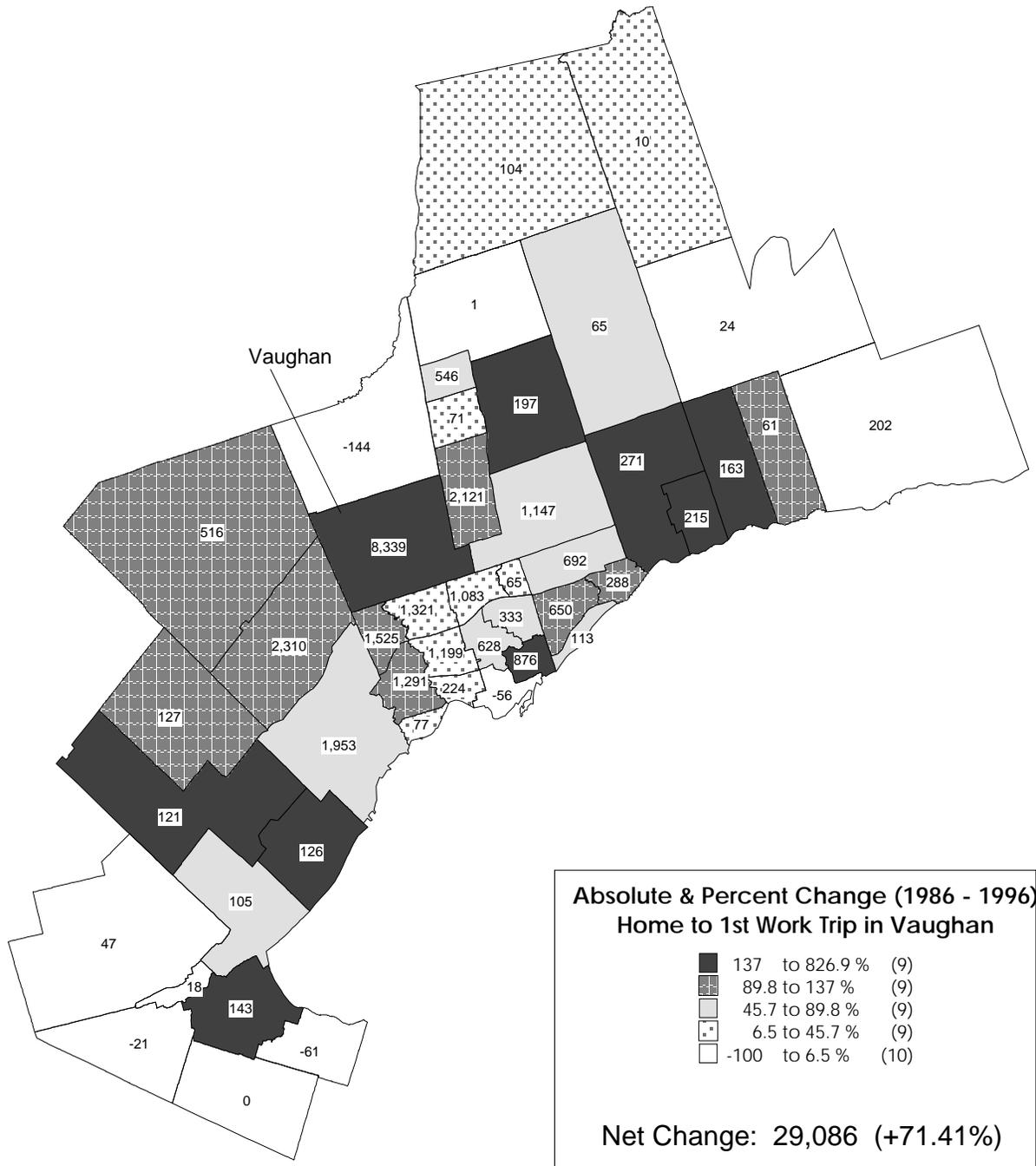


Exhibit 11e - Changes in Work Travel Distribution to Mississauga

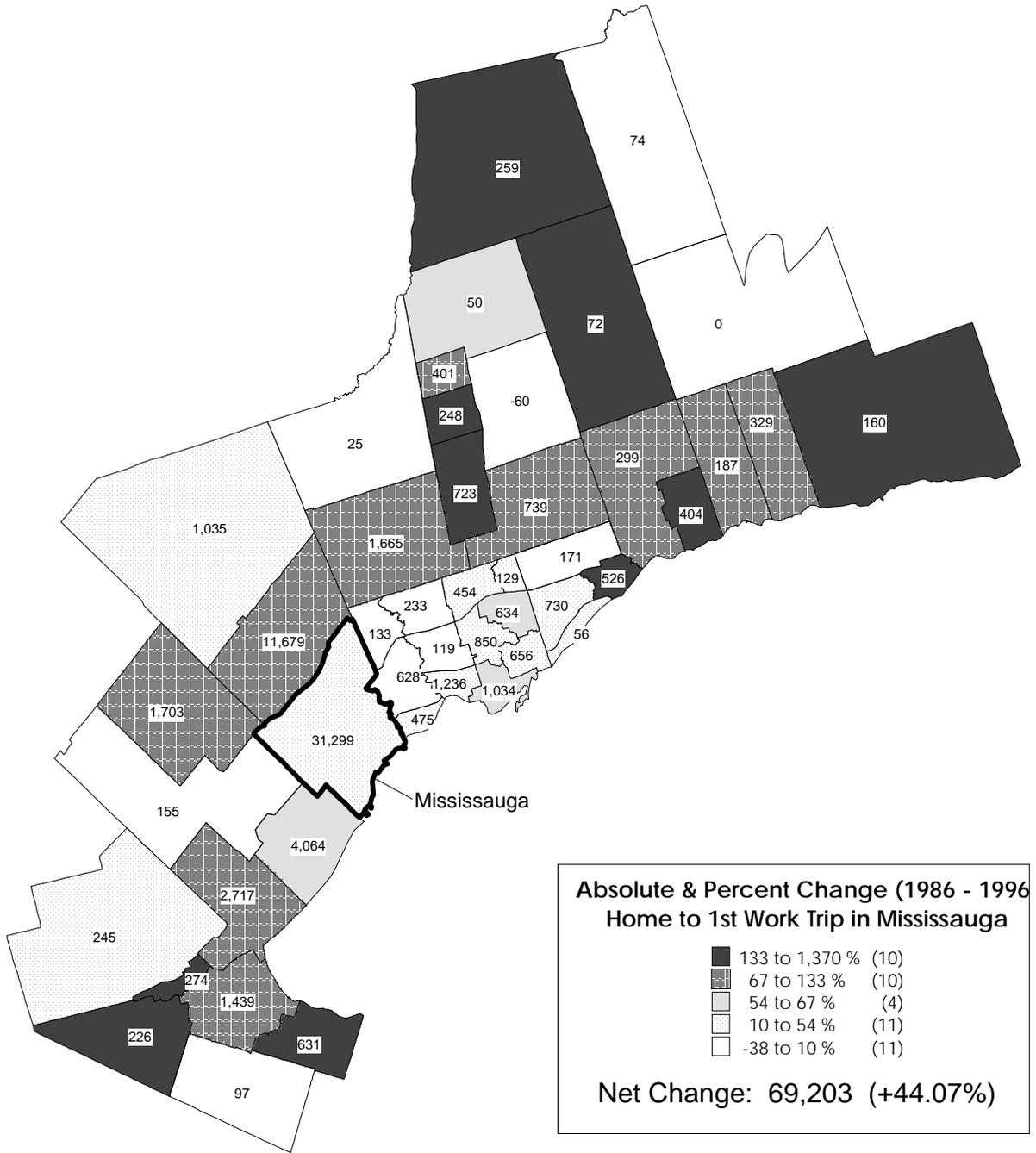


Exhibit 11f - Changes in Work Travel Distribution to Oakville

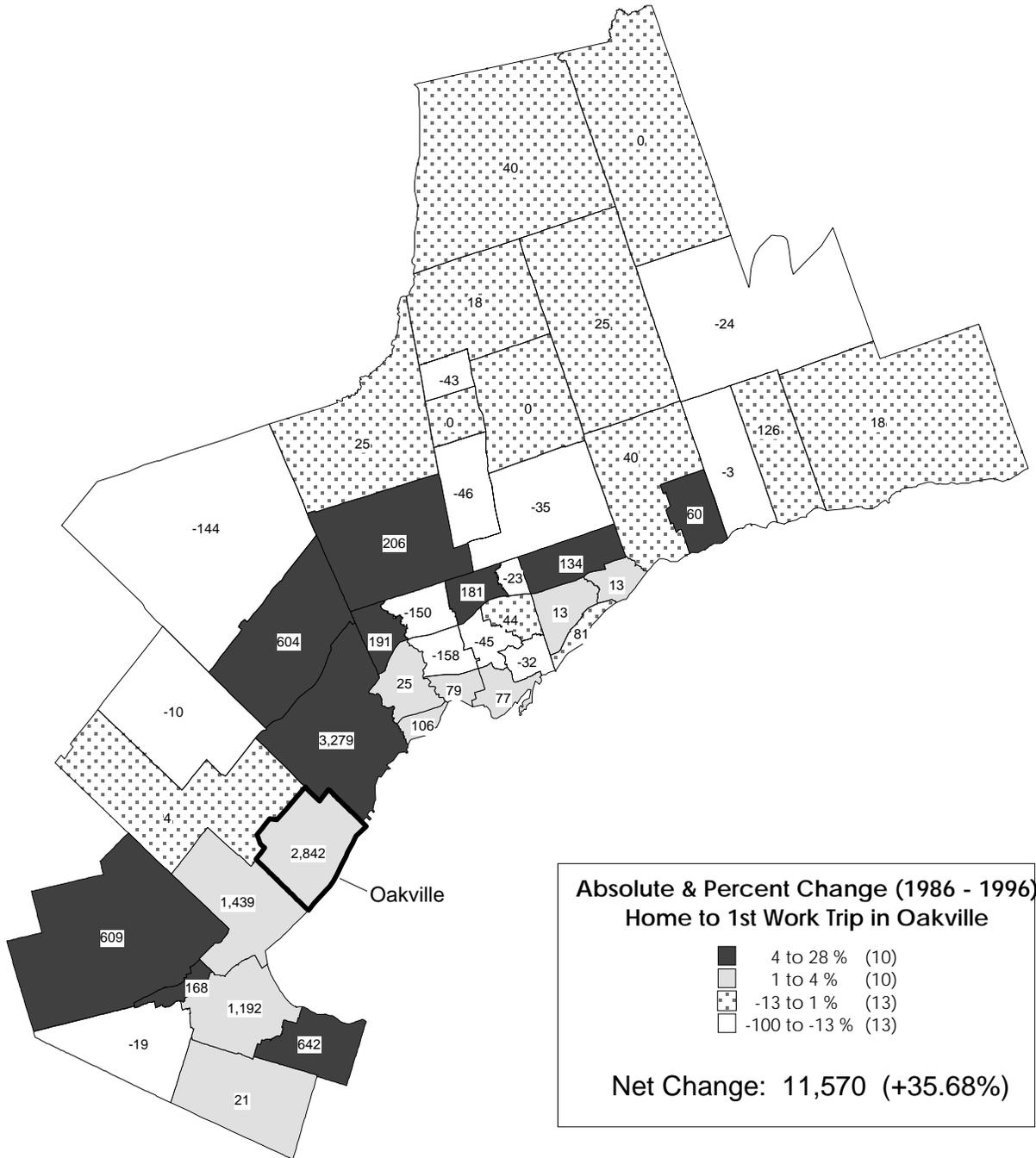
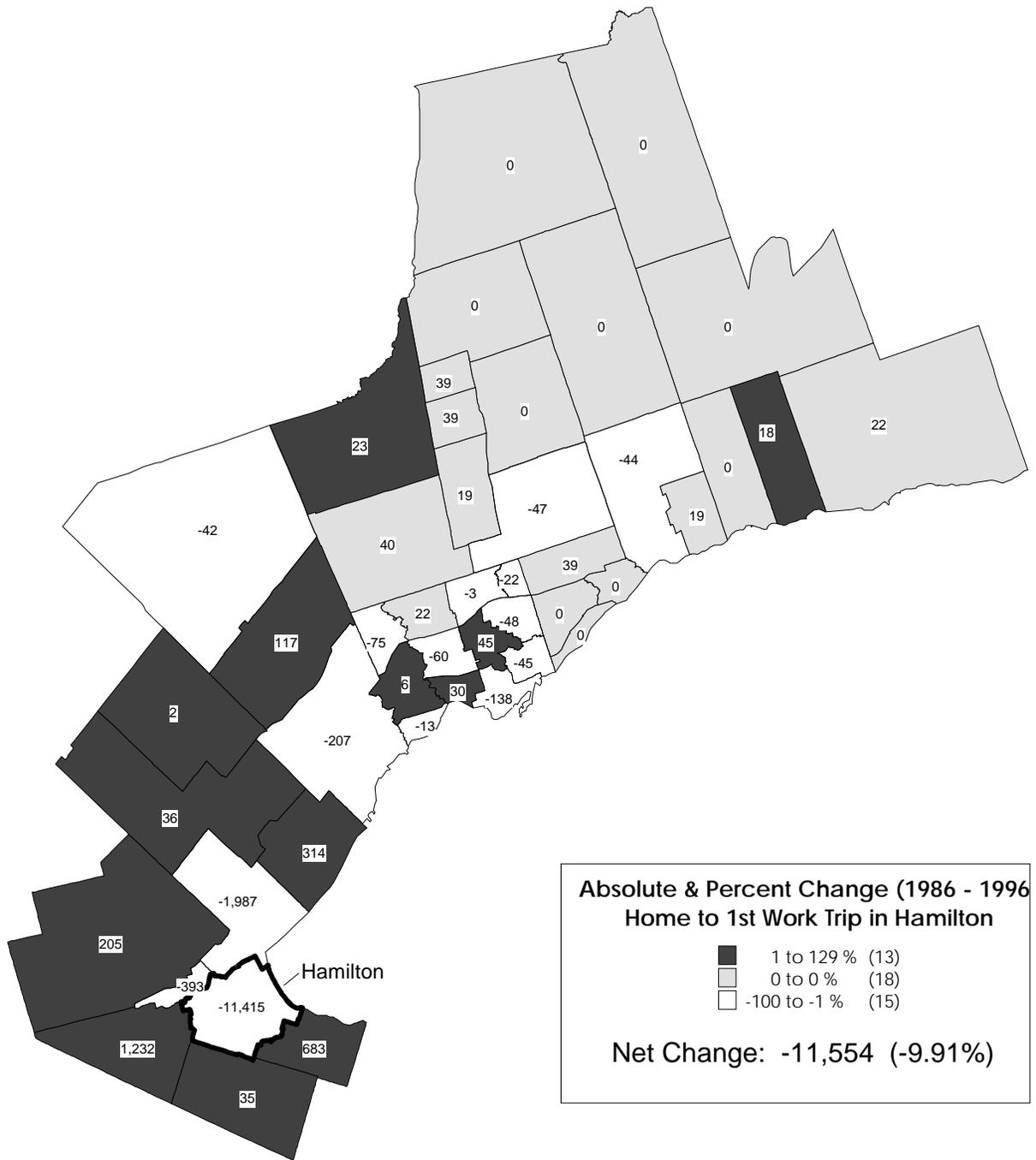


Exhibit 11g - Changes in Work Travel Distribution to Hamilton



4.4 Transit Use

Changes in work trip distribution would be expected to reduce transit mode splits (and transit trip rates), which should be reflected in age-specific mode splits and transit trip rates.

Transit Mode Splits

Exhibits 12a and 12b summarize mode splits by age for GTA males and females. These summaries show significant declines in mode split among 11-15 year and 55+ year (for males) and general declines across all age groups for women.

Transit mode split declines occurred in Toronto, Hamilton, South York Region and Halton while Mississauga, Brampton and Durham mode splits were more or less stable. Mississauga saw higher transit use among young people, due to a shift from school bus to transit passes (for school trips).

Exhibit 12a - Mode Splits by Age for GTA Males

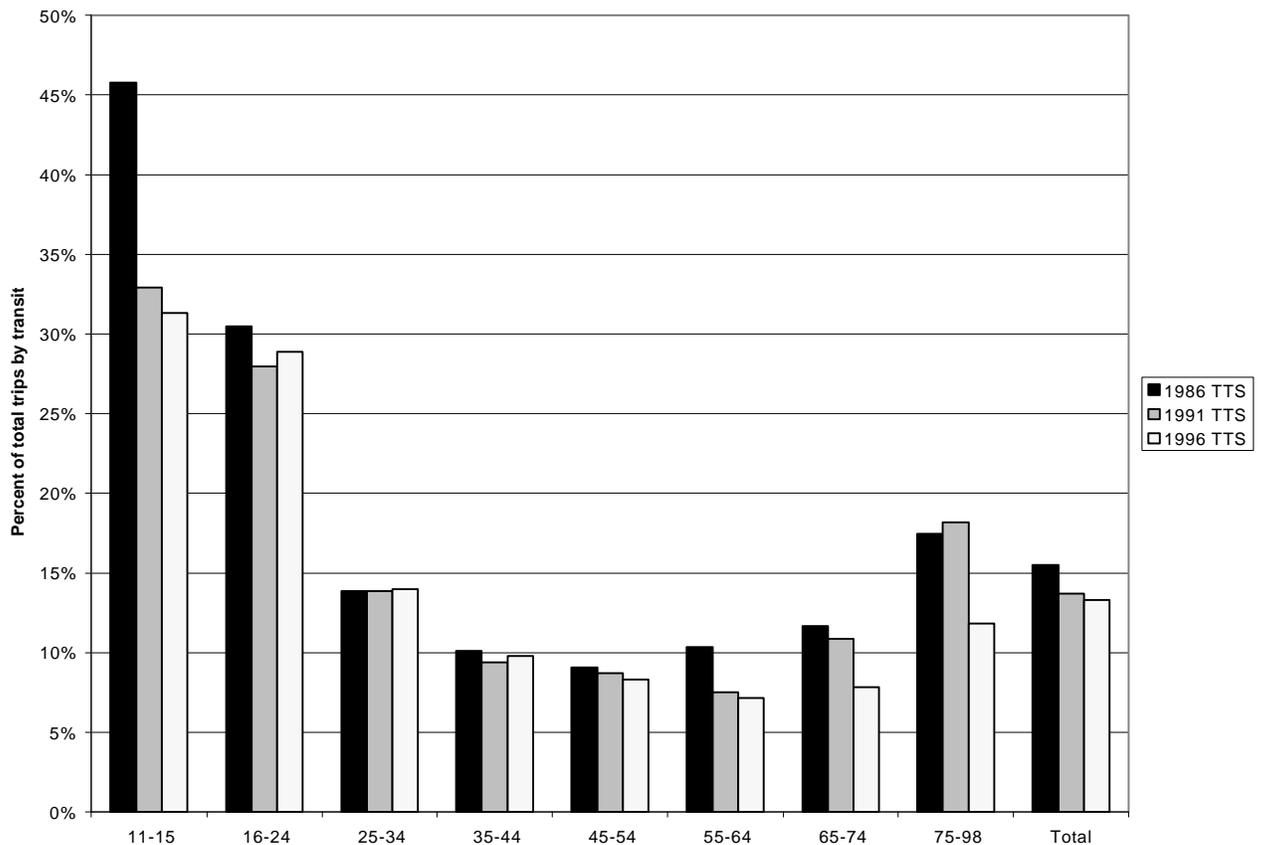
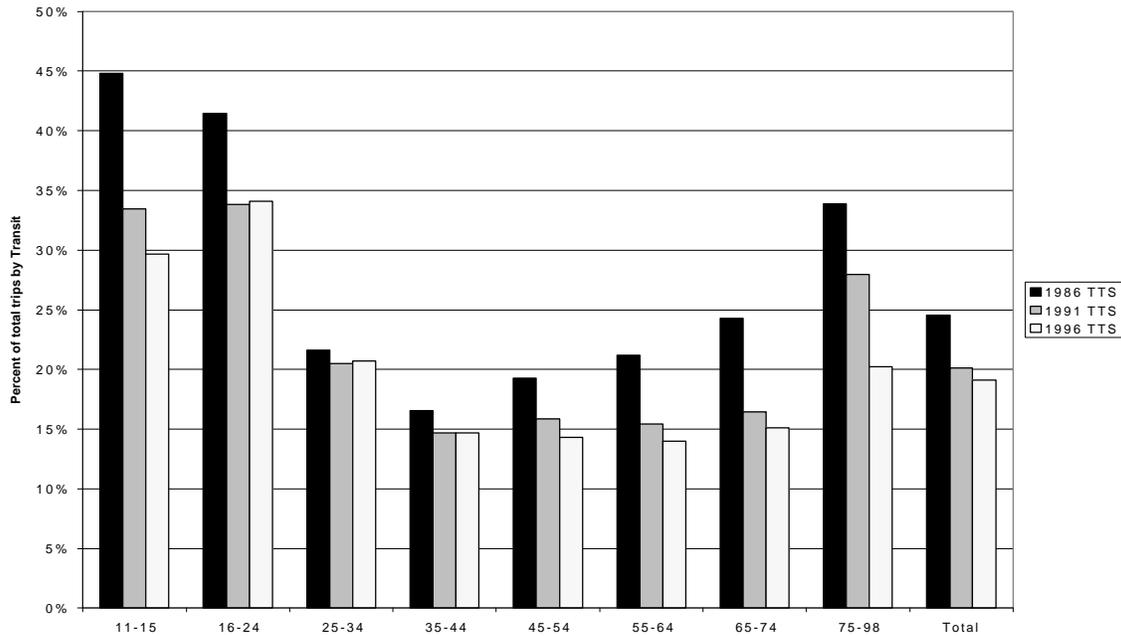


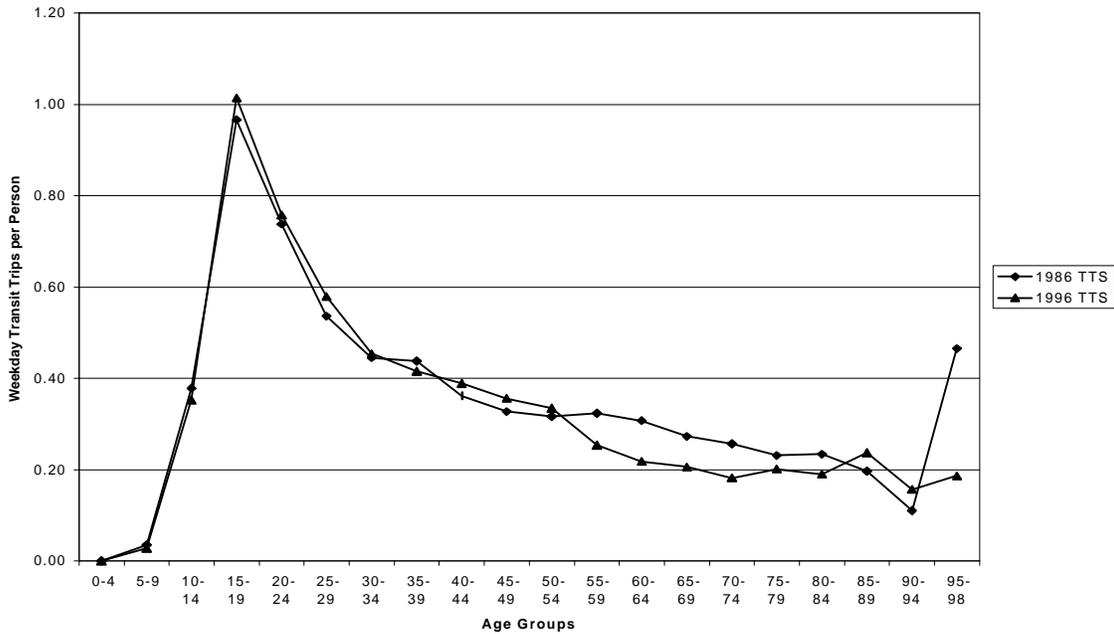
Exhibit 12b - Mode Splits by Age for GTA Females



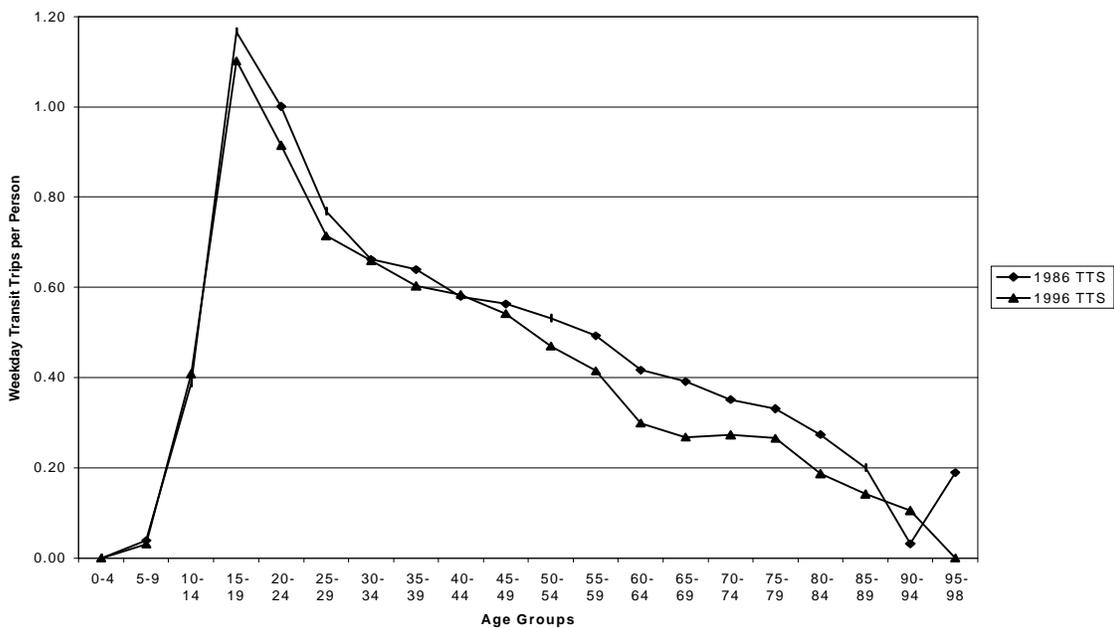
Transit Trip Rates

Exhibits 13a and 13b document changes in transit trip rates per capita for women and men living in Toronto between 1986 and 1996. These exhibits show very similar trip rates for the two time periods for ages up to 50-54 but indicate declines for those aged 55 and above.

**Exhibit 13a - Changes in Transit Trip Rates for Men in Toronto
1986 to 96**



**Exhibit 13b - Changes in Transit Trip Rates for Women in Toronto
1986 to 96**



When the declines in transit trip rates are combined with changes in age structure (Exhibits 7a to 7c), the TTS data indicates small losses in ridership in 1991 (-27,000) and 1996 (-9,000), despite the continued growth of Toronto's population.

These losses are apparently explained by the declines in the number of transit trips made by the 15-24 age group for both women and men, as shown in Exhibits 14a and 14b. The loss of ridership by the 15-19 and 20-24 age groups were only partially off-set by increases in ridership by the growing 30-49 age groups.

Exhibit 14a - Evolving Age Structure of Female Transit Trip Making in Toronto 1986-96

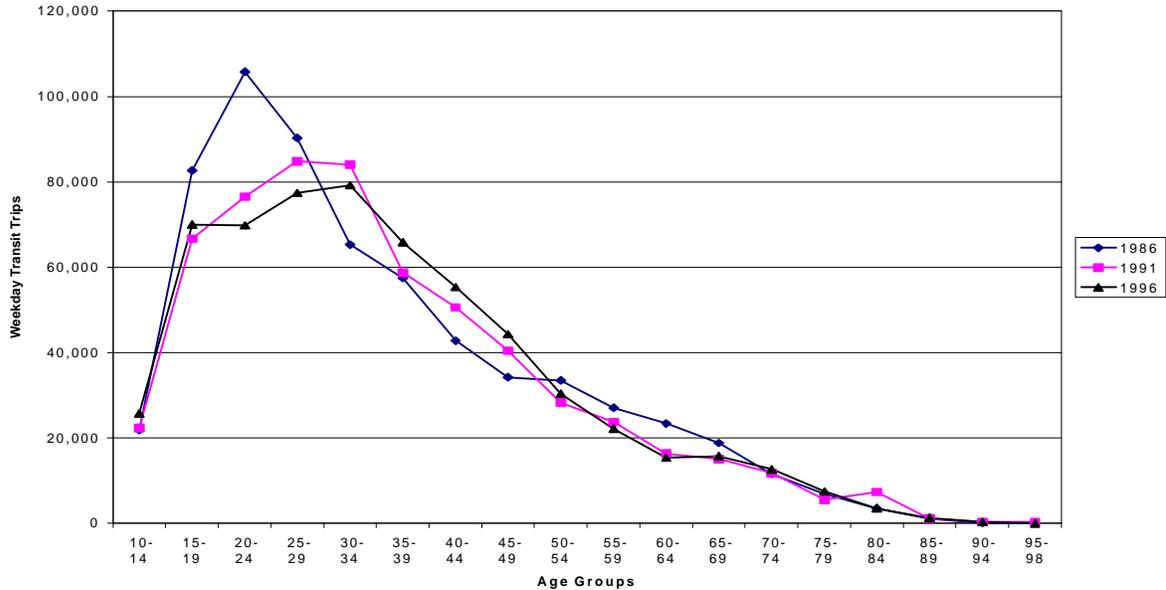
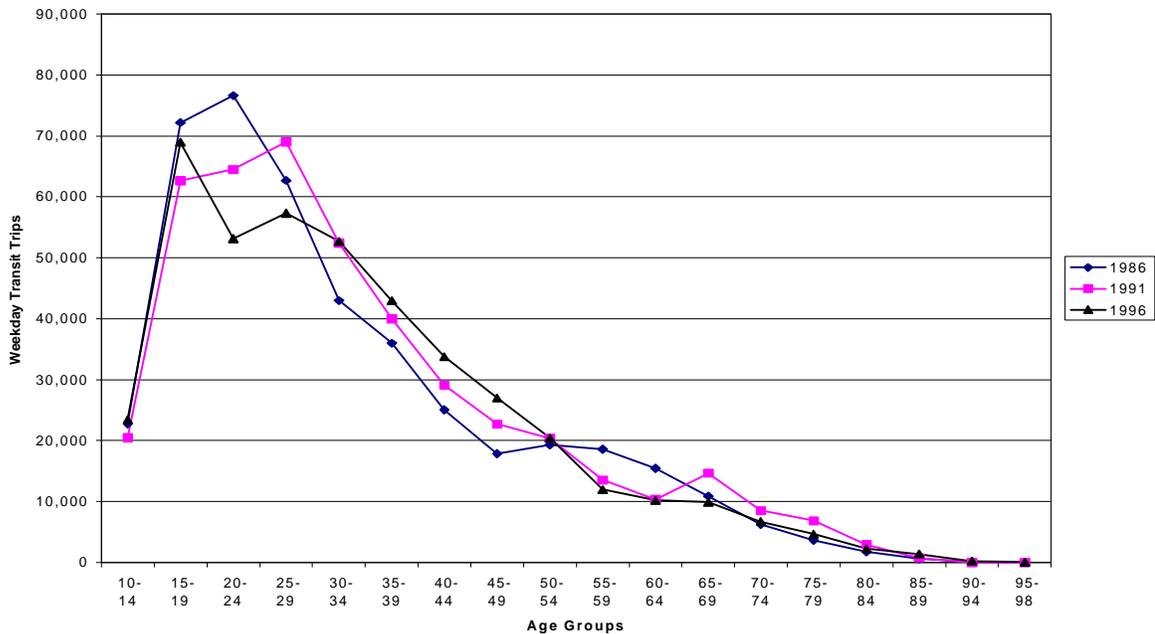


Exhibit 14b - Evolving Age Structure of Male Transit Trip Making in Toronto 1986-96



Exhibits 15a, 15b, 16a and 16b illustrate changes in transit trip rates by age for men and women living in the four suburban Regions and Hamilton-Wentworth. The suburban Regions also experienced transit trip rate declines for the over 50 age groups for both men and women.

A large decline was also observed in the transit trip rates for women aged 20-24 with transit trips per day per person falling from 0.37 to 0.27.

The pattern of transit trip rates for Hamilton-Wentworth shows general declines in transit use for men and women in most age groups. The largest declines are for women 15-19 and between 50 and 65 and among men aged 65-74.

Exhibit 15a - Changes in Transit Trip Rates for Men in Durham, Halton, Peel and York

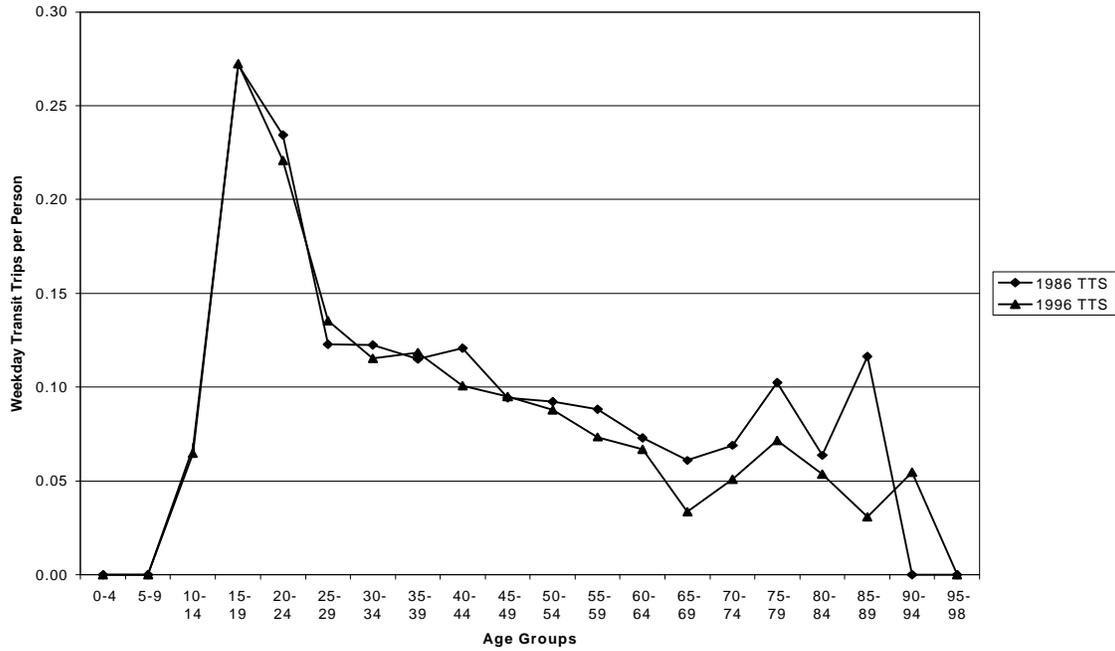


Exhibit 15b - Changes in Transit Trip Rates for Women in Durham, Halton, Peel and York

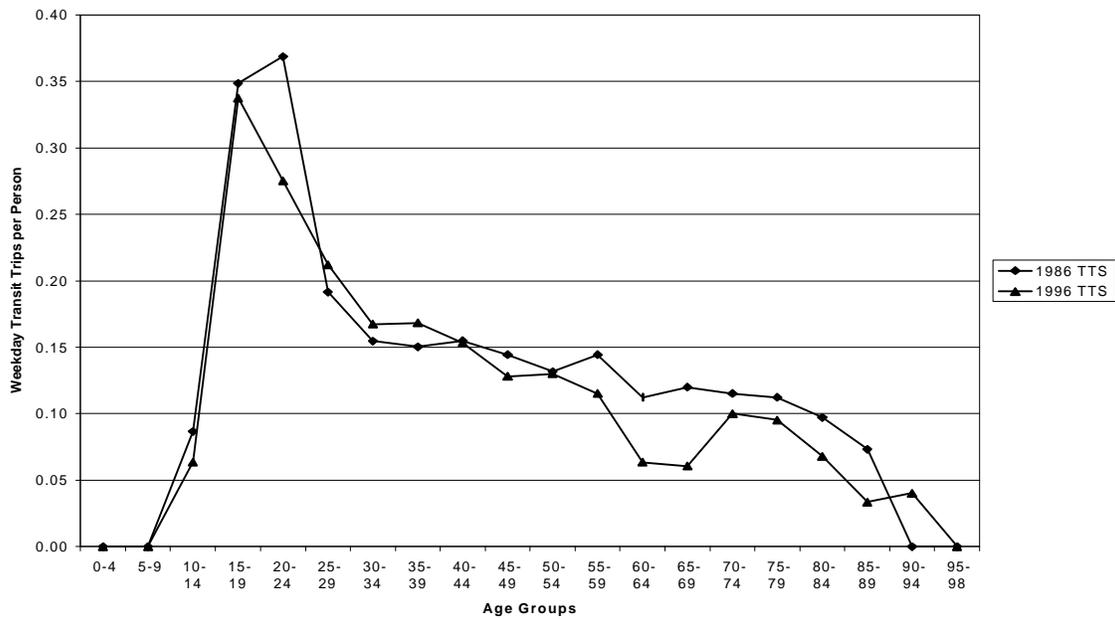


Exhibit 16a - Changes in Transit Trip Rates for Men in Hamilton-Wentworth

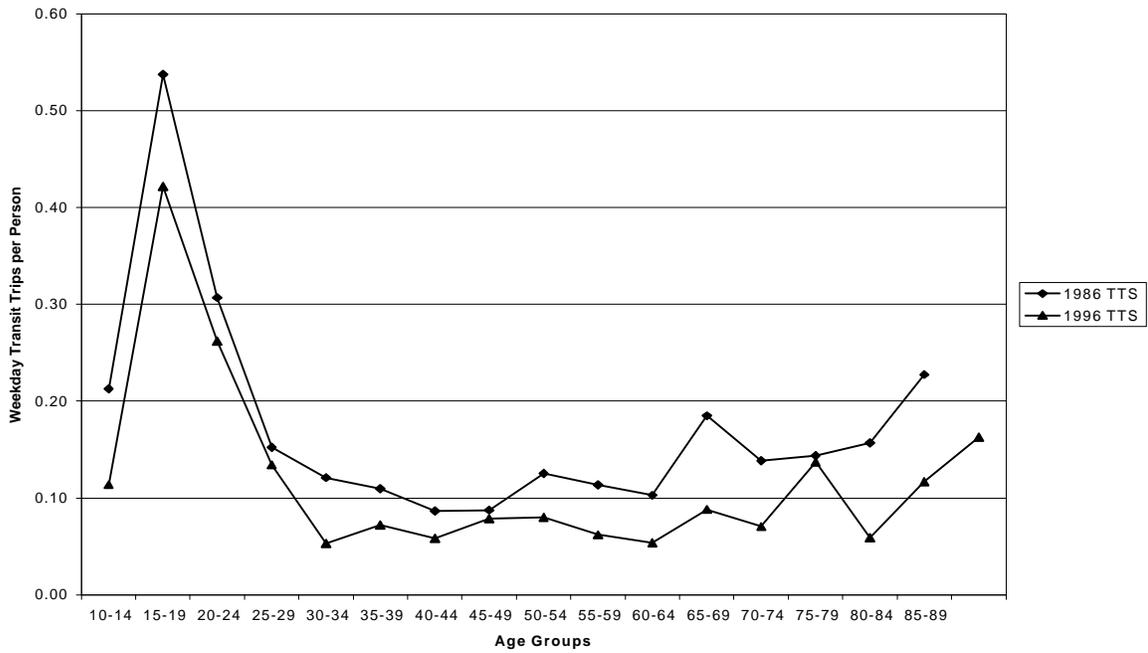
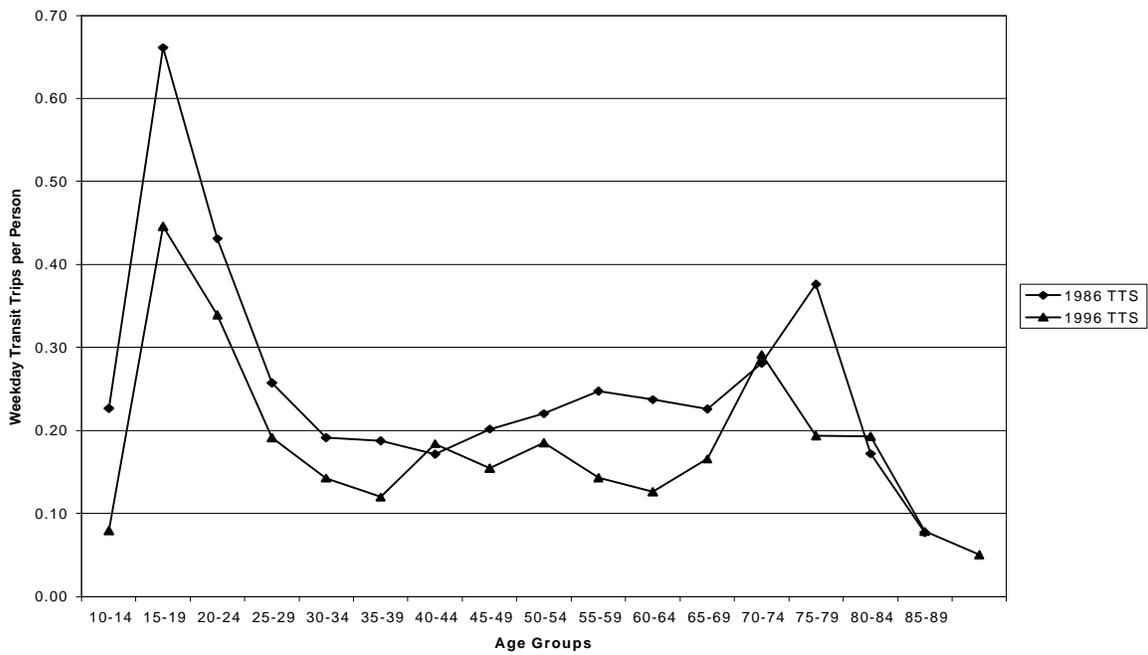


Exhibit 16b - Changes in Transit Trip Rates for Women in Hamilton-Wentworth



5. CONCLUSIONS AND RECOMMENDATIONS

This section discusses the major findings of this report and their implications for transportation planning in the GTA.

5.1 Present and Future Employment

The TTS provides a consistent historical picture of the labour force and employment for GTA and Hamilton-Wentworth municipalities for 1986, 1991 and 1996. Given the abandonment of municipal employment surveys by the regional municipalities in the late 1980's save for the ongoing Metro Toronto Employment Surveys (MTES), the TTS employment data presented in Exhibit 4 is the only consistent, area-wide estimates of employment at place of work for the 1986-1996 decade. These data, along with MTES employment counts for Toronto and Statistics Canada "Labour Force Surveys", document the impact of the recession on the economies of Toronto and Hamilton and the loss of jobs in both cities.

The 1990 recession appears to have stalled the long standing trend toward increased female labour force participation, particularly in Toronto and Hamilton-Wentworth, and accelerated the trend toward reduced male labour force participation, that had been associated with early retirements among men 55-64. The recession also resulted in a dramatic decentralization of employment opportunities that resulted in the changes in travel patterns documented in Section 4 in Exhibits 11a to 11g.

While the GTA and Hamilton-Wentworth currently has high unemployment rates among men and women, particularly those living in the cities of Toronto and Hamilton, this situation could change rapidly in the future assuming the continued recovery of the economy and recognizing future changes in age structure that can be expected to reduce the size of the working age population.

OGTA Employment Forecasts

The declines in employment and employed labour force relative to population reported in the TTS are not consistent with OGTA land use forecasts for the GTA and particularly the new City of Toronto. The Hemson estimates of employment for 2011 and 2021 do not appear to recognize the large declines in employment in Toronto and Hamilton that occurred after 1989 or the failure of the Toronto economy and Toronto's Central Area to recover from these job losses.

Part of the problem with the Hemson forecasts is the overestimation of 1991 employment. Whereas the Hemson Scenario 1 forecasts assume almost 2.6 million jobs in the GTA in 1991, the TTS results suggest the actual total is closer to 2.3 million. Whereas the Hemson forecasts assume that Toronto had 1.45

million jobs in 1991, the TTS and Toronto's Planning Department's estimates suggest that the actual figure was approximately 1.3 million.

Recommendations

The TTS results suggest that the land use assumptions that underlie recent and ongoing transportation planning activities should be updated to recognize the distinct possibility that Toronto's employment will be substantially below the expected 2011 and 2021 levels. Current estimates of 2011 and 2021 employment for Toronto and the GTA represent the highest levels that might be achieved, rather than the most likely scenario.

The findings with respect to land use forecasts highlight the need for GTA planning agencies to maintain accurate and up-to-date employment data at both the municipal and traffic zone level. The Census "place of work" data have not provided the required traffic zone level employment estimates because the data is not available on a timely basis and suffers from serious inaccuracies, especially in developing suburban areas.

The former Metropolitan Toronto Planning Department's employment surveys provide one model that should be considered by the other Regions in order to establish time-series information on employment trends at the traffic zone level.

5.2 Travel Demand Forecasting Assumptions

The 1996 TTS results also indicate that trip generation rates and mode-split forecasting relationships developed on the basis of the 1986 Transportation Tomorrow Survey should be reassessed in the light of the results of the 1996 Survey. For example, the observed declines in employed labour force/population ratios, increases in part-time work, changes in work trip rates for full and part-time workers, and the spreading of work and school peaks, suggests that trip generation rates and peaking factors should be adjusted downward.

A number of land use/location, demographic, socio-economic and behavioural changes over the 1986-96 period imply reduced transit ridership potential in the future and the need to update current approaches to estimating transit mode choice.

The relevant changes include:

- The aging of the population and related transit ridership losses, as documented in sections 3.1 and 4.4.

- Changes in travel patterns related to the suburbanization of employment and decentralization of inner city workers, as documented in section 4.3.
- Increases in driver's licences among working women, as documented in section 3.2.
- Increasing numbers of cars available per worker (section 3.3).
- Declining mode splits and transit trip rates for some age/gender cohorts (discussed in sections 3.1 and 4.4).

These factors are all inter-related. For example, aging is related to the observed declines in transit trip making by age group, in that younger cohorts take their particular characteristics with them as they get older. Also, the decentralization of employment opportunities may well have made car ownership and operation necessary. Developing suburban job opportunities are often not accessible by transit.

Only GO Transit benefited from the decentralization of the downtown Toronto workforce. GO Rail services enjoyed substantial increases in ridership between 1985 and 1990, but lost ridership in the early 1990's when total employment in downtown Toronto fell. GO Rail's future depends on the future of the downtown Toronto economy.

Recommendations

The findings presented in Section 4 related to work trip generation and distribution underscore the need to update current forecasting models to incorporate the results of the 1996 TTS survey.

The changes in labour force activity, employment and trip distribution patterns observed in the 1986 to 1996 period were unexpected and are not reflected in current forecasts. These changes highlight the benefits of the Transportation Tomorrow Survey and the need to continue to monitor travel behaviour on a regular basis.

5.3 The Predictability of 1986-1996 Travel Pattern Changes

Most techniques used to forecast future travel patterns are calibrated to reflect existing travel patterns. The calibrated relationships are then assumed to apply to the future. The comparison of the 1986 and 1996 travel patterns reveals some significant changes in trip distribution that are not reflected in a straight extrapolation of 1986 live-work relationships. In order to have any chance of being able to predict changes of this nature one must have a good understanding of changes in live-work relationships and the forces that are bringing about these changes.

The significant changes that have occurred in the last 10 years highlight the need for further research and the necessity of updating the travel forecasting models on a regular basis.

APPENDIX A

CHANGES IN LABOUR FORCE ACTIVITY

Chart 1A - Changes in Full Time Labour Force Activity for Men Living in the City of Toronto

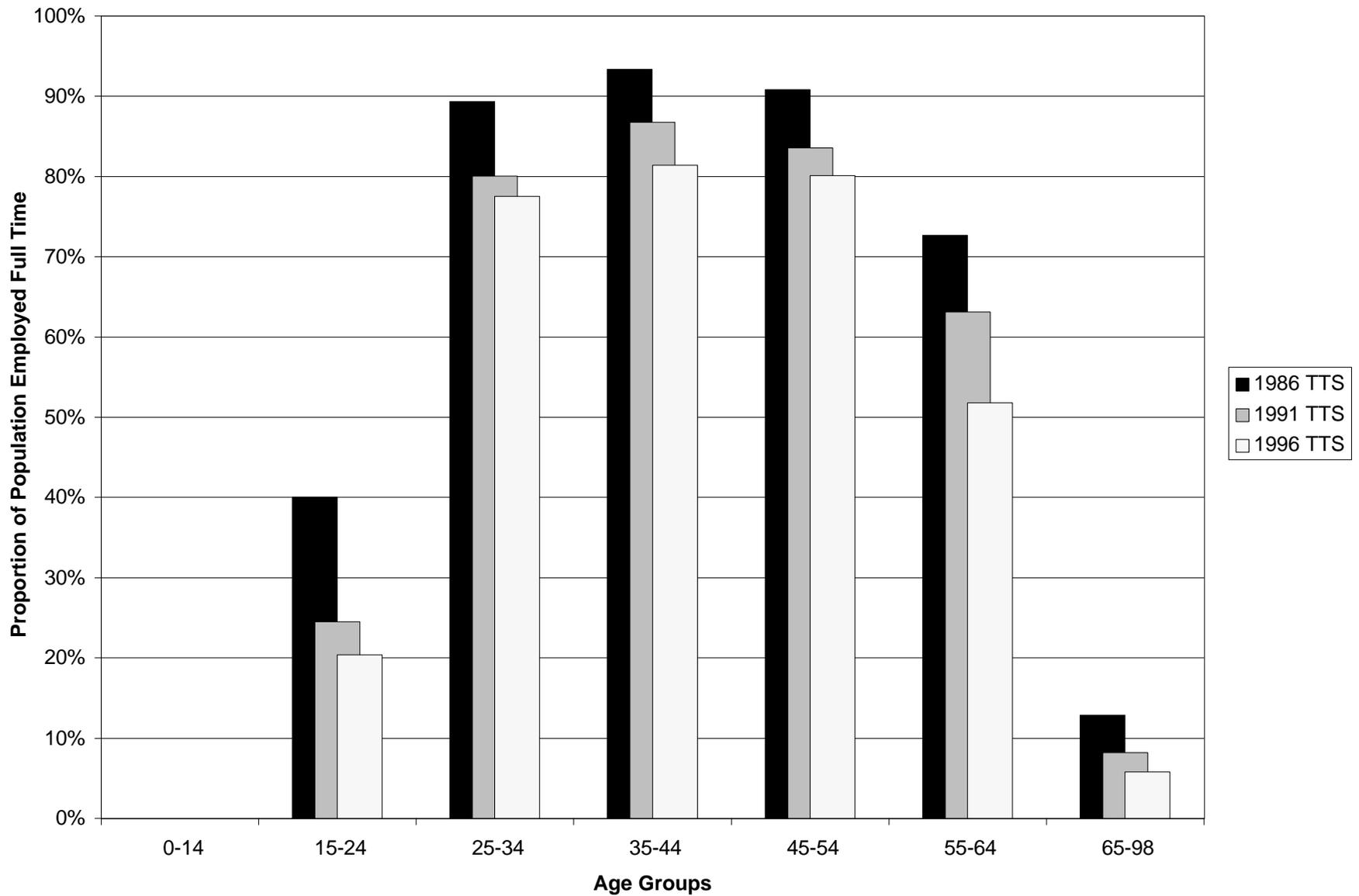


Chart 1B - Changes in Part-Time Labour Force Activity for Men Living in the City of Toronto

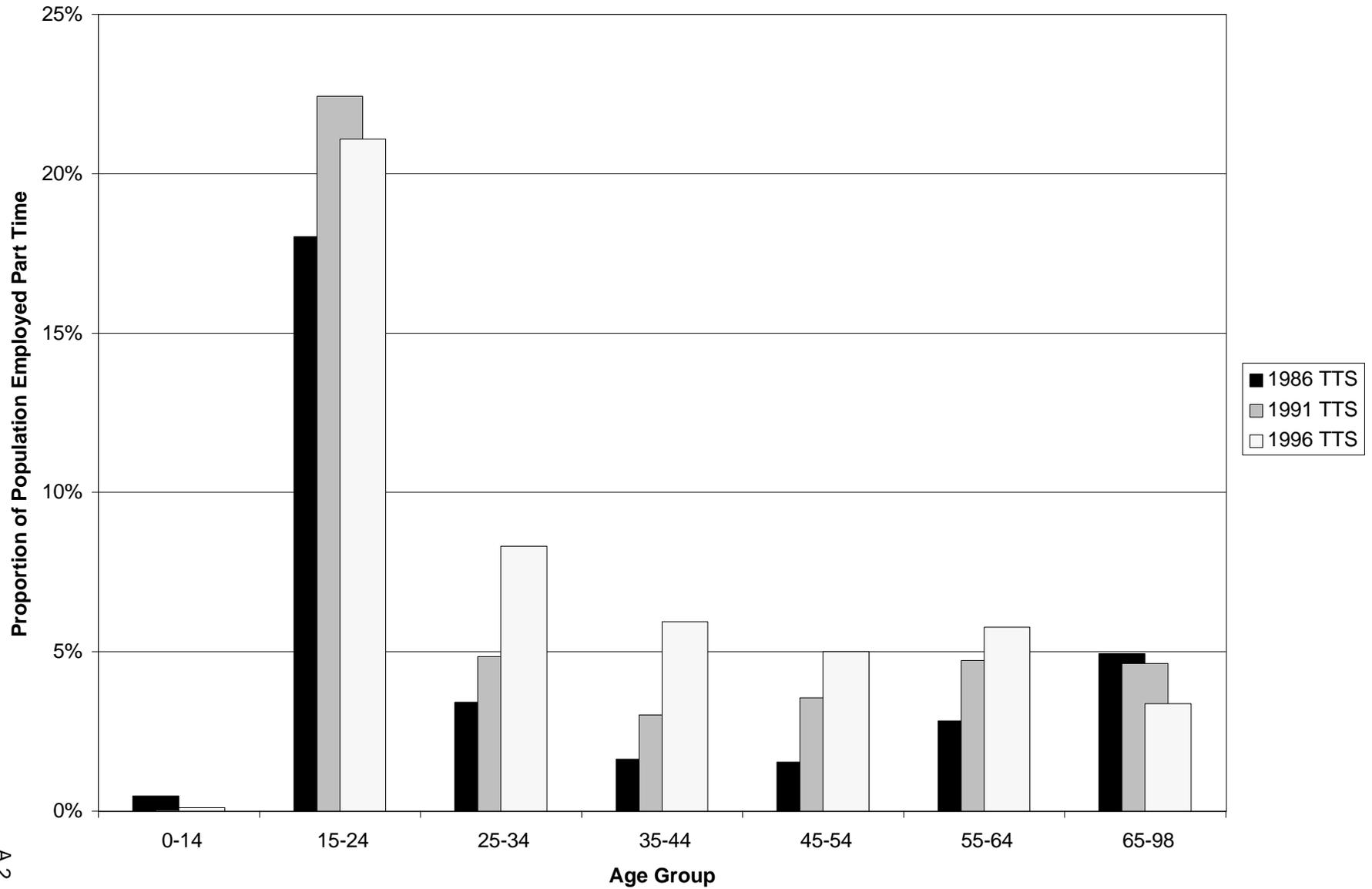
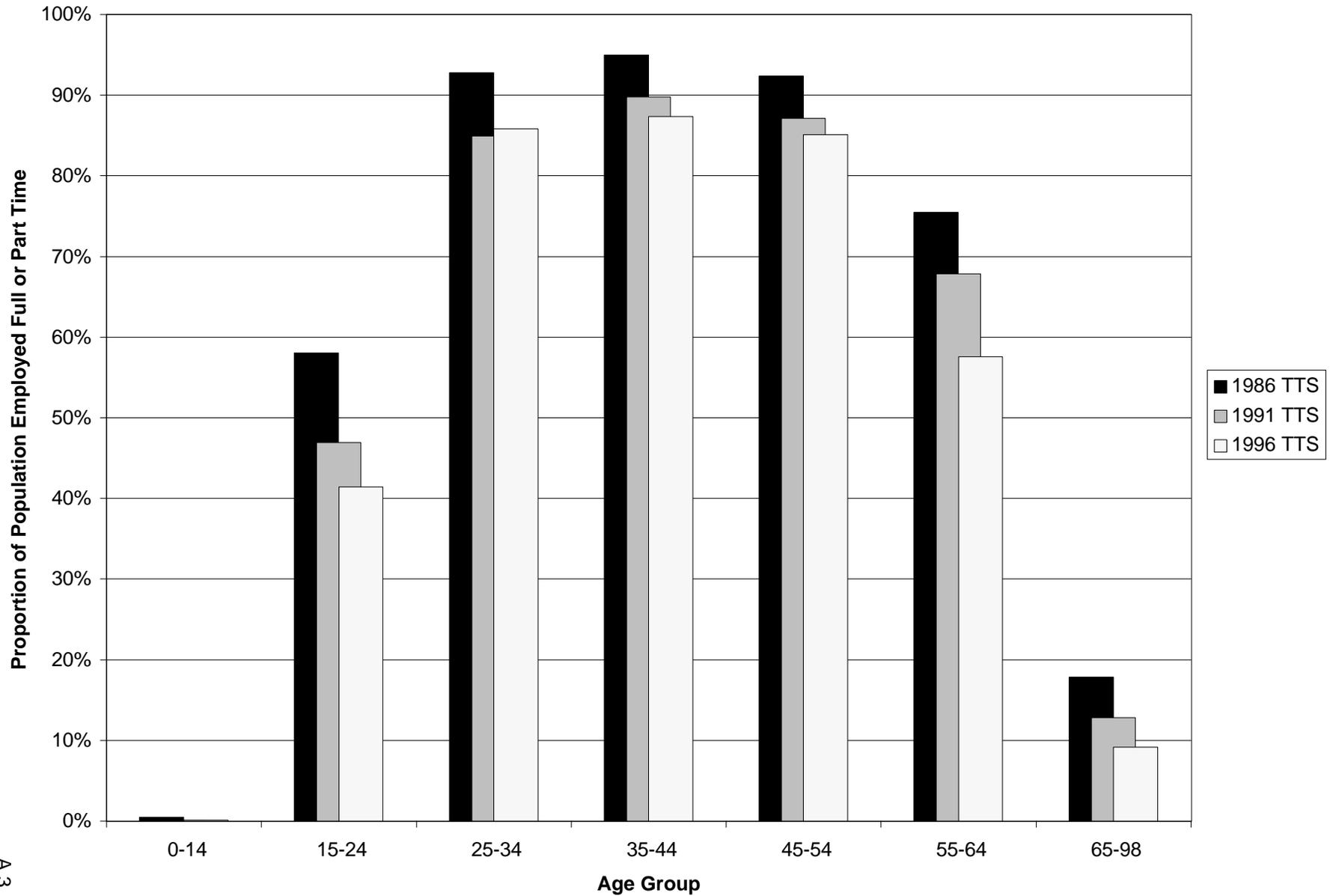


Chart 1C - Changes in Total Labour Force Activity for Men Living in the City of Toronto



Employment Status for Men Living in the City of Toronto

Employed Full Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	0	0	0	0
15-24	71426	36363	28136	135925
25-34	190818	184462	166661	541941
35-44	141401	149010	154959	445370
45-54	104996	105223	109556	319775
55-64	78259	63418	48647	190324
65-98	11818	9267	7373	28457
Refused	4924	4378	1284	10586
Total	603642	552120	516616	1672379

Full Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.0%	0.0%	0.0%
15-24	40.0%	24.5%	20.4%
25-34	89.4%	80.1%	77.5%
35-44	93.3%	86.8%	81.4%
45-54	90.8%	83.6%	80.1%
55-64	72.7%	63.1%	51.8%
65-98	12.9%	8.2%	5.8%
Refused	74.0%	56.5%	57.9%
Total	57.9%	51.1%	46.4%

Employed Part Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	844	67	222	1132
15-24	32170	33266	29127	94563
25-34	7282	11183	17866	36332
35-44	2470	5191	11299	18960
45-54	1788	4468	6852	13109
55-64	3046	4749	5422	13217
65-98	4539	5229	4301	14069
Refused	231	358	120	710
Total	52370	64511	75209	192091

Part Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.5%	0.0%	0.1%
15-24	18.0%	22.4%	21.1%
25-34	3.4%	4.9%	8.3%
35-44	1.6%	3.0%	5.9%
45-54	1.5%	3.5%	5.0%
55-64	2.8%	4.7%	5.8%
65-98	4.9%	4.6%	3.4%
Refused	3.5%	4.6%	5.4%
Total	5.0%	6.0%	6.8%

Not Employed

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	175565	182856	208672	567092
15-24	74904	78721	80887	234512
25-34	15443	34783	30447	80673
35-44	7625	17535	24030	49189
45-54	8846	16193	20392	45431
55-64	26395	32339	39873	98606
65-98	75423	98416	115778	289617
Refused	1502	3012	815	5329
Total	385702	463854	520893	1370450

Total Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.5%	0.0%	0.1%
15-24	58.0%	46.9%	41.4%
25-34	92.8%	84.9%	85.8%
35-44	95.0%	89.8%	87.4%
45-54	92.3%	87.1%	85.1%
55-64	75.5%	67.8%	57.6%
65-98	17.8%	12.8%	9.2%
Refused	77.4%	61.1%	63.3%
Total	63.0%	57.1%	53.2%

Total Population

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	176408	182922	208894	568224
15-24	178500	148350	138150	465000
25-34	213543	230428	214974	658945
35-44	151496	171735	190288	513520
45-54	115631	125885	136799	378315
55-64	107699	100506	93942	302147
65-98	91780	112912	127451	332143
Refused	6657	7748	2219	16624
Total	1041715	1080485	1112717	3234919

Chart 2A - Changes in Full Time Labour Force Activity for Women Living in the City of Toronto

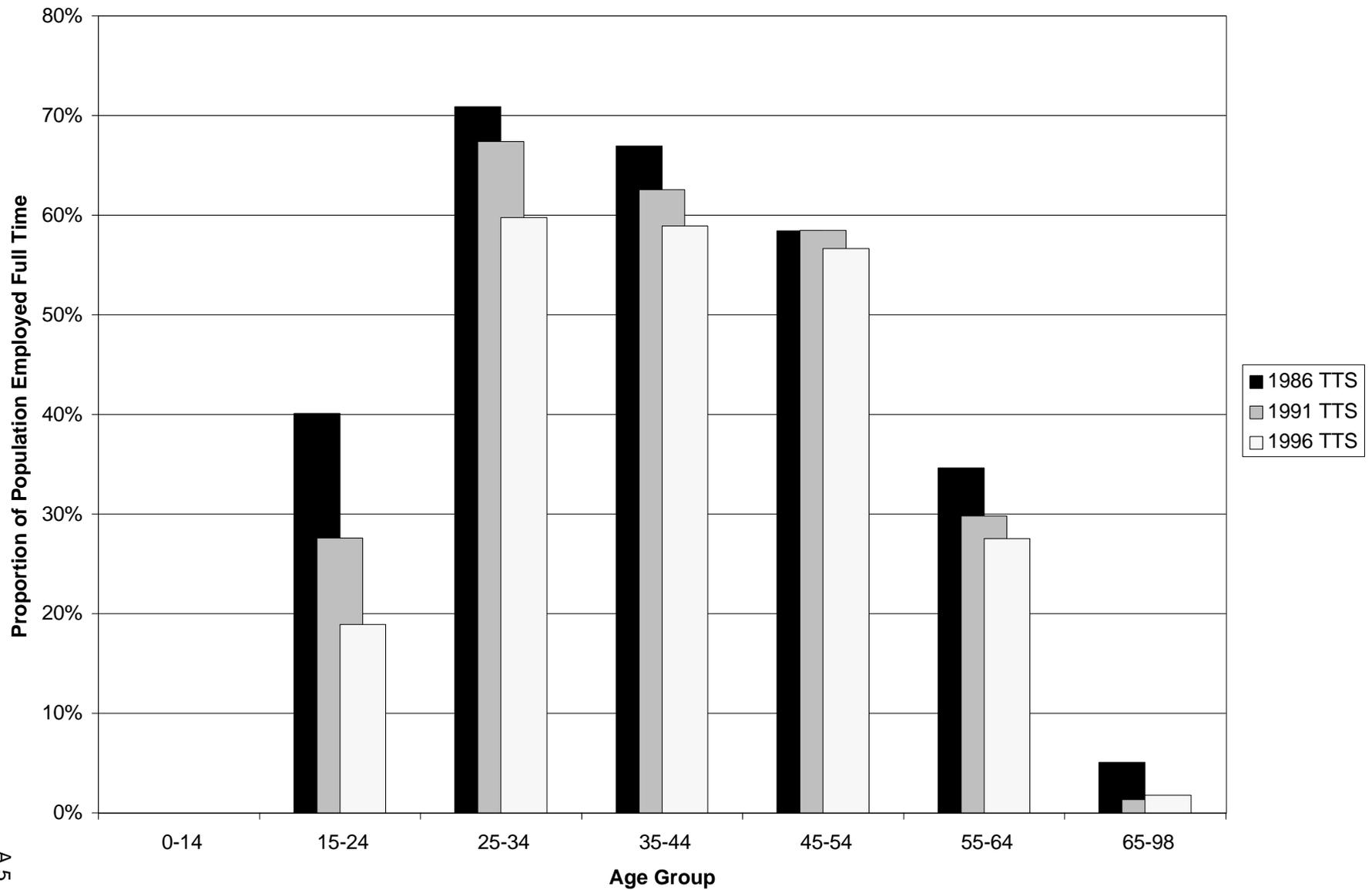


Chart 2B - Changes in Part Time Labour Force Activity for Women Living in the City of Toronto

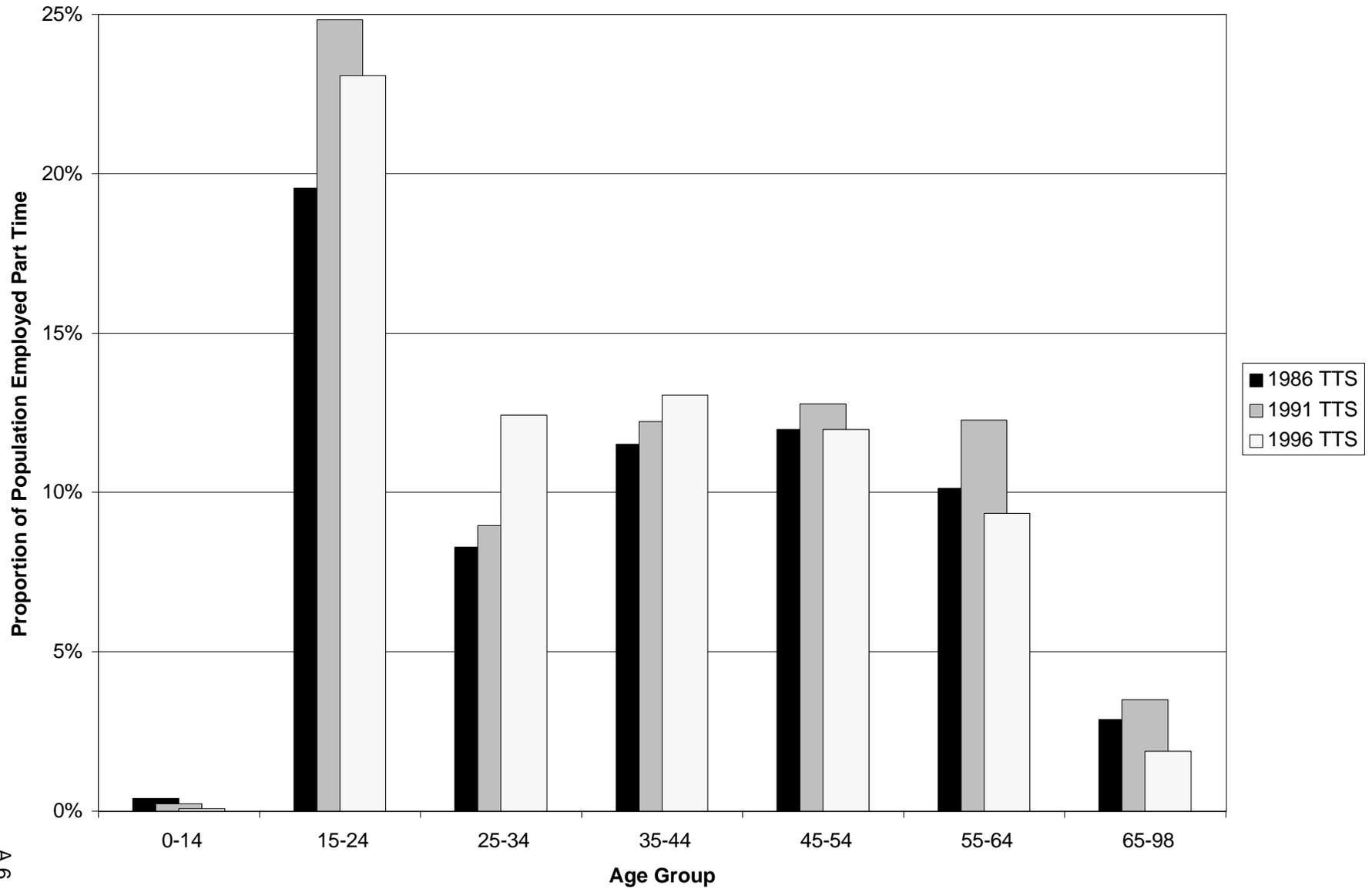
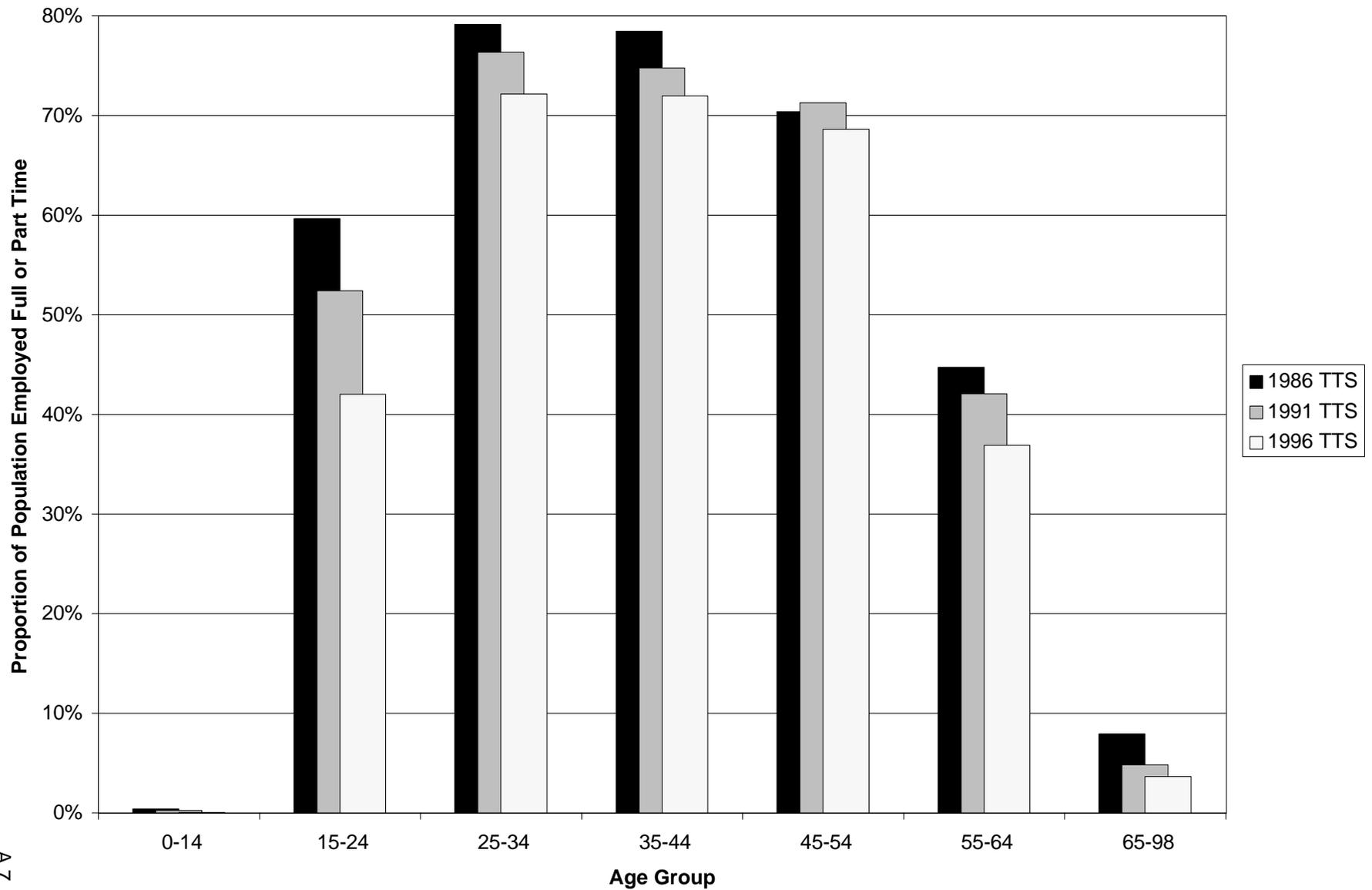


Chart 2C - Changes in Total Labour Force Activity by Age for Women Living in the City of Toronto



Employment Status for Women Living in the City of Toronto

Employed Full Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	0	0	0	0
15-24	70793	39700	26487	136980
25-34	153214	154806	136562	444582
35-44	109541	114344	120165	344050
45-54	72331	76897	83127	232355
55-64	38478	31197	28919	98594
65-98	6175	1946	2916	11036
Refused	4682	8040	1382	14104
Total	455213	426929	399560	1281703

Full Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.0%	0.0%	0.0%
15-24	40.1%	27.6%	18.9%
25-34	70.9%	67.4%	59.7%
35-44	66.9%	62.6%	58.9%
45-54	58.4%	58.5%	56.7%
55-64	34.6%	29.8%	27.5%
65-98	5.1%	1.3%	1.8%
Refused	48.9%	58.1%	33.1%
Total	41.7%	37.8%	33.5%

Employed Part Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	667	398	140	1205
15-24	34529	35758	32269	102555
25-34	17880	20586	28402	66868
35-44	18854	22357	26612	67823
45-54	14827	16805	17565	49196
55-64	11261	12858	9809	33929
65-98	3512	5201	3120	11833
Refused	872	843	411	2126
Total	102400	114805	118329	335535

Part Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.4%	0.2%	0.1%
15-24	19.5%	24.8%	23.1%
25-34	8.3%	9.0%	12.4%
35-44	11.5%	12.2%	13.1%
45-54	12.0%	12.8%	12.0%
55-64	10.1%	12.3%	9.3%
65-98	2.9%	3.5%	1.9%
Refused	9.1%	6.1%	9.8%
Total	9.4%	10.2%	9.9%

Not Employed

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	166616	173183	196867	536667
15-24	71300	68568	81110	220978
25-34	44994	54350	63641	162984
35-44	35249	46103	57121	138472
45-54	36655	37766	46008	120429
55-64	61444	60687	66292	188423
65-98	112531	141421	160199	414151
Refused	4013	4952	2385	11350
Total	532802	587029	673624	1793455

Total Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.4%	0.2%	0.1%
15-24	59.6%	52.4%	42.0%
25-34	79.2%	76.3%	72.2%
35-44	78.5%	74.8%	72.0%
45-54	70.4%	71.3%	68.6%
55-64	44.7%	42.1%	36.9%
65-98	7.9%	4.8%	3.6%
Refused	58.1%	64.2%	42.9%
Total	51.1%	48.0%	43.5%

Total Population

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	167283	173581	197008	537872
15-24	176621	144026	139866	460513
25-34	216088	229741	228605	674434
35-44	163643	182804	203899	550345
45-54	123812	131468	146701	401980
55-64	111184	104742	105021	320947
65-98	122218	148567	166236	437021
Refused	9566	13834	4179	27579
Total	1090415	1128763	1191513	3410692

Chart 3A - Changes in Full Time Labour Force Activity for Men living in York Region

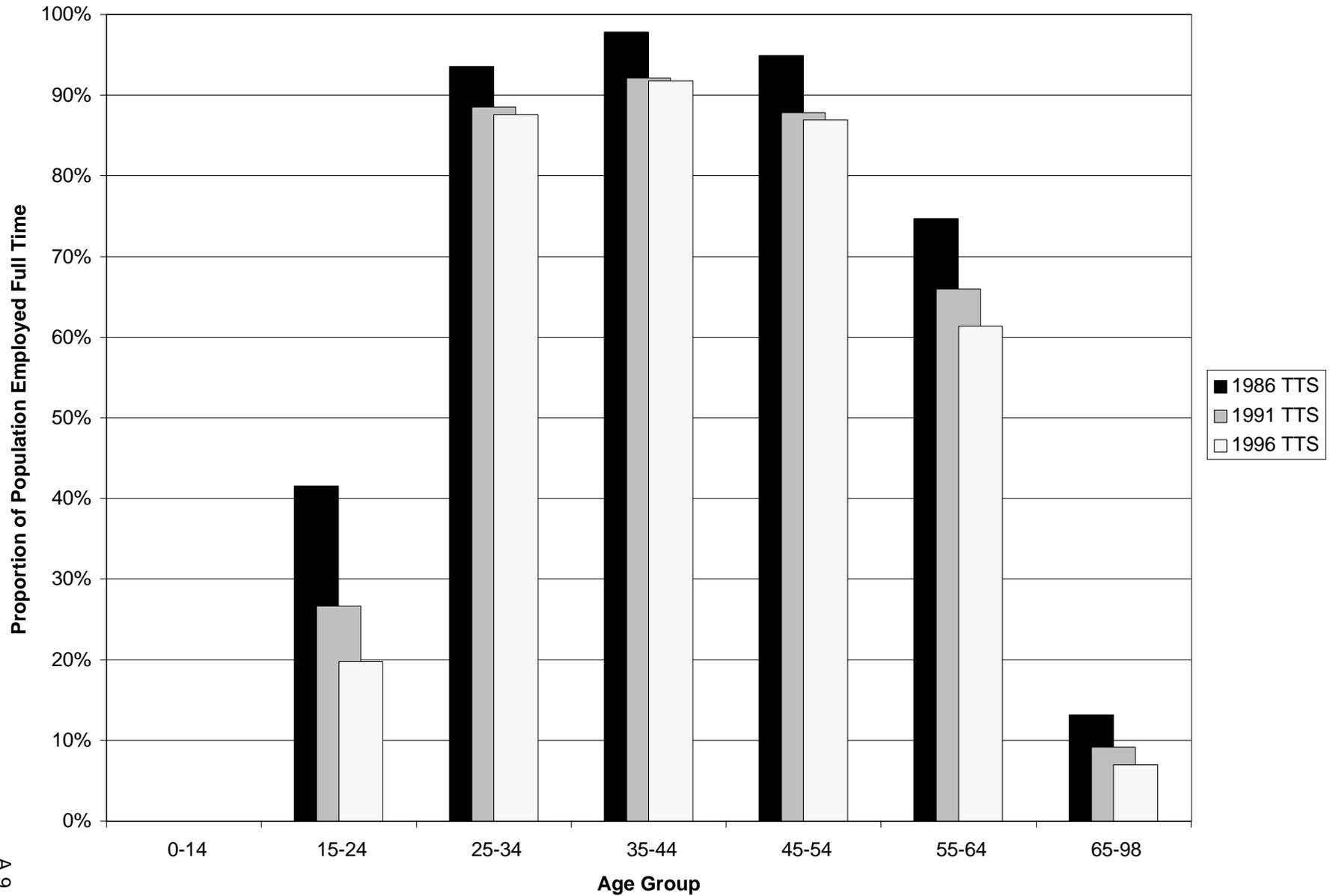


Chart 3B - Changes in Part Time Labour Force Activity for Men Living in York Region

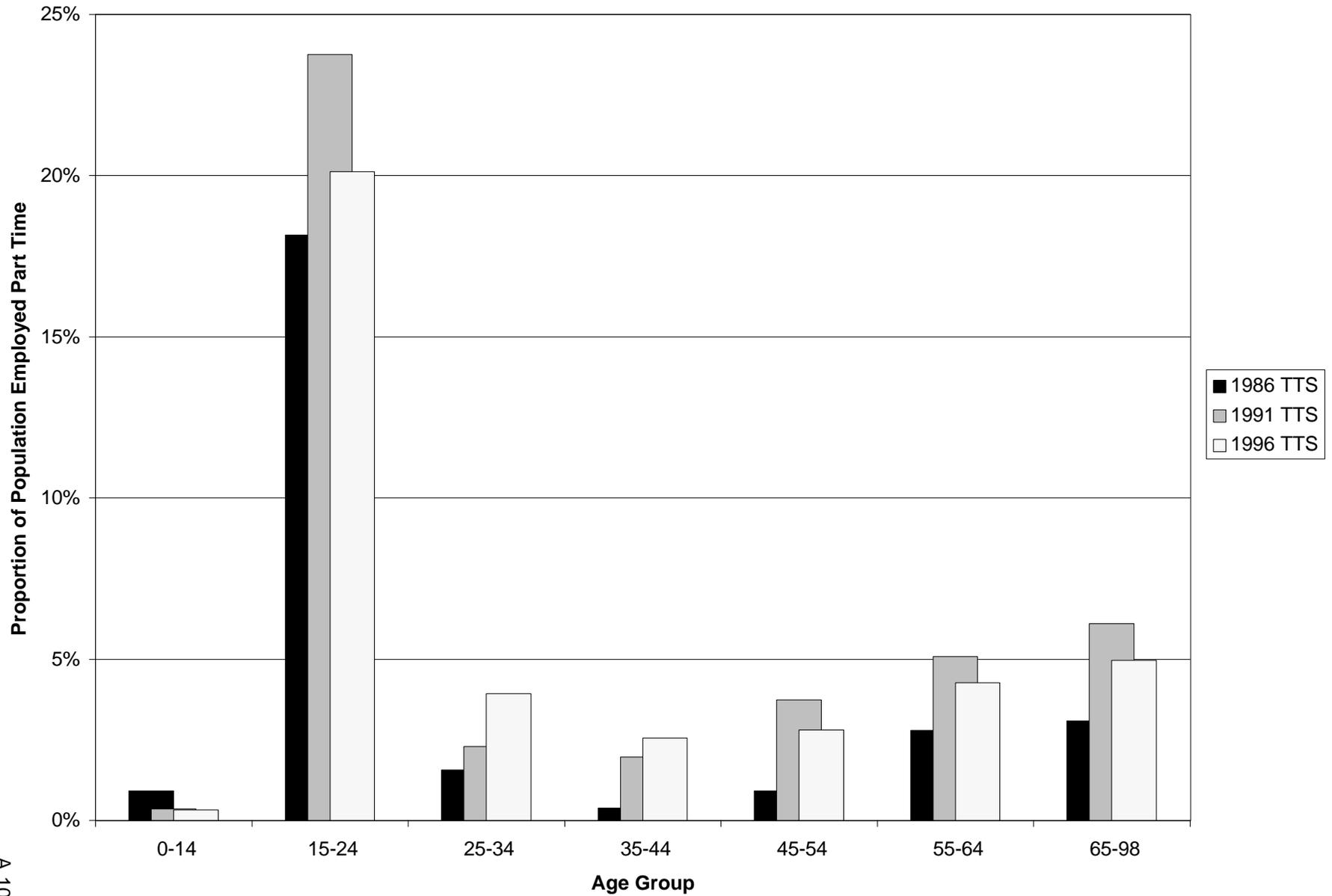
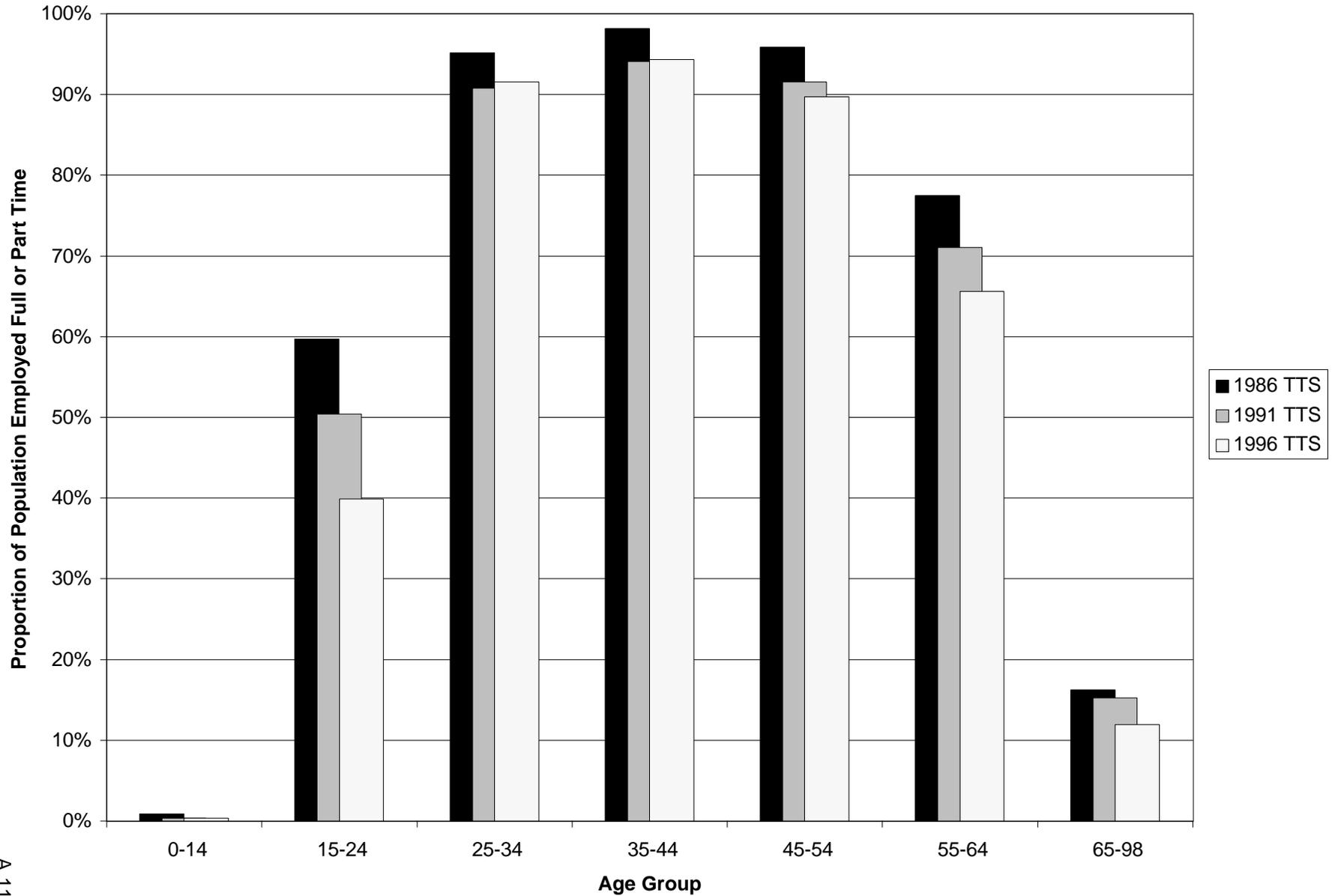


Chart 3C - Changes in Total Labour Force Activity for Men Living in York Region



Employment Status for Men Living in York Region

Employed Full Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	0	0	0	0
15-24	11188	9650	7604	28442
25-34	25472	31568	32841	89881
35-44	31501	44459	46210	122170
45-54	18584	27655	36820	83059
55-64	8768	11673	13792	34233
65-98	1181	1251	1452	3883
Refused	801	1093	292	2185
Total	97494	127348	139011	363853

Full Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.0%	0.0%	0.0%
15-24	41.5%	26.6%	19.8%
25-34	93.6%	88.5%	87.6%
35-44	97.8%	92.1%	91.8%
45-54	94.9%	87.8%	86.9%
55-64	74.7%	66.0%	61.3%
65-98	13.2%	9.2%	7.0%
Refused	68.6%	70.9%	65.7%
Total	57.5%	51.5%	49.5%

Employed Part Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	380	223	227	830
15-24	4892	8612	7730	21234
25-34	427	819	1475	2721
35-44	125	946	1285	2355
45-54	179	1177	1189	2545
55-64	328	900	959	2187
65-98	277	832	1031	2141
Refused	92	45	59	196
Total	6701	13553	13956	34210

Part Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.9%	0.4%	0.3%
15-24	18.2%	23.8%	20.1%
25-34	1.6%	2.3%	3.9%
35-44	0.4%	2.0%	2.6%
45-54	0.9%	3.7%	2.8%
55-64	2.8%	5.1%	4.3%
65-98	3.1%	6.1%	5.0%
Refused	7.9%	2.9%	13.4%
Total	4.0%	5.5%	5.0%

Not Employed

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	41340	62372	68414	172126
15-24	10861	17978	23082	51922
25-34	1326	3278	3169	7772
35-44	585	2850	2844	6279
45-54	815	2655	4355	7825
55-64	2645	5120	7739	15504
65-98	7515	11566	18292	37372
Refused	274	404	93	771
Total	65361	106223	127987	299571

Total Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.9%	0.4%	0.3%
15-24	59.7%	50.4%	39.9%
25-34	95.1%	90.8%	91.5%
35-44	98.2%	94.1%	94.4%
45-54	95.8%	91.6%	89.7%
55-64	77.5%	71.1%	65.6%
65-98	16.2%	15.3%	12.0%
Refused	76.5%	73.8%	79.1%
Total	61.5%	57.0%	54.4%

Total Population

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	41719	62596	68641	172956
15-24	26942	36239	38417	101597
25-34	27225	35665	37485	100375
35-44	32211	48255	50339	130804
45-54	19578	31487	42364	93429
55-64	11742	17693	22490	51925
65-98	8973	13648	20775	43396
Refused	1167	1541	444	3153
Total	169556	247123	280955	697635

Chart 4A - Changes in Full Time Labour Force Activity for Women Living in York Region

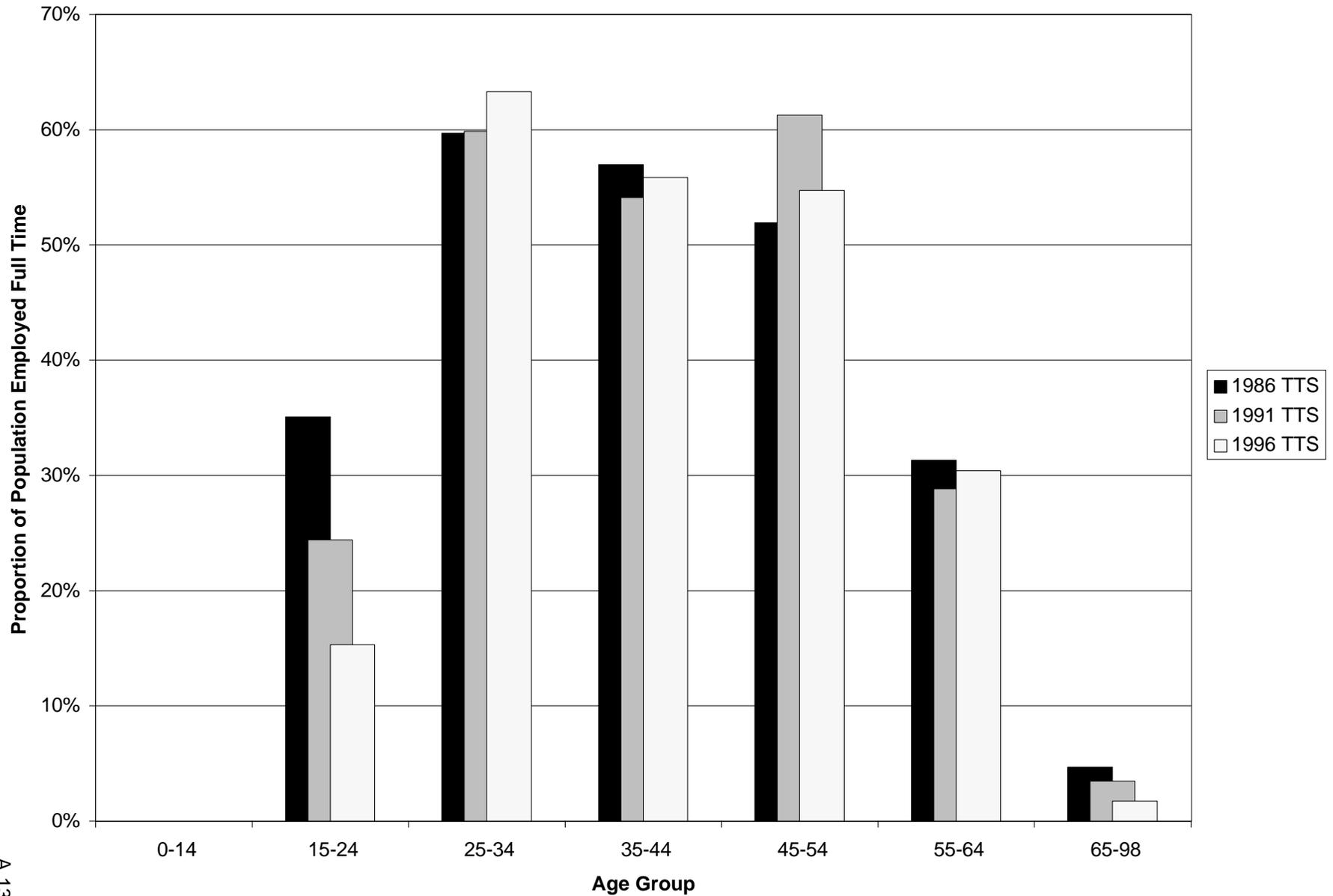


Chart 4B - Changes in Part Time Labour Force Activity for Women Living in York Region

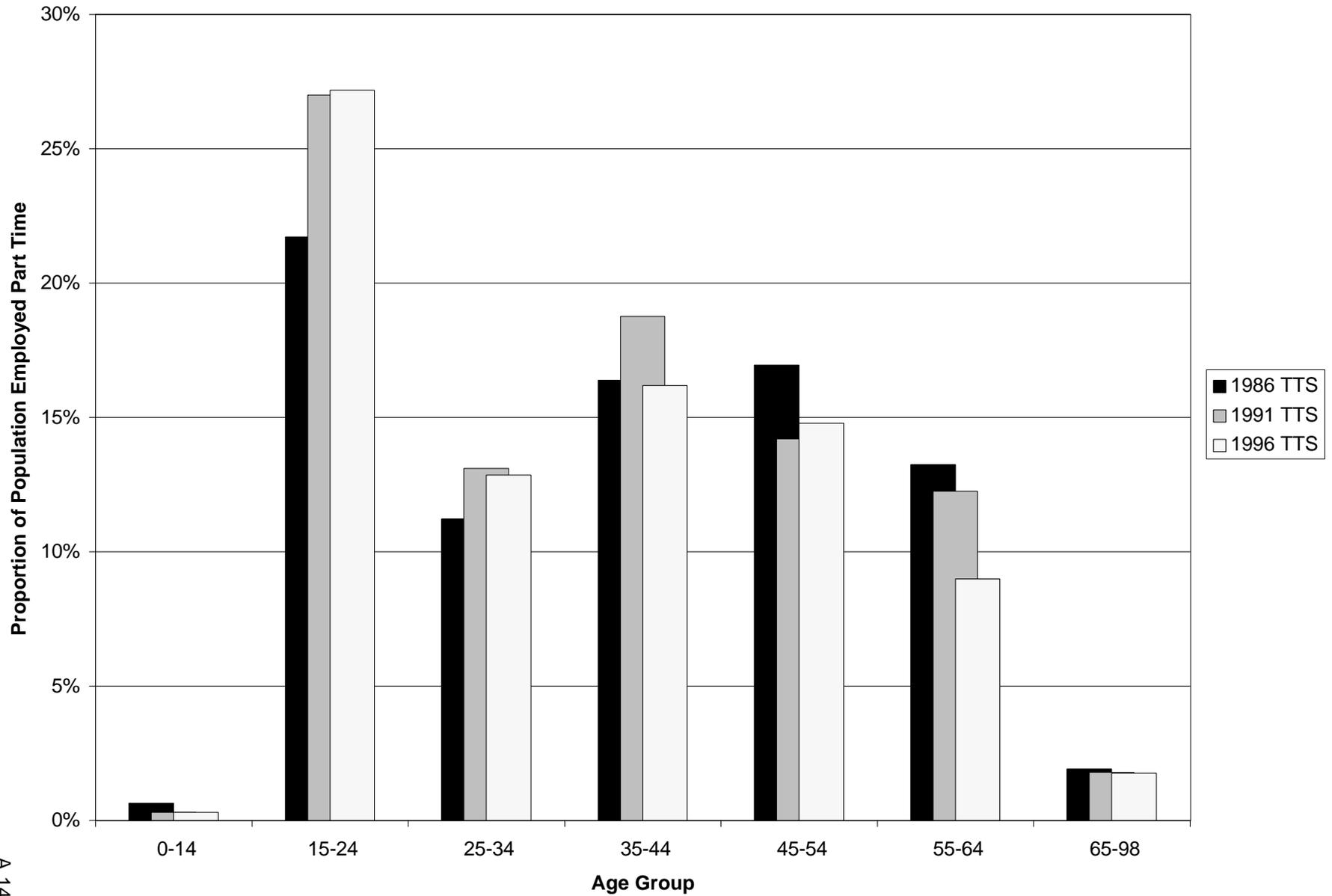
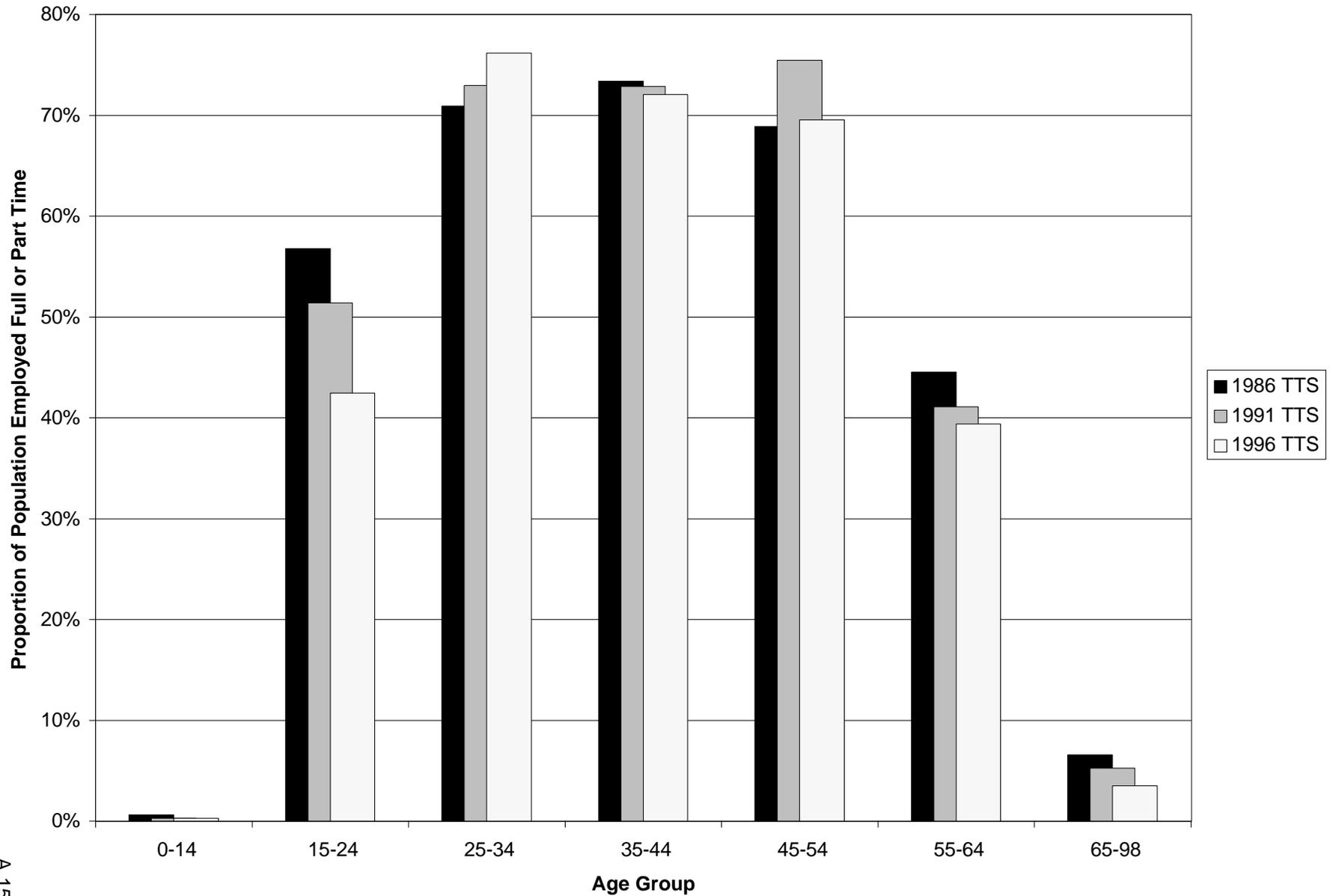


Chart 4C - Changes in Total Labour Force Activity for Women Living in York Region



Employment Status for Women Living in York Region

Employed Full Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
1-14	0	0	0	0
15-24	9257	7714	5477	22448
25-34	19634	25300	27212	72145
35-44	17979	26833	32030	76842
45-54	9292	16287	22531	48109
55-64	3721	4922	6211	14854
65-98	503	638	446	1586
Refused	722	1289	327	2337
Total	61106	82981	94234	238321

Full Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.0%	0.0%	0.0%
15-24	35.1%	24.4%	15.3%
25-34	59.7%	59.9%	63.3%
35-44	57.0%	54.1%	55.9%
45-54	51.9%	61.3%	54.8%
55-64	31.3%	28.8%	30.4%
65-98	4.7%	3.5%	1.7%
Refused	53.0%	57.9%	53.8%
Total	35.4%	33.8%	33.1%

Employed Part Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
1-14	250	174	186	610
15-24	5735	8540	9730	24005
25-34	3690	5538	5522	14750
35-44	5171	9298	9285	23754
45-54	3035	3777	6087	12899
55-64	1574	2093	1836	5503
65-98	207	330	449	985
Refused	190	215	18	423
Total	19852	29964	33113	82929

Part Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.6%	0.3%	0.3%
15-24	21.7%	27.0%	27.2%
25-34	11.2%	13.1%	12.8%
35-44	16.4%	18.8%	16.2%
45-54	17.0%	14.2%	14.8%
55-64	13.2%	12.3%	9.0%
65-98	1.9%	1.8%	1.8%
Refused	14.0%	9.6%	2.9%
Total	11.5%	12.2%	11.6%

Not Employed

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
1-14	39465	57504	60618	157586
15-24	11406	15364	20594	47364
25-34	9570	11433	10247	31251
35-44	8400	13449	16023	37873
45-54	5571	6527	12531	24629
55-64	6592	10064	12375	29032
65-98	10064	17392	24616	52072
Refused	449	722	263	1434
Total	91518	132455	157268	381241

Total Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.6%	0.3%	0.3%
15-24	56.8%	51.4%	42.5%
25-34	70.9%	73.0%	76.2%
35-44	73.4%	72.9%	72.1%
45-54	68.9%	75.5%	69.5%
55-64	44.5%	41.1%	39.4%
65-98	6.6%	5.3%	3.5%
Refused	67.0%	67.5%	56.8%
Total	46.9%	46.0%	44.7%

Total Population

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
1-14	39715	57677	60804	158196
15-24	26398	31618	35801	93817
25-34	32894	42271	42981	118146
35-44	31550	49580	57338	138468
45-54	17898	26591	41149	85637
55-64	11887	17078	20423	49389
65-98	10773	18359	25511	54643
Refused	1361	2225	608	4194
Total	172477	245400	284614	702491

Chart 5A - Changes in Full Time Labour Force Activity for Men Living in Peel Region

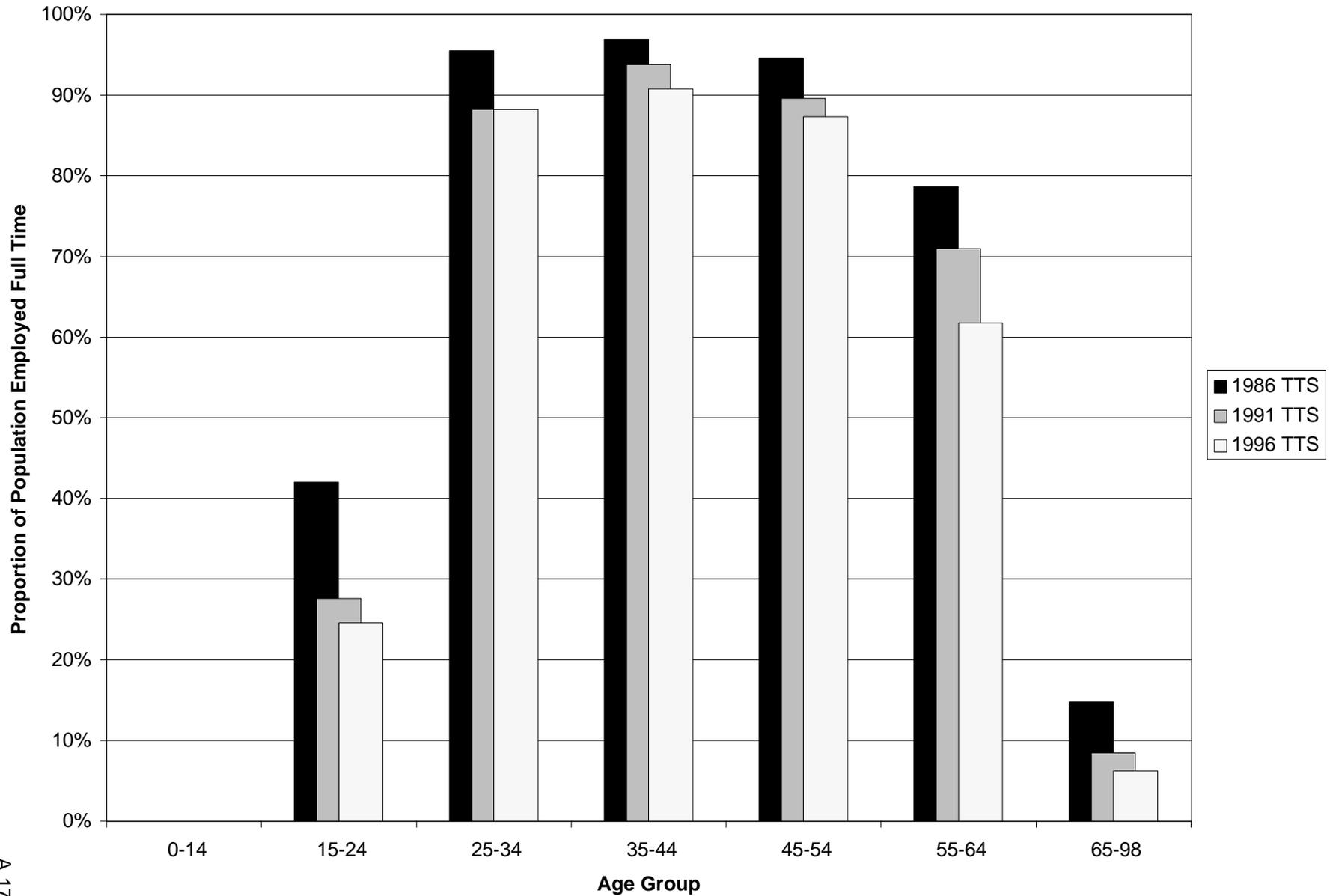


Chart 5B - Changes in Part Time Labour Force Activity for Men Living in Peel Region

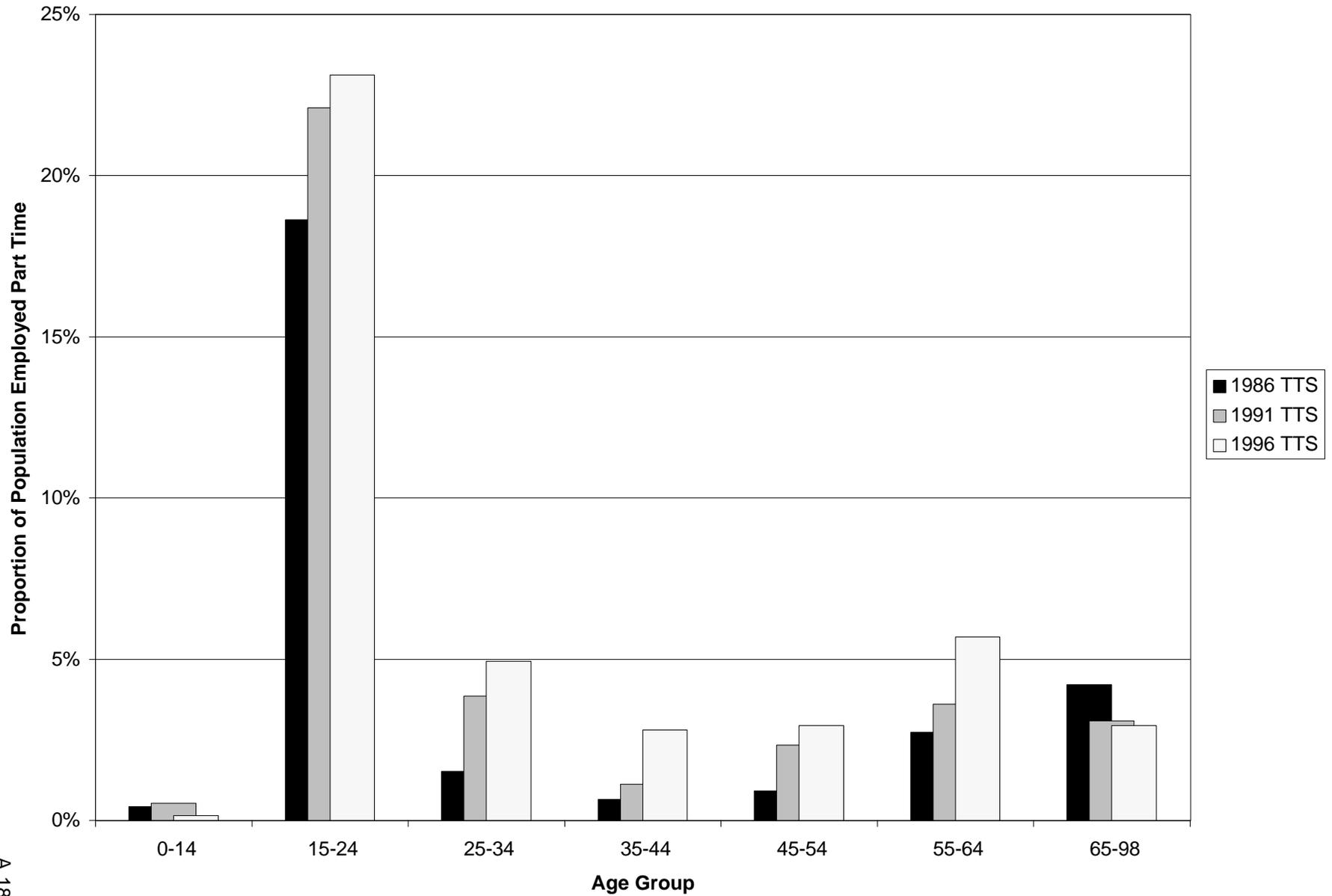
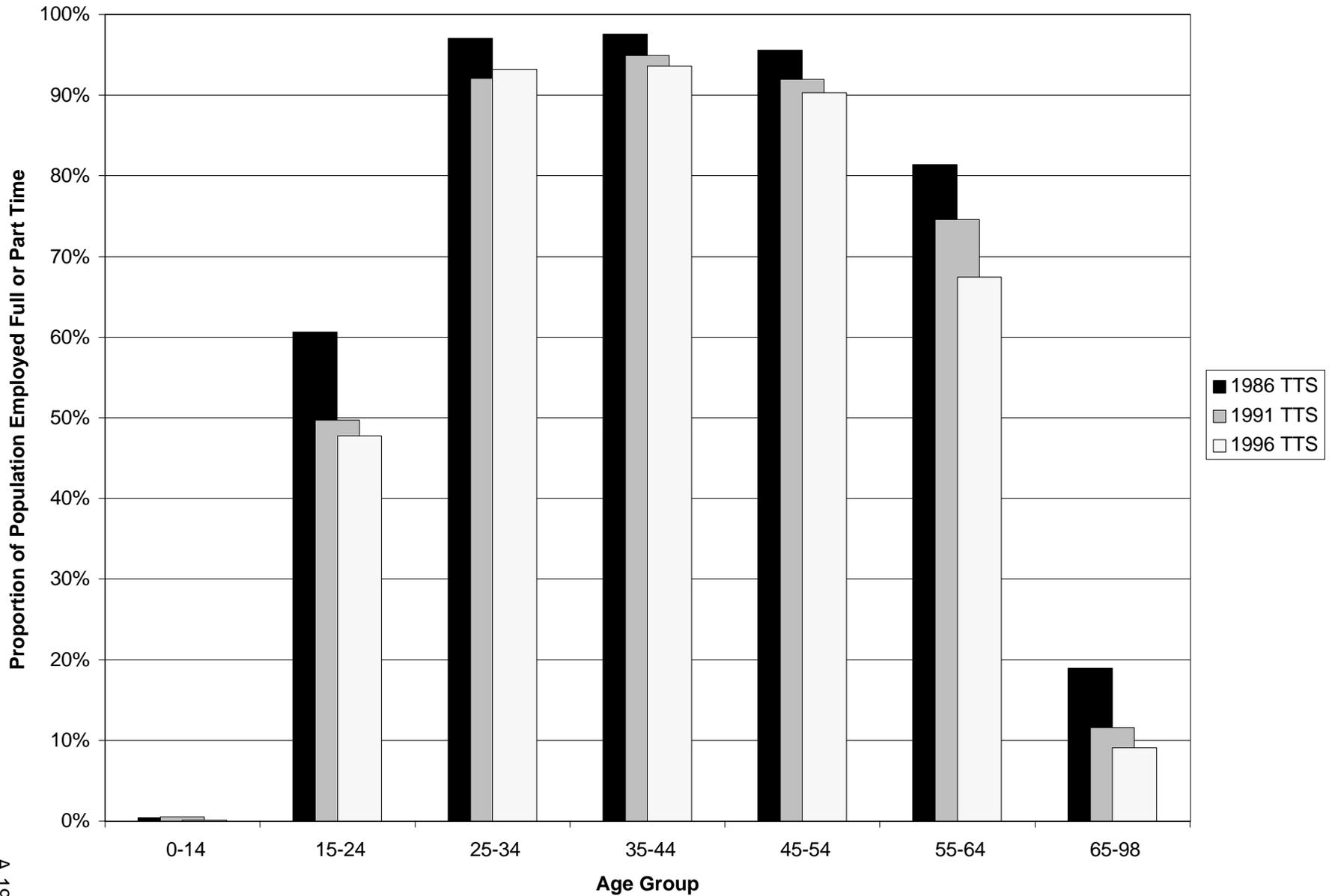


Chart 5C - Changes in Total Labour Force Activity for Men Living in Peel Region



Employment Status for Men Living in Peel Region

Employed Full Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	0	0	0	0
15-24	19796	14737	12904	47436
25-34	49742	56829	61281	167852
35-44	50507	59140	64062	173709
45-54	30980	40881	49677	121538
55-64	15337	17000	18984	51321
65-98	1985	1823	1549	5357
Refused	972	2399	716	4087
Total	169320	192808	209172	571300

Full Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.0%	0.0%	0.0%
15-24	42.0%	27.6%	24.6%
25-34	95.5%	88.3%	88.2%
35-44	96.9%	93.8%	90.8%
45-54	94.6%	89.6%	87.4%
55-64	78.7%	71.0%	61.8%
65-98	14.8%	8.5%	6.2%
Refused	80.3%	62.6%	75.3%
Total	59.1%	54.4%	51.7%

Employed Part Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	291	423	142	855
15-24	8773	11791	12129	32693
25-34	793	2479	3432	6704
35-44	339	706	1982	3027
45-54	300	1067	1670	3038
55-64	532	865	1750	3147
65-98	566	663	735	1964
Refused	25	291	37	353
Total	11618	18285	21878	51780

Part Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.4%	0.5%	0.1%
15-24	18.6%	22.1%	23.1%
25-34	1.5%	3.9%	4.9%
35-44	0.7%	1.1%	2.8%
45-54	0.9%	2.3%	2.9%
55-64	2.7%	3.6%	5.7%
65-98	4.2%	3.1%	2.9%
Refused	2.1%	7.6%	3.9%
Total	4.1%	5.2%	5.4%

Not Employed

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	67967	78347	98116	244430
15-24	18531	26813	27410	72754
25-34	1546	5081	4736	11363
35-44	1259	3216	4520	8995
45-54	1453	3679	5524	10656
55-64	3624	6093	10004	19720
65-98	10897	19018	22746	52661
Refused	213	1140	198	1551
Total	105490	143387	173253	422130

Total Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.4%	0.5%	0.1%
15-24	60.7%	49.7%	47.7%
25-34	97.0%	92.1%	93.2%
35-44	97.6%	94.9%	93.6%
45-54	95.6%	91.9%	90.3%
55-64	81.4%	74.6%	67.5%
65-98	19.0%	11.6%	9.1%
Refused	82.4%	70.2%	79.2%
Total	63.2%	59.5%	57.1%

Total Population

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	68258	78769	98258	245285
15-24	47099	53341	52443	152883
25-34	52081	64389	69449	185919
35-44	52105	63062	70564	185731
45-54	32734	45628	56871	135232
55-64	19492	23958	30738	74188
65-98	13448	21504	25030	59982
Refused	1211	3830	950	5991
Total	286427	354480	404303	1045210

Chart 6A - Changes in Full Time Labour Force Activity for Women Living in Peel Region

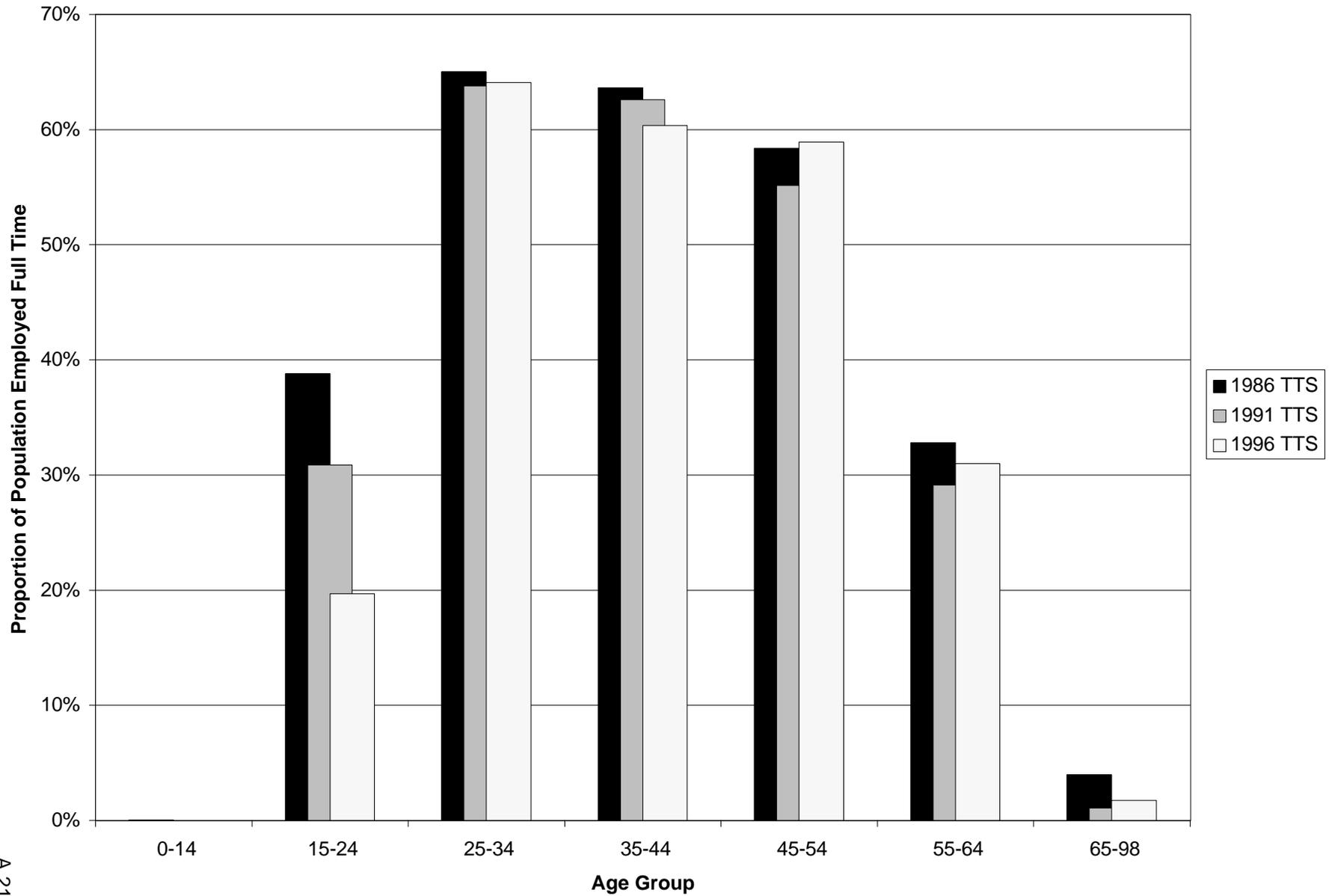


Chart 6B - Changes in Part Time Labour Force Activity for Women Living in Peel Region

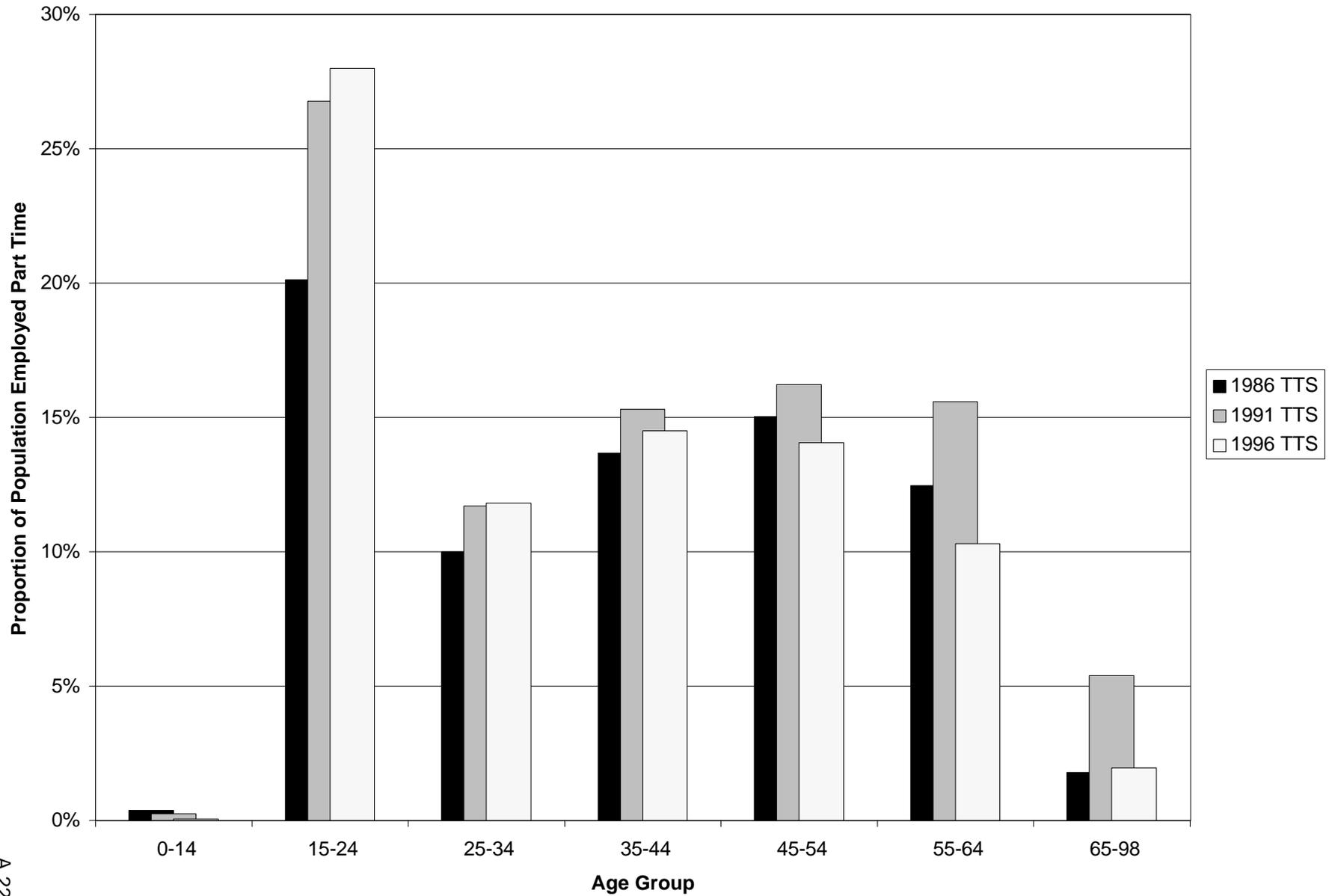
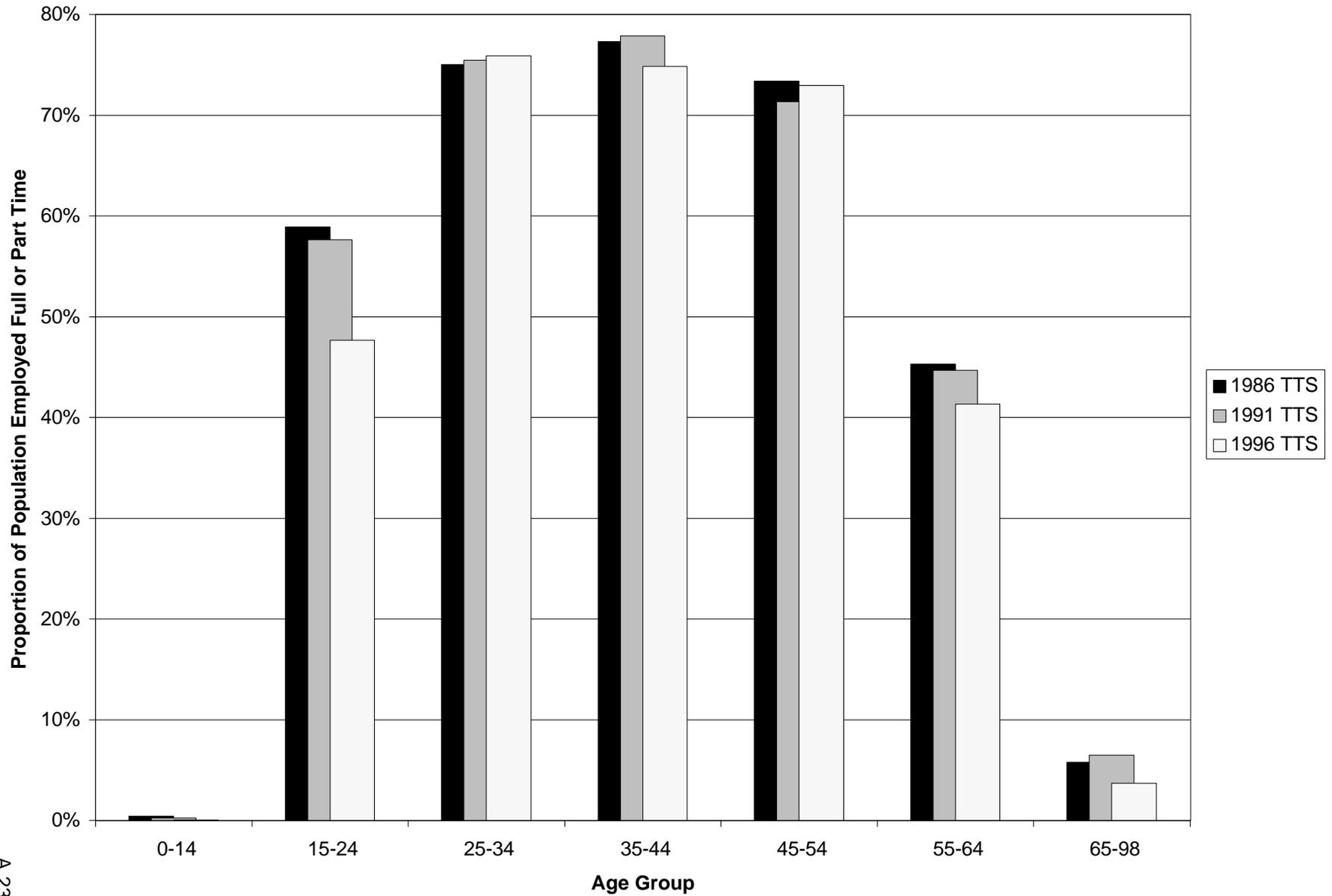


Chart 6C - Changes in Total Labour Force Activity for Women Living in Peel Region



Employment Status for Women Living in Peel Region

Employed Full Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	26	0	0	26
15-24	17890	14157	10363	42409
25-34	38508	43698	48237	130443
35-44	33138	41096	45875	120109
45-54	17627	22139	32717	72483
55-64	6022	6828	8874	21724
65-98	652	288	541	1482
Refused	1006	1547	751	3303
Total	114870	129753	147357	391980

Full Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.0%	0.0%	0.0%
15-24	38.8%	30.8%	19.7%
25-34	65.0%	63.8%	64.1%
35-44	63.6%	62.6%	60.4%
45-54	58.4%	55.1%	58.9%
55-64	32.8%	29.1%	31.0%
65-98	4.0%	1.1%	1.7%
Refused	45.8%	36.7%	56.6%
Total	39.6%	36.6%	36.1%

Employed Part Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	248	204	40	492
15-24	9280	12292	14732	36304
25-34	5924	8012	8882	22818
35-44	7118	10046	11022	28186
45-54	4543	6510	7804	18857
55-64	2290	3653	2949	8892
65-98	295	1435	609	2339
Refused	321	774	174	1270
Total	30018	42926	46213	119157

Part Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.4%	0.3%	0.0%
15-24	20.1%	26.8%	28.0%
25-34	10.0%	11.7%	11.8%
35-44	13.7%	15.3%	14.5%
45-54	15.0%	16.2%	14.1%
55-64	12.5%	15.6%	10.3%
65-98	1.8%	5.4%	2.0%
Refused	14.6%	18.4%	13.1%
Total	10.3%	12.1%	11.3%

Not Employed

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	65317	79605	87191	232113
15-24	18940	19450	27540	65930
25-34	14778	16808	18150	49735
35-44	11827	14528	19109	45464
45-54	8035	11497	15008	34540
55-64	10048	12972	16798	39819
65-98	15499	24871	30056	70426
Refused	871	1894	402	3167
Total	145314	181625	214253	541193

Total Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.4%	0.3%	0.0%
15-24	58.9%	57.6%	47.7%
25-34	75.0%	75.5%	75.9%
35-44	77.3%	77.9%	74.9%
45-54	73.4%	71.4%	73.0%
55-64	45.3%	44.7%	41.3%
65-98	5.8%	6.5%	3.7%
Refused	60.4%	55.1%	69.7%
Total	49.9%	48.7%	47.5%

Total Population

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	65590	79809	87232	232630
15-24	46110	45898	52635	144642
25-34	59210	68518	75269	202997
35-44	52084	65669	76006	193759
45-54	30205	40146	55529	125880
55-64	18360	23454	28621	70435
65-98	16446	26594	31206	74246
Refused	2197	4215	1327	7740
Total	290202	354304	407824	1052330

Chart 7A - Changes in Full Time Labour Force Activity for Men Living in Durham Region

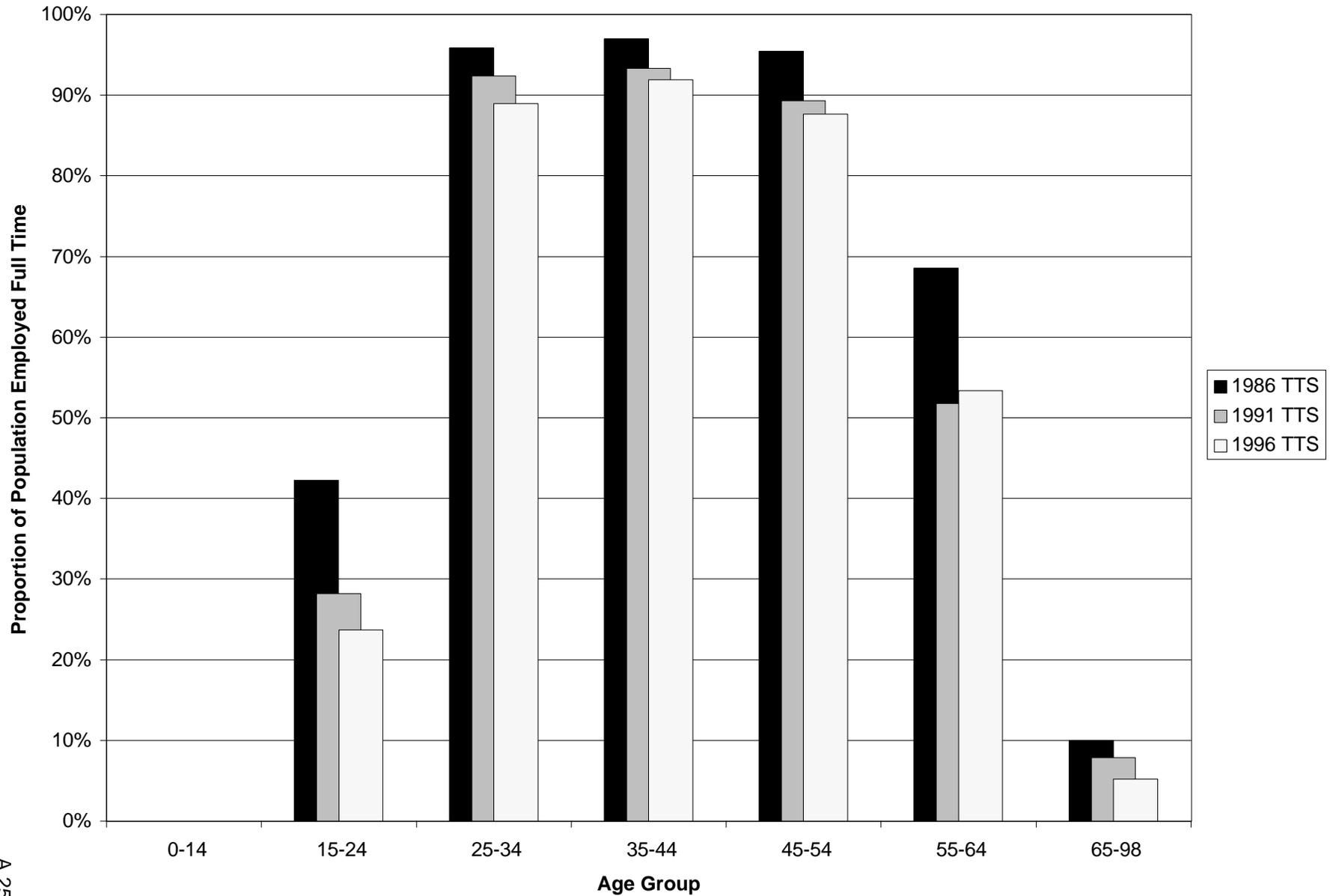


Chart 7B - Changes in Part Time Labour Force Activity for Men Living in Durham Region

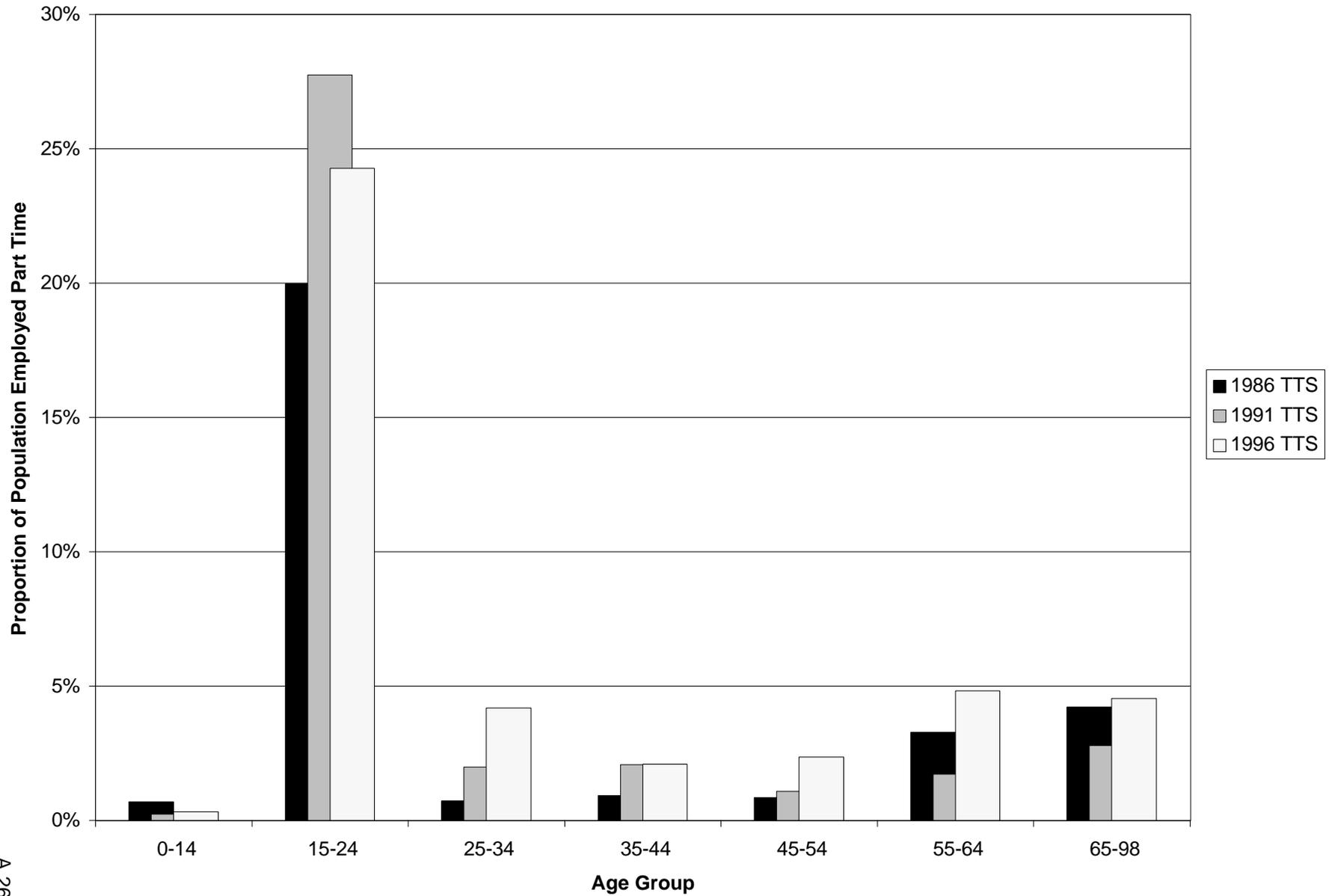
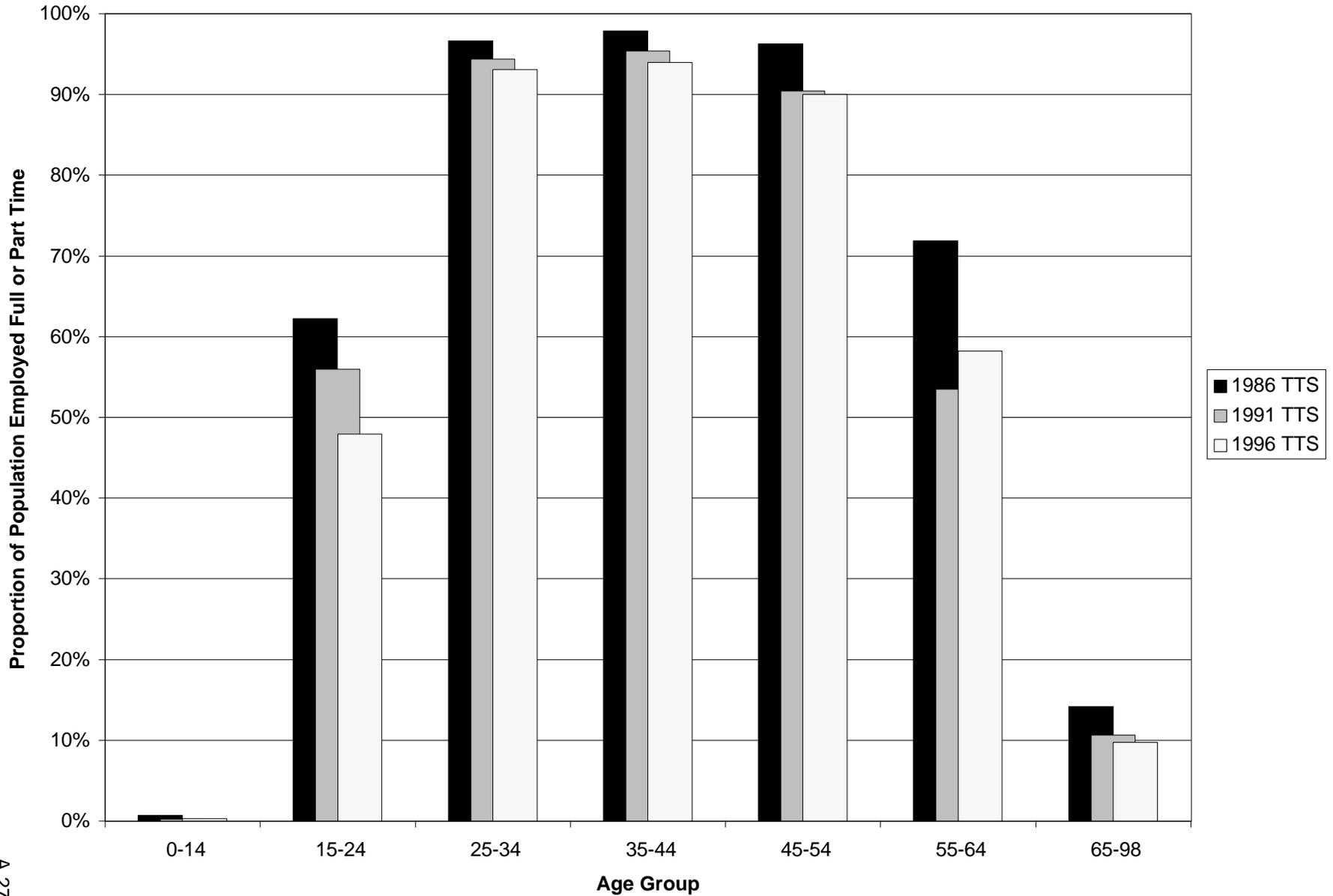


Chart 7C - Changes in Total Labour Force Activity for Men Living in Durham Region



Employment Status for Men Living in Durham Region

Employed Full Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	0	0	0	0
15-24	9600	6605	6377	22583
25-34	28965	36460	28757	94182
35-44	26458	32561	39387	98406
45-54	16279	20191	26546	63016
55-64	7971	7336	8061	23368
65-98	960	1152	840	2952
Refused	558	967	197	1722
Total	90790	105272	110167	306229

Full Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.0%	0.0%	0.0%
15-24	42.3%	28.2%	23.7%
25-34	95.9%	92.4%	88.9%
35-44	97.0%	93.3%	91.9%
45-54	95.4%	89.3%	87.7%
55-64	68.6%	51.8%	53.4%
65-98	10.0%	7.9%	5.2%
Refused	85.4%	68.9%	55.1%
Total	57.6%	53.2%	49.3%

Employed Part Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	267	108	188	563
15-24	4538	6496	6540	17574
25-34	222	785	1351	2357
35-44	251	726	896	1874
45-54	146	246	713	1105
55-64	381	244	728	1353
65-98	405	408	737	1550
Refused	24	26	20	70
Total	6234	9038	11172	26444

Part Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.7%	0.2%	0.3%
15-24	20.0%	27.8%	24.3%
25-34	0.7%	2.0%	4.2%
35-44	0.9%	2.1%	2.1%
45-54	0.9%	1.1%	2.4%
55-64	3.3%	1.7%	4.8%
65-98	4.2%	2.8%	4.5%
Refused	3.7%	1.8%	5.6%
Total	4.0%	4.6%	5.0%

Not Employed

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	38182	47293	59093	144568
15-24	8569	10305	14024	32898
25-34	1026	2213	2232	5471
35-44	575	1609	2571	4756
45-54	632	2170	3025	5827
55-64	3273	6586	6313	16172
65-98	8243	13086	14645	35974
Refused	71	411	141	622
Total	60571	83673	102044	246289

Total Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.7%	0.2%	0.3%
15-24	62.3%	56.0%	47.9%
25-34	96.6%	94.4%	93.1%
35-44	97.9%	95.4%	94.0%
45-54	96.3%	90.4%	90.0%
55-64	71.8%	53.5%	58.2%
65-98	14.2%	10.7%	9.7%
Refused	89.1%	70.7%	60.7%
Total	61.6%	57.7%	54.3%

Total Population

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	38449	47401	59281	145131
15-24	22707	23406	26942	73055
25-34	30212	39458	32340	102010
35-44	27284	34897	42855	105035
45-54	17057	22607	30283	69947
55-64	11625	14166	15102	40893
65-98	9608	14646	16222	40476
Refused	653	1403	358	2414
Total	157595	197983	223383	578961

Chart 8A - Changes in Full Time Labour Force Activity for Women Living in Durham Region

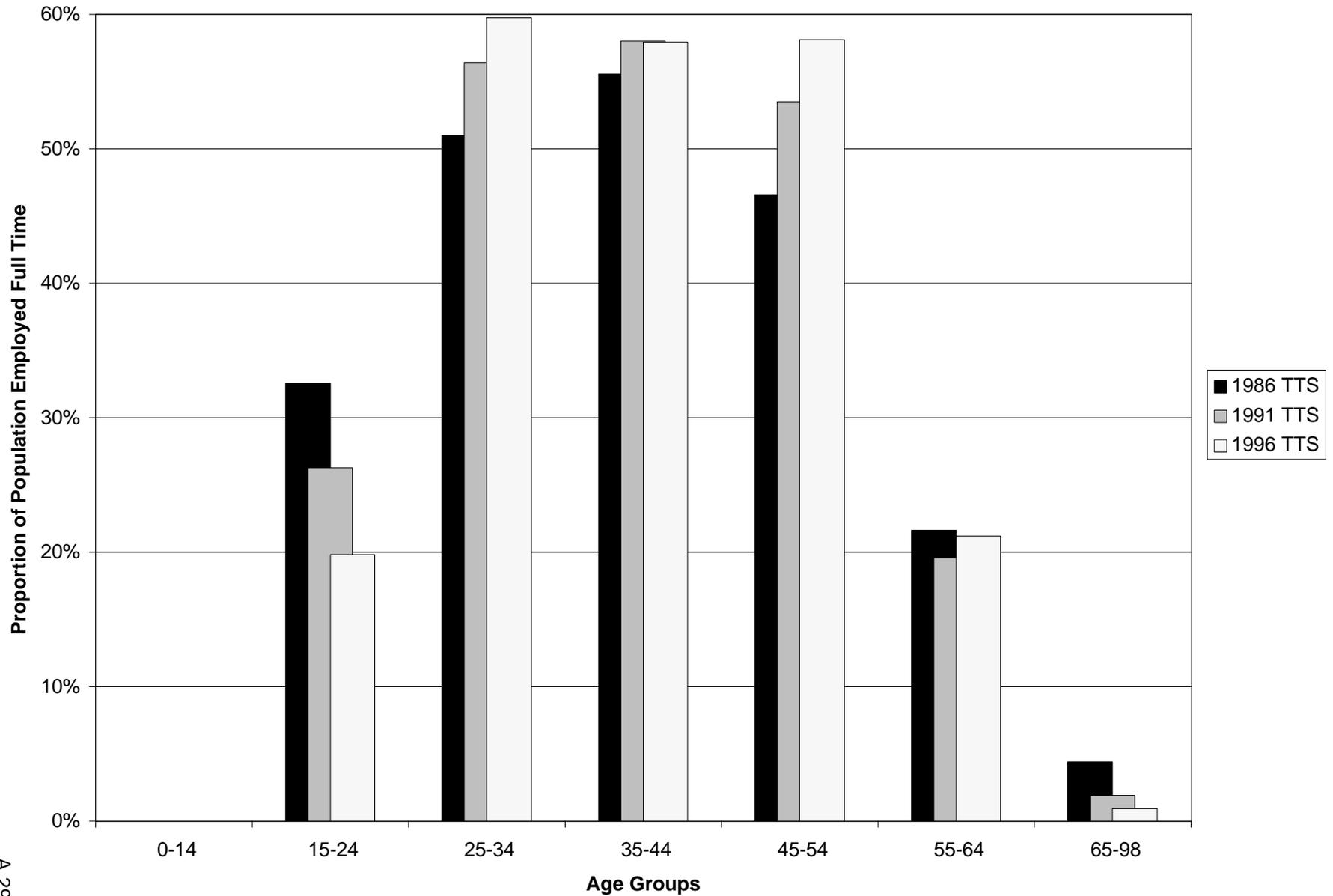


Chart 8B - Changes in Part Time Labour Force Activity for Women Living in Durham Region

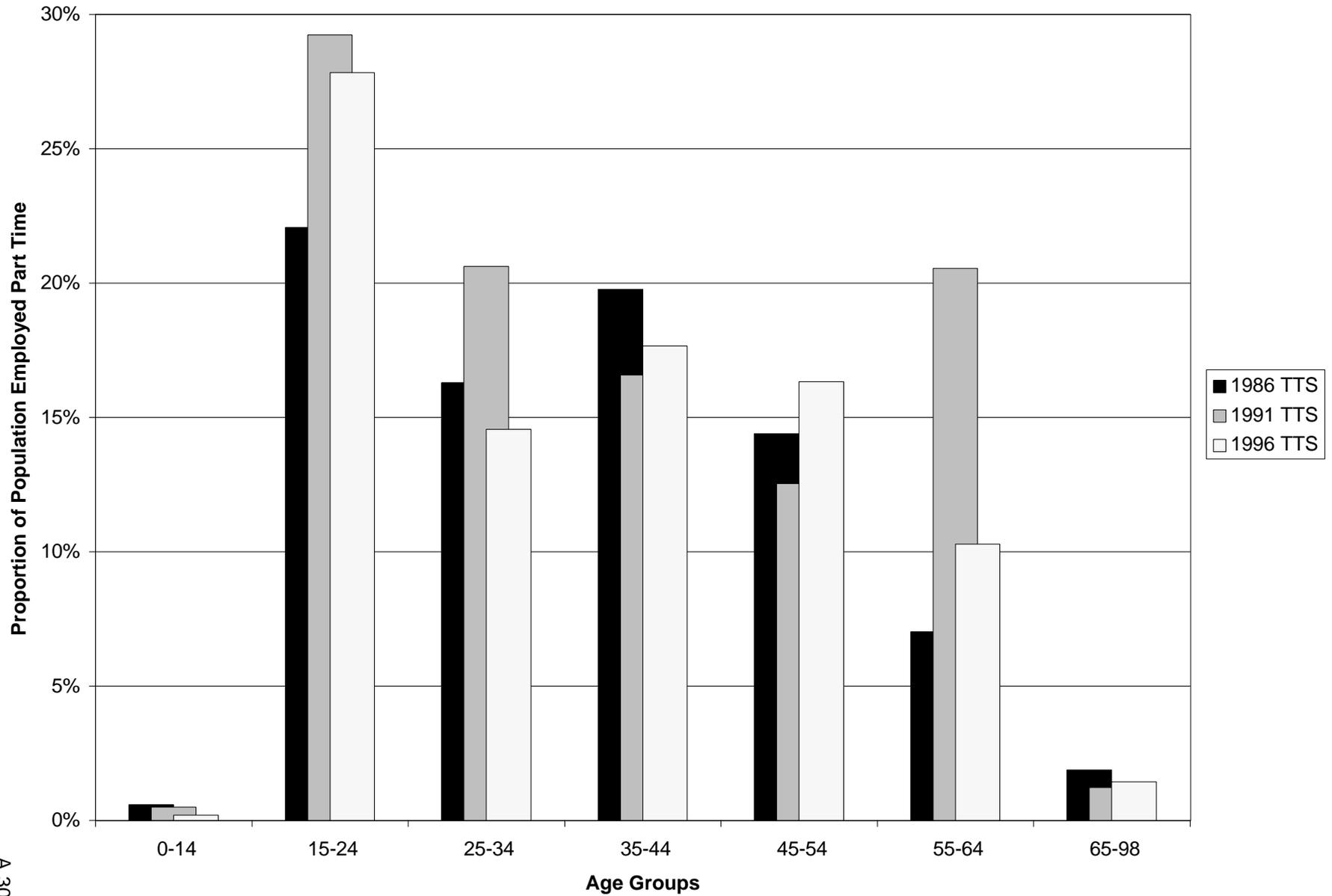
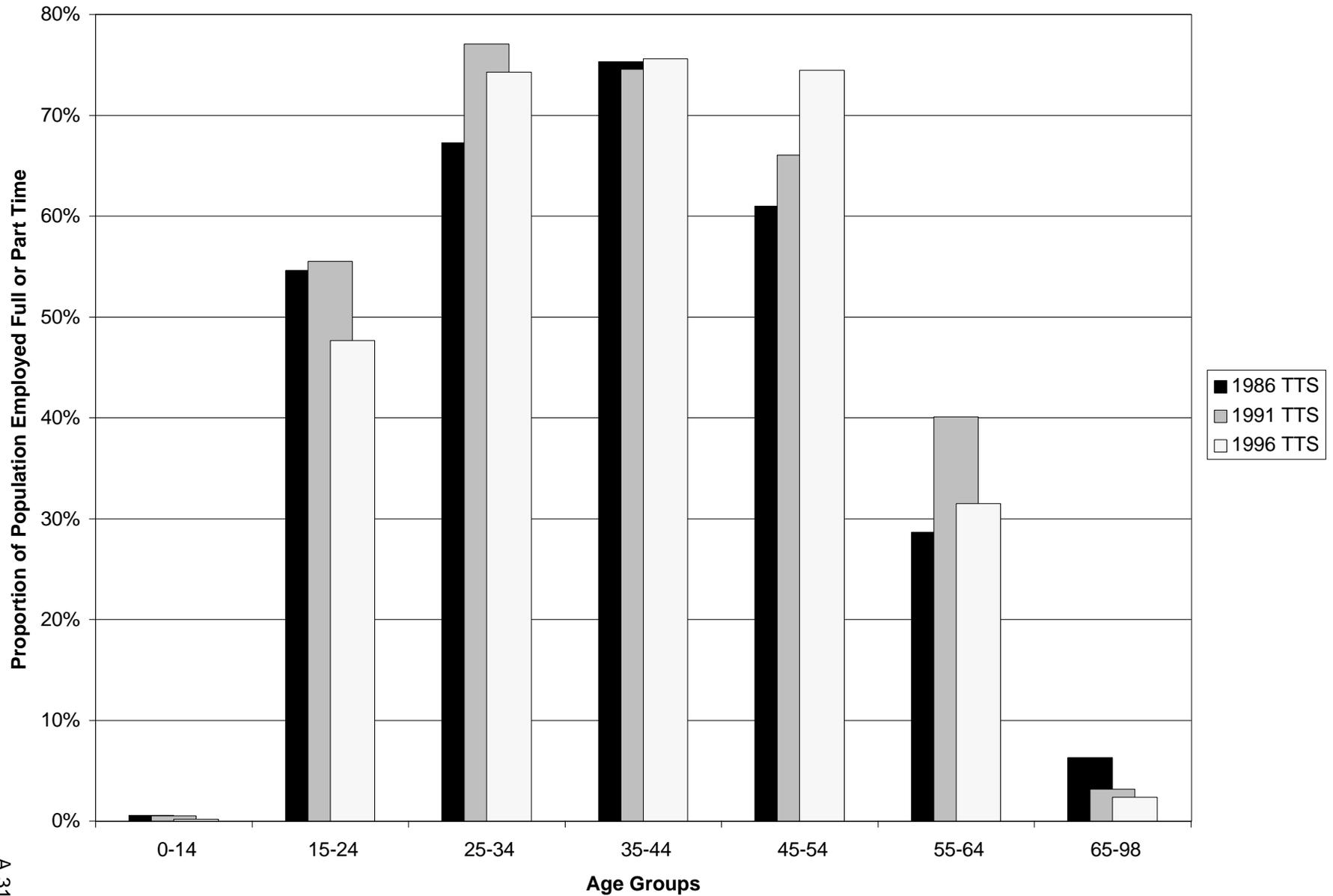


Chart 8C - Changes in Total Labour Force Activity for Women Living in Durham Region



Employment Status for Women Living in Durham Region

Employed Full Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	0	0	0	0
15-24	7609	6349	4936	18895
25-34	16099	23409	22754	62262
35-44	14753	19655	25745	60153
45-54	7390	12319	16779	36487
55-64	2480	2628	3240	8347
65-98	501	334	196	1031
Refused	446	531	143	1120
Total	49277	65226	73793	188296

Full Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.0%	0.0%	0.0%
15-24	32.6%	26.3%	19.8%
25-34	51.0%	56.4%	59.8%
35-44	55.6%	58.0%	58.0%
45-54	46.6%	53.5%	58.1%
55-64	21.6%	19.6%	21.2%
65-98	4.4%	1.9%	0.9%
Refused	55.1%	33.0%	30.3%
Total	30.8%	32.0%	32.6%

Employed Part Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	226	242	101	569
15-24	5161	7061	6936	19158
25-34	5144	8555	5540	19240
35-44	5249	5616	7849	18714
45-54	2285	2887	4715	9886
55-64	806	2758	1569	5133
65-98	214	211	309	734
Refused	111	394	0	505
Total	19196	27724	27019	73940

Part Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.6%	0.5%	0.2%
15-24	22.1%	29.2%	27.8%
25-34	16.3%	20.6%	14.5%
35-44	19.8%	16.6%	17.7%
45-54	14.4%	12.5%	16.3%
55-64	7.0%	20.5%	10.3%
65-98	1.9%	1.2%	1.4%
Refused	13.7%	24.4%	0.0%
Total	12.0%	13.6%	11.9%

Not Employed

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	38545	48454	53013	140012
15-24	10606	10745	13039	34389
25-34	10327	9518	9787	29633
35-44	6548	8619	10832	26000
45-54	6189	7819	7377	21385
55-64	8186	8039	10459	26683
65-98	10663	16746	20922	48331
Refused	252	686	329	1268
Total	91315	110628	125759	327702

Total Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.6%	0.5%	0.2%
15-24	54.6%	55.5%	47.7%
25-34	67.3%	77.1%	74.3%
35-44	75.3%	74.6%	75.6%
45-54	61.0%	66.0%	74.4%
55-64	28.6%	40.1%	31.5%
65-98	6.3%	3.2%	2.4%
Refused	68.8%	57.4%	30.3%
Total	42.9%	45.7%	44.5%

Total Population

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	38770	48697	53114	140581
15-24	23376	24155	24911	72443
25-34	31570	41483	38081	111134
35-44	26550	33891	44426	104867
45-54	15863	23025	28870	67759
55-64	11471	13425	15268	40164
65-98	11378	17292	21427	50096
Refused	809	1611	473	2893
Total	159788	203577	226571	589937

Chart 9A - Changes in Full Time Labour Force Activity for Men Living in Halton Region

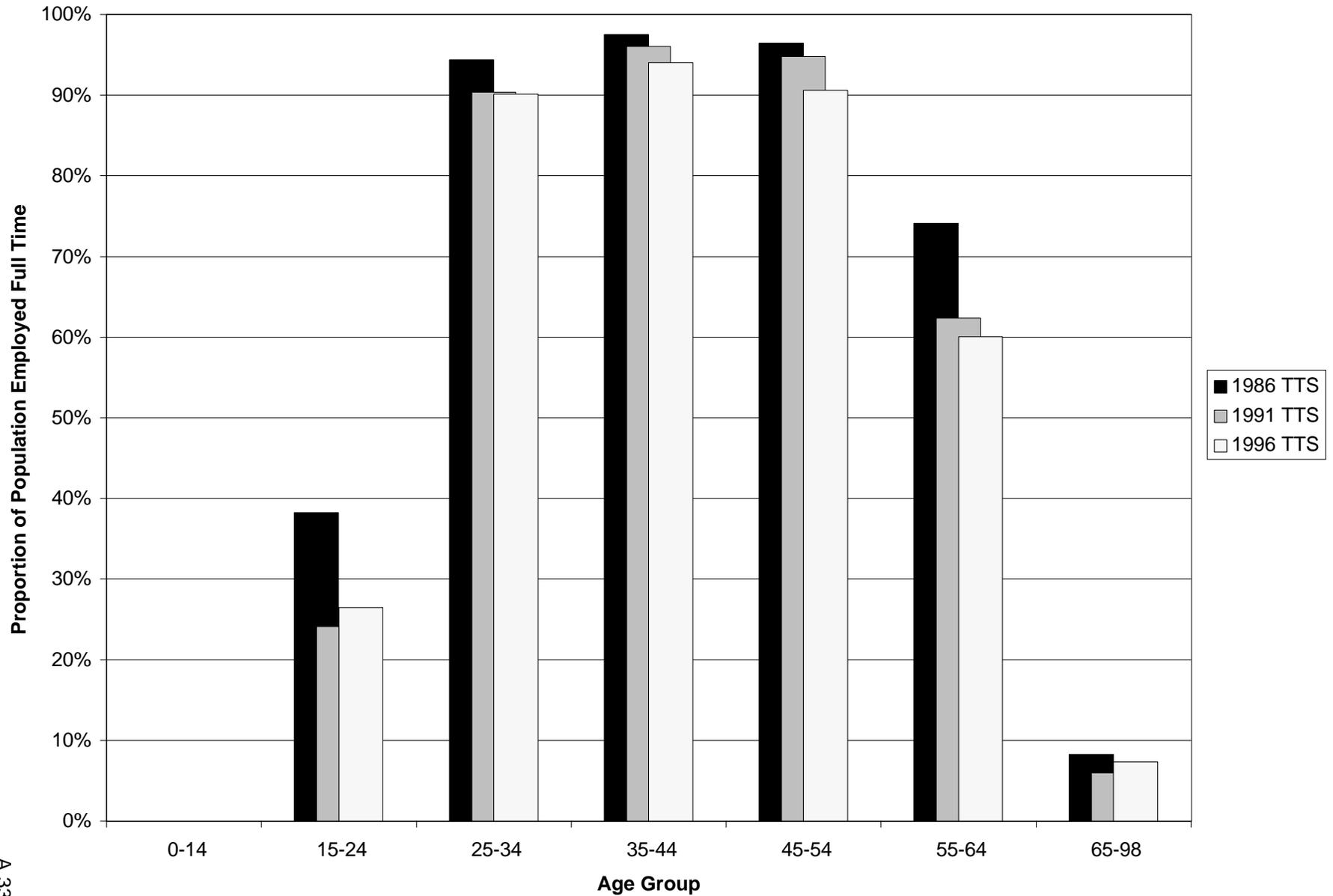


Chart 9B - Changes in Part Time Labour Force Activity for Men Living in Halton Region

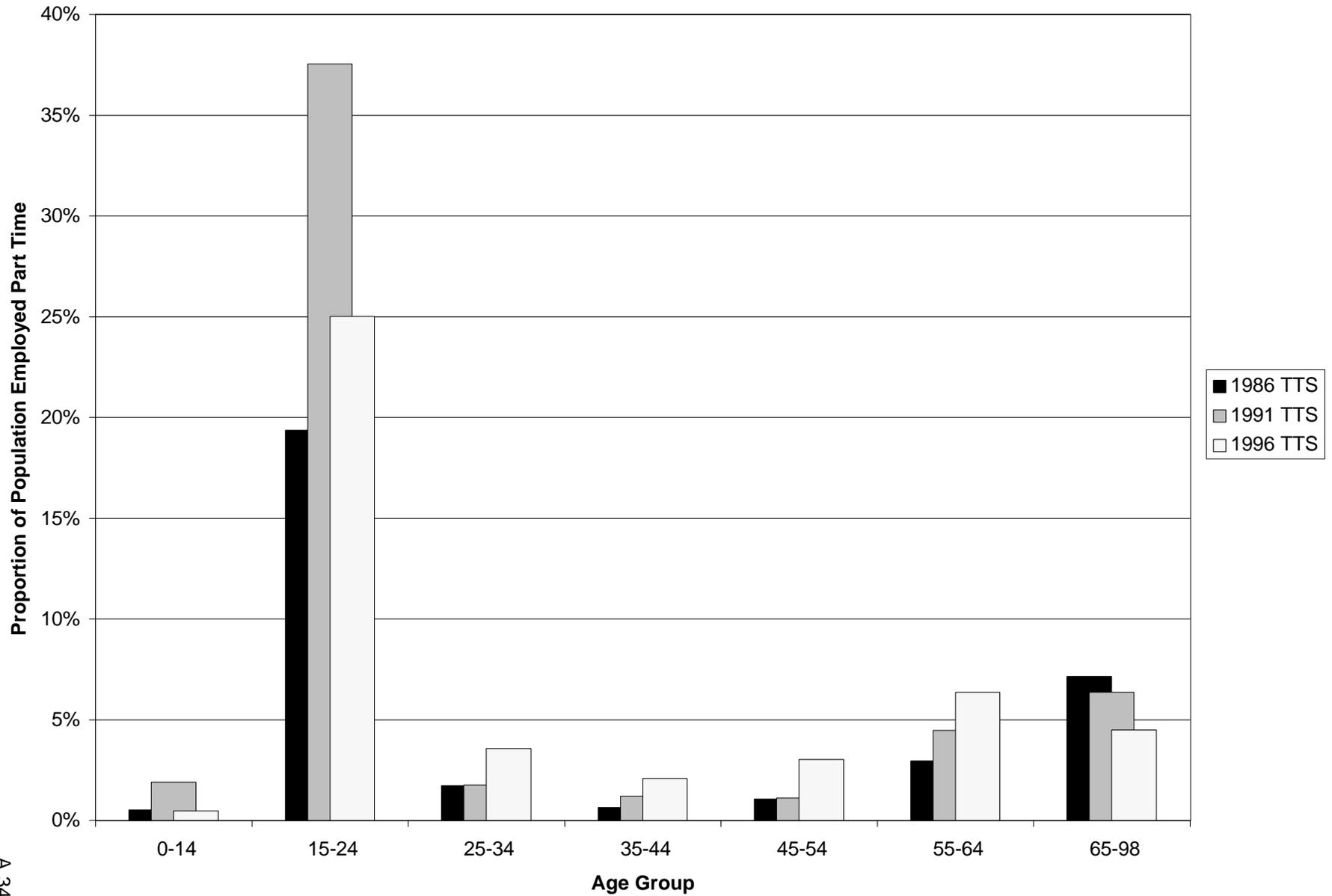
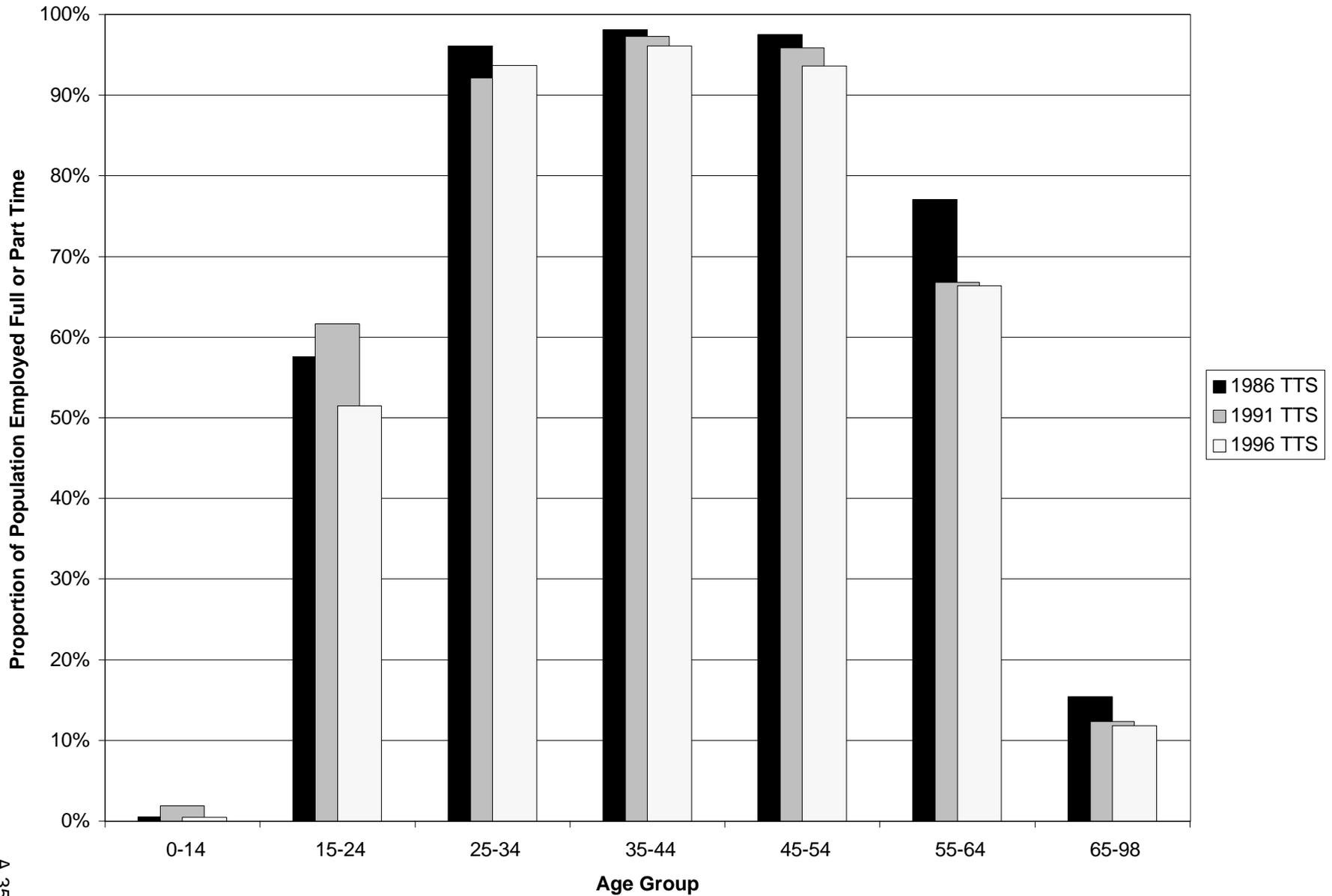


Chart 9C - Changes in Total Labour Force Activity for Men Living in Halton Region



Employment Status for Men Living in Halton Region

Employed Full Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	0	0	0	0
15-24	8190	4450	4939	17580
25-34	17821	21002	20729	59552
35-44	22293	23822	27293	73407
45-54	16306	21320	21014	58640
55-64	9073	8024	8611	25708
65-98	773	709	1043	2524
Refused	361	1196	422	1979
Total	74816	80522	84051	239389

Full Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.0%	0.0%	0.0%
15-24	38.2%	24.1%	26.5%
25-34	94.4%	90.4%	90.1%
35-44	97.5%	96.1%	94.0%
45-54	96.4%	94.8%	90.6%
55-64	74.1%	62.3%	60.0%
65-98	8.3%	6.0%	7.4%
Refused	72.9%	73.4%	58.7%
Total	57.1%	53.8%	52.2%

Employed Part Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	152	652	178	983
15-24	4145	6933	4667	15745
25-34	324	408	819	1552
35-44	144	298	602	1044
45-54	181	249	701	1132
55-64	362	574	912	1847
65-98	669	754	635	2058
Refused	18	0	99	117
Total	5995	9868	8614	24478

Part Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.5%	1.9%	0.5%
15-24	19.4%	37.5%	25.0%
25-34	1.7%	1.8%	3.6%
35-44	0.6%	1.2%	2.1%
45-54	1.1%	1.1%	3.0%
55-64	3.0%	4.5%	6.4%
65-98	7.1%	6.4%	4.5%
Refused	3.6%	0.0%	13.8%
Total	4.6%	6.6%	5.4%

Not Employed

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	28764	33690	37622	100077
15-24	9085	7088	9049	25222
25-34	733	1825	1455	4014
35-44	428	677	1138	2243
45-54	419	924	1474	2817
55-64	2805	4272	4821	11899
65-98	7917	10402	12504	30823
Refused	117	434	198	748
Total	50268	59313	68261	177842

Total Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.5%	1.9%	0.5%
15-24	57.6%	61.6%	51.5%
25-34	96.1%	92.1%	93.7%
35-44	98.1%	97.3%	96.1%
45-54	97.5%	95.9%	93.6%
55-64	77.1%	66.8%	66.4%
65-98	15.4%	12.3%	11.8%
Refused	76.5%	73.4%	72.5%
Total	61.7%	60.4%	57.6%

Total Population

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	28917	34343	37800	101060
15-24	21420	18471	18655	58546
25-34	18878	23235	23004	65117
35-44	22864	24797	29033	76694
45-54	16906	22493	23189	62588
55-64	12240	12870	14344	39454
65-98	9359	11864	14182	35405
Refused	496	1629	719	2844
Total	131080	149703	160926	441708

Chart 10A - Changes in Full Time Labour Force Activity for Women Living in Halton Region

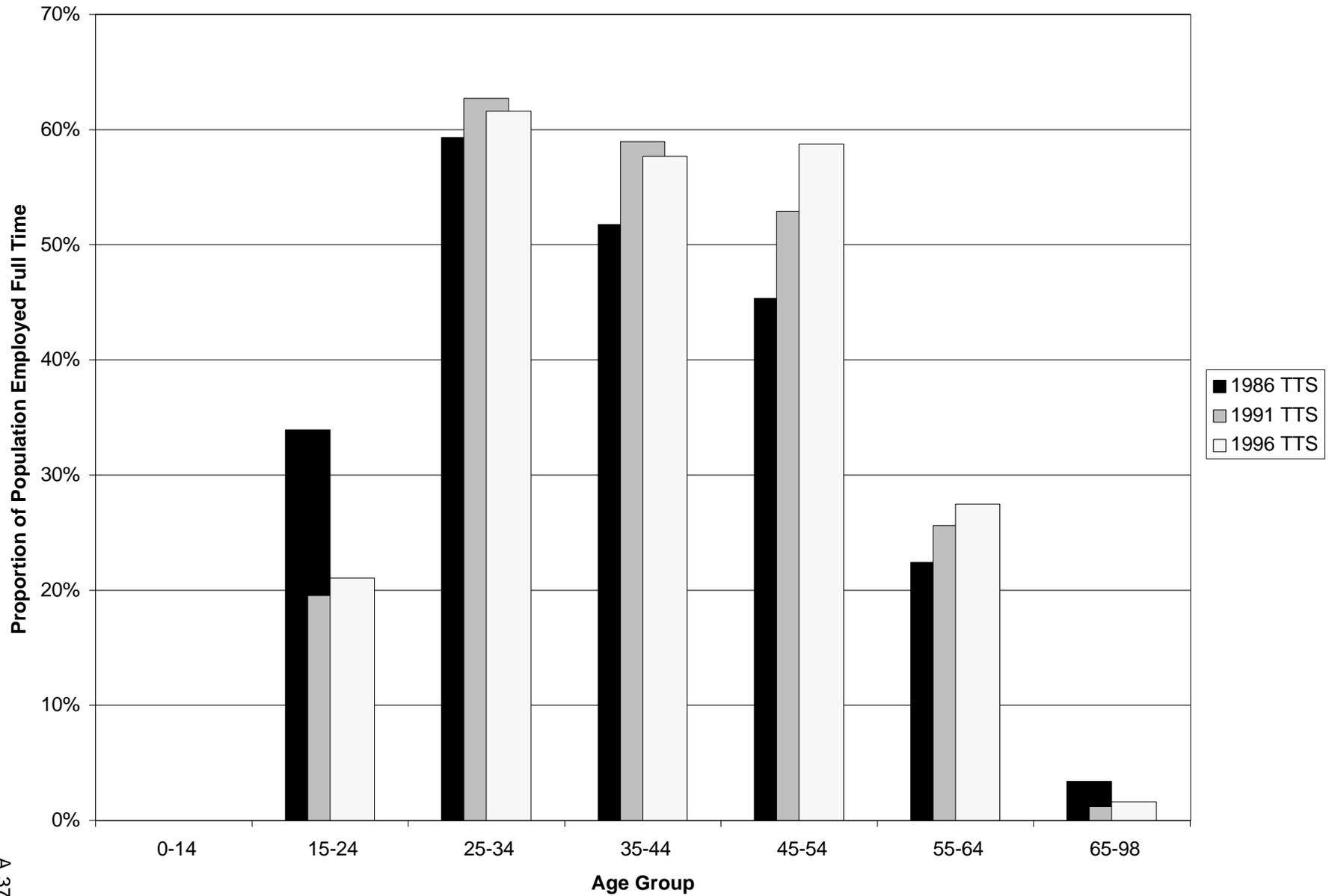


Chart 10B - Changes in Part Time Labour Force Activity for Women Living in Halton Region

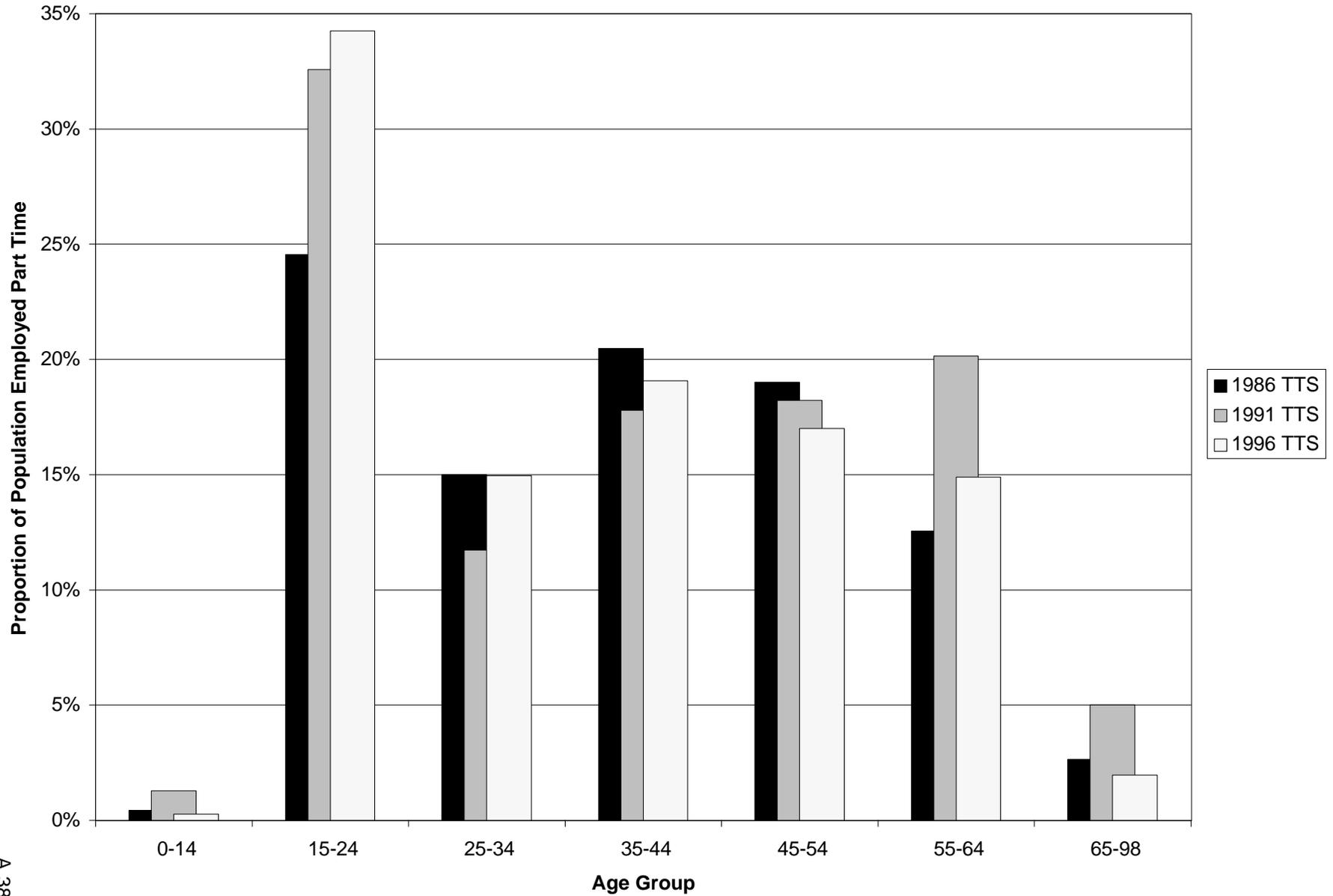
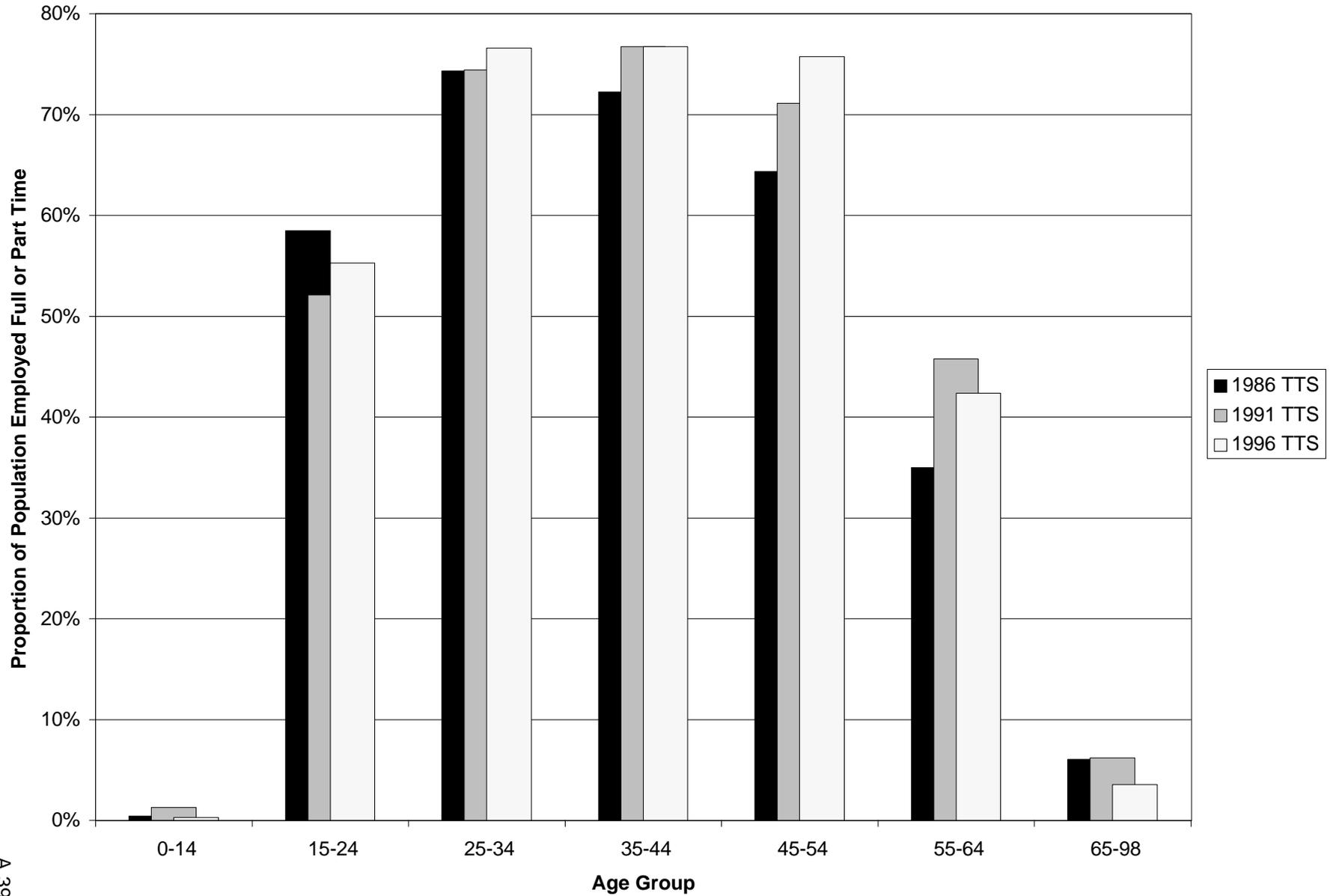


Chart 10C - Changes in Total Labour Force Activity for Women Living in Halton Region



Employment Status for Women Living in Halton Region

Employed Full Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	0	0	0	0
15-24	6505	3411	3663	13579
25-34	12793	16550	16038	45381
35-44	12298	16208	17924	46430
45-54	7474	10294	14004	31772
55-64	2672	3911	4080	10663
65-98	368	177	292	837
Refused	252	893	356	1500
Total	42361	51443	56358	150162

Full Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.0%	0.0%	0.0%
15-24	33.9%	19.5%	21.0%
25-34	59.3%	62.7%	61.6%
35-44	51.8%	59.0%	57.7%
45-54	45.3%	52.9%	58.7%
55-64	22.4%	25.6%	27.5%
65-98	3.4%	1.2%	1.6%
Refused	33.8%	38.3%	40.1%
Total	31.8%	33.2%	33.7%

Employed Part Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	126	407	97	629
15-24	4710	5693	5962	16365
25-34	3234	3094	3895	10222
35-44	4866	4893	5929	15688
45-54	3132	3545	4055	10732
55-64	1497	3079	2212	6788
65-98	289	730	357	1376
Refused	69	74	146	288
Total	17922	21515	22652	62088

Part Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.4%	1.3%	0.3%
15-24	24.6%	32.6%	34.2%
25-34	15.0%	11.7%	15.0%
35-44	20.5%	17.8%	19.1%
45-54	19.0%	18.2%	17.0%
55-64	12.6%	20.2%	14.9%
65-98	2.7%	5.0%	2.0%
Refused	9.2%	3.2%	16.4%
Total	13.4%	13.9%	13.5%

Not Employed

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	28661	31470	34808	94939
15-24	7967	8365	7784	24116
25-34	5531	6748	6098	18377
35-44	6592	6390	7236	20218
45-54	5879	5621	5783	17283
55-64	7749	8287	8552	24589
65-98	10233	13706	17540	41479
Refused	426	1365	385	2176
Total	73038	81952	88187	243178

Total Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.4%	1.3%	0.3%
15-24	58.5%	52.1%	55.3%
25-34	74.3%	74.4%	76.6%
35-44	72.2%	76.8%	76.7%
45-54	64.3%	71.1%	75.7%
55-64	35.0%	45.8%	42.4%
65-98	6.0%	6.2%	3.6%
Refused	43.0%	41.5%	56.6%
Total	45.2%	47.1%	47.3%

Total Population

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	28786	31877	34905	95568
15-24	19182	17469	17409	54060
25-34	21558	26392	26031	73980
35-44	23756	27490	31090	82336
45-54	16485	19460	23843	59787
55-64	11918	15277	14844	42040
65-98	10890	14612	18189	43692
Refused	746	2332	887	3965
Total	133321	154910	167197	455428

Chart 11A - Changes in Full Time Labour Force Activity for Men Living in Hamilton-Wentworth Region

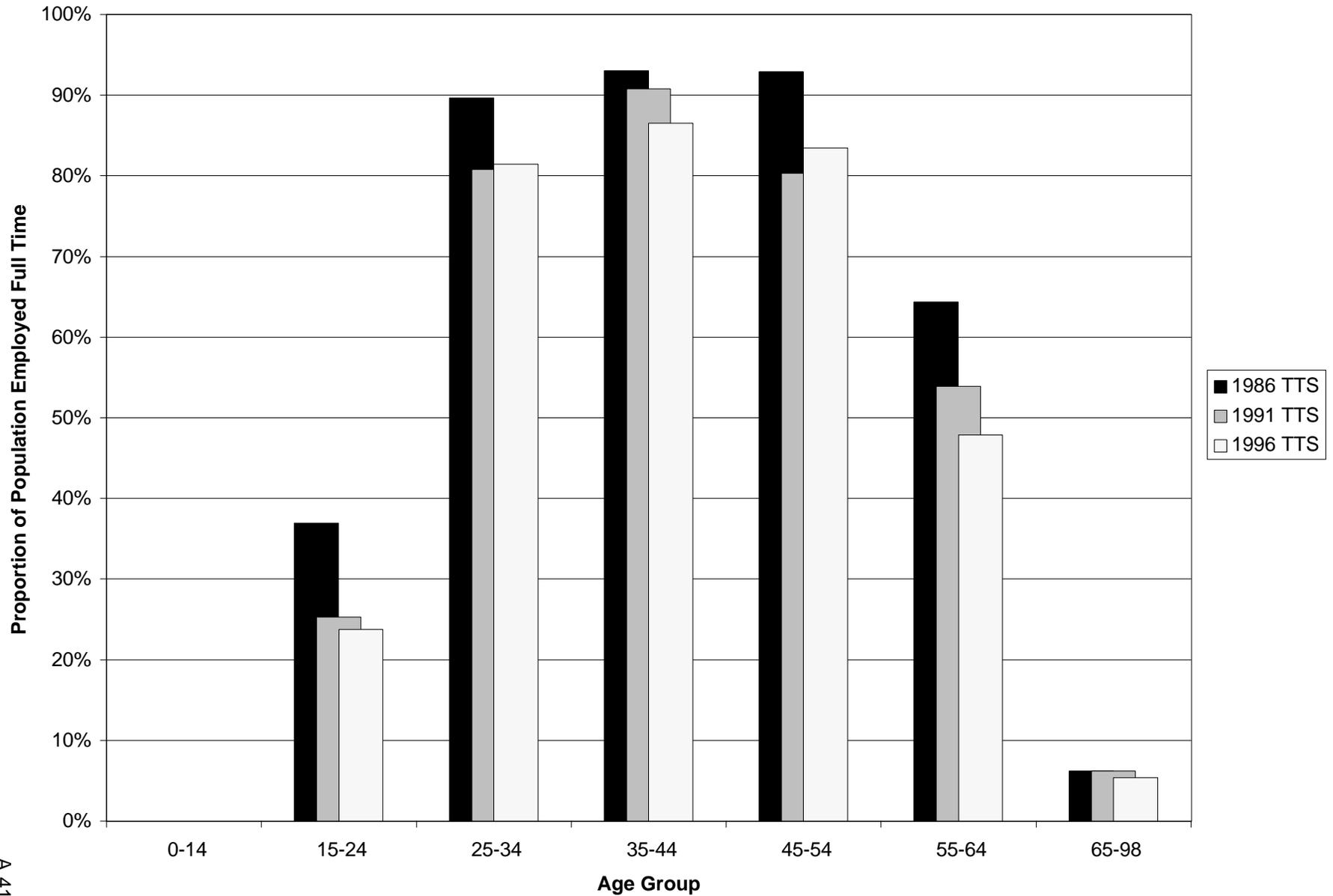


Chart 11B - Changes in Part Time Labour Force Activity for Men Living in Hamilton-Wentworth Region

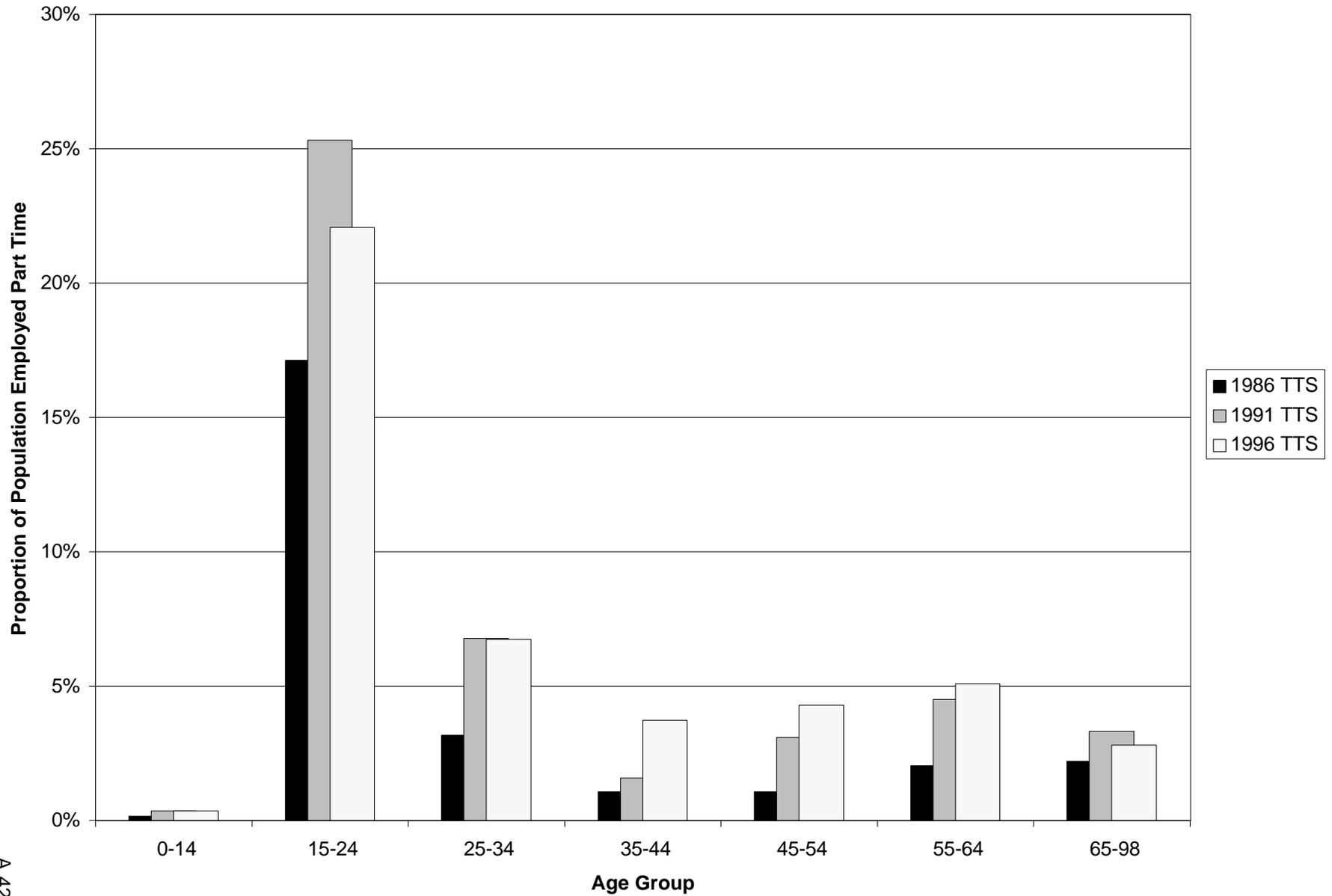
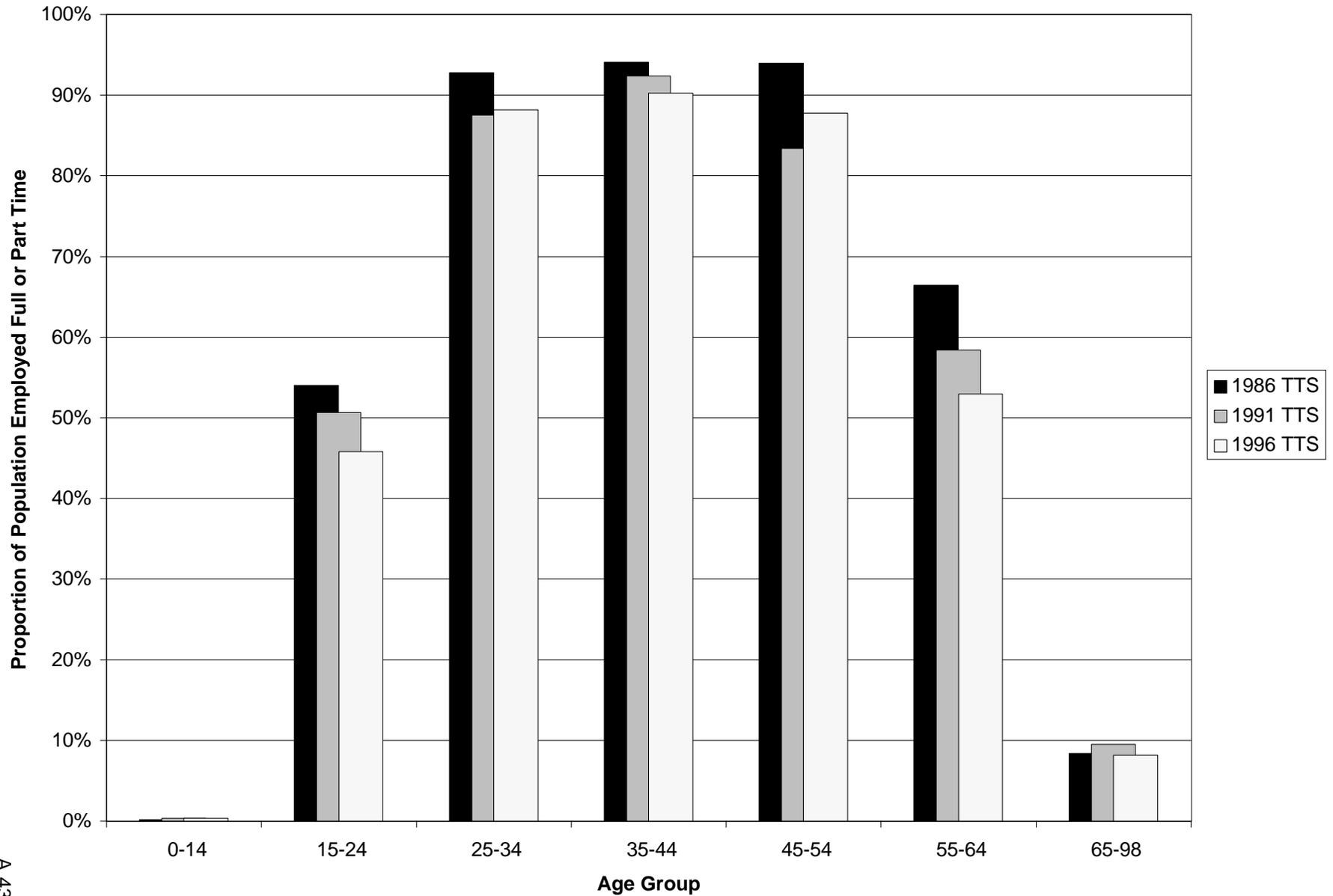


Chart 11C - Changes in Total Labour Force Activity for Men Living in Hamilton-Wentworth Region



Employment Status for Men Living in Hamilton-Wentworth Region

Employed Full Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	0	0	0	0
15-24	12356	7448	6758	26562
25-34	31745	33289	29242	94275
35-44	26691	27654	31642	85987
45-54	20792	17778	22978	61548
55-64	15019	11826	9655	36501
65-98	1244	1585	1457	4286
Refused	400	497	265	1161
Total	108246	100077	101997	310320

Full Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.0%	0.0%	0.0%
15-24	36.9%	25.3%	23.8%
25-34	89.6%	80.8%	81.4%
35-44	93.0%	90.8%	86.5%
45-54	92.9%	80.3%	83.5%
55-64	64.4%	53.9%	47.8%
65-98	6.2%	6.2%	5.4%
Refused	63.0%	53.0%	37.6%
Total	52.2%	46.5%	45.1%

Employed Part Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	67	154	171	392
15-24	5733	7449	6278	19460
25-34	1125	2794	2417	6336
35-44	306	480	1361	2147
45-54	237	682	1182	2102
55-64	476	989	1028	2493
65-98	442	844	760	2047
Refused	0	0	50	50
Total	8385	13392	13249	35026

Part Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.2%	0.4%	0.3%
15-24	17.1%	25.3%	22.1%
25-34	3.2%	6.8%	6.7%
35-44	1.1%	1.6%	3.7%
45-54	1.1%	3.1%	4.3%
55-64	2.0%	4.5%	5.1%
65-98	2.2%	3.3%	2.8%
Refused	0.0%	0.0%	7.1%
Total	4.0%	6.2%	5.9%

Not Employed

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	43194	43425	49348	135967
15-24	15386	14531	15411	45328
25-34	2544	5135	4245	11925
35-44	1702	2324	3558	7585
45-54	1345	3677	3375	8397
55-64	7838	9133	9496	26468
65-98	18409	23080	24908	66397
Refused	235	440	389	1063
Total	90654	101745	110729	303129

Total Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.2%	0.4%	0.3%
15-24	54.0%	50.6%	45.8%
25-34	92.8%	87.5%	88.2%
35-44	94.1%	92.4%	90.3%
45-54	94.0%	83.4%	87.7%
55-64	66.4%	58.4%	52.9%
65-98	8.4%	9.5%	8.2%
Refused	63.0%	53.0%	44.8%
Total	56.3%	52.7%	51.0%

Total Population

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	43261	43579	49520	136359
15-24	33475	29428	28447	91350
25-34	35414	41218	35904	112536
35-44	28699	30458	36561	95718
45-54	22374	22138	27535	72047
55-64	23333	21949	20180	65462
65-98	20095	25509	27125	72730
Refused	634	936	703	2274
Total	207286	215214	225976	648475

Chart 12A - Changes in Full Time Labour Force Activity for Women Living in Hamilton-Wentworth Region

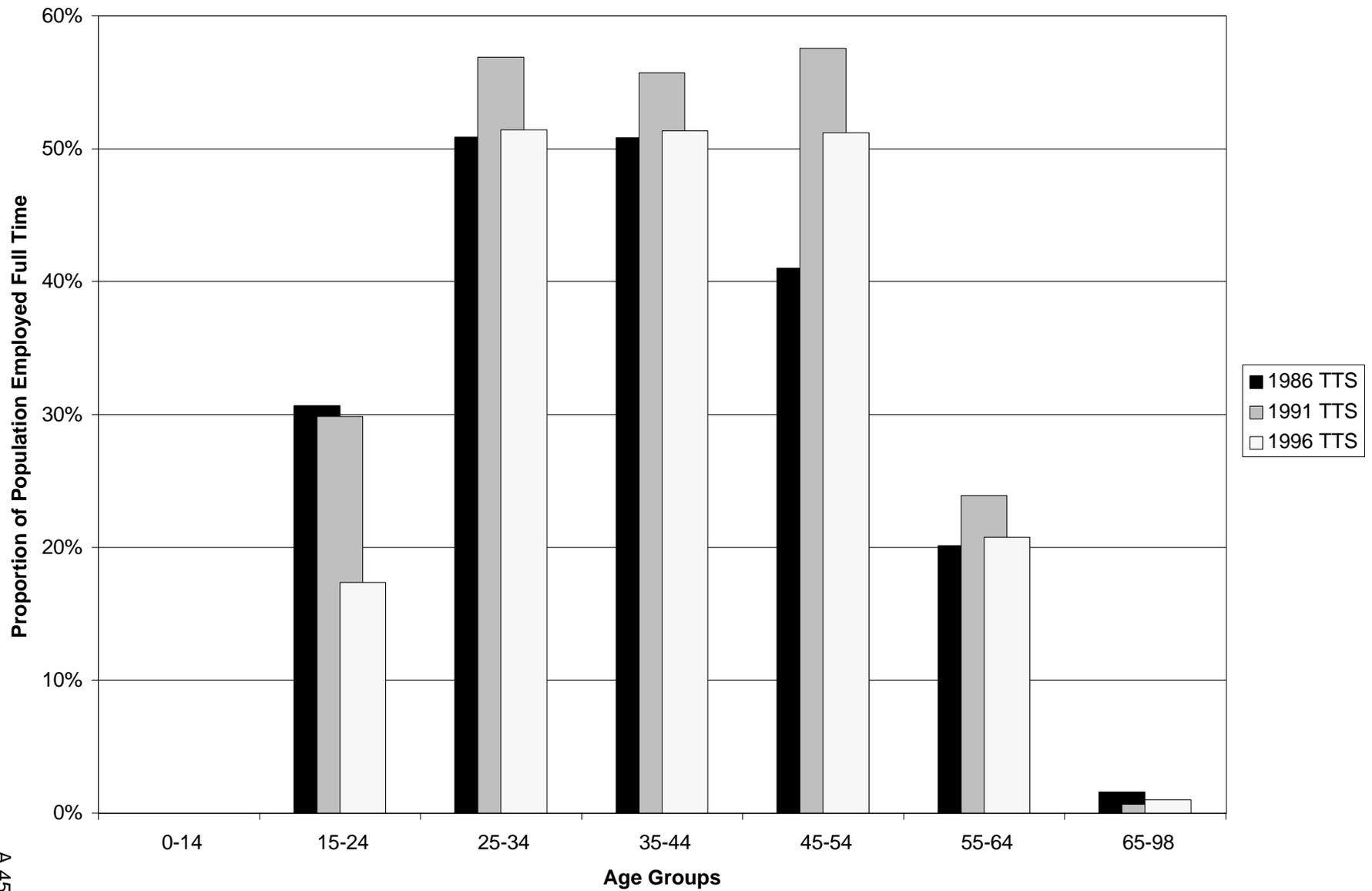


Chart 12B - Changes in Part Time Labour Force Activity for Women Living in Hamilton-Wentworth Region

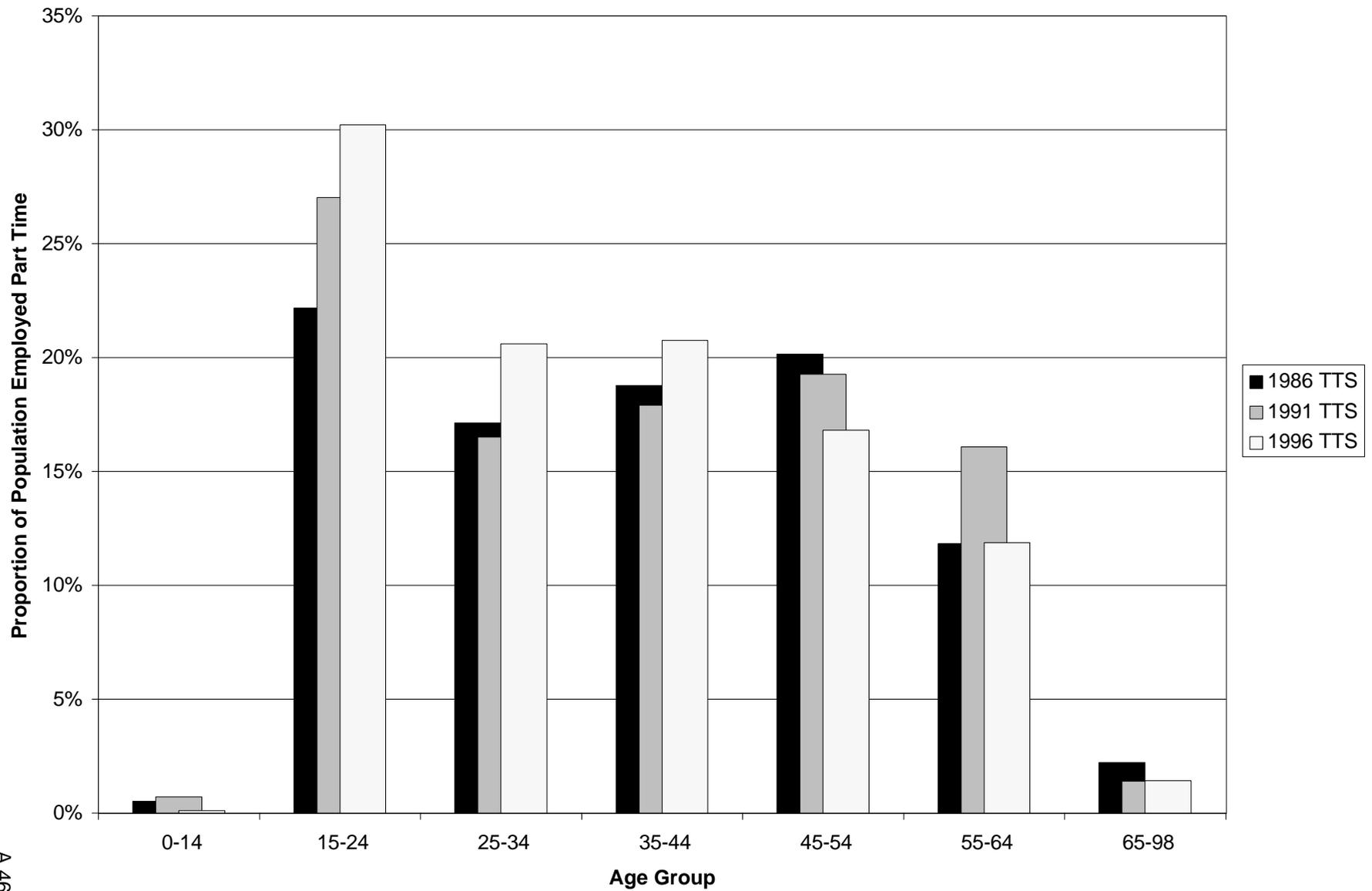
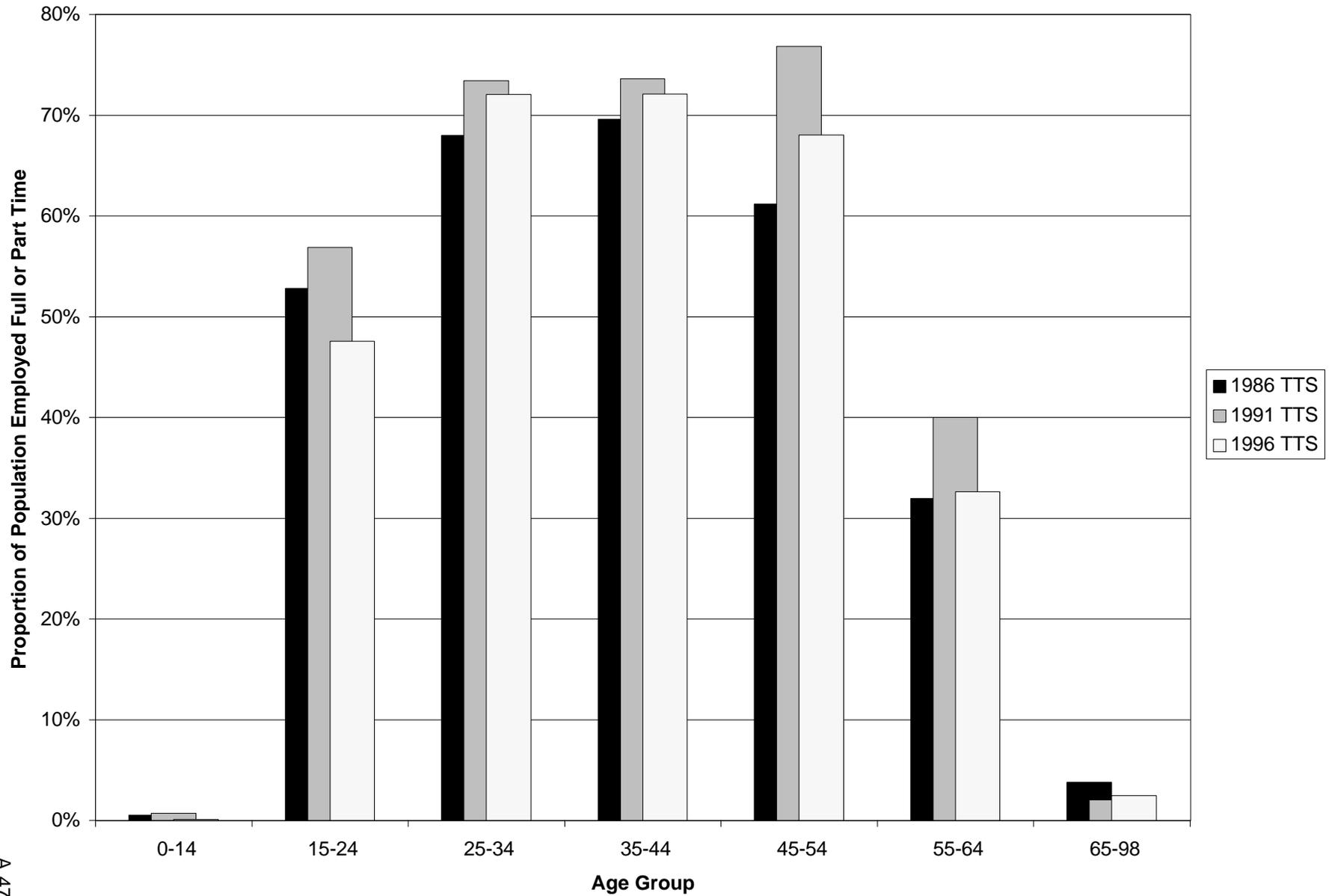


Chart 12C - Changes in Total Labour Force Activity for Women Living in Hamilton-Wentworth Region



Employment Status for Women Living in Hamilton-Wenworth Region

Employed Full Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	0	0	0	0
15-24	10149	8586	5062	23798
25-34	19082	23587	19446	62114
35-44	15600	17499	19188	52287
45-54	9577	12510	14897	36983
55-64	4821	6244	4330	15395
65-98	404	221	353	978
Refused	384	704	259	1348
Total	60017	69350	63534	192902

Full Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.0%	0.0%	0.0%
15-24	30.6%	29.9%	17.4%
25-34	50.9%	56.9%	51.4%
35-44	50.8%	55.7%	51.3%
45-54	41.0%	57.6%	51.2%
55-64	20.2%	23.9%	20.8%
65-98	1.6%	0.7%	1.0%
Refused	37.7%	32.3%	25.6%
Total	27.8%	30.5%	26.9%

Employed Part Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	208	299	45	552
15-24	7341	7771	8805	23917
25-34	6427	6845	7785	21057
35-44	5759	5621	7759	19139
45-54	4705	4189	4893	13787
55-64	2832	4204	2474	9509
65-98	569	469	501	1538
Refused	242	76	155	473
Total	28083	29475	32416	89973

Part Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.5%	0.7%	0.1%
15-24	22.2%	27.0%	30.2%
25-34	17.1%	16.5%	20.6%
35-44	18.8%	17.9%	20.8%
45-54	20.2%	19.3%	16.8%
55-64	11.8%	16.1%	11.9%
65-98	2.2%	1.4%	1.4%
Refused	23.8%	3.5%	15.3%
Total	13.0%	12.9%	13.7%

Not Employed

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	40292	42071	45471	127835
15-24	15622	12407	15277	43307
25-34	11998	11025	10567	33590
35-44	9332	8286	10428	28046
45-54	9063	5036	9303	23402
55-64	16273	15681	14042	45996
65-98	24619	32934	34155	91708
Refused	393	1402	598	2393
Total	127593	128841	139842	396276

Total Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.5%	0.7%	0.1%
15-24	52.8%	56.9%	47.6%
25-34	68.0%	73.4%	72.0%
35-44	69.6%	73.6%	72.1%
45-54	61.2%	76.8%	68.0%
55-64	32.0%	40.0%	32.6%
65-98	3.8%	2.0%	2.4%
Refused	61.5%	35.7%	40.9%
Total	40.8%	43.4%	40.7%

Total Population

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	40500	42370	45516	128387
15-24	33113	28765	29145	91022
25-34	37507	41457	37798	116761
35-44	30691	31406	37375	99472
45-54	23344	21735	29093	74172
55-64	23926	26129	20845	70900
65-98	25593	33623	35009	94224
Refused	1019	2182	1012	4213
Total	215693	227667	235792	679151

Chart 13A - Changes in Full Time Labour Force Activity for Men Living in the GTA and Hamilton-Wentworth Region

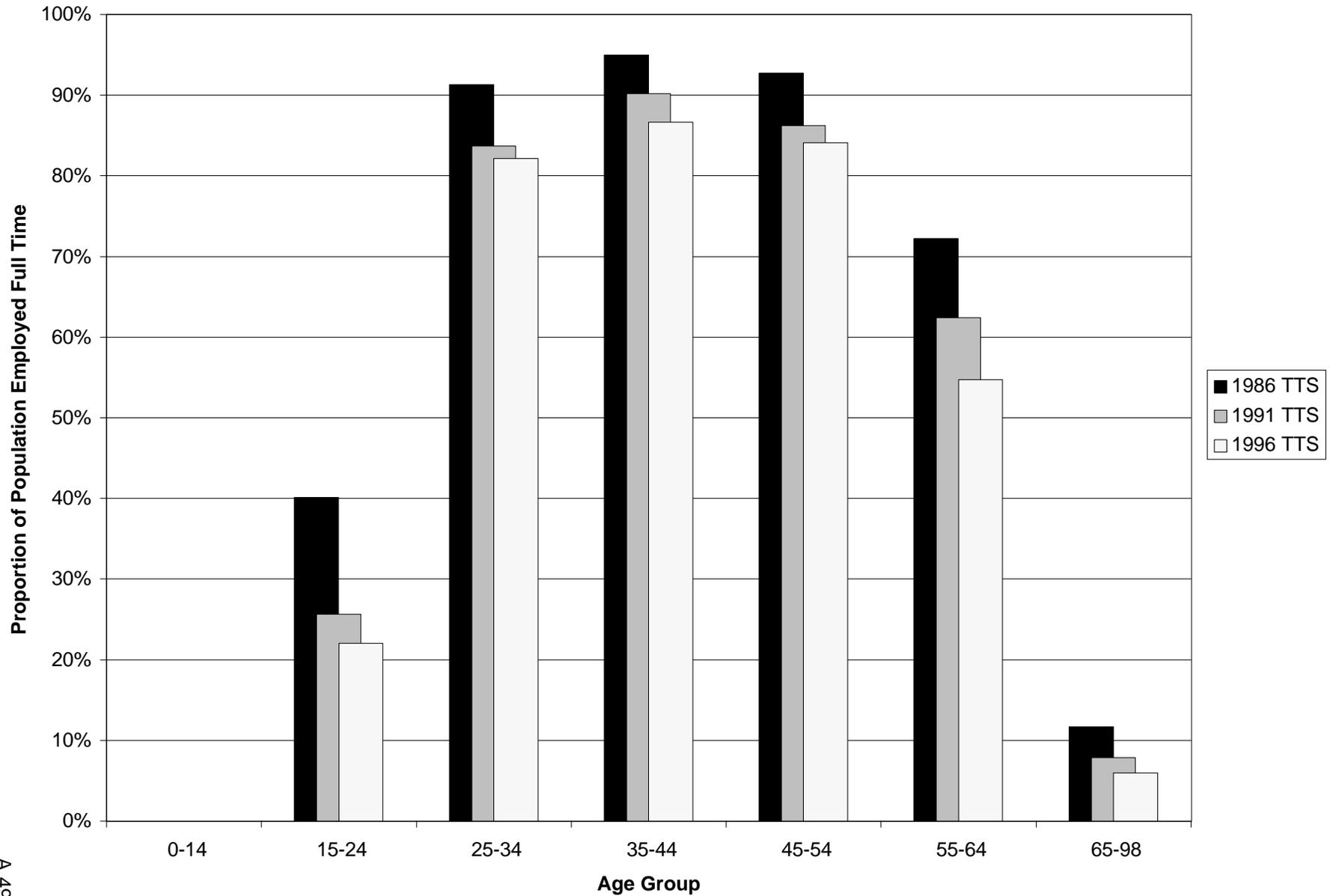


Chart 13B - Changes in Part Time Labour Force Activity for Men Living in the GTA and Hamilton-Wentworth Region

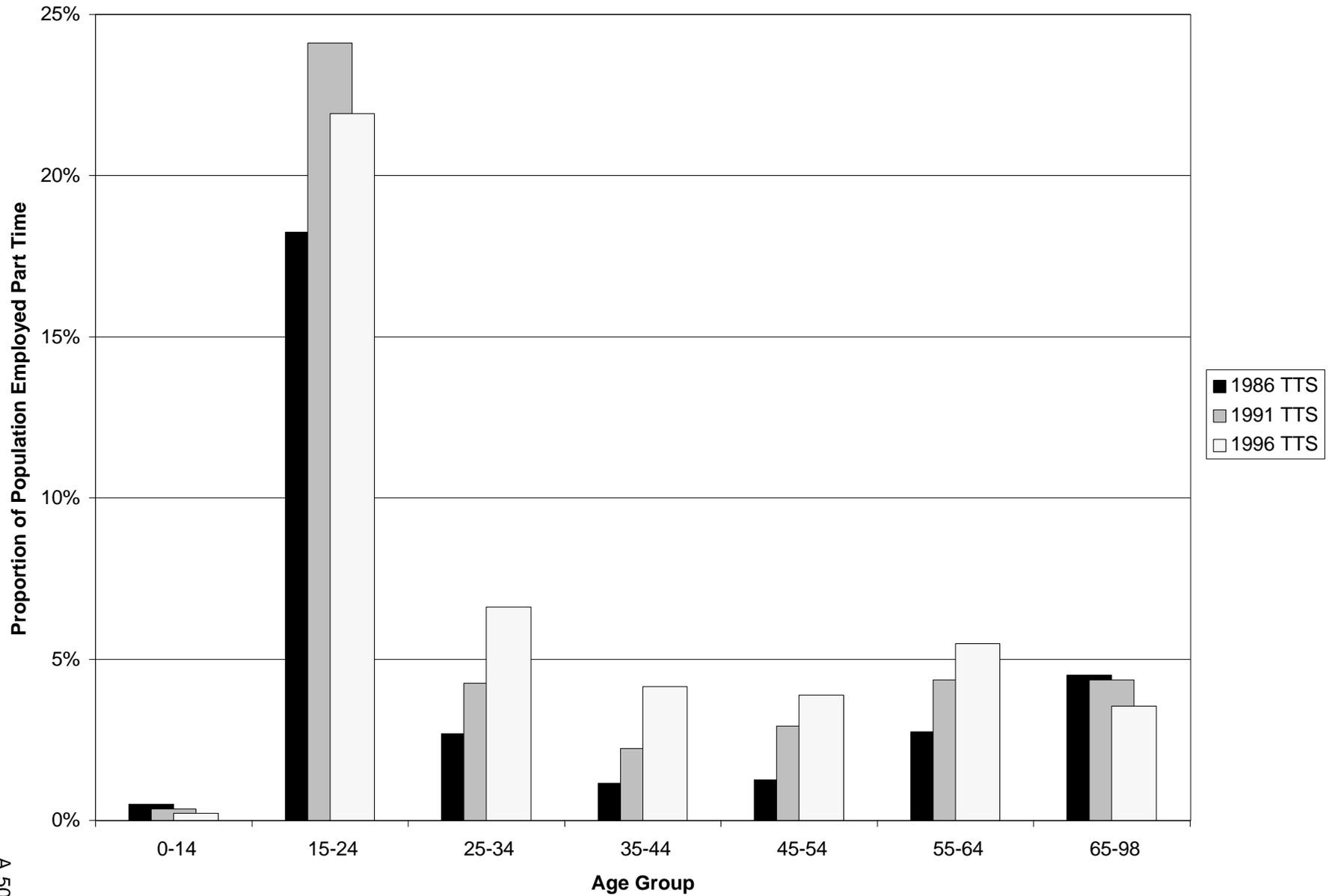
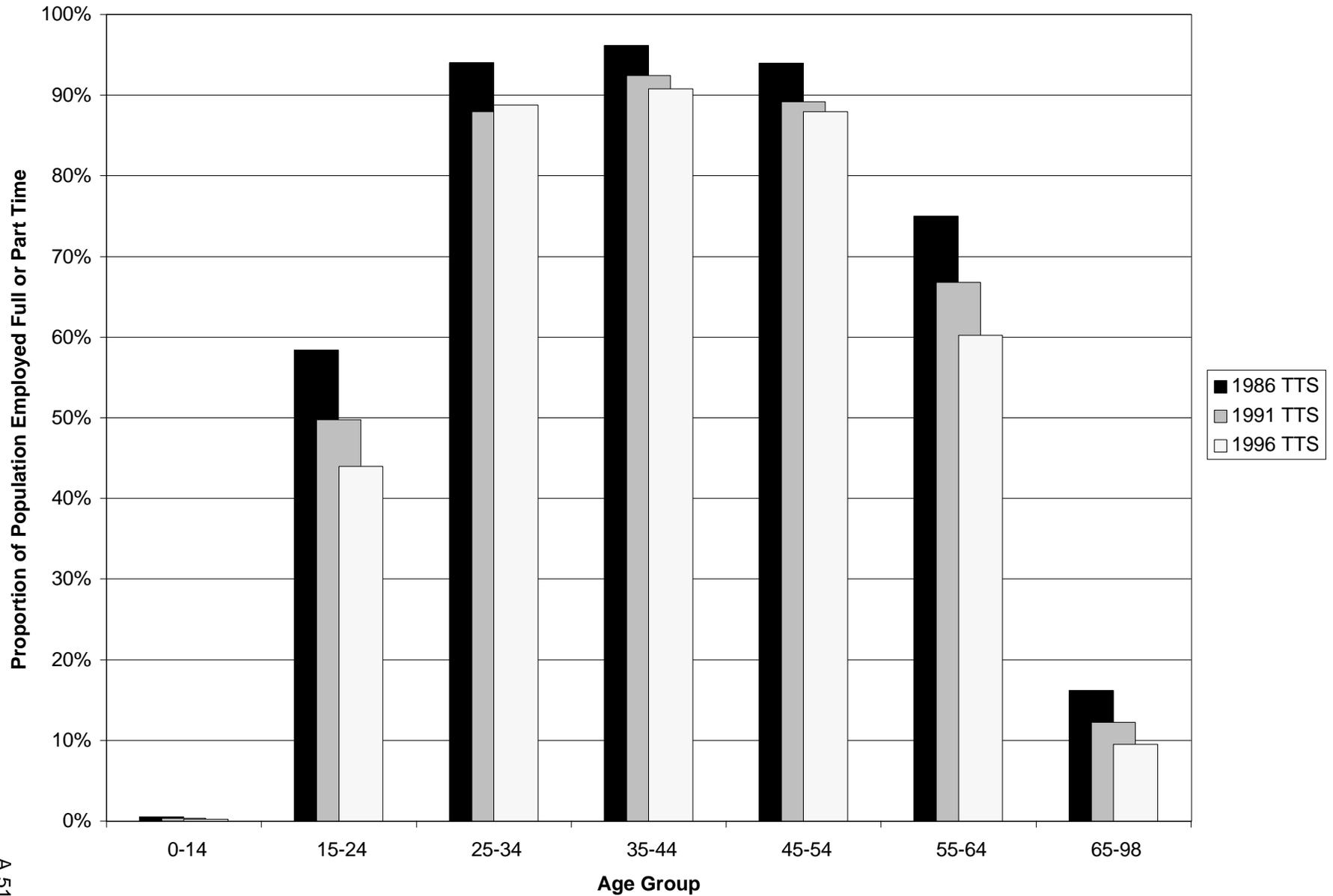


Chart 13C - Changes in Total Labour Force Activity for Men Living in the GTA and Hamilton-Wentworth Region



Employment Status for Men Living in the GTA and Hamilton-Wentworth Region

Employed Full Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	0	0	0	0
15-24	132556	79253	66719	278528
25-34	344562	363609	339512	1047683
35-44	298851	336645	363553	999049
45-54	207938	233048	266591	707576
55-64	134426	119277	107751	361454
65-98	17961	15786	13713	47459
Refused	8016	10528	3175	21719
Total	1144309	1158146	1161013	3463468

Full Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.0%	0.0%	0.0%
15-24	40.2%	25.6%	22.0%
25-34	91.3%	83.7%	82.2%
35-44	95.0%	90.2%	86.6%
45-54	92.7%	86.2%	84.1%
55-64	72.2%	62.4%	54.8%
65-98	11.7%	7.9%	5.9%
Refused	74.1%	61.6%	58.9%
Total	57.4%	51.6%	48.2%

Employed Part Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	2000	1626	1128	4754
15-24	60252	74547	66471	201269
25-34	10172	18468	27361	56001
35-44	3634	8346	17426	29407
45-54	2832	7891	12307	23030
55-64	5125	8320	10799	24245
65-98	6898	8730	8200	23828
Refused	390	719	386	1495
Total	91303	128647	144079	364029

Part Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.5%	0.4%	0.2%
15-24	18.3%	24.1%	21.9%
25-34	2.7%	4.3%	6.6%
35-44	1.2%	2.2%	4.2%
45-54	1.3%	2.9%	3.9%
55-64	2.8%	4.4%	5.5%
65-98	4.5%	4.4%	3.6%
Refused	3.6%	4.2%	7.2%
Total	4.6%	5.7%	6.0%

Not Employed

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	395012	447984	521265	1364260
15-24	137335	155435	169864	462635
25-34	22619	52315	46284	121218
35-44	12174	28212	38661	79047
45-54	13510	29299	38143	80952
55-64	46580	63543	78245	188369
65-98	128405	175567	208873	512844
Refused	2411	5841	1833	10085
Total	758046	958196	1103168	2819412

Total Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.5%	0.4%	0.2%
15-24	58.4%	49.7%	43.9%
25-34	94.0%	88.0%	88.8%
35-44	96.1%	92.4%	90.8%
45-54	94.0%	89.2%	88.0%
55-64	75.0%	66.8%	60.2%
65-98	16.2%	12.3%	9.5%
Refused	77.7%	65.8%	66.0%
Total	62.0%	57.3%	54.2%

Total Population

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	397012	449609	522393	1369014
15-24	330143	309235	303054	942432
25-34	377353	434393	413156	1224902
35-44	314659	373204	419640	1107502
45-54	224280	270238	317041	811558
55-64	186131	191140	196796	574067
65-98	153264	200083	230786	584132
Refused	10818	17088	5394	33299
Total	1993659	2244989	2408260	6646909

Chart 14A - Changes in Full Time Labour Force Activity for Women Living in the GTA and Hamilton-Wentworth Region

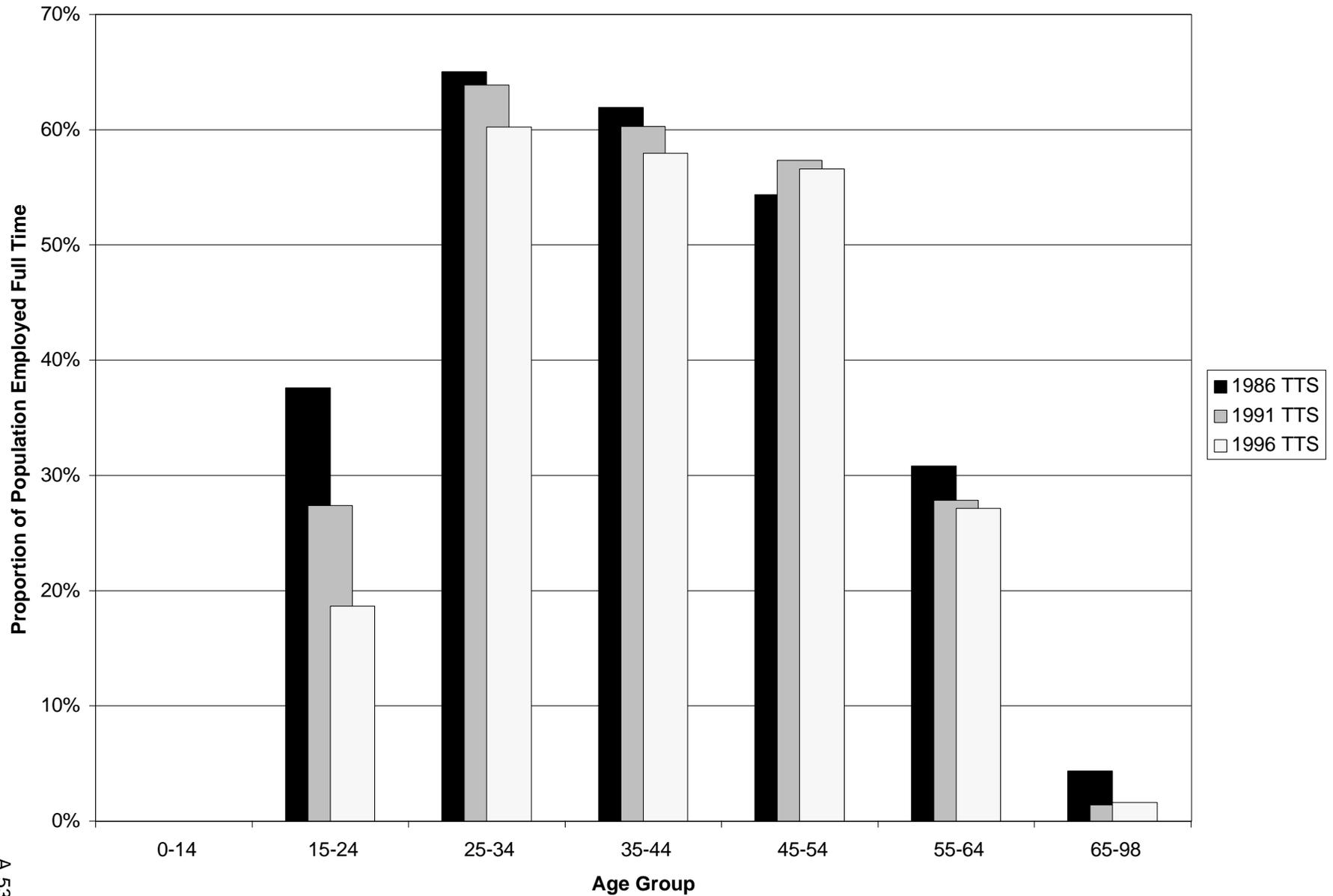


Chart 14B - Changes in Part Time Labour Force Activity for Women Living in the GTA and Hamilton-Wentworth Region

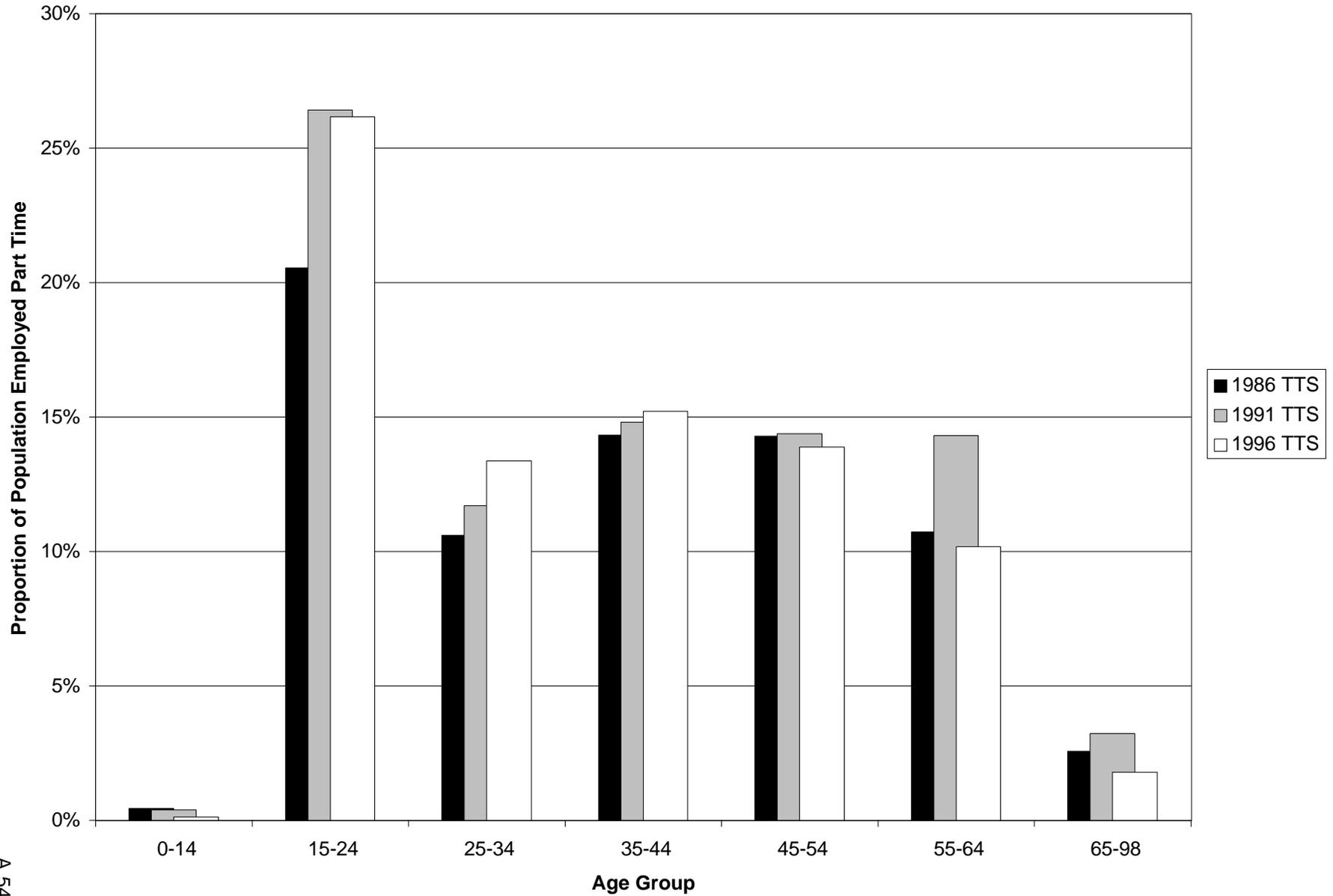
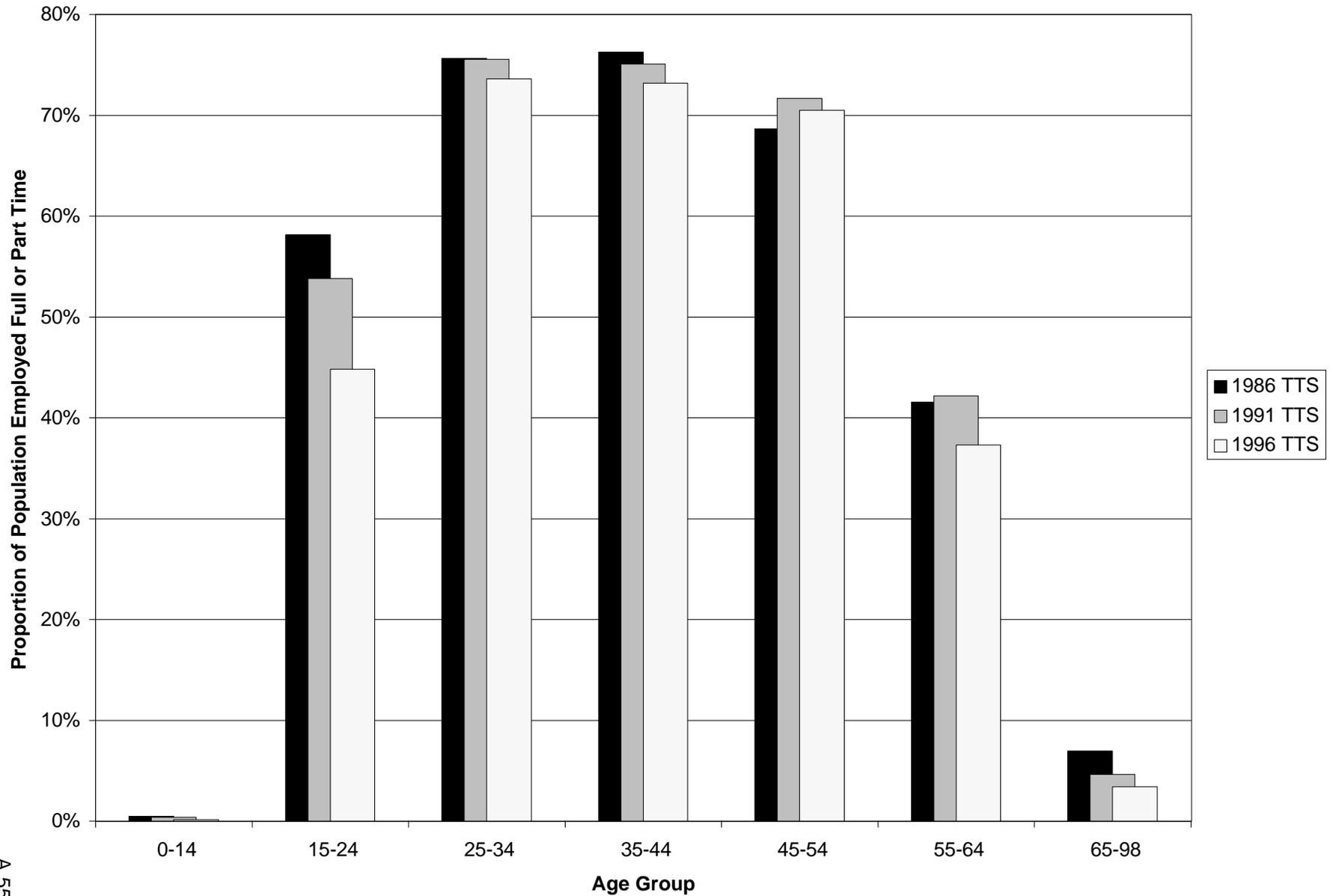


Chart 14C - Changes in Total Labour Force Activity for Women Living in the GTA and Hamilton-Wentworth Region



Employment Status for Women Living in the GTA and Hamilton-Wentworth Region

Employed Full Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	26	0	0	26
15-24	122203	79918	55988	258108
25-34	259330	287350	270248	816928
35-44	203308	235635	260928	699871
45-54	123690	150445	184055	458190
55-64	58195	55729	55654	169578
65-98	8602	3603	4745	16950
Refused	7492	13002	3219	23713
Total	782844	825682	834837	2443362

Full Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.0%	0.0%	0.0%
15-24	37.6%	27.4%	18.7%
25-34	65.0%	63.9%	60.2%
35-44	61.9%	60.3%	58.0%
45-54	54.3%	57.3%	56.6%
55-64	30.8%	27.9%	27.1%
65-98	4.4%	1.4%	1.6%
Refused	47.7%	49.3%	37.9%
Total	37.9%	35.7%	33.2%

Employed Part Time

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	1724	1724	610	4058
15-24	66755	77115	78434	222305
25-34	42298	52630	60026	154955
35-44	47017	57830	68456	173303
45-54	32526	37713	45119	115358
55-64	20260	28645	20849	69754
65-98	5086	8375	5344	18805
Refused	1805	2375	904	5084
Total	217471	266408	279742	763621

Part Time Participation Rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.4%	0.4%	0.1%
15-24	20.6%	26.4%	26.2%
25-34	10.6%	11.7%	13.4%
35-44	14.3%	14.8%	15.2%
45-54	14.3%	14.4%	13.9%
55-64	10.7%	14.3%	10.2%
65-98	2.6%	3.2%	1.8%
Refused	11.5%	9.0%	10.7%
Total	10.5%	11.5%	11.1%

Not Employed

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	381545	432287	479660	1293492
15-24	135842	134899	165345	436085
25-34	97198	109882	118489	325569
35-44	77949	97375	120750	296074
45-54	71391	74266	96010	241667
55-64	110293	115730	128519	354542
65-98	183609	247069	287489	718167
Refused	6404	11022	4362	21788
Total	1064230	1222531	1400624	3687385

Total participation rate

Age Group	1986 TTS	1991 TTS	1996 TTS
0-14	0.5%	0.4%	0.1%
15-24	58.2%	53.8%	44.8%
25-34	75.6%	75.6%	73.6%
35-44	76.3%	75.1%	73.2%
45-54	68.6%	71.7%	70.5%
55-64	41.6%	42.2%	37.3%
65-98	6.9%	4.6%	3.4%
Refused	59.2%	58.2%	48.6%
Total	48.5%	47.2%	44.3%

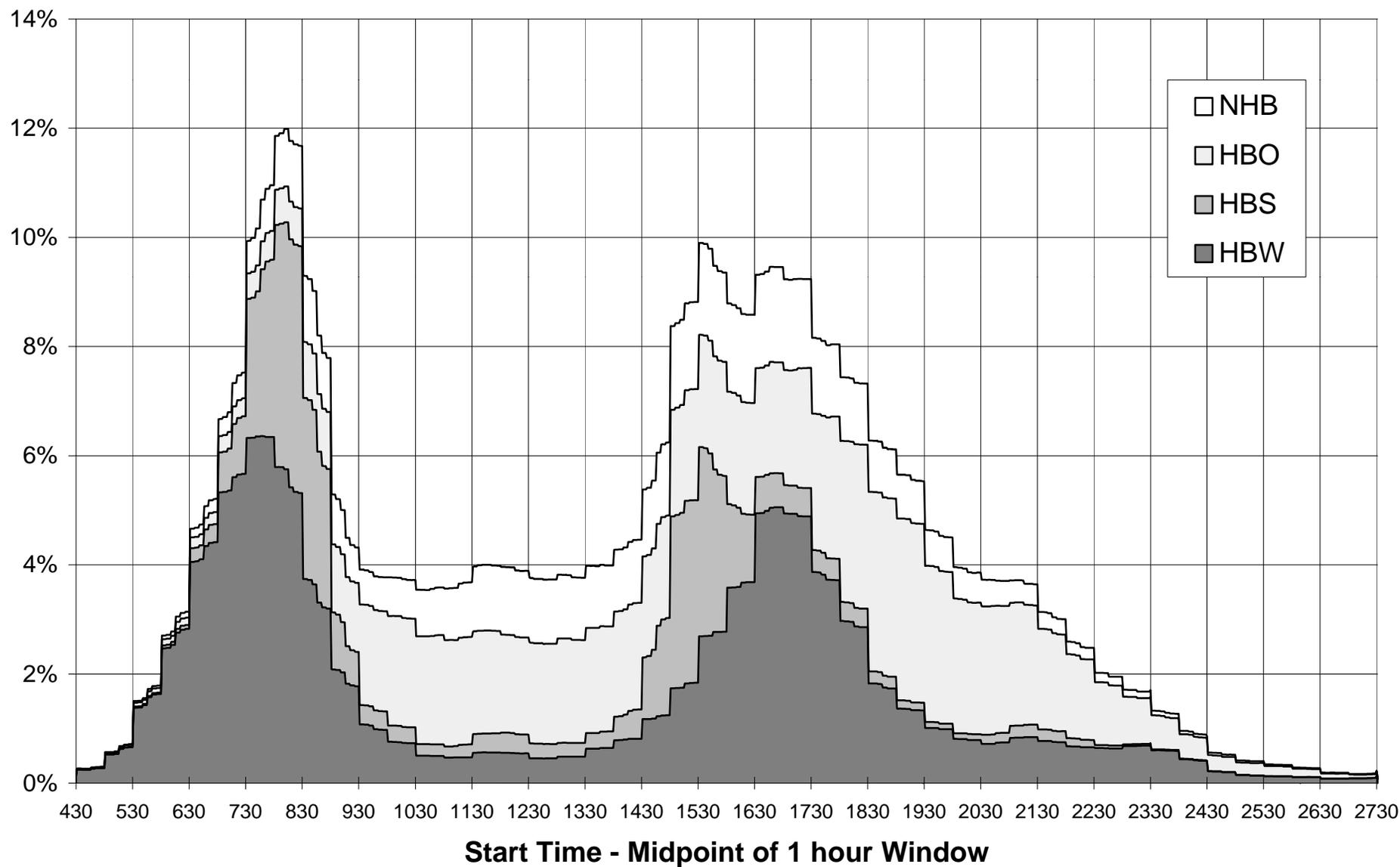
Total Population

Age Group	1986 TTS	1991 TTS	1996 TTS	Total
0-14	383294	434011	480270	1297576
15-24	324800	291932	299766	916498
25-34	398826	449862	448764	1297452
35-44	328274	390839	450134	1169247
45-54	227607	262424	325184	815215
55-64	188747	200105	205022	593874
65-98	197298	259047	297578	753922
Refused	15700	26400	8485	50585
Total	2064545	2314620	2515203	6894368

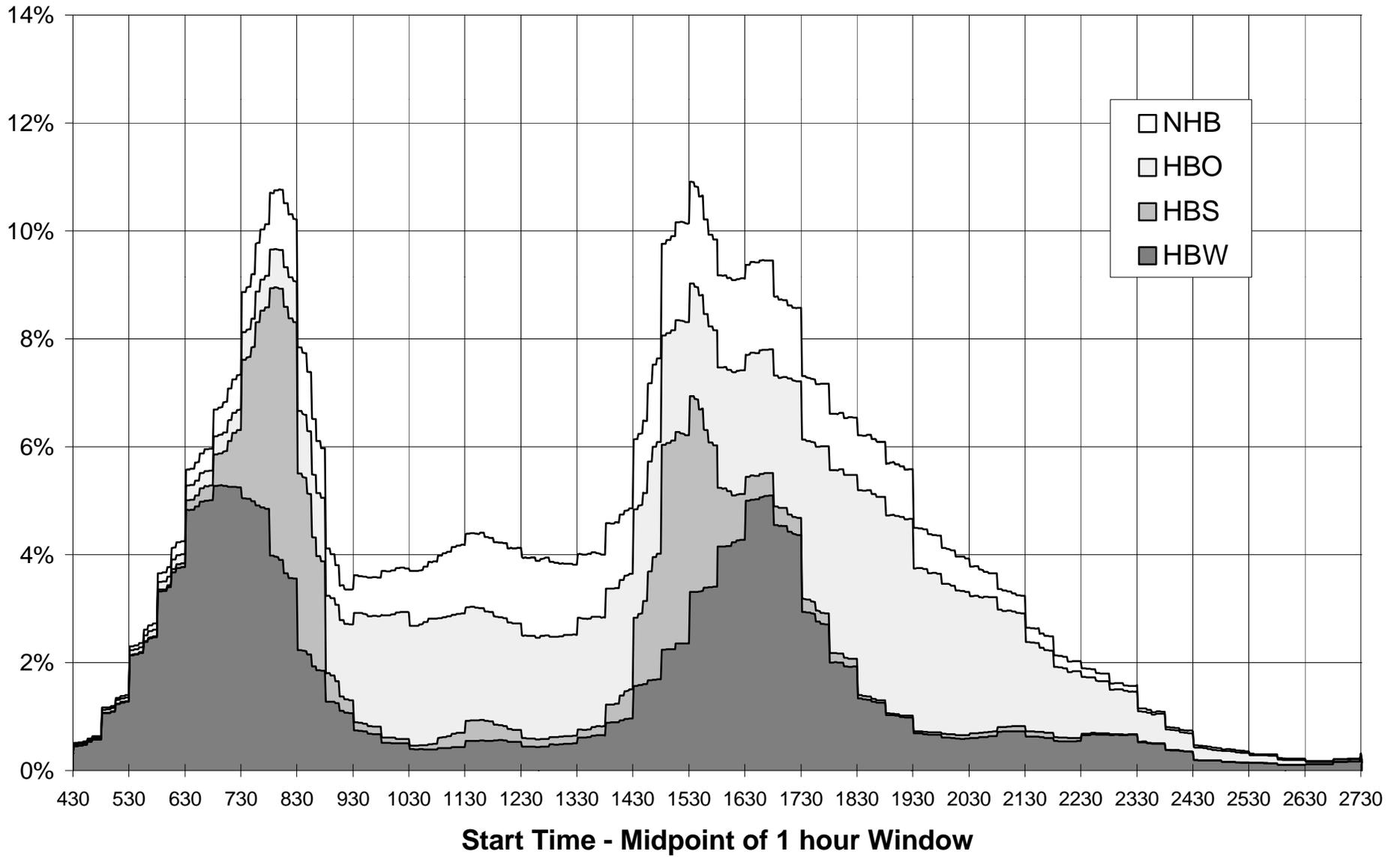
APPENDIX B

TRIP START TIME DISTRIBUTION

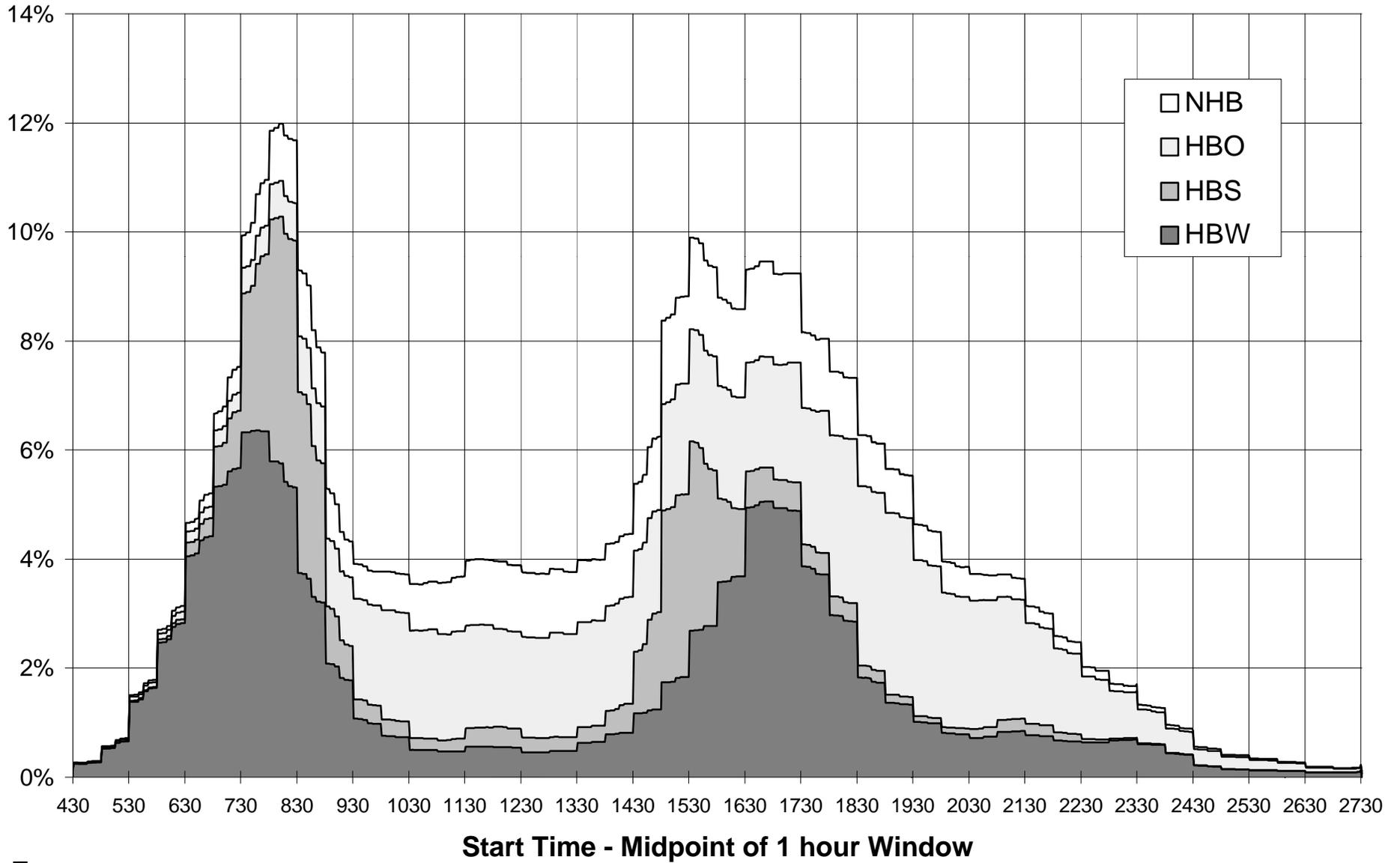
Metro 1996



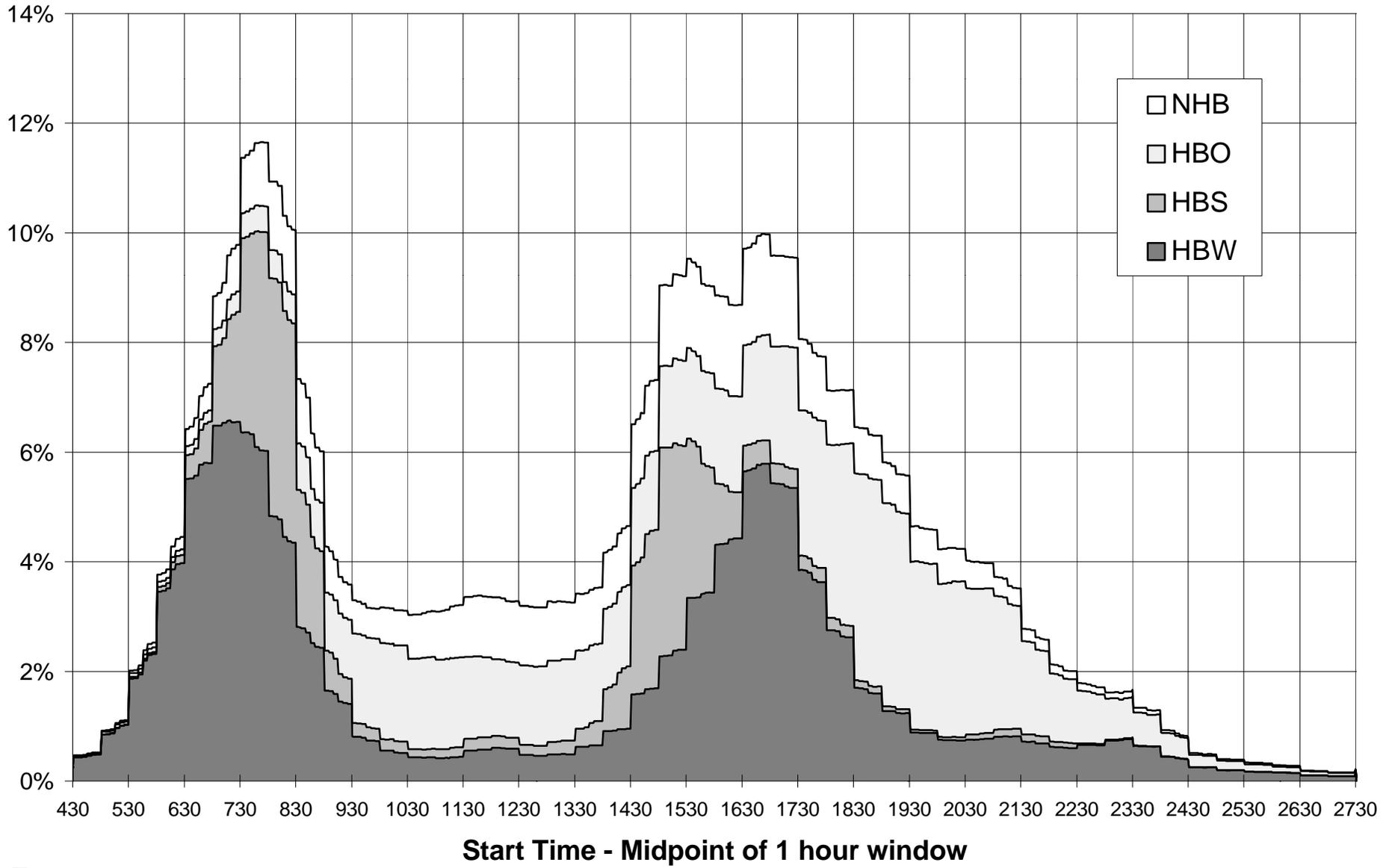
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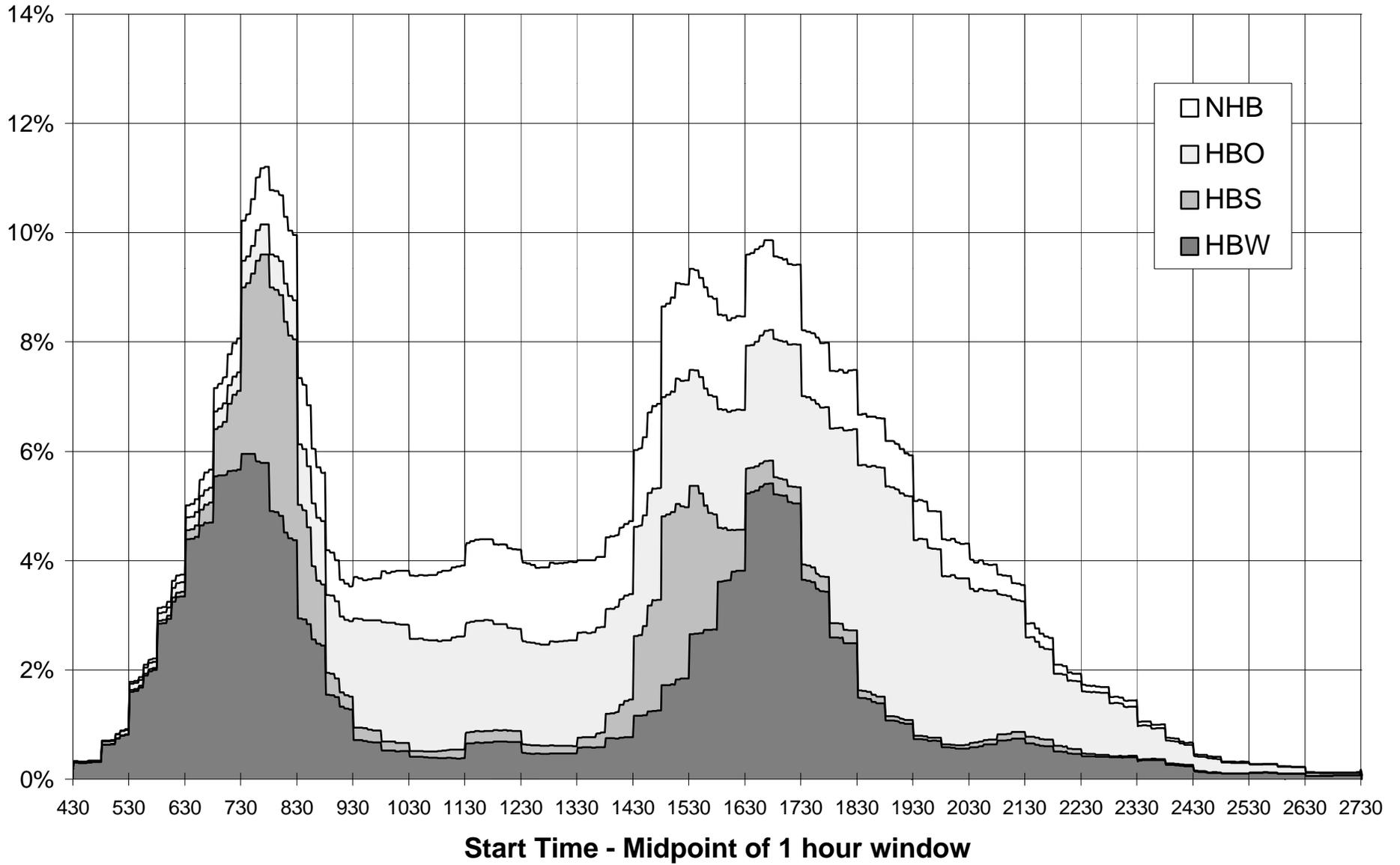
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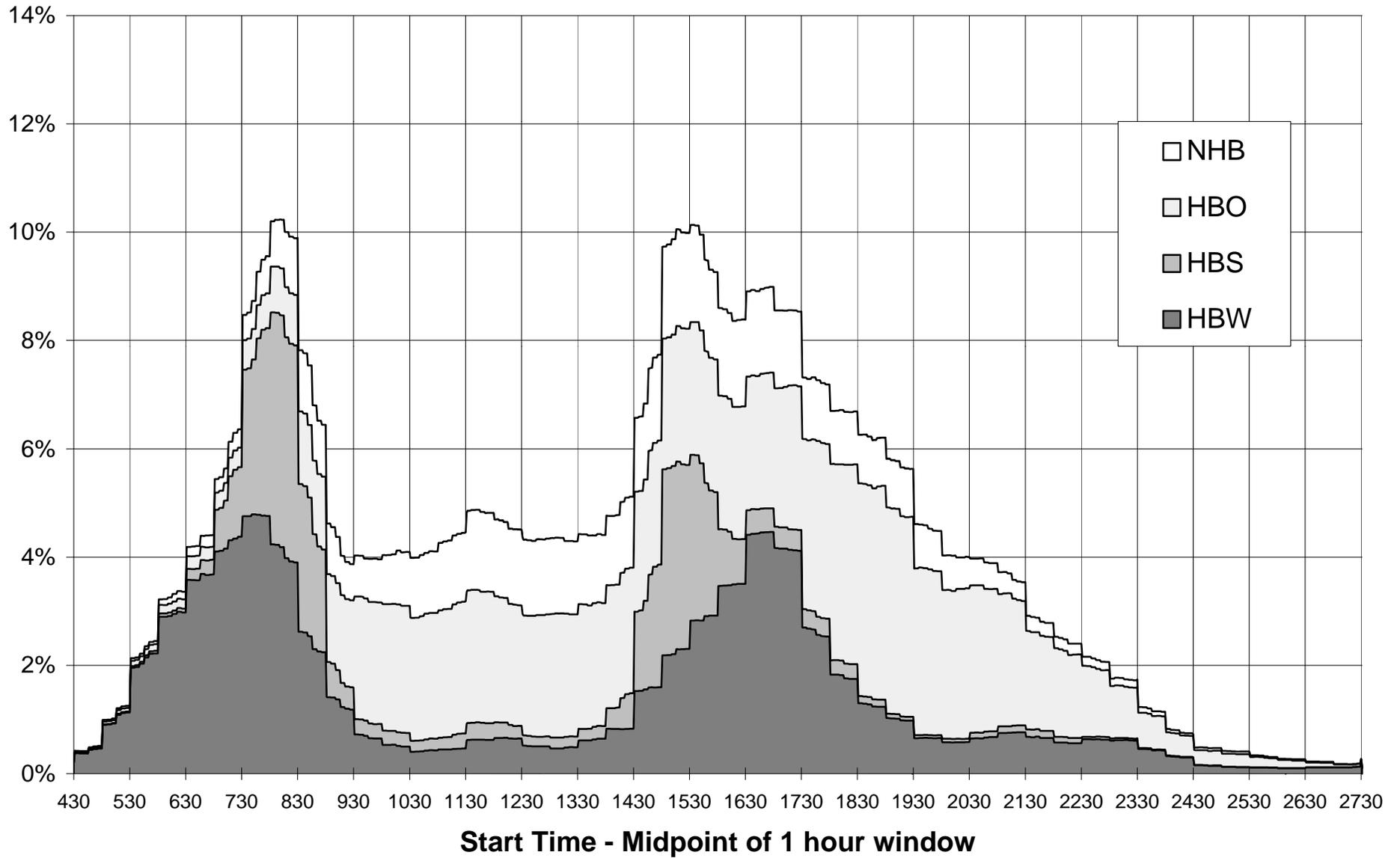
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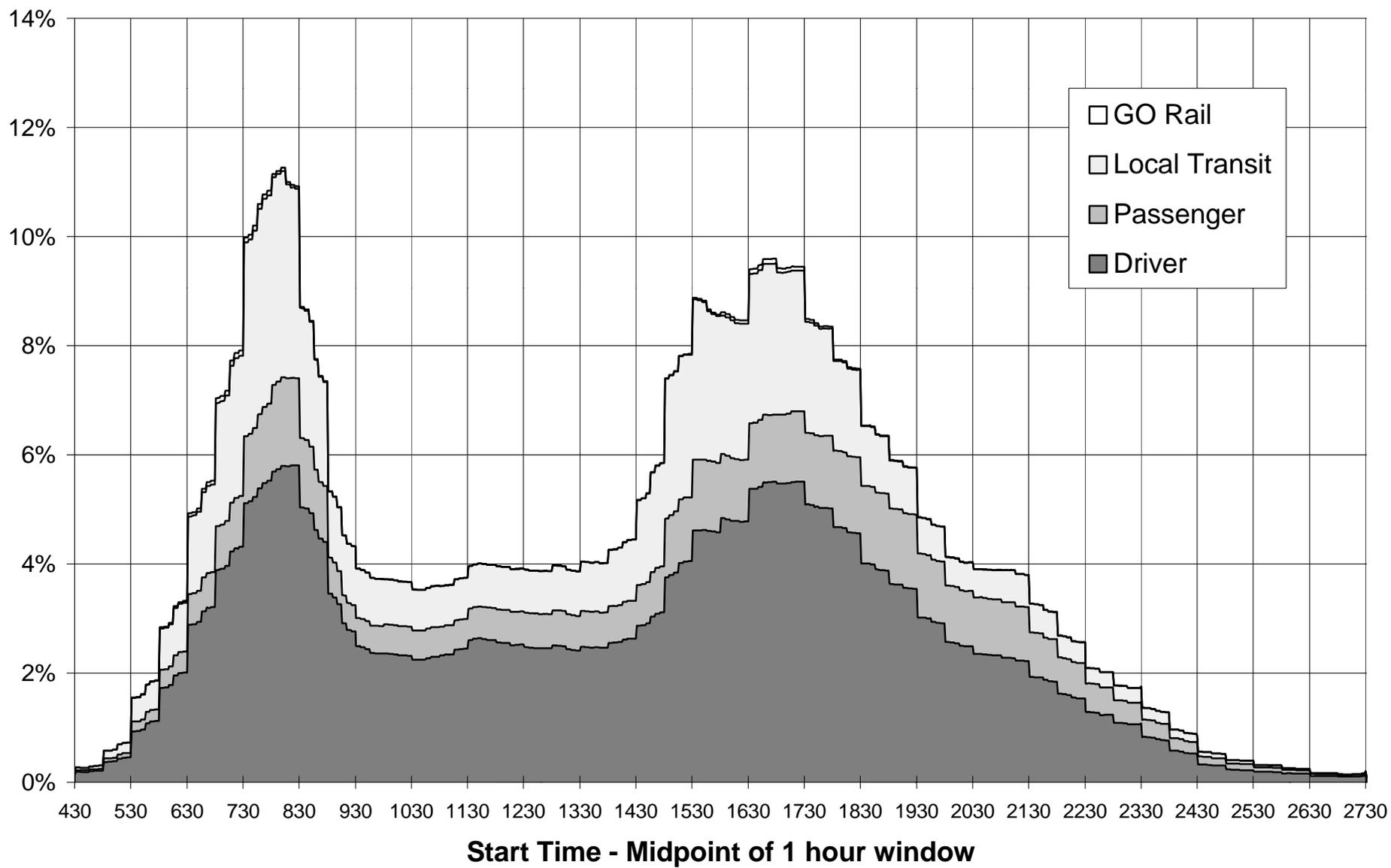
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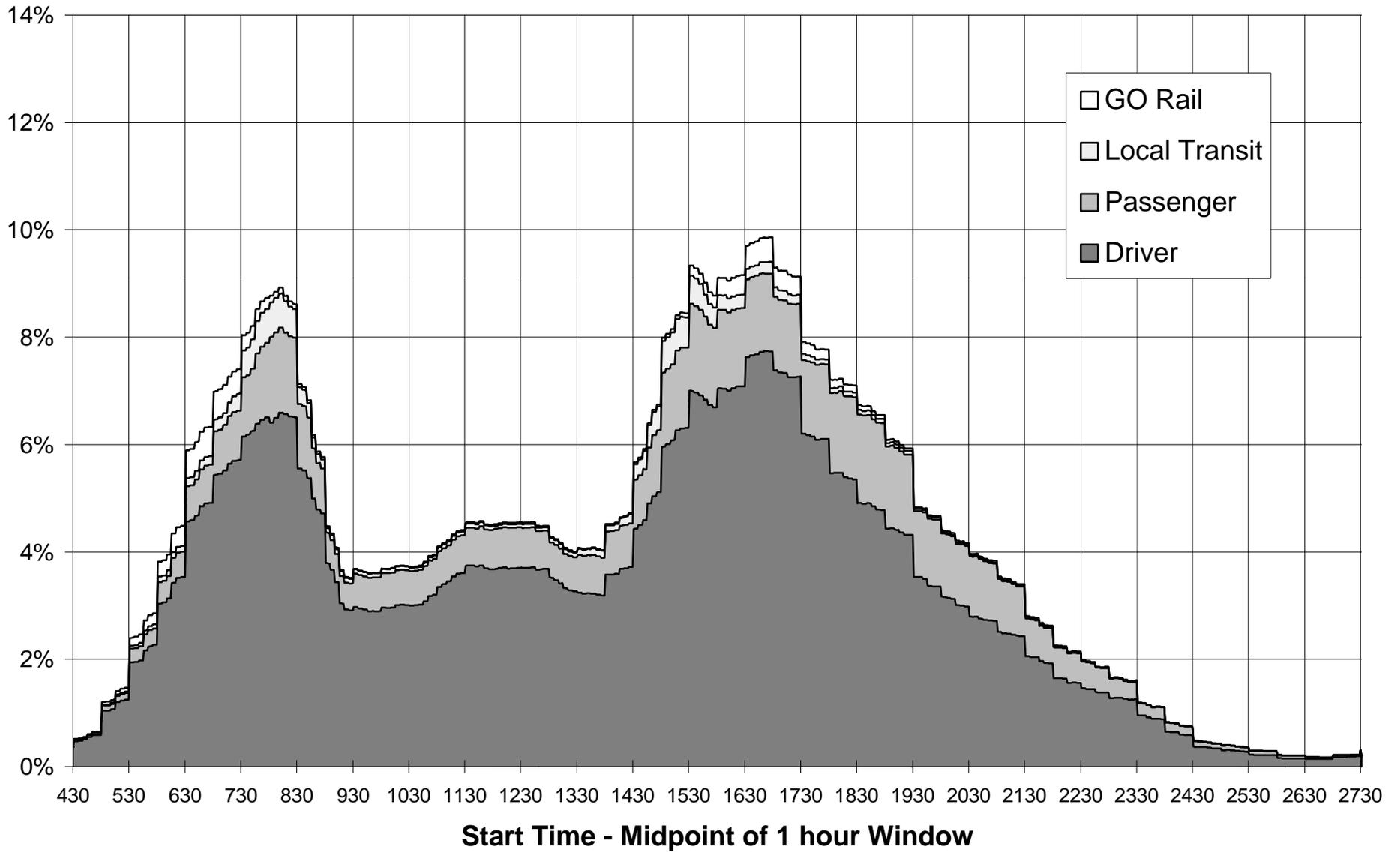
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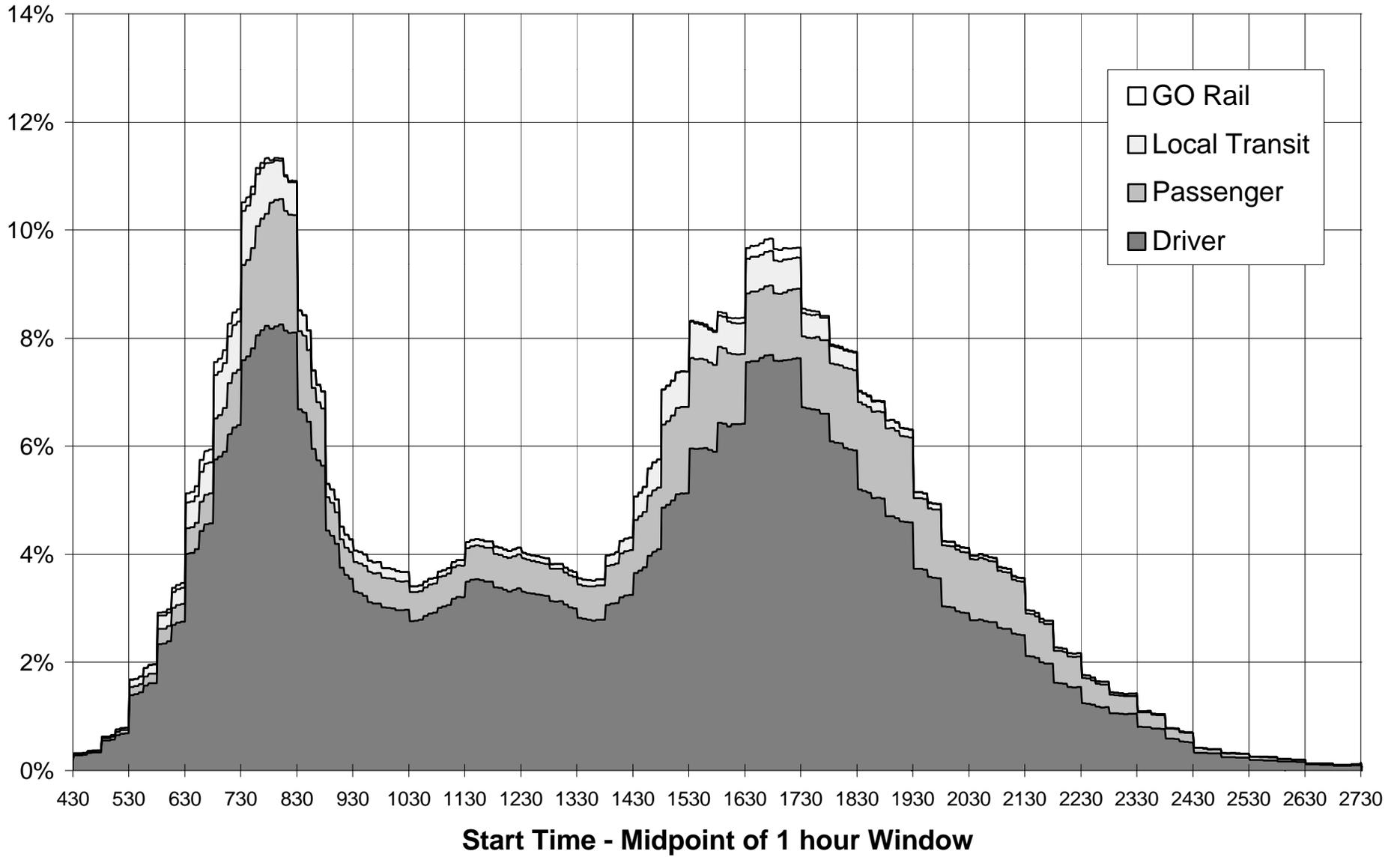
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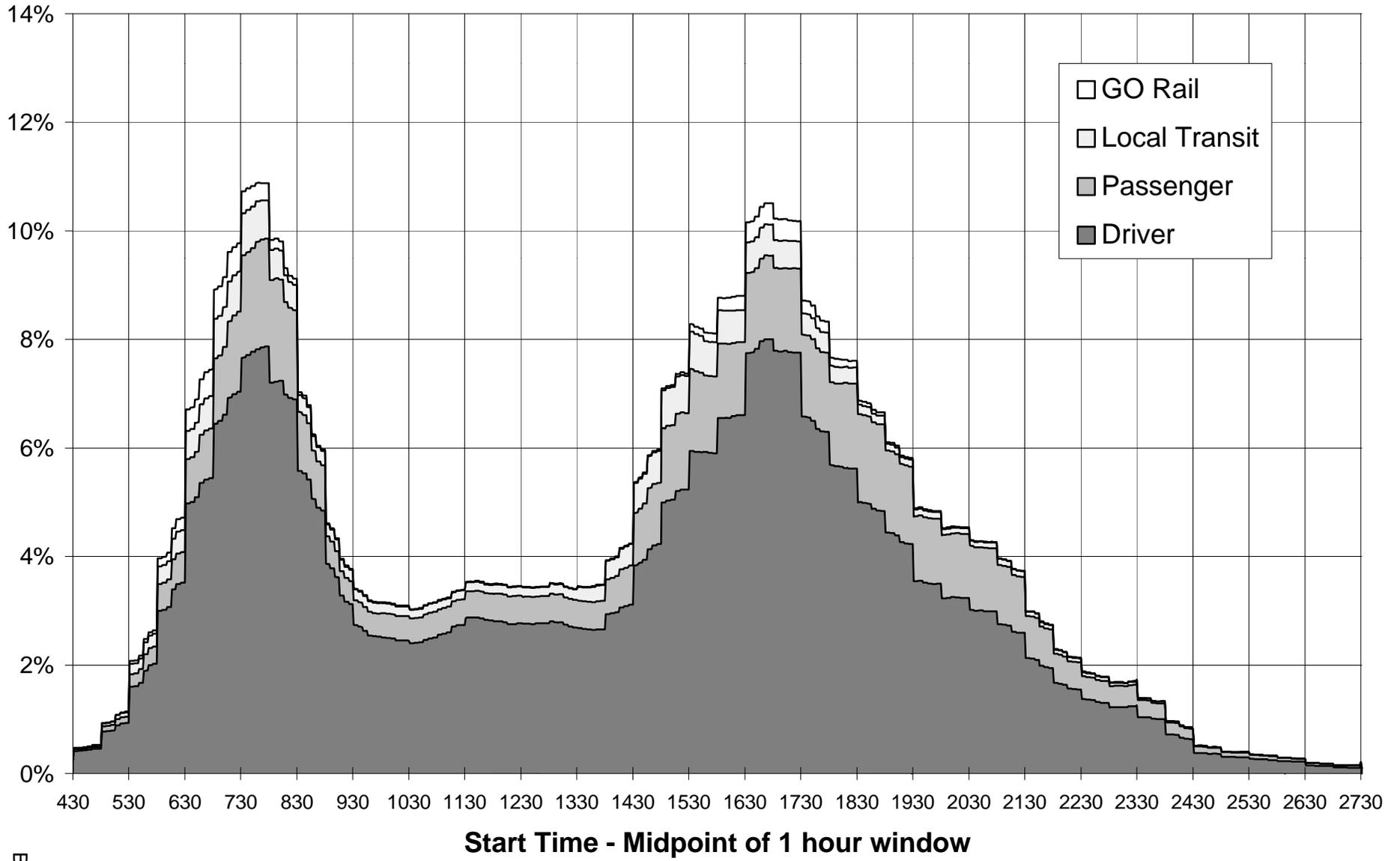
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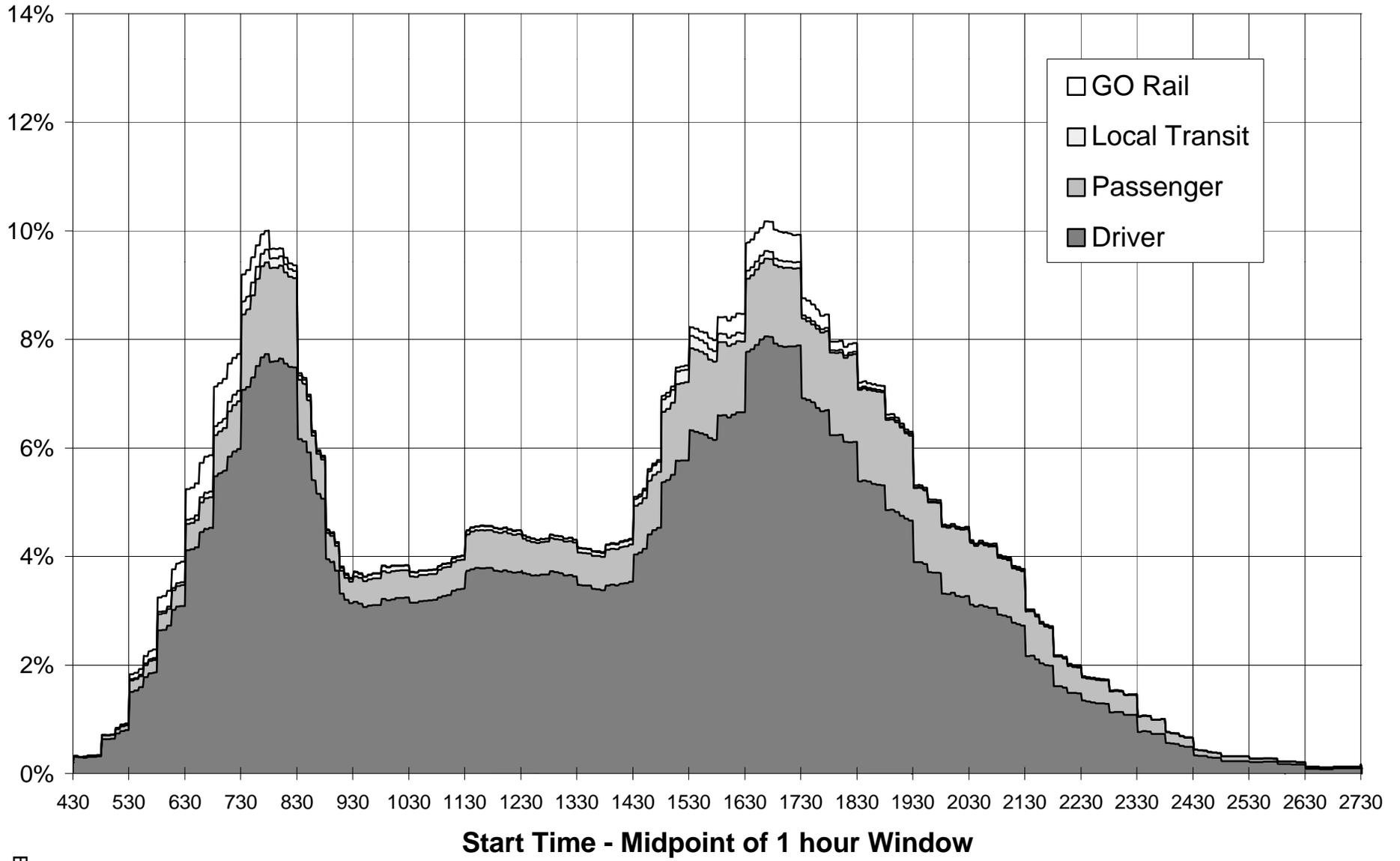
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Peel 1996



Halton 1996



Hamilton-Wentworth 1996

