



Building Healthy and Supportive Communities

A Glance at Commuting from Selected Areas of Waterloo Region



This is one report in a series that highlight key findings from a Statistics Canada survey of selected areas in Waterloo Region.

This report and others are available on the **Region of Waterloo Public Health** website:

www.region.waterloo.on.ca/ph
(Resources/Reports and Factsheets)

INTRODUCTION

Waterloo Region has a unique balance of urban and rural areas and as such, community sizes and characteristics (i.e. population density, land use, accessibility to services) vary considerably. Individuals choose their place of residence for a number of economic or social reasons. Research suggests that individuals migrate to rural settlement areas out of a desire for more space and to escape city noise and congestion, and that proximity to their job, school or amenities is not always a major factor in selection of neighbourhood (Fernandez, Brown, Marans, & Nassauer, 2005; Mitchell, 2003).

The location where one lives can affect the accessibility of their workplace, school, and amenities and as such, relates to commuting behaviour. Sustainable transportation options may not be available in all areas and in many cases are not used when available. Motor vehicle emissions contribute to poor air quality and the link between poor air quality and adverse health affects is well documented (Toronto Public Health, 2007). Lengthy commutes have been shown to relate to stress levels and the incidence of motor vehicle collisions (CIHI, 2006).

On behalf of Region of Waterloo Public Health, Statistics Canada collected data to explore differences in community size and composition as they relate to certain aspects of health (Statistics Canada, 2007). Selected residents (n=644) were surveyed in areas of Waterloo Region chosen for varying degrees of urbanization in May 2007. In addition to asking about commuting patterns, the survey asked residents about accessing amenities, their physical and mental health, how connected they feel to their community, and use of public transportation. Data collected from residents were adjusted to reflect the population size in the respective community. Results denoted by "s" are to be interpreted with caution because the sample size was not large enough to ensure precise estimates; results denoted by "--" were not suitable for release.

ABOUT THE SELECTED AREAS OF STUDY

Small urbanized rural areas (Ayr and Wellesley), larger urbanized rural areas (Elmira and New Hamburg) and two urban neighbourhoods (Fairfield and Willowdale neighbourhoods, Kitchener/Waterloo) were surveyed in this study. Table 1 illustrates the demographic characteristics of the selected areas.

Table 1. Demographic Characteristics of Selected Areas of Study, Waterloo Region, 2007

	Ayr and Wellesley	Elmira and New Hamburg	Fairfield and Willowdale
Total population	4,647	10,744	8,579
Age			
18-34	25% ^s	27%	32%
35-49	43%	32%	18%
50-64	21%	23%	22%
65 and over	12% ^{a,s}	17% ^{b,s}	28% ^{a,b,s}
Household income			
Less than \$30,000	5% ^s	9% ^s	15% ^s
\$30,000 to \$54,000	16% ^s	23% ^s	30%
\$55,000 to \$84,000	29%	34%	30%
\$85,000 and over	50% ^{c,d}	35% ^c	25% ^{d,s}
Children in the household	51% ^{e,f}	36% ^e	22% ^{f,s}
Seniors only in the household	9% ^{g,s}	12% ^h	22% ^{g,h,s}
Residency less than five years	25% ^s	15% ^s	17%

a, b, c, ... Represent statistically significant differences between two proportions (%) at $p < 0.10$, e.g. two proportions with an "a" next to them are statistically different from each other

Table 1 Highlights

- More residents of Fairfield and Willowdale neighbourhoods were aged 65 years and over (28%^s) and were from seniors only households (22%^s) as compared to Ayr and Wellesley, and Elmira and New Hamburg, respectively.
- More residents in Ayr and Wellesley had children in the household (51%) and had an annual income of \$85,000 or more (50%), as compared to Elmira and New Hamburg, and Fairfield and Willowdale neighbourhoods, respectively.

COMPARISON OF COMMUNITIES SURVEYED

As the three selected areas of study represent varying degrees of urbanization, it is obvious that the accessibility of workplaces, schools, and amenities (e.g. grocery, retail, recreational facilities, and health services) is different for each area. The survey asked residents about the distances travelled to work or school, usual mode of transportation to work or school, and time spent in a motor vehicle on a typical weekday and weekend. Table 2 illustrates commuting patterns in the selected areas of study.

Table 2. Commuting Behaviour, Waterloo Region Study Areas, 2007

	Ayr and Wellesley	Elmira and New Hamburg	Fairfield and Willowdale
Commuting distance (work or school)			
<i>Less than 5 km</i>	8% [§]	26%	27%
<i>5 to less than 15 km</i>	12% [§]	14% [§]	22%
<i>15 to less than 30 km</i>	29% [§]	26%	7% [§]
<i>30 km and over</i>	20% ^{a,b}	6% ^{a,§}	7% ^{b§}
<i>Do not commute</i>	31% [§]	28%	39%
Minutes in a motor vehicle on a typical weekday			
<i>None*</i>	3% [§]	5%	7% [§]
<i>1 to less than 30 minutes</i>	18% [§]	30%	31%
<i>30 to less than 60 minutes</i>	35%	41%	37%
<i>60 to less than 90 minutes</i>	26% ^{c,d,§}	9% ^{c§}	12% ^{d§}
<i>90 or more</i>	19%	15%	13% [§]
Minutes in a motor vehicle on a typical weekend day			
<i>None*</i>	--	2% [§]	7% [§]
<i>1 to less than 30 minutes</i>	9% [§]	16%	18%
<i>30 to less than 60 minutes</i>	36%	37%	31%
<i>60 to less than 90 minutes</i>	32% [§]	25%	21%
<i>90 or more</i>	23%	19%	23%
Usual mode of transportation (work or school)			
<i>Motor vehicle (alone)</i>	63% ^{e,f}	54% ^e	45% ^f
<i>Carpool or public transportation</i>	--	11% [§]	8% [§]
<i>Other (walking, jogging, etc)</i>	3% [§]	8% [§]	8% [§]
<i>Do not commute</i>	31% [§]	28%	39%

^{a, b, c, ...}Represent statistically significant differences between two proportions (%) at $p < 0.10$, e.g. two proportions with an "a" next to them are statistically different from each other

* Includes not having access to a motor vehicle

Table 2 Highlights

- More residents in Ayr and Wellesley reported longer commuting distances to work or school, and as a result, the vast majority (80%) spend more than 30 minutes or more in a motor vehicle on a typical weekday, as compared to Elmira and New Hamburg and Fairfield and Willowdale residents (65% and 62%, respectively).
- In addition, more residents from Ayr and Wellesley indicated motor vehicle alone (63%) as their usual mode of transportation to work or school, as compared to residents from Elmira and New Hamburg (54%) and Fairfield and Willowdale neighbourhoods (45%).

CROSS COMPARISONS WITH MEASURES OF HEALTH

The relationship between time spent in a motor vehicle and Body Mass Index was explored; Table 3 presents the findings.

Table 3. Typical Weekday Minutes in a Motor Vehicle and Body Mass Index, Waterloo Region Study Areas, 2007

	Body Mass Index Classification		
	Normal Weight	Overweight	Obese
Weekday minutes in a motor vehicle			
<i>Less than 30 minutes</i>	46%	34%	18% [§]
<i>30 to less than 60 minutes</i>	42%	34%	22%
<i>60 to less than 90 minutes</i>	52% [§]	33% [§]	16% [§]
<i>90 minutes or more</i>	39% [§]	46%	15% [§]
<i>Do not have access to a motor vehicle</i>	54% [§]	31% [§]	--

Table 3 Highlights

- Body Mass Index did not differ significantly according to weekday minutes spent in a motor vehicle, contrasting 2005 Waterloo Region findings indicating that those who drive more than 30 minutes a day were found to be 1.64 times more likely to report being overweight or obese than those who drive less than 30 minutes a day (Fisher, 2005).

SOCIAL DETERMINANTS

A wealth of evidence suggests that sociodemographic circumstances contribute to personal health behaviours. The following sociodemographic variables were measured: age, children in the household, education, gender, household income, length of residency, and seniors only household. Statistically significant relationships ($p < 0.10$) are reported where found.

Children in the Household

- Of those who reported having children in the household, 63% reported their usual mode of transportation to work or school to be in a motor vehicle alone, as compared to 47% of households who do not have children.

Gender

- Of male residents, 12%[§] reported a one-way commuting distance to work or school of 30 km and over, as compared to 7%[§] of females.

Household Income

- Of those with an annual household income greater than \$85,000, 14%[§] reported a one-way commuting distance to work or school of 30 km and over, as compared to 8%[§] or less reported in each of the lower income categories.
- Of those with an annual household income greater than \$85,000, 20% reported 90 or more minutes spent in a motor vehicle on a typical weekday, as compared to 14% or less reported in each of the lower income categories.
- More residents from higher household income categories (\$55,000 and above) reported their usual mode of transportation to work or school to be motor vehicle alone compared to residents from lower income categories (\$54,999 and below).

Seniors Only Household

- Of seniors only households (households with no one under the age of 65), 12%[§] reported their usual mode of transportation to work or school to be motor vehicle alone, as compared to 60% of households that were not seniors only.
- Similarly, only 12%[§] of residents from seniors only households (88% of whom indicated not working) reported using public transportation, as compared to 36% of those who do not live in households with seniors only. This may reflect that seniors' transportation needs are more limited as compared to other age groups.

IMPLICATIONS

- Lengthy commuting behaviour, especially in motor vehicles, is associated with many adverse health outcomes. Lengthy commutes may be related to an increased risk of overweight and obesity, which has implications for heart disease, high blood pressure and other chronic diseases. Commuting behaviour has implications on air quality and the health of the population. In fact, Toronto Public Health (2007) estimates that traffic pollution gives rise to about 440 premature deaths and 1,700 hospitalizations per year in Toronto.
- Results point to an opportunity to encourage greater use of public transit and active modes of transportation. Active modes of transportation have been shown to reduce risk for overweight and obesity and use of transit in Waterloo Region has been proven to significantly improve air quality. *iXpress*, an express route service in Waterloo Region, is currently responsible for the reduction of approximately 1.5 million kilometres of personal automobile trips per year, with an associated reduction of approximately 500 tonnes of greenhouse gas emissions (Hellinga & Cicuttin, 2007).
- The challenge with extensive automobile usage and associated environmental impacts will be compounded in Waterloo Region as a result of tremendous growth pressure. The population in Waterloo Region is predicted to grow by nearly 60%, from 456,000 in 2001 to 729,000 in 2031, and is expected to greatly intensify impacts on transportation infrastructure, air quality and greenhouse gas emission (Hellinga & Cicuttin, 2007).

1. Canadian Population Health Initiative [CIHI]. (2006). How Healthy are Rural Canadians? An assessment of Their Health Status and Health Determinants. A Component of the Initiative "Canada's Rural Communities: Understanding Rural Health and Its Determinants". Technical Report.
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3. Fisher, P. (2005). *Urban Form, Physical Activity and Health – Interim Report*. Region of Waterloo Public Health. Waterloo, ON.
4. Hellinga, B., & Cicuttin, J. (2007). *Impacts of a New Express Bus Service in Waterloo Region*. Report submitted for the Transportation Association of Canada Annual Conference held October 14-17, 2007 in Saskatoon, SK.
5. Mitchell, C.J.A. (2003). Making sense of counterurbanization. *Journal of Rural Studies*, 20, 15-34.
6. Statistics Canada. (2007). *Region Urbanization and Health within Waterloo Region: Survey Report*. Survey Skills Development Course Report on Survey Findings SSDC-108. Technical Report.
7. Toronto Public Health. (2007). *Air Pollution Burden of Illness from Traffic in Toronto. Problems and Solutions*. Retrieved from http://www.toronto.ca/health/hphe/pdf/air_pollution_burden.pdf

For More Information

The technical report, *Urbanization and Health within Waterloo Region: Survey Report* (Statistics Canada, 2007), can be obtained from the Region of Waterloo Public Health Resource Centre 519-883-2256 and website: www.region.waterloo.on.ca/ph (Resources/Reports and Fact Sheets).

Additional reports in this series glance at accessing amenities, use of public transportation, community connectedness, physical and mental health and are also available on the website.

For questions, please contact Health Determinants, Planning and Evaluation Division, at 519-883-2004.



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