



Catalogue no. 89-622-XIE

## General Social Survey on Time Use: Cycle 19

# The Time it Takes to Get to Work and Back

2005

By Martin Turcotte



## How to obtain more information

Specific inquiries about this product and related statistics or services should be directed to: Social and Aboriginal Statistics Division, Statistics Canada, Ottawa, Ontario, K1A 0T6 (telephone: (613) 951-5979).

For information on the wide range of data available from Statistics Canada, you can contact us by calling one of our toll-free numbers. You can also contact us by e-mail or by visiting our website.

|                                                             |                                                                |
|-------------------------------------------------------------|----------------------------------------------------------------|
| National inquiries line                                     | 1 800 263-1136                                                 |
| National telecommunications device for the hearing impaired | 1 800 363-7629                                                 |
| Depository Services Program inquiries                       | 1 800 700-1033                                                 |
| Fax line for Depository Services Program                    | 1 800 889-9734                                                 |
| E-mail inquiries                                            | <a href="mailto:infostats@statcan.ca">infostats@statcan.ca</a> |
| Website                                                     | <a href="http://www.statcan.ca">www.statcan.ca</a>             |

## Information to access the product

This product, catalogue no. 89-622-XIE, is available for free. To obtain a single issue, visit our website at [www.statcan.ca](http://www.statcan.ca) and select Our Products and Services.

## Standards of service to the public

Statistics Canada is committed to serving its clients in a prompt, reliable and courteous manner and in the official language of their choice. To this end, the Agency has developed standards of service that its employees observe in serving its clients. To obtain a copy of these service standards, please contact Statistics Canada toll free at 1 800 263-1136. The service standards are also published on [www.statcan.ca](http://www.statcan.ca) under About Statistics Canada > Providing services to Canadians.



Statistics Canada  
Social and Aboriginal Statistics Division

# The Time It Takes to Get to Work and Back

2005

Published by authority of the Minister responsible for Statistics Canada

© Minister of Industry, 2006

All rights reserved. The content of this electronic publication may be reproduced, in whole or in part, and by any means, without further permission from Statistics Canada, subject to the following conditions: that it be done solely for the purposes of private study, research, criticism, review or newspaper summary, and/or for non-commercial purposes; and that Statistics Canada be fully acknowledged as follows: Source (or "Adapted from", if appropriate): Statistics Canada, year of publication, name of product, catalogue number, volume and issue numbers, reference period and page(s). Otherwise, no part of this publication may be reproduced, stored in a retrieval system or transmitted in any form, by any means—electronic, mechanical or photocopy—or for any purposes without prior written permission of Licensing Services, Client Services Division, Statistics Canada, Ottawa, Ontario, Canada K1A 0T6.

July 2006

Catalogue no. 89-622-XIE2006001

ISSN: 1911-1797

ISBN: 0-662-43757-8

Frequency: Occasional

Ottawa

Cette publication est aussi disponible en français (n° 89-622-XIF au catalogue).

---

## Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

## Symbols

The following standard symbols are used in Statistics Canada publications:

- . not available for any reference period
- .. not available for a specific reference period
- ... not applicable
- 0 true zero or a value rounded to zero
- 0<sup>s</sup> value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
- P preliminary
- r revised
- x suppressed to meet the confidentiality requirements of the Statistics Act
- E use with caution
- F too unreliable to be published

---

**Table of contents**

|                                                                                                                           |    |
|---------------------------------------------------------------------------------------------------------------------------|----|
| The Time It Takes to Get to Work and Back.....                                                                            | 4  |
| Part 1: Home-to-work travel times: change from 1992 to 2005 .....                                                         | 4  |
| Regional variations in average travel times .....                                                                         | 5  |
| Average travel time is rising for both automobile users and public transit users .....                                    | 6  |
| The increase in travel time applies to both those who make stops between home and work<br>and those who go directly ..... | 8  |
| More people travelling simultaneously at rush hour.....                                                                   | 8  |
| Part 2: Factors associated with a longer or shorter commute time .....                                                    | 10 |
| Living in a large city entails longer travel times for workers .....                                                      | 12 |
| Driving one’s children and doing errands on the way to/from work.....                                                     | 13 |
| Automobile users and car pooling.....                                                                                     | 13 |
| Conclusion .....                                                                                                          | 14 |
| Study Methodology and Concepts .....                                                                                      | 21 |
| References.....                                                                                                           | 23 |

## The Time It Takes to Get to Work and Back

Rush-hour road congestion is a problem common to most major urban areas in Canada. The negative consequences of congestion, which are suffered by both individuals and communities, are numerous and well-documented: pollution and increased greenhouse gas emissions, lost time, delays reaching work and home, increased stress, reduced productivity and other economic costs.

For several years, the view that congestion is getting worse, especially in Canada's major cities, has become widespread. More generally, many workers believe they are taking increasingly longer to get to work. But how accurate are these perceptions? Have average travel times between home and workplace really increased since the 1990s? And if so, is this true for workers in general or only a category of workers?

This article attempts to answer these questions and many others using the most recent data from the 2005 General Social Survey on time use. The main objective of the study is to document changes in workers' travel times between home and work on weekdays and to offer explanations for these changes. Data from the two previous cycles of the time use survey, namely those of 1992 and 1998, are used to document these changes.

The second objective of the study is to identify which factors have the greatest effect on workers' travel time to and from work, using a statistical model that takes several variables into account simultaneously. This analysis will answer questions such as the following: How much extra time does it take workers using public transit to get to and from work, assuming a given distance from the workplace? And for two workers living an equal distance from their workplace, how much extra time will it take the one who lives in a large urban area compared to the one living in a smaller community?

### Part 1: Home-to-work travel times: change from 1992 to 2005

Data from the 2001 Census showed that the median travel distance between home and the usual workplace increased slightly between 1996 and 2001, going from 7.0 to 7.2 kilometres.

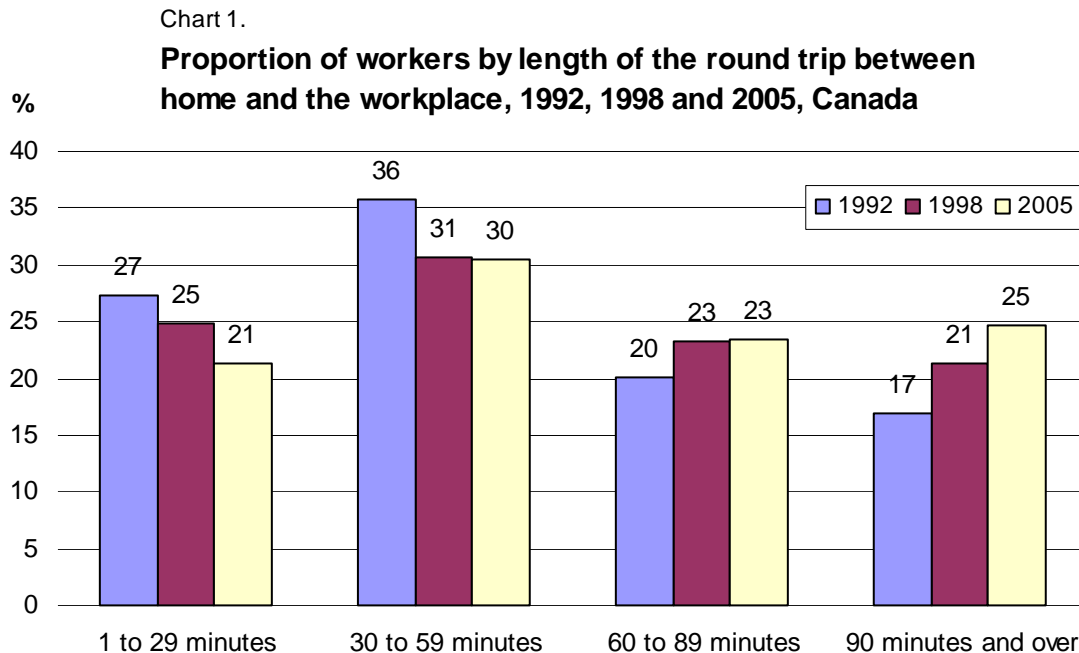
Among the factors explaining the increase in these travel distances is the fact that jobs—especially those in the manufacturing sector—are increasingly located in the suburbs. This trend, which affects most industrialized countries (Ingram, 1998), means that a greater number of workers travel from one suburb to another to get to work (Statistics Canada, 2003). According to some researchers, these inter-suburban commutes involve not only longer distances but also, because they are much more likely to be done by car, an increase in pollution and added pressures on the urban infrastructure (Luk, 2003; Newman and Kenworthy, 1999). However, according to other authors, inter-suburban commutes, even if they are longer from the standpoint of distances travelled, are not necessarily associated with longer travel times (Levinson, 1998). What is the real story?

Data from the 2005 survey of time use show that the average travel time between home and work is trending upward. The increase in average travel time is probably greater than one would expect from the modest change in distances travelled.<sup>1</sup> In 2005, commuters spent an average of 63 minutes on the round trip between their place of residence and their workplace. By comparison, the average time was 54 minutes round trip in 1992 and 59 minutes in 1998.

---

1. Note that the most recent information on the change in distances travelled is for the period 1996 to 2001.

From another perspective, the findings are similar (Chart 1). In 1992, 17% of workers spent 90 minutes or more going from home to work and back; in 2005, one-quarter of workers (25%) did so. On the other hand, workers with relatively short travel times, namely round trips of 30 minutes or less, were rarer (21% in 2005 compared to 27% in 1992).



Source: Statistics Canada, General Social Survey, 1992, 1998 and 2005.

## Regional variations in average travel times

Average travel times between home and work for Canada as a whole mask relatively large variations between regions of residence.

In British Columbia, the average duration of the round trip between home and workplace did not change significantly between 1992 and 2005 (Table 1). However, the situation is quite different in the other provinces. In the Prairie provinces, for example, commuters' average travel times went from 45 minutes in 1992 to 57 minutes in 2005. In these provinces, 71% of workers spent less than one hour commuting between their home and their workplace in 1992, but only 56% in 2005 (Table 2).

In the Atlantic provinces, the average travel time also increased significantly: whereas nearly 45% of workers spent less than 30 minutes making the round trip between home and workplace in 1992, only 30% did so in 2005 (Table 2). In Quebec, the proportion of workers taking an hour and a half or more to get to and from work went from 16% to 27% over the same period. In short, in all provinces except British Columbia, more workers allocated more time to making the round trip between home and workplace in 2005 than in 1992; furthermore, fewer of them made this round trip in less than one hour.

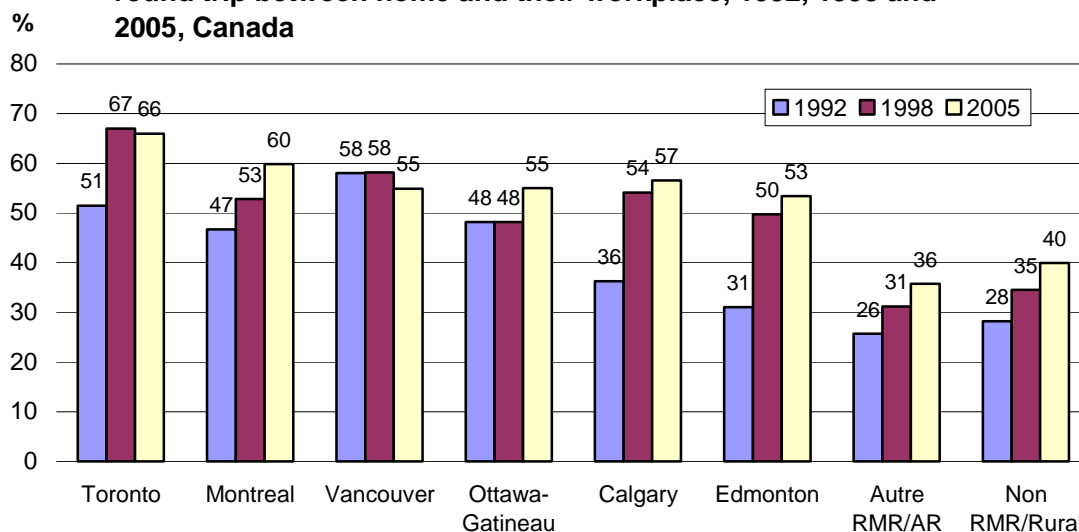
The differences in commute times observed between regions are also reflected in Canada's six largest metropolitan areas. In five of these six urban areas, average travel times were

significantly higher in 2005 than in 1992,<sup>2</sup> especially in the Calgary and Montreal metropolitan areas. In 2005, the round trip between home and work took an average of 66 minutes for Calgary residents, 14 minutes more than in 1992 (Table 1). Similarly, the average duration travel time for workers residing in Montreal went from 62 minutes to 76 minutes. Average travel times between home and workplace also rose in smaller urban areas, but not as substantially. By contrast, Vancouver workers spent no more time on average getting to work in 2005 than they did in 1992.

Chart 2 illustrates the same story in a different way, showing that in several major cities, a larger percentage of workers devote a greater part of their day to commuting. The greatest changes are observed in Montreal, Calgary and Edmonton. For example, whereas in 1992, fewer than half of Montreal workers spent an hour or more travelling both ways between home and work (47%), 60% of them did so in 2005. In Calgary, the increase was even larger: in 2005, 57% of workers spent an hour or more getting to and from their workplace, compared to only 36% in 1992. (Information on average commuting times in other urban areas are presented in the second section of this report.)

Chart 2.

**Proportion of workers who took 60 minutes or more to make the round trip between home and their workplace, 1992, 1998 and 2005, Canada**



Source: Statistics Canada, General Social Survey, 1992, 1998 and 2005.

**Average travel time is rising for both automobile users and public transit users**

Do the increases in the average travel times between home and workplace, observable in most regions, affect drivers and public transit users equally? It is known that automobile users generally spend much less time travelling to and from work than do public transit users (Downs, 2005). In 2005, for example, the majority (55%) of workers travelling by car made the round trip between home and work in less than 60 minutes.<sup>3</sup> It was quite another matter for workers

2. The General Social Survey in 2005 survey had a total of 20,000 participants, but in 1998 and 1992 had approximately 10,000 respondents only. For this reason, it is impossible to provide quality estimates on the evolution of travel times for all of Canada's metropolitan regions. For more detailed information on trip distances between home and workplace in the 27 metropolitan areas, please see the document *Where Canadians Work and How They Get There*, Statistics Canada, 2003. For more detailed information on travel times for other metropolitan areas in 2005, see below as well as the appended table.

3. Automobile users are those who do the greatest part of their commute in a private vehicle (as either the driver or a passenger). The same concept applies to public transit users.



commuting by bus or subway: only 13% of them spent less than one hour on the round trip between their home and their workplace.

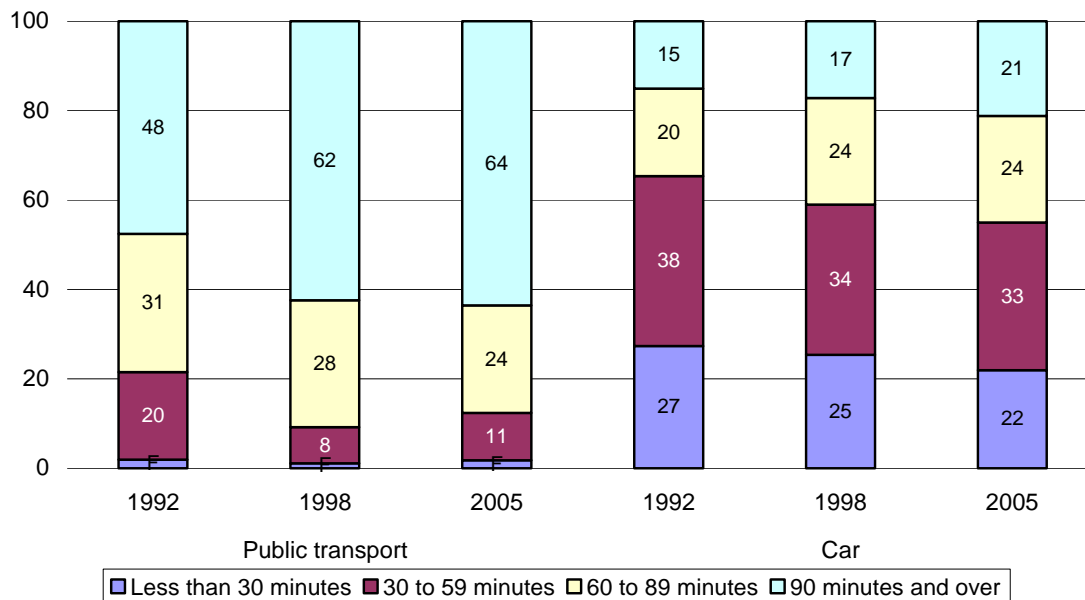
This being said, the average duration of the round trip between home and workplace increased for both public transit users and automobile users between 1992 and 2005. Specifically, the average duration of the round trip for commuters travelling by car went from 51 minutes to 59 minutes. For public transit users, their average travel time rose 13 minutes, from 94 minutes to 106 minutes.

From the standpoint of the proportion of commuters' average travel times and their mode of transportation, the story is largely the same. In 2005, almost two-thirds (64%) of workers using public transit spent an hour and a half (or more) of their day commuting between their home and their workplace (Chart 2). In 1992, the corresponding proportion was only 48%.

For workers travelling by car (either as drivers or as passengers), the proportion whose round trip between home and workplace took at least an hour and a half rose from 15% in 1992 to 21% in 2005.

Chart 3.

**Length of the round trip between home and the workplace, by mode of transportation, 1992, 1998 and 2005**



Source: Statistics Canada, Generale Social Survey, 1992, 1998 and 2005.

## **The increase in travel time applies to both those who make stops between home and work and those who go directly**

With the increase in the number of two-worker families, one might tend to believe that the average travel time mainly increased for parents who must do various errands on their way to work, including detours to drop children off at daycare or school.

When workers who go directly to work without doing errands on the way are separated from those who do one or more errands between home and work, it becomes clear that this assumption is not true. For both these groups, the average daily travel time between home and work grew in substantially the same way. In 2005, commuters going directly from home to work and from work to home (without stopping on the way) spent an average of 58 minutes travelling, an increase of 10 minutes in comparison to 1992. Workers who made one or more stops between home and work (and/or the reverse), saw their average travel time (excluding the time stopped) increase by 9 minutes (75 minutes compared to 66 minutes on average in 1992).

### ***Automobile still the preferred way to get to work***

*For the three reference years of the time use survey, the percentage of workers using a car to commute between home and work did not change. During all three years – 1992, 1998 and 2005 -- approximately 86% of workers used a car for all or part of the round trip between home and work (as either the driver or a passenger). The proportion of workers who mainly used a car (more than half of their round trip) was substantially the same during the three years, at approximately 82%. (The results of the 2001 Census also illustrate the popularity of private vehicles as a mode of transportation for getting to work. In 2001, 74% usually drove to work (compared to 73.3% in 1996) and 6.9% travelled by car as passengers.<sup>4</sup>)*

*Public transit use is much less common. In 2005, only 12% of workers used the bus or subway for their commute (for part or all of their round trip between home and work). This proportion was statistically no different from the proportions observed in 1992 and 1998. However, the proportion of workers using public transit to get to work is higher in large urban areas, where service is accessible to most workers. In 2005, 20% of workers residing in the six largest metropolitan areas used the bus or subway for part or all of their commute. Once again, this proportion did not vary significantly between 1992 and 2005.*

*Lastly, the number of persons who did part or all of their commute between home and work on foot or by bicycle appears to have declined between 1992 and 2005, going from 15% to 11%. This decline could be related to the increase in average travel distances, added to the fact that commutes are now more often from one suburb to another.*

## **More people travelling simultaneously at rush hour**

From whatever angle the situation is examined (region, transportation mode used, population that does errands versus population that does not), it emerges that workers' average travel time between home and workplace has generally increased since 1992. What explains this? In addition to an increase in average distances travelled getting to work, there has also been an increase in congestion in urban areas.

---

4. It should be noted that in the census, respondents were asked to identify a single transportation mode, the one they used for most of the travel distance. On the other hand, the time use survey allows respondents to identify all modes of transportation used to get to work.

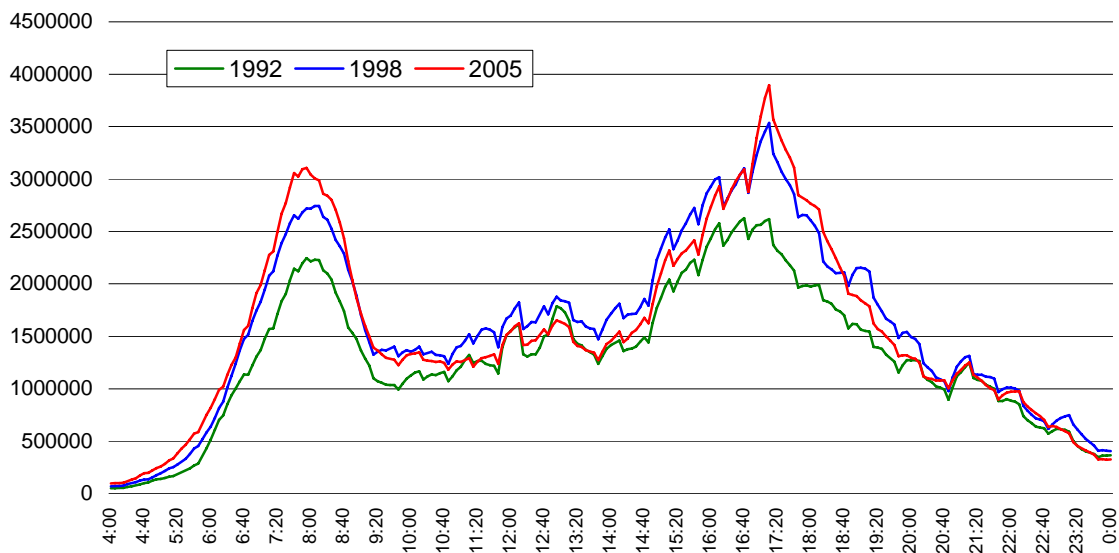
There are several definitions of congestion and several methods for measuring its severity (Transport Canada, 2006; Gourvil and Joubert, 2004).<sup>5</sup> The time use survey does not directly measure road congestion in Canada's various major cities and regions. However, the survey data may be used to calculate the estimated number of persons who are on the road at different times of day.

Reflecting the increase in the total population and the growth of employment between 1992 and 2005, Chart 4 shows that the number of persons who are travelling at the same time (regardless of the mode of transportation) has grown significantly since 1992, for most times during the day. The differences between 1992 and 2005 during rush hours are especially marked. One explanation for this is that the average unemployment rate for 1992 was 11.2%, compared to only 6.8% in 2005. Not only did the overall population increase between 1992 and 2005, but the employed population that had to travel at rush hour rose substantially between the two years.

There are also differences between 2005 and 1998, but these are mainly observable for rush hours. Finally, the chart shows that it is between 5:00 and 5:10 p.m. that the peak number of persons aged 15 and over are travelling simultaneously.

Chart 4.

**Estimated number of persons moving, by time of the day, 1992, 1998 and 2005**



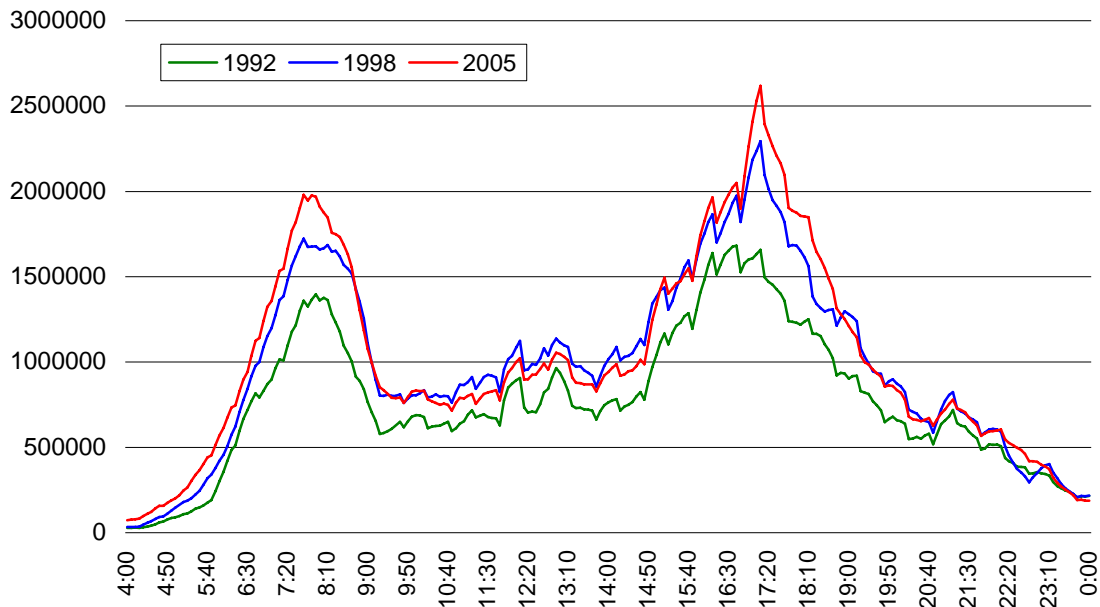
Source: Statistics Canada, Generale Social Survey, 1992, 1998 and 2005.

The data shown in the charts are moving averages for 10-minute periods. This method provides a better picture of how the number of people on the road changes throughout the day. It also serves to moderate the tendency of survey respondents to report that the time at which they began or ended their trip is a multiple of 10 (e.g., 8:00, 8:10, etc.).

5. On this subject, see the recent study ordered by Transport Canada on the cost of congestion in major metropolitan areas (2006).

If the majority of people (including workers and non-workers) travelling at peak hours did so on public transit, on foot or by bicycle, there would probably be less impact on the overall level of congestion. Studies have shown that the private automobile is the mode of transportation that contributes the most to road congestion (Downs, 2005). However, the data from the time use survey show that the number of persons on the road as drivers has also significantly increased since 1992 at all hours of the day. Between 1998 and 2005, the increase in the total number of drivers on the road at the same time was mainly observed during the morning rush hour (Chart 5).

Chart 5.  
**Variation in the estimated number of drivers on the roads, by time of the day, 1992, 1998 and 2005**



Source: Statistics Canada, General Social Survey, 1992, 1998 and 2005.

However, despite appearances, it would be difficult here to identify the main cause of the increase in average travel times observed between 1992 and 2005. There are too many unknowns, including the actual change over time in the level of congestion in all regions of Canada, the increase in the number of accidents and non-recurring events causing road congestion, and different factors specific to particular metropolitan areas. It is nevertheless realistic to think that the slight increase in distances travelled, combined with the significant increase in the number of persons on the road at the same time, may have played a role in the increase in workers' average travel times.

The next section focuses exclusively on data from the 2005 time use survey and compares the relative importance of the different factors associated with an increase or decrease in travel times.

## Part 2: Factors associated with a longer or shorter commute time

As Table A-1 in the appendix shows, the average duration of workers' round trips varies considerably according to distance from the workplace, transportation mode used, metropolitan area of residence and so forth. For example, in 2005, the average duration of a round trip

between home and work for workers residing between 1 and 4 kilometres from their workplace was 33 minutes, compared to 85 minutes for those residing between 30 and 34 kilometres from their workplace.<sup>6</sup>

However, all the factors shown in this table interact with each other and, independently of each other, they influence the total duration of workers' round trips. For example, if a worker who lives in a large city such as Toronto is 25 kilometres from his workplace and uses public transit, he will probably not take the same amount of time getting to work that he would if he lived in a rural area where congestion is non-existent and he uses his car. To determine the independent impact of these different factors on travel times, a more elaborate statistical analysis is required to take all these factors into account simultaneously.

This statistical analysis shows that the easiest commute with respect to travel time between home and workplace would be enjoyed by workers who live in an urban area with a population under 50,000, who are less than 5 kilometres from their workplace, who commute by automobile, who have no children to drop off or pick up and who make no stops (Table 3). On average, such workers will spend only 14 minutes each weekday on the round trip between their home and their workplace.<sup>7</sup>

Not surprisingly, the greater the distance between home and workplace, the greater the average duration of the round trip. For example, compared to workers living less than 5 kilometres from their workplace, the predicted round-trip duration increases by 25 minutes for those living 15 to 19 kilometres from their workplace, by 48 minutes for those living 30 to 34 kilometres away, and so forth. Thus, the predicted duration of the round trip for a worker who has all the characteristics of the reference person but who lives 60 kilometres or more from the workplace will be 112 minutes.<sup>8</sup>

One of the most influential factors affecting average travel time, apart from the distance between home and workplace, is the mode of transportation used. All things being equal, commuters who use public transit to get to work (without also using an automobile) spend an average of 41 minutes more on their daily commute than those using an automobile. And among those who use both public transit and an automobile, the predicted travel time is also 41 minutes longer than for those travelling by automobile only (assuming the same distance between home and place of work).<sup>9</sup>

This difference in travel time between public transit and private transportation has been shown in several studies focusing on specific cities (e.g. Vandersmissen, Villeneuve and Thériault, 2003). The present study shows that while Canadians who use their cars to get to and from work contribute more than public transit users to the quantity of greenhouse gases emitted by

---

6. Only persons living 1 kilometre or more from their workplace are included in this analysis. It is difficult to speak of a commute between home and workplace when the two places are the same (or are very close together). In the previous sections, workers living less than 1 kilometre from work are included in all estimates because the information on distance from the workplace was not collected in 1992 and 1998. This explains the slight differences between some figures shown in the appended table and those appearing in the first section of the article.

7. This describes the reference person for all factors included in the statistical analysis.

8. This result is obtained by adding the reference person's time (14 minutes) to the time associated with the characteristic of interest, which in this case is living 60 kilometres or more from one's workplace (+98 minutes). The same procedure can be followed to interpret all the other characteristics of interest in this table.

9. Of course, these results are based on averages. Some users who live closer to their workplace and who commute by subway or bus will spend the same amount of time or less getting to and from work as automobile users. However, the analysis clearly shows that when the main factors associated with travel time are held constant, the mere fact of using public transit results in a significant increase in travel time.

the transportation sector (Kenworthy, 2003), they nevertheless enjoy an advantage with respect to their travel time.

### **Living in a large city entails longer travel times for workers**

The average duration of the round trip for workers living in the largest cities is longer, on average, than for workers living in smaller communities (see appendix table for details). For example, the average duration of round trips for workers living in Toronto is 37 minutes longer than for workers living in urban areas with populations under 50,000, at 80 versus 43 minutes.

Even though there are some exceptions—e.g., for Oshawa residents the average commute time is 111 minutes—travel times are generally shorter for residents of smaller urban areas. For example, in urban areas with a population between 100,000 and 150,000, the average round-trip duration was 56 minutes in 2005, compared to an average of 63 minutes for Canada as a whole.

In strong metropolitan influenced zones (MIZs), the average travel time is similar to that observed in major urban areas (65 minutes). This is hardly surprising, since strong MIZs consist of municipalities which, although not an integral part of census metropolitan areas (CMAs) or census agglomerations (CAs), send a sizable proportion of their resident population of workers (30% to 49%) to workplaces in a CMA or CA. In expanding cities such as Calgary or Edmonton, residents of some municipalities not yet included in the CMA itself may belong in this category.

Do differences in average times travelled between areas of residence persist when the many factors that differentiate residents of large cities from those of rural areas and small towns are held constant? That question arises since workers living in large urban areas must on average commute longer distances and a larger proportion of them use public transit (both factors contribute to longer travel times). For example, according to the 2001 Census, the median distance travelled was higher in the large metropolitan areas: 9.2 km in Toronto, 7.9 km in Montreal and 7.6 km in Vancouver, compared to 7.2 km for Canada as a whole. Also, data from the 2005 time use survey show that the percentage of workers commuting between home and workplace on public transit (in whole or in part) was 21% in the six largest metropolitan areas, compared to only 2% for persons living outside a CMA.

Given the same distance from work, the same mode of transportation and so forth, the mere fact of living in a large city such as Toronto, Montreal or Vancouver significantly increases the predicted travel time, with increases of 20 minutes for Toronto and 17 minutes for Montreal and Vancouver.

Calgary workers, who must allocate 15 minutes more than those living in urban areas with a population under 50,000 for the round trip between home and work, are especially penalized considering the size of the city. This may possibly be explained by the fact that this city has two of the most important characteristics associated with increased congestion in an urban area: strong population growth and vigorous economic growth (Downs 2005).

In short, residents of large cities must, for a given distance between home and work, devote more time to commuting. This extra time may be considered an approximation of the cost (in minutes) resulting from congestion and/or the reduced accessibility of places where employment is concentrated.

## **Driving one's children and doing errands on the way to/from work**

Some studies show that having young children is associated with a longer commuting time (e.g., Vandermissen, Villeneuve and Thériault, 2003). This might be assumed to be true, but only if the children accompany the worker during his/her commute between home and work (rather than remaining at home with the other parent, in which case travel times would not be affected). Our analysis does indeed show that having to drop off and pick up children during the commute between home and work is associated with an increase in the travel time. When the effect of all other factors is held constant, having to drop off and pick up children at daycare or elsewhere when commuting to and from work increases the predicted duration of the round trip by 21 minutes (excluding the time stopped).<sup>10</sup>

Lastly, the predicted commuting time for those who make stops for errands of all types is 18 minutes longer than for those who go directly to and from work (excluding the time stopped).

The introduction to this section identified the most favourable situation that a worker might expect with respect to travel times. What is the least favourable situation? That of a worker in a major metropolitan area such as Toronto or Calgary who lives a sizable distance from his/her workplace, uses public transit in both directions (wholly or partly), has to run errands along the way and drops off his/her children on the way to work. According to the statistical model, a person exhibiting all these characteristics could count on spending approximately three hours per day (or more) getting between home and work. Thankfully, very few Canadians fit such a profile.

## **Automobile users and car pooling**

It is possible that the duration of the commute between home and work would be shorter for automobile users who engage in car pooling. Objectively, however, this is not the case. A supplementary statistical analysis, conducted only with the group of workers making the round trip between home and work by automobile, shows that the duration of the predicted round trip is 12 minutes longer for those engaging in car pooling compared to those who commute alone (where the effect of distance, area of residence and other factors included in the analysis is held constant). It is possible that these workers have to take a less direct route to work and this explains the increase in the duration of the commute.

---

10. The mere fact of having children is poorly correlated with travel time. An additional multivariate statistical analysis, which included only the presence/absence of children, did not bring out a significant relationship with travel time (results not shown).

## Conclusion

Many Canadians feel that the time that they take in getting to and from work is continually increasing. The results of this study show that, in many cases, this subjective impression has a basis in fact. On average, the duration of the round trip between home and workplace was 9 minutes longer in 2005 than in 1992. The increase is observable both for workers travelling on public transit and for those using a private vehicle. Travel times are also on average longer for those living in large cities as well as for those living in smaller communities.

The study also highlights an important fact which is probably already believed by many workers: despite traffic congestion, it is in most cases faster to use a car or other private vehicle to get to work than to use public transit. This finding is important for a number of reasons.

For some years, efforts have been made to determine which factors would be conducive to increased use of public transit and decreased dependency on the automobile. Some researchers maintain that when public transit is not very advantageous from the standpoint of travel times and comfort level, its popularity seems unlikely to increase (Kenworthy, 2003). On the contrary, some public transit users would instead be inclined to change their transportation mode to the automobile when the opportunity arises, in light of the car's advantages from the standpoint of flexibility and speed.

The results of this study do not shed light on the relative comfort level of the automobile compared to public transit. However, they show that average travel times are increasing both for automobile users and public transit users. Above all, the study shows that a sizable gap remains between the two modes from the standpoint of travel times. It is therefore not surprising that despite higher fuel costs and increased environmental concerns, most workers continue to use mainly their automobile to get to work.



**Table 1. Average travel time for making the round trip between home and workplace is increasing**

|                                  | 1992 | 1998    | 2005 |
|----------------------------------|------|---------|------|
|                                  |      | Minutes |      |
| <b>Canada total</b>              | 54   | 59      | 63   |
| <b>Regions</b>                   |      |         |      |
| Atlantic                         | 39   | 50      | 51   |
| Quebec                           | 52   | 57      | 63   |
| Ontario                          | 59   | 63      | 68   |
| Prairies                         | 45   | 53      | 57   |
| British Columbia                 | 59   | 61      | 60   |
| <b>Census metropolitan areas</b> |      |         |      |
| Toronto                          | 68   | 76      | 79   |
| Montreal                         | 62   | 65      | 76   |
| Vancouver                        | 70   | 68      | 67   |
| Ottawa-Gatineau                  | 57   | 62      | 65   |
| Calgary                          | 52   | 64      | 66   |
| Edmonton                         | 50   | 58      | 62   |
| Autre RMR/AR                     | 44   | 50      | 53   |
| Non RMR/Rural                    | 44   | 50      | 54   |

**Source:** Statistics Canada, General Social Survey, 2005.

**Table 2. Duration of round trip between home and work by region, 1992, 1998 and 2005**

|                         | 1992 | 1998 | 2005 |
|-------------------------|------|------|------|
|                         |      | %    |      |
| <b>Atlantic</b>         |      |      |      |
| Less than 30 minutes    | 45   | 30   | 30   |
| 30 to 59 minutes        | 33   | 39   | 35   |
| 60 to 89 minutes        | 13   | 18   | 21   |
| 90 minutes and over     | 8    | 13   | 14   |
| <b>Quebec</b>           |      |      |      |
| Less than 30 minutes    | 29   | 28   | 23   |
| 30 to 59 minutes        | 36   | 30   | 30   |
| 60 to 89 minutes        | 19   | 22   | 21   |
| 90 minutes and over     | 15   | 20   | 27   |
| <b>Ontario</b>          |      |      |      |
| Less than 30 minutes    | 24   | 23   | 19   |
| 30 to 59 minutes        | 34   | 28   | 28   |
| 60 to 89 minutes        | 21   | 24   | 25   |
| 90 minutes and over     | 21   | 25   | 28   |
| <b>Prairies</b>         |      |      |      |
| Less than 30 minutes    | 27   | 28   | 23   |
| 30 to 59 minutes        | 44   | 33   | 33   |
| 60 to 89 minutes        | 19   | 23   | 24   |
| 90 minutes and over     | 10   | 17   | 20   |
| <b>British Columbia</b> |      |      |      |
| Less than 30 minutes    | 25   | 20   | 22   |
| 30 to 59 minutes        | 30   | 32   | 32   |
| 60 to 89 minutes        | 24   | 25   | 25   |
| 90 minutes and over     | 21   | 24   | 21   |

**Source:** Statistics Canada, General Social Survey, 1992, 1998 and 2005.

**Table 3. Increase in predicted travel times according to different factors**

|                                                               | <b>Increase in predicted duration of round trip</b> |
|---------------------------------------------------------------|-----------------------------------------------------|
| <b>Predicted duration for reference person</b>                | <b>14 minutes</b>                                   |
| <b>Distance from workplace</b>                                |                                                     |
| 1 to 4 kilometres                                             | <b>Reference</b>                                    |
| 5 to 9 kilometres                                             | + 7 minutes                                         |
| 10 to 14 kilometres                                           | + 16 minutes                                        |
| 15 to 19 kilometres                                           | + 25 minutes                                        |
| 20 to 24 kilometres                                           | + 35 minutes                                        |
| 25 to 29 kilometres                                           | + 38 minutes                                        |
| 30 to 34 kilometres                                           | + 48 minutes                                        |
| 35 to 39 kilometres                                           | + 56 minutes                                        |
| 40 to 49 kilometres                                           | + 62 minutes                                        |
| 50 to 59 kilometres                                           | + 64 minutes                                        |
| 60 kilometres and over                                        | + 98 minutes                                        |
| <b>Mode of transportation for getting to work<sup>1</sup></b> |                                                     |
| Automobile                                                    | <b>Reference</b>                                    |
| Public transit (without automobile)                           | + 41 minutes                                        |
| Bimodal (public transit and automobile)                       | + 41 minutes                                        |
| Walking                                                       | n.s. <sup>2</sup>                                   |
| Bicycle                                                       | + 16 minutes                                        |
| Other                                                         | n.s.                                                |
| <b>Area of residence</b>                                      |                                                     |
| Toronto                                                       | + 20 minutes                                        |
| Montreal                                                      | + 17 minutes                                        |
| Vancouver                                                     | + 17 minutes                                        |
| Ottawa-Gatineau                                               | + 10 minutes                                        |
| Calgary                                                       | + 15 minutes                                        |
| Edmonton                                                      | + 11 minutes                                        |
| Québec                                                        | + 10 minutes                                        |
| Winnipeg                                                      | + 11 minutes                                        |
| Hamilton                                                      | + 13 minutes                                        |
| London                                                        | +12 minutes                                         |
| Kitchener                                                     | + 12 minutes                                        |
| St. Catharines - Niagara                                      | n.s.                                                |
| Halifax                                                       | + 14 minutes                                        |
| Victoria                                                      | + 16 minutes                                        |
| Windsor                                                       | + 11 minutes                                        |
| Oshawa                                                        | + 29 minutes                                        |
| Saskatoon                                                     | n.s.                                                |
| Regina                                                        | n.s.                                                |
| St. John's                                                    | n.s.                                                |
| Greater Sudbury                                               | n.s.                                                |

**Table 3. Increase in predicted travel times according to different factors**

|                                                           | Increase in predicted duration of round trip |
|-----------------------------------------------------------|----------------------------------------------|
| Chicoutimi                                                | n.s.                                         |
| Sherbrooke                                                | n.s.                                         |
| Urban areas of 100,000 to 150,000                         | + 8 minutes                                  |
| Urban areas of 50,000 to 99,999                           | n.s.                                         |
| <b>Urban areas of 49,999 or under</b>                     | <b>Reference</b>                             |
| Strong MIZ                                                | n.s.                                         |
| Rural (Moderate, low or no-influence MIZ)                 | n.s.                                         |
| <b>Presence or absence of stops during commute</b>        |                                              |
| No                                                        | <b>Reference</b>                             |
| Yes                                                       | + 18 minutes                                 |
| <b>Dropping off children (at daycare centre or other)</b> |                                              |
| No                                                        | <b>Reference</b>                             |
| Yes                                                       | + 21 minutes                                 |
| Ajusted R2                                                | 0.47                                         |

1. Mode of transportation is the mode used to make the longer part of the commute (in minutes).

2. n.s. means that the value is not statistically different from the reference group, at the 95% level of confidence.

**Source:** Statistics Canada, General Social Survey, 2005.

**Table A1. Average duration of round trip between home and workplace for workers living 1 kilometre or more from their workplace, 2005**

|                                                               | Average duration of round trip (in minutes) | Difference from reference category |
|---------------------------------------------------------------|---------------------------------------------|------------------------------------|
| <b>Distance from workplace</b>                                |                                             |                                    |
| <i>1 to 4 kilometres (reference)</i>                          | 33                                          | <b>Reference</b>                   |
| <i>5 to 9 kilometres</i>                                      | 42                                          | + 9 minutes                        |
| <i>10 to 14 kilometres</i>                                    | 53                                          | + 20 minutes                       |
| <i>15 to 19 kilometres</i>                                    | 60                                          | + 28 minutes                       |
| <i>20 to 24 kilometres</i>                                    | 73                                          | + 40 minutes                       |
| <i>25 to 29 kilometres</i>                                    | 75                                          | + 43 minutes                       |
| <i>30 to 34 kilometres</i>                                    | 85                                          | + 52 minutes                       |
| <i>35 to 39 kilometres</i>                                    | 96                                          | + 64 minutes                       |
| <i>40 to 49 kilometres</i>                                    | 97                                          | + 65 minutes                       |
| <i>50 to 59 kilometres</i>                                    | 101                                         | + 69 minutes                       |
| <i>60 kilometres and over</i>                                 | 132                                         | + 100 minutes                      |
| <b>Mode of transportation for getting to work<sup>1</sup></b> |                                             |                                    |
| <i>Automobile (reference)</i>                                 | 59                                          | <b>Reference</b>                   |
| Public transit (without automobile)                           | 105                                         | + 46 minutes                       |
| Bimodal (public and automobile)                               | 115                                         | + 56 minutes                       |
| Walking                                                       | 42                                          | - 17 minutes                       |
| Bicycle                                                       | 58                                          | n.s. <sup>2</sup>                  |
| Other                                                         | 41                                          | -18 minutes                        |
| <b>Area of residence</b>                                      |                                             |                                    |
| Toronto                                                       | 80                                          | + 37 minutes                       |
| Montreal                                                      | 76                                          | + 33 minutes                       |
| Vancouver                                                     | 67                                          | + 24 minutes                       |
| Ottawa-Gatineau                                               | 66                                          | + 23 minutes                       |
| Calgary                                                       | 67                                          | + 24 minutes                       |
| Edmonton                                                      | 63                                          | + 20 minutes                       |
| Québec                                                        | 57                                          | + 14 minutes                       |
| Winnipeg                                                      | 61                                          | + 18 minutes                       |
| Hamilton                                                      | 65                                          | + 22 minutes                       |
| London                                                        | 55                                          | + 12 minutes                       |
| Kitchener                                                     | 61                                          | + 18 minutes                       |
| St. Catharines - Niagara                                      | 50                                          | <b>n.s.</b>                        |
| Halifax                                                       | 65                                          | + 22 minutes                       |
| Victoria                                                      | 59                                          | + 16 minutes                       |
| Windsor                                                       | 58                                          | + 15 minutes                       |
| Oshawa                                                        | 111                                         | + 68 minutes                       |
| Saskatoon                                                     | 47                                          | <b>n.s.</b>                        |
| Regina                                                        | 48                                          | <b>n.s.</b>                        |
| St. John's                                                    | 47                                          | <b>n.s.</b>                        |
| Greater Sudbury                                               | 40                                          | <b>n.s.</b>                        |

**Table A1. Average duration of round trip between home and workplace for workers living 1 kilometre or more from their workplace, 2005**

|                                                             | Average duration of round trip (in minutes) | Difference from reference category |
|-------------------------------------------------------------|---------------------------------------------|------------------------------------|
| Chicoutimi                                                  | 33                                          | - 10 minutes                       |
| Sherbrooke                                                  | 64                                          | + 21 minutes                       |
| Urban areas of 100,000 to 150,000                           | 56                                          | + 13 minutes                       |
| Urban areas of 50,000 to 99,999                             | 46                                          | + 3 minutes                        |
| <i>Urban areas of 49,999 or less</i>                        | 43                                          | <b>Reference</b>                   |
| Strong MIZ                                                  | 65                                          | + 22 minutes                       |
| Rural (moderate, low or no-influence MIZ)                   | 51                                          | + 8 minutes                        |
| <b>Stops during commute</b>                                 |                                             |                                    |
| No                                                          | 59                                          | <b>Reference</b>                   |
| Yes                                                         | 75                                          | + 16 minutes                       |
| <b>Dropping off children (to daycare centre or other)</b>   |                                             |                                    |
| No                                                          | 62                                          | <b>Reference</b>                   |
| Yes                                                         | 82                                          | + 20 minutes                       |
| <b>Participation in car pooling (automobile users only)</b> |                                             |                                    |
| No                                                          | 54                                          | <b>Reference</b>                   |
| Yes                                                         | 72                                          | + 18 minutes                       |

1. Mode of transportation is the mode used to make the longer part of the commute (in minutes).

2. n.s. means that the value is not statistically different from the reference group, at the 95% level of confidence.

**Source:** Statistics Canada, General Social Survey, 2005.

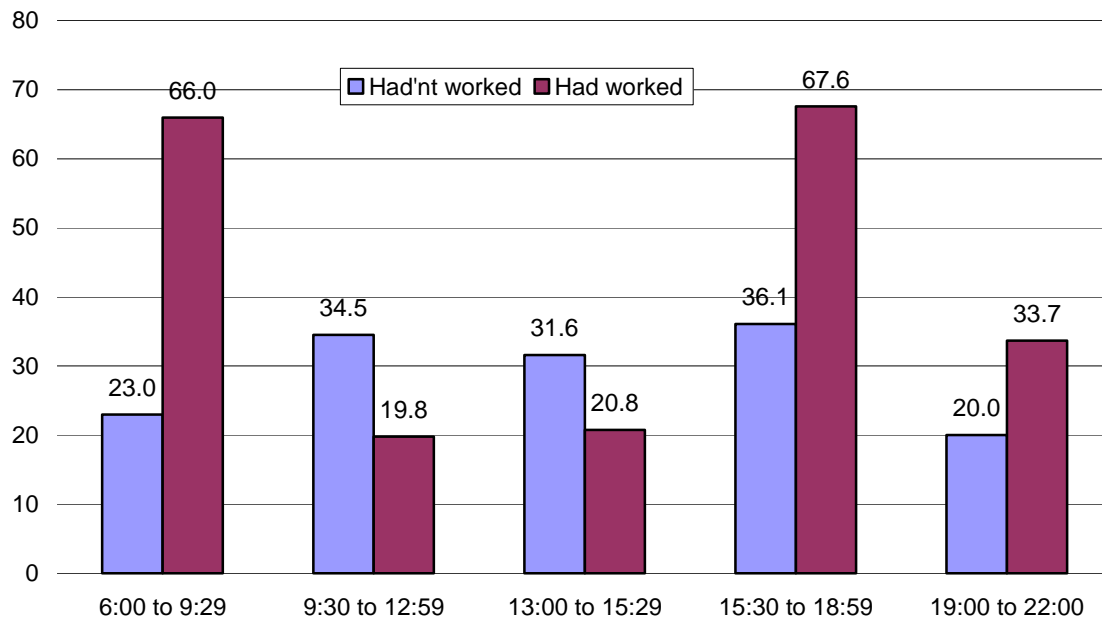
## Study Methodology and Concepts

Time use estimates in this report are based on the information reported in the one-day time use diary portion of the survey. The diary provides a comprehensive accounting of participation in, and time spent on, a wide variety of day-to-day activities. In addition, information was collected on the location where these activities occurred (e.g., at home, at work, etc.) and the social contacts (for non-personal care activities), i.e., who the respondent was with - spouse, children, family, friends.

The target population included all people aged 15 and over, except full-time residents of institutions and residents of the Yukon, Nunavut and the Northwest Territories. Data was collected in each month from January to December 2005. Over this period, a total of 19,597 people were successfully interviewed, yielding a response rate of 59%. For further information on methods and data quality, see the section at the end of this report.

This article focuses solely on the travel times of workers making the round trip between their place of residence and their workplace on weekdays. Many people who are not working also travel during peak hours (Clark, 2000), the times during which congestion problems are at their worst. However, workers are most likely to contribute to road congestion. For example, data from the 2005 time use survey show that on weekday mornings, approximately two-thirds (66%) of employed persons make at least one trip by automobile during the peak period between 6:00 and 9:29 a.m. This proportion is almost three times greater than the proportion of persons who do not have a job and who make a trip by automobile during that period of the day (23%). A similar but smaller gap is observed for the afternoon peak period.

**Proportion who had made a trip by car on week days, by time of the day and employment status, 2005**



Source: Statistics Canada, Generale Social Survey, 2005.

The travel times presented in this study include the time taken to get to work and the time to return from it. Travel times (by car, on public transit, on foot, etc.) devoted to errands and other purposes during the commute between home and workplace are also counted as travel time. However, periods of time devoted to other activities are not included in total travel times. For example, a person who leaves home, travels for 20 minutes to drop off his/her child at daycare, spends 15 minutes talking with other parents at the daycare centre and then puts in another 20 minutes on the road getting to work will have a morning commute of 40 minutes (to which the afternoon commute will be added to obtain the total).

Also excluded are commute times between home and workplace that may occur during the day. For example, the time spent going to and from home for lunch is not added to the total.

Also excluded from this study are workers who were asked to provide information for a day during the weekend (their reference day in the time use survey), those who make only one trip from home to their workplace or vice versa during the reference day and those who reported having commuted between a place other than their usual home (a hotel, the home of another person, etc.) and their workplace. Lastly, a few respondents whose total travel time exceeded five hours in the reference day were excluded. While these respondents accounted for only 0.2% of workers in 2005, they can exert considerable influence on the reported averages and the regression analysis. However, the inclusion or exclusion of these workers does not affect the general conclusions of this study.

In short, a minimum and maximum of two trips are counted per worker: the duration of the first trip between home and work (or between work and home for persons working nights) and the duration of the second trip between work and home (or vice versa).



## References

- Clark, Warren. 2000. "Traffic Report," *Canadian Social Trends* (Statistics Canada, Catalogue No. 11-008-XWE): 18-22.
- Downs, Anthony. 2005. *Still stuck in traffic – Coping with peak-hour traffic congestion*, Washington, Brookings Institution Press.
- Gourvil, L. and F. Joubert. 2004. *Évaluation de la congestion routière dans la région de Montréal*, Ministère des transports du Québec.
- Heisz, Andrew and Sébastien LaRoche-Côté. 2005. *Work and Commuting in Census Metropolitan Areas, 1996-2001*, Trends and Conditions in Census Metropolitan Areas series (Statistics Canada: Catalogue No. 89-613-MIE), Ottawa: Statistics Canada.
- Ingram, Gregory K. 1998. "Patterns of Metropolitan Development: What Have We Learned," *Urban Studies* 35: 1019-1035.
- Kenworthy, J.R. 2003. "Transport Energy Use and Greenhouse Gases in Urban Passenger Transport Systems: A Study of 84 Global Cities," *Third Conference of the Regional Government Network for Sustainable Development*, September 17-19 2003.
- Levinson, David M. 1998. "Accessibility and the journey to work," *Journal of Transport Geography* 6:11-21.
- Luk, James Y.K. 2003 "Reducing Car Travel in Australian Cities: Review Report," *Journal of Urban Planning and Development* 129: 84-96.
- Newman P. and J.R. Kenworthy 1999. *Sustainability and Cities: Overcoming automobile dependence*, Island Press, Washington, D.C.
- Natural Resources Canada/GIMVEC. 1999. *Traffic Congestion Impact on CO<sub>2</sub> Emissions in Canada, Final Report*, Government of Canada.
- Statistics Canada. 2003. *Where Canadians Work and How They Get There, 2001 Census*. Statistics Canada, Catalogue No. 96F0030XIE2001010.
- Transport Canada. 2006. *The Cost of Urban Congestion in Canada*, Government of Canada.
- Vandermissen, Marie-Hélène, Paul Villeneuve and Marius Thériault. 2003. "Analysing Changes in Urban Form and Commuting Time," *The Professional Geographer* 55: 446-463.