

Traffic report: Weekday commuting patterns

by Warren Clark

Travel patterns for the typical Canadian have become more diverse, precipitated by urban development patterns, changing family structures, two-wage earner families and a work-day world that increasingly spans 24 hours. So, if you feel like you've been spending more time in traffic tie-ups, you've got company. Across Canada, traffic congestion is increasing.

Between 1985 and 1997 passenger vehicle registrations grew by 21%, outstripping the growth in the road system.¹ Not only are more Canadians driving cars, they are driving longer distances.² Thus, according to Statistics Canada's 1998 General Social Survey (GSS), on an average weekday Canadians spent 6 more minutes travelling by car or 12 minutes more by public transit than they did in 1986. The result is traffic jams.

CST What you should know about this study

During 1998, Statistics Canada interviewed about 10,700 people aged 15 and over living in households in the 10 provinces in the General Social Survey to discover how they used their time. Respondents indicated what activities they performed, where, and with whom they interacted during these activities and at what times over a 24-hour period. Interviewing occurred between February and December 1998. The results presented in this article reflect what people did on a typical day. Because paid work is usually concentrated on weekdays, most of the results shown in this article refer to activities on an average weekday. Travel times on particular days may be better or worse than the averages presented here.

As used in this article, "commuting" refers to all travel on the way to and from work, including the travel time of side trips for shopping or other errands.

Many other factors also contribute to traffic congestion. Road construction, bad weather and traffic accidents cause short-term slow-downs. But long-term trends in society result in lasting additions to traffic congestion. These trends include the desire to live in low-density neighbourhoods, thereby spreading housing over wider areas; more intensive use of automobiles, which allows commuters to work and live where they choose; and

1. The road system, measured in lane-kilometres, grew by 7% between 1985 and 1995. Transportation Association of Canada, *Transportation in Canada: A Statistical Overview — 1995*. Ottawa: Transport Canada, 1997.
2. Between 1987 and 1996 the average annual distance traveled by private cars and mini-vans increased by 5.7%. Automobile mobility data compendium, *info data: mobility environment safety*. Québec: Laval University February 1999, Volume 4, No. 1, <http://www.grimes.ulaval.ca/cdma>.



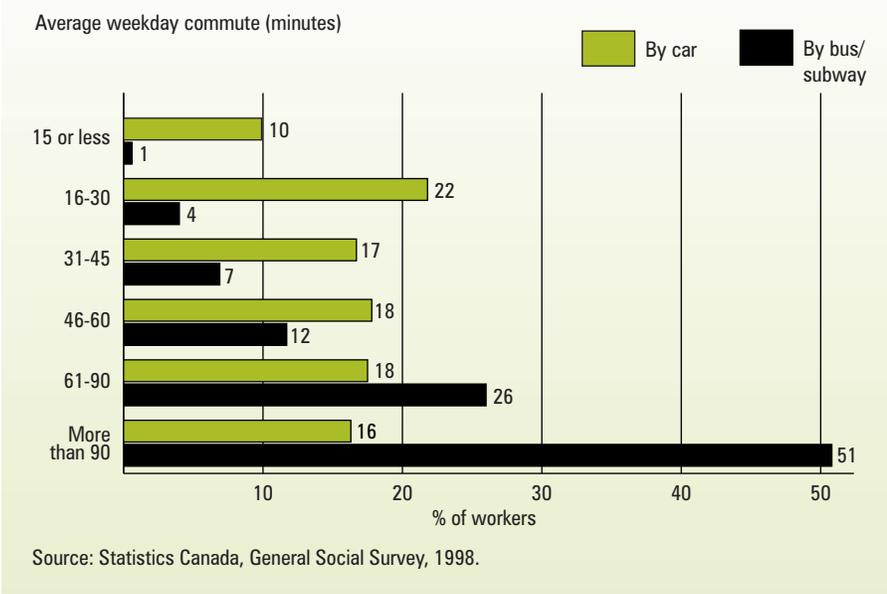
Commuting was the most common reason for travel on an average weekday

Reason for travel	Participants (% of population)	Average time spent travelling by participants (Minutes)
Commuting	47	62
Shopping	34	39
Entertainment or socializing	23	44
Personal care or meals	13	25
To provide care	10	47
Participation in hobbies and sports	9	57
Education	8	53
Volunteer or religious activities	6	42

Note: Includes car, bus, subway, walking, bicycle and other modes of transportation.
Source: Statistics Canada, General Social Survey, 1998.



Over a third of car-using commuters spent more than an hour to get to and from work



concentration of commuting at particular times of the day.³ These issues present special challenges to transportation planners trying to satisfy the needs of a time-stressed workforce.

This article examines travel times on an average weekday. It focuses on why people travel, what mode of transportation is most popular and how our work patterns contribute to congestion.

Commuting largest flow of weekday traffic

The most common reason for weekday travel was commuting to and from work, which was done by 11.4 million Canadians (47% of the adult population) and averaged 62 minutes per day, concentrated around peak travel times. Other popular trips were for shopping (34%) and entertainment or socializing (23%). These trips tended to

be shorter and less concentrated at particular times than commuting, thus contributing less to traffic congestion. Trips to school, university or college are the most common weekday travel activity for younger adults and are just as long as commutes to work.

Car is king

On a typical weekday in 1998, 75% of the adult population went somewhere by car, compared with 70% in 1986. Many reasons account for the car's popularity. Drivers are freed from the constraints of fixed routes and schedules of public transit. They can choose more destinations, select their companions (if any), carry a greater load, never have to stand, and stop for refreshment whenever they want.⁴ For this convenience, automobile owners trade off costs in maintenance, insurance, fuel and depreciation costs for their vehicle.

The extreme popularity of travel by car would not be a problem if everyone chose different times to travel, but our work schedules dictate that most people travel during the morning and afternoon rush hours. Furthermore, people who use automobiles are increasingly driving alone. According to the 1998 GSS, 77% of commuters were alone, up from 69% in 1986.

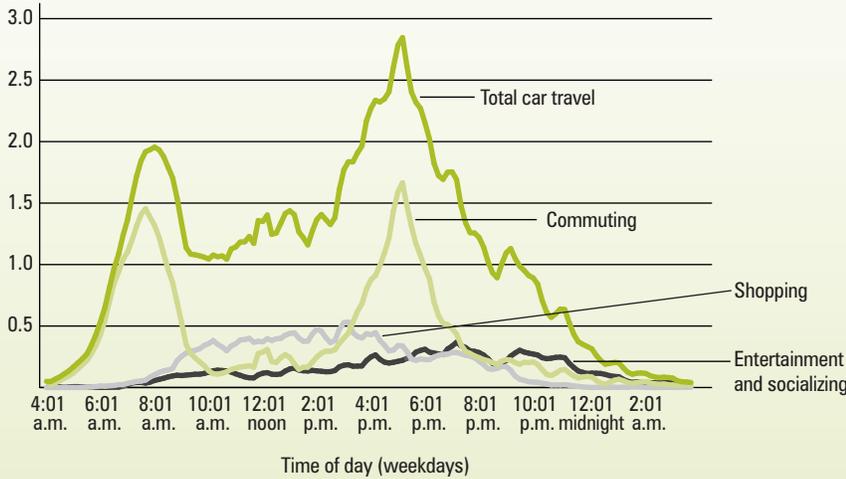
Travel is not uniform throughout the day

Weekday car travel peaks at around 8 a.m. and again just after 5:00 p.m.:

3. Downs, A. 1992. *Stuck in Traffic — Coping with Peak Hour Traffic Congestion*. Washington, D.C.: The Brookings Institution.

4. Dunn, J. A. Jr. 1998. *Driving Forces — the automobile, its enemies, and the politics of mobility*. Washington, D.C.: The Brookings Institution.

Millions of adults aged 15 and over



Source: Statistics Canada, General Social Survey, 1998

People living in	1986	1998
	(Minutes)	
Traveling by car		
Canada	56	58
Montréal	63	60
Toronto	67	70
Vancouver	58	70
Mid-size CMAs ¹	61	57
Small CMAs ²	48	49
Other cities and towns	48	54
Rural	50	56
Travelling by bus or subway		
Canada	85	100

1. Includes Ottawa-Hull, Edmonton, Calgary, Quebec City, Winnipeg, Hamilton, London and Kitchener.

2. Includes St. Catharines-Niagara, Halifax, Victoria, Windsor, Oshawa, Saskatoon, Regina, St. John's, Chicoutimi, Sudbury, Sherbrooke, Trois Rivières, Thunder Bay and Saint John.

Source: Statistics Canada, General Social Survey, 1998.

8% (2.0 million) and 12% (2.8 million) of the adult population are on the move by car at these times, respectively. These peaks in car travel occur during prime commuting time as people go to and from work. At the morning peak,

two-thirds of car users are commuters but during the afternoon rush only 58% are commuters. Many people who made other types of trips during the day are returning home at the same time of day as commuters.

Side trips add to commuting times

On an average weekday in 1998, Canadians spent 58 minutes traveling to and from work by car. About one-third of car commuters made side trips on their way. This added 37 minutes to the travel time of those who stopped to pick up groceries, drop off or pick up a child or run other errands on their way to or from work. Such side trips, most of which occur during peak travel hours, also contribute to traffic congestion.

Women have different household responsibilities compared with men, and their use of the car during their daily commute reflects this division of labour. Men typically travel more in the context of earning a living, while women commuters balance work-related travel with travel for family and personal matters. Consequently, women juggling child-related responsibilities and household management obligations often link trips together and make more stops on the way home from work. According to the 1998 GSS, on an average weekday, 41% of women made at least one stop on the way home from work, compared with 28% of men. If they had children under age 5, however, two-thirds of women made a stop compared with about one-third of men (30%).

Big cities mean long commutes

The 1996 Census showed that Canadian workers commute a median distance of 7.0 kilometers to work.⁵ Yet for people working in Canada's biggest cities where traffic congestion is a problem (Toronto,

5. The median represents the one-way straight-line distance between the place of work and place of residence where half of the population travels further and half travels less than that distance.

Public transit ridership declined between 1990 and 1996, from 1.53 billion to 1.37 billion passenger trips, a loss of nearly 160 million trips. Ridership recovered marginally, to 1.43 billion passenger-trips, in 1998.¹ Declining passenger use during the early 1990s may have been related to high levels of unemployment during the recession, when fewer commuters were travelling to work. The recent improvement could be due to higher employment levels; it may also be related to demographic shifts as the baby boom echo children enter their peak transit riding years.²

The heaviest adult users of public transit are 15- to 24-year-olds: on an average weekday in 1998, 22% of them used it. Even in this age group, though, driving, riding in a car or simply walking were more common than public transit use. Transit use generally decreases with rising age; by the time they reach age 55 to 64, only 4% of the population uses public transit.

Public transit authorities are attempting to increase ridership by attracting car drivers with park and ride facilities. These facilities are located at main transit "gateways" where drivers can park their cars (free or at reduced cost) and continue their journey by bus, subway or commuter rail. It is argued that these arrangements may reduce commuters' total

travel time. However, on a typical weekday in 1998, only 1% of people who drove their cars also used public transit.

Although some people may find public transit less strenuous than stop-and-go driving, it is unlikely to be viewed as a way of relieving time-stress by busy workers. More and more Canadian workers are feeling time crunched — full-time workers experiencing high levels of time stress increased from 19% in 1992 to 25% in 1998 — and the convenience of car travel is apparent when comparing commuting times. On a typical weekday, car drivers spent an average of 58 minutes on the road compared to 100 minutes for bus/subway riders.

Urban sprawl is increasing pressure on public transit authorities to service a wider geographic area. Yet public transit works best when large numbers of people need to be moved to a few destinations. With the urban model we have now in many cities, it may become increasingly costly to try to provide adequate service to far-flung suburbs.

1. Statistics Canada Catalogue 53-215-XPB, *Passenger Bus and Urban Transit Statistics*.
2. Foot, D. K. and D. Stoffman. 1998. *Boom, Bust & Echo 2000: Profiting from the demographic shift in the new millenium*. Toronto: Macfarlane, Walter & Ross. p.186

Montréal and Vancouver), one in six workers commuted 20 kilometers or more. In Toronto and Vancouver, car drivers spent an average of about 70 minutes on the road travelling to and from work on an average weekday, while Montrealers spent 60 minutes. However, one in five car drivers living in these three large cities spent more than 90 minutes driving to and from work. Since about 6% of people who work in the Toronto, Montréal or Vancouver census metropolitan areas (CMAs) actually live in the surrounding cities, towns and rural areas, they are likely to have even longer commutes. Not only must they contend with longer distances,

but also with the traffic congestion of these large cities. Commuting in mid-sized CMAs takes almost as long as in the large cities, though. And while smaller cities and rural areas do not experience the same level of congestion as Canada's metropolises, commuting times in these centres increased between 1986 and 1998.

Can telecommunications reduce gridlock?

Telecommunications technologies offer the promise of reducing the need to travel by allowing people to substitute a fax, telephone or modem link for their physical presence. Telework, which substitutes working at

home for commuting to the workplace, is probably the best known. For time-pressed people with many work and household responsibilities, telecommunications technologies offer the opportunity to work, shop or bank at home.⁶ Time saved in these ways is time available for family, professional development or leisure activities.

6. In 1998, only 3% of households purchased something over the Internet from their home and 5% used electronic banking from their home. Dickenson, P and J. Ellison. 1999. "Getting connected or staying unplugged: The growing use of computer communications services," *Service Indicators* 1st Quarter 1999. Statistics Canada Catalogue 63-016-XIB.

However, paid work at home remains uncommon among Canadians so far. According to the 1998 GSS, 16% of workers had worked at home during the previous week for an average of 17 hours. As these hours suggest, most still go in to their place of work: on an average weekday, 60% of people who sometimes worked at home went in to work. Furthermore, home workers spent more time commuting when they did go to work — an average of 62 minutes compared with 50 minutes for people who didn't work at home — probably because they live in more remote locations. The GSS data show that people who work at home do not cease to go to the office: they simply travel there less frequently.

Summary

Canadians are spending more time on the road and are increasingly driving alone. Although one might

expect that flexible work hours, work-at-home strategies and multi-passenger vehicle use would reduce traffic during peak hours, traffic patterns still show that 8 a.m. and 5 p.m. are the busiest times on the road. With their crowded schedules, many people, especially women, make multiple stops on the way to and from work to complete family errands. These additional activities save time for drivers by chaining trips together, but they also contribute to traffic congestion.



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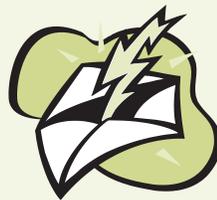
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