



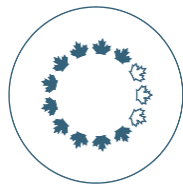
Origin Destination
2022 Household Travel Survey

Regional Travel Trends Preview Report

September 2024



Project Partners:



NCC
CCN



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The TRANS Committee

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TRANSPORTATION POLICY AND RESEARCH

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The TRANS Committee conducts its business within the traditional and unceded territories of the Algonquin, an Anishinaabe people who have occupied the entire Ottawa watershed for thousands of years. Their culture and presence have nurtured and continue to nurture this land.

The survey described in this report was sponsored and guided by TRANS, a joint transportation planning committee serving the National Capital Region (TRANS). The TRANS Committee comprises the City of Ottawa, la Ville de Gatineau, OC Transpo (City of Ottawa), la Société de transport de l'Outaouais, Ontario Ministry of Transportation, le Ministère des Transports et de la Mobilité durable du Québec, and the National Capital Commission. For more information about TRANS, please visit <http://www.ncr-trans-rcn.ca/en/> or <http://www.ncr-trans-rcn.ca/propos-trans/>.

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GLOSSARY OF KEY TERMS

The table below explains key terms and acronyms that are used in this report.

Acronym	Explanation
AM peak period	Morning commuter peak period, covering the 2½ hours from 06:30 a.m. to 08:59 a.m. (0630-0859 in 24-hour format).
CAGR	Compound annual growth rate (annualized compounded average rate of growth).
Data weighting	The process of assigning relative weights to the data to address non-response bias and ensure that distributions in the survey data are adjusted to better represent the population universe.
Data expansion	The process of assigning expansion factors to the weighted survey data such that analysis of the survey sample yields estimates of the total households, total persons, and total trips that reflect the actual population and trip volumes.
Downtown Core	The area defined by Ottawa Centre (the area north of Gloucester Street) and Île de Hull. See Figure 32 on page 73.
Evening	The evening period, covering the 6 hours between 6:00 p.m. to 11:59 p.m. (1800-2359)
Gatineau CMA	The portion of the Study Area in Québec, composed of all municipalities in the Gatineau portion of the Ottawa-Gatineau Census Metropolitan Area (CMA).
F/T	Full-time worker.
K-12 / K-S5	Kindergarten to grade 12 in Ontario and kindergarten to secondaire 5 in Québec, referring to elementary and secondary school grades.
LRT	Light rail transit (O-Train).
Midday	The inter-peak period, covering the 6 hours between 9:00 a.m. and 2:59 p.m. (0900 - 1459).
Night	The overnight period, covering the 6½ hours between midnight and 6:29 a.m. (0000-0629).
Mode	The means used to travel – e.g., auto, public transit, bicycle, walking, etc.
NCR	National Capital Region (also known as Canada’s Capital Region or CCR).
O-D	Origin-destination.
PM peak period	Afternoon commuter peak period, covering the 3 hours from 3:00 p.m. to 5:59 p.m. (1500-1759).
PSE	Post-secondary school or student.
%-pts	Percentage points.
Study Area	The geographic area within which households were surveyed for this study, composed of the City of Ottawa and the entirety of the Gatineau CMA. See Figure 1 on page 3.
Vehicles	Personal and business vehicles owned by or available to residents for their personal travel. These include cars, SUVs, light trucks and vans.

1 INTRODUCTION

1.1 Overview

This preview report presents selected key findings from the *TRANS 2022 Origin-Destination Household Travel Survey*. It provides a glimpse into regional travel patterns from the 2022 survey. A more detailed analysis is forthcoming, along with supporting technical reports.

The TRANS Committee is a joint technical committee on transportation systems planning in the National Capital Region (NCR). It spans both sides of the Ottawa River and various levels of government through its member agencies: the National Capital Commission (NCC), Ministry of Transportation of Ontario (MTO), City of Ottawa (including OC Transpo), Ministère des Transports et de la Mobilité durable du Québec (MTMD), Ville de Gatineau, and Société de transport de l'Outaouais (STO). An overview of TRANS can be accessed through the TRANS web site: www.ncr-trans-rcn.ca or <http://www.ncr-trans-rcn.ca/propos-trans/>.

In Fall 2022, the TRANS Committee conducted a comprehensive trip diary (origin-destination, or O-D) survey. The survey asked about the travel made by all household members 5 years old and older, over a recent 24-hour weekday. The survey collected information at three levels:

- **Household**, including number of members, the number of vehicles and bicycles, type of dwelling and more.
- **Person**, including age, occupational status, type of occupation if employed, whether the person has a driver's licence and more.
- **Trip**, covering the trips made by each household member. For each trip made on the designated survey day, information was gathered about where the trip began (origin), the time the trip began, where it ended (destination), the mode(s) used for the trip (e.g., auto, public transit, bicycle or walking), the purpose of the trip (e.g., commuting to work) and more.

The survey profile will aid TRANS members in their community plans, transportation plans and other ongoing sustainable planning initiatives. The 2022 survey provides an update to surveys that have been conducted since the 1970s, most recently in 2011.

The 2022 survey Study Area comprised the City of Ottawa, the Ville de Gatineau, and the Municipalité régionale de comté (MRC) des Collines-de-l'Outaouais.¹ It was expanded to

¹ The MRC includes the municipalities of Cantley, Chelsea, L'Ange-Gardien, La Pêche, Pontiac and Val-des-Monts.

include several smaller municipalities within the Gatineau portion of the Census Metropolitan Area (CMA) that were not surveyed in 2011.²

The survey was conducted with a random sample of 33,940 households in the Study Area. A total of 338,270 households were invited to participate by survey invitation letter and/or phone call, for a response rate of 10% prior to data validation. Participants could respond via a web-based survey or a telephone interview. The final sample was 31,818 households surveyed after data validation and rejection of surveys with data issues. The final survey dataset includes information on 69,480 residents of the Study Area and 162,243 trips made by those residents. The survey data were weighted to address non-response bias and ensure that the survey distributions by geography, household size, dwelling type, age, and gender closely matched the Census. The survey data were expanded so that the results reflect total households, population, and estimates of total trips taken by the entire population. When weighted and expanded, the survey data represent approximately 567,200 households in the region, almost 1,365,600 residents, and almost 3.2 million daily trips. Overall, the survey dataset constitutes a randomly selected 5.6% sample of households and 5.1% sample of population. The overall household-level survey results have an estimated margin of error due to random sampling of $\pm 0.7\%$ and the person- and trip-level results have an estimated margin of error of $\pm 0.5\%$, both at a 95% confidence level, taking into account the effects of data weighting.³

1.2 Survey geography

The sampled households were selected randomly from an area consisting of most of the National Capital Region; that is, from the City of Ottawa, the Ville de Gatineau and the MRC des Collines-de-l'Outaouais.⁴ At least 98% of the population of the Study Area is within the boundaries of the NCR.⁵ It may also be noted that at least 97% of the population of the NCR is

² Thurso, Lochaber, Lochaber-Partie-Ouest, Mayo, Mulgrave-et-Derry, Val-des-Bois, Bowman, Notre-Dame-de-la-Salette and Denholm.

³ 19 times out of 20, for a given survey question, the survey response percentage should be somewhere within the margin of error of the survey results. The margin of error has been corrected to account for the increase in error associated with data weighting to correct for over-/under-sampling and/or non-response bias.

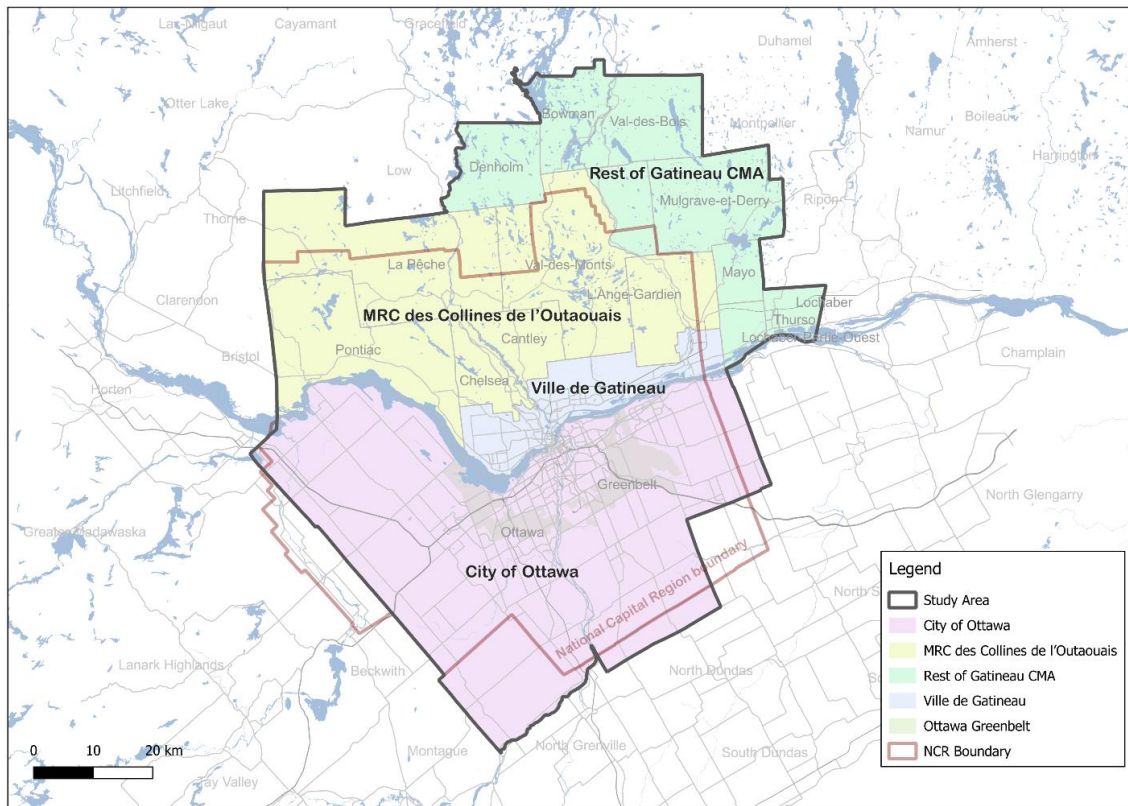
⁴ Whereas the boundaries of these municipalities slightly exceed the NCR boundaries, the municipalities of Almonte, Carleton Place and Russell (all in Ontario), which are within the NCR, were not included in the survey Study Area.

⁵ Based on a rough comparison of Statistics Canada Dissemination Blocks (DBs) against the NCR boundary, the Study Area population appears to represent somewhere between 98.2% and 98.7% of 2021 Census population for DBs associated with the NCR. This figure is approximate, as many DBs at the edges of the NCR are partly inside and partly outside the NCR boundary (with about 7,500 population in DBs that are difficult to apportion).

within the boundaries of the Study Area.⁶

Figure 1 depicts the surveyed areas. The 2022 survey area, which includes the City of Ottawa and the entire Gatineau CMA, is slightly larger than that of the 2011 and 2005 surveys, which included the City of Ottawa, the Ville de Gatineau, and the MRC des Collines-de-l'Outaouais. The new areas added in 2022 to expand the Study Area to comprise all of the Gatineau CMA only represent 0.6% of population within the Study Area, or 2.3% of population within the Gatineau CMA.

Figure 1. Map of the survey Study Area⁷



⁶ The Study Area population appears to represent somewhere between 97.3% and 98.6% of 2021 Census population for DBs associated with the NCR. This figure is approximate, as many DBs at the edges of the NCR are partly inside and partly outside the NCR boundary.

⁷ NCR Boundary source: Government of Canada, National Capital Region Boundary (<https://open.canada.ca/data/dataset/6b588d7c-7e61-48d4-a87d-675ad3bf507a>, last accessed February 27, 2022)

For the purposes of tabulating the survey results in the Québec parts of the survey Study Area, the Ville de Gatineau, the MRC des Collines-de-l’Outaouais and the rest of the Gatineau CMA are referred to collectively in this report as the “Gatineau CMA”.⁸

1.3 A unique point in time

Many of the results presented in this summary report are compared with findings from previous O-D surveys for the Study Area, to look at how travel behaviour is changing. However, although it followed the same general procedure as previous O-D surveys, the 2022 O-D survey was unique in several ways:

- The last survey was conducted in 2011- an interval of 11 years, compared with previous TRANS surveys which were typically spaced every 5-6 years. The 2022 survey was originally planned for 2020, to follow the 2019 opening of the O-Train. However, the survey was delayed due to the advent of the COVID-19 pandemic and its profound impact on work and travel patterns. As the survey is intended to provide travel indicators and a forecasting model that can be used for future planning, the survey was delayed until Fall 2022, after widescale deployment of vaccines and human activity patterns were less likely to be impacted by the fear of contagion.
- The 2011 survey was conducted by phone with a landline sample and did not include cell-phone-only households, whereas the 2022 survey was conducted as mixed-mode with mostly online survey completions and used address-based sampling. Although most survey questions are very similar or identical, there may have been other methodology differences in post-processing and analysis of the data. As a result, comparability may be limited for certain indicators.
- The most severe impacts of the pandemic-induced impacts on people’s activity and the corresponding changes in travel behaviour had receded by the time the survey was conducted in Fall 2022. However, some activity and travel behaviours may still be in flux – notably, a hybrid work environment.
- The introduction of the O-Train – a travel mode new to the Study Area - can be expected to have a major influence on regional travel behaviour. However, it commonly can take some time before these changes are fully presented: not just mode changes, but also how such large-scale infrastructure shapes where people choose to live and work.

Accordingly, it may be best to see 2022 O-D survey more as a new travel benchmark than purely as an extension of 2011 and earlier trends. The ensuing *Travel Analysis Report* will

⁸ In the 2011 reporting, the portion of the survey area in Québec was referred to as the “Outaouais.”

provide more detail and context. This report is now in preparation.

1.4 Report organization

The report has five sections in addition to this introductory chapter:

- Section 2 profiles the household and demographic characteristics that were gathered from the survey, and how these have changed over time.
- Section 3 focuses on key factors that influence travel and how these have changed over time.
- Section 4 profiles key travel characteristics that were gathered in the survey, and how these have changed over time.
- Section 5 focuses on travel by different modes, and how mode share has changed over time.
- Section 6 concludes the report with a summary of key findings.



2 KEY INDICATORS

2.1 Overview

This section describes key household and demographic factors that influence people’s travel choices and patterns. The discussion looks at how these relate to each other. It also notes how they have changed over time, especially in light of the profound pandemic-induced shifts in social, economic and travel activity that transpired between the 2011 and 2022 surveys.⁹

2.2 Key household and demographic indicators

Table 1 traces the growth in total population, population 5+ years of age (those eligible in the 2011 and 2022 surveys for trip reporting), and population 11+ years of age (those eligible for trip reporting in the 2005 and earlier surveys). The latter figure is used as the base for trip rates and other statistics when comparing with surveys earlier than 2011. Table 2 traces the growth in total population, those with primary status of worker (i.e., working population excluding students who are also workers), households and vehicles across the Study Area. The tables provide the findings for the City of Ottawa, the Gatineau CMA and the combined Study Area.

Focusing on changes between 2011 and 2022, it can be noted that:

- Historically, the population split between Ottawa and the Gatineau CMA has been approximately 75% versus 25% of the Study Area totals. These proportions were largely maintained in 2022.
- In 2022, the Gatineau CMA had 29.1% of the Study Area’s vehicles¹⁰ – slightly greater than the 27.3% share in 2011 and representing an 18.0% growth over the 11-year period (and a 1.5% compound annual growth rate [CAGR]).
- Across the Study Area, the number of workers grew faster than any other indicator, at 16.0% (1.4% CAGR) over the 11-year period. By comparison, the Study Area population grew by 10.7% (0.9% CAGR), households by 11.2% (1.0% CAGR) and vehicles by 11.0% (1.0% CAGR).

⁹ Note that the factors and proportions presented in this section reflect the survey results, which were expanded and validated to Census and other reference statistics. In most cases the results are consistent with these references. However, references to the working population may differ from the Census, given that the 2021 Census was taken at the height of a Covid wave whereas the household travel survey was conducted 18 months later. These differences refer specifically to total employment, mode of travel to work and the number of people working at home.

¹⁰ In this report, “vehicles” refers to personal and business vehicles owned by or available to residents for their personal travel. These include cars, SUVs, light trucks and vans.

- These Study Area-wide trends largely followed Ottawa's trends, with vehicles (8.4% or 0.7% CAGR) growing more slowly than workers (16.5%, 1.4% CAGR), population (10.0%, 0.9% CAGR) and households (9.1%, 0.8% CAGR). However, in Gatineau, vehicles (18.0%, 1.5% CAGR) grew faster than households (17.3%, 1.5% CAGR), workers (14.4%, 1.2% CAGR) and population (12.7%, 1.1% CAGR).
- The Gatineau CMA experienced faster growth than Ottawa in all indicators, except for the working population, which grew by 16.5% in Ottawa (1.4% CAGR) and 14.4% in the Gatineau CMA (1.2% CAGR). The total population in the Gatineau CMA grew by 12.7% (1.1%), compared with 10.0% (0.9%) in Ottawa. Households in the Gatineau CMA grew by 17.3% (1.5% CAGR) compared with 9.1% (0.8%) in Ottawa. Vehicles in the Gatineau CMA grew by 18.0% (1.5% CAGR) compared with 8.4% (0.7%) in Ottawa.

Although the focus is on the 2011 and 2022 surveys, the table also lists the 2005 survey values. This extended look back provides a context for the ensuing discussion of how the relationships among the demographic indicators have changed.

Both 11+ and 5+ populations were used for comparisons with the 2011 survey. This reflects the transition that year from 11+ year-olds as the survey's population threshold to 5+ year-olds.¹¹ To enable the ensuing comparison of the demographic relationships with older TRANS surveys, the two tables retain both age thresholds.

¹¹ Prior to 2011, TRANS surveys captured data only from the 11+ population. From 2011, TRANS surveys included travel from the 5+ population.

Table 1. Population, 2005 - 2022

Survey Year	Geography*	Population	Population 5+	Population 11+
Study Area				
2022	CofO, GatCMA	1,365,600	1,297,600	1,200,800
2011	CofO, VdeG, MRC	1,233,800 †	1,163,200	1,081,300
2005	CofO, VdeG, MRC	1,150,600	1,090,800	1,010,500
2011-22		10.7%	11.6%	11.1%
2011-22 CAGR ‡		0.9%	1.0%	1.0%
Ottawa				
2022	CofO	1,014,400	965,500	895,900
2011	CofO	922,000 †	871,200	810,300
2005	CofO	865,700	821,200	760,500
2011-22		10.0%	10.8%	10.6%
2011-22 CAGR ‡		0.9%	0.9%	0.9%
Gatineau CMA				
2022	GatCMA	351,200	332,100	304,900
2011	VdeG, MRC	311,700	292,100	270,900
2005	VdeG, MRC	284,900	269,600	250,000
2011-22		12.7%	13.7%	12.6%
2011-22 CAGR ‡		1.1%	1.2%	1.1%

* 'CoO' refers to City of Ottawa. 'VdG' refers to the Ville de Gatineau. 'MRC' refers to the MRC des Collines-de-l'Outaouais. 'GatCMA' refers to the Gatineau CMA. The 2022 survey's inclusion of the small communities in the Gatineau CMA that were not included in the 2005 to 2011 survey geography adds about 0.6% to the total population of the Study Area, or 2.3% of the population of the Gatineau CMA. The inclusion of these small communities has only a marginal impact on the growth rates shown here.

† 2011 City of Ottawa population is based on estimates used to expand and weight the 2011 survey, which suggest a larger population (922,000) than that reported in the 2011 Census (883,391). Note that the 2011 Census undercount in Ontario was estimated to be approximately 2.9% (compared with only 1.1% in Québec). The 2011 Census and National Household Survey figures were not adjusted to account for this undercoverage. (*Final estimates of 2011 Census coverage*, Statistics Canada, <https://www150.statcan.gc.ca/n1/daily-quotidien/130926/dq130926b-eng.htm>, last accessed March 19, 2024).

‡ CAGR is the compound annual growth rate between 2011 and 2022.

Table 2. Population, workers, households and vehicles, 2005 - 2022

Survey Year	Geography*	Population	Employment (Workers; Primary Status)**	Households	Vehicles
Study Area					
2022	CofO, GatCMA	1,365,600	681,600	567,200	776,400
2011	CofO, VdeG, MRC	1,233,800 †	587,800	510,000	699,200
2005	CofO, VdeG, MRC	1,150,600	543,200	465,400	657,500
2011-22		10.7%	16.0%	11.2%	11.0%
2011-22 CAGR ‡		0.9%	1.4%	1.0%	1.0%
Ottawa					
2022	CofO	1,014,400	508,300	414,500	550,800
2011	CofO	922,000 †	436,300	379,800	508,100
2005	CofO	865,700	401,300	347,900	482,100
2011-22		10.0%	16.5%	9.1%	8.4%
2011-22 CAGR ‡		0.9%	1.4%	0.8%	0.7%
Gatineau CMA					
2022	GatCMA	351,200	173,300	152,700	225,600
2011	VdeG, MRC	311,700	151,500	130,200	191,200
2005	VdeG, MRC	284,900	142,000	117,500	175,500
2011-22		12.7%	14.4%	17.3%	18.0%
2011-22 CAGR ‡		1.1%	1.2%	1.5%	1.5%

* 'CoO' refers to City of Ottawa. 'VdG' refers to the Ville de Gatineau. 'MRC' refers to the MRC des Collines-de-l'Outaouais. 'GatCMA' refers to the Gatineau CMA. The 2022 survey's inclusion of the small communities in the Gatineau CMA that were not included in the 2005 to 2011 survey geography adds about 0.6% to the total population of the Study Area, or 2.3% of the population of the Gatineau CMA.

** For all years, 'employment (primary status)' includes only those workers whose primary occupation is full time or part time employment. To enable equivalent comparisons, for 2022, this figure excludes almost 55,000 workers who were full-time student/part-time worker, full-time student/full-time worker, or part-time student/part-time worker. Other reporting on workers in this report may use total workers including students who work as a secondary occupation status.

† 2011 City of Ottawa population is based on estimates used to expand and weight the 2011 survey, which suggest a larger population (922,000) than that reported in the 2011 Census (883,391). Note that the 2011 Census undercount in Ontario was estimated to be approximately 2.9% (compared with only 1.1% in Quebec). The 2011 Census and National Household Survey figures were not adjusted to account for this undercoverage. (*Final estimates of 2011 Census coverage*, Statistics Canada, <https://www150.statcan.gc.ca/n1/daily-quotidien/130926/dq130926b-eng.htm>, last accessed March 19, 2024)

‡ CAGR is the compound annual growth rate between 2011 and 2022.

2.3 Relationships among key indicators

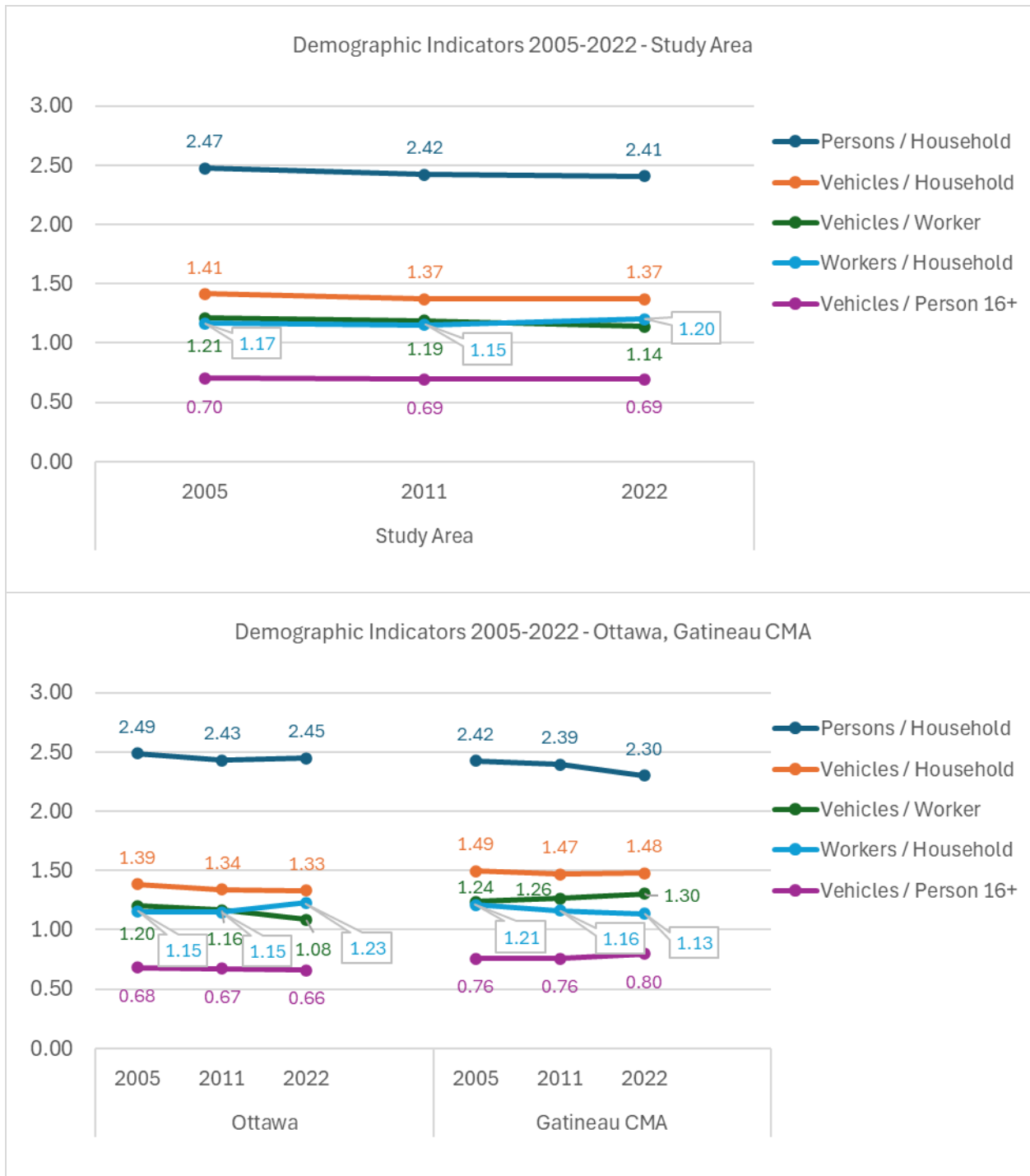
Table 3 summarizes how the demographic and household indicators relate to each other. Figure 2 shows graphically how these relationships have changed since 2005. These relationships help explain how and why travel behaviour, described in the ensuing sections, has changed over time.

Table 3. Relationships among demographic indicators, 2005 – 2022

Survey Year	Persons / Household	Population 5+ / Household	Population 11+ / Household	Workers / Household	Vehicles / Household	Vehicles / Worker	Vehicles / Person 16+ years
Study Area							
2022	2.41	2.29	2.12	1.20*	1.37	1.14	0.69
2011	2.42	2.28	2.12	1.15	1.37	1.19	0.69
2005	2.47	2.34	2.17	1.17	1.41	1.21	0.70
Ottawa							
2022	2.45	2.33	2.16	1.23*	1.33	1.08	0.66
2011	2.43	2.29	2.13	1.15	1.34	1.16	0.67
2005	2.49	2.36	2.19	1.15	1.39	1.20	0.68
Gatineau CMA							
2022	2.30	2.17	2.00	1.13*	1.48	1.30	0.80
2011	2.39	2.24	2.08	1.16	1.47	1.26	0.76
2005	2.42	2.29	2.13	1.21	1.49	1.24	0.76

* For comparability with previous cycles that excluded workers who had a primary occupation status other than work, the 2022 employment figures in this table have been filtered to exclude people who might be deemed as having employment as a secondary status – e.g., someone who is both a full-time student and a part-time worker. However, other reporting on workers in this report may use total workers including students who work as a secondary occupation status.

Figure 2. Changes in key demographic relationships, 2005 to 2022



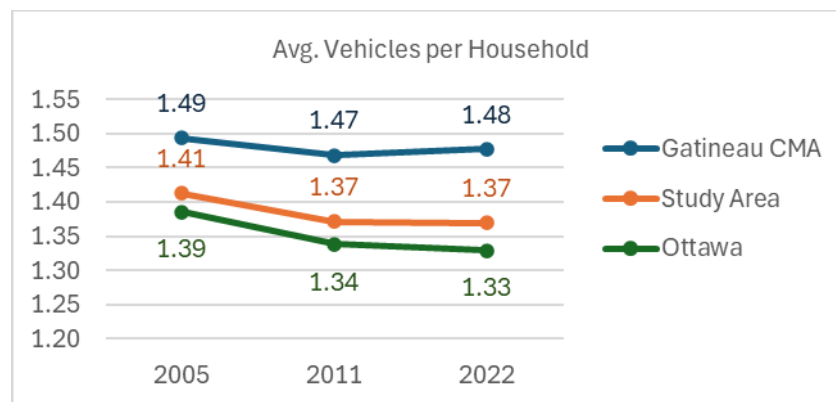
The relationships have changed in different ways – some uniformly across the Study Area but others varying between Ottawa and the Gatineau CMA:

- **Household size grew slightly in Ottawa since 2011 but dropped moderately in the Gatineau CMA.** The average household size (persons per household) has dropped steadily across the Study Area since 2005, although 2022’s average of 2.41 persons per household is only marginally smaller than the 2011 average of 2.42 persons per household. Ottawa’s rate increases slightly, from 2.43 to 2.45 persons per household between 2011 and 2022. However, the Gatineau CMA rate dropped moderately to 2.30 persons per household in 2022, from its 2011 rate of 2.39 persons per household.

When calculated for the 5+ population, both jurisdictions experienced increases between 2011 and 2022, reversing reductions after 2005, although Ottawa experienced only a marginal increase. A similar trend holds for the 11+ population, with Ottawa’s rate being stable between 2011 and 2022.

- **The average number of workers per household increased in Ottawa since 2011 but dropped in the Gatineau CMA.** While both jurisdictions’ rates were almost equal in 2011, Ottawa’s rate increased to 1.23 workers per household in 2022 from 1.15 workers in 2011, while the Gatineau CMA’s 2022 average of 1.13 workers per household represents a slight reduction from 1.16 workers in 2011.
- **Average vehicle availability has been stable since 2011, after dropping from 2005.** As shown in Figure 3, Ottawa’s 2022 average of 1.33 vehicles per household is marginally lower than the 2011 rate of 1.34 vehicles. However, rates in the Gatineau CMA grew marginally from 1.47 vehicles in 2011 to 1.48 vehicles per household in 2022.

Figure 3. Average vehicles per household, 2005-2022



- **Average vehicle availability for workers has dropped moderately in Ottawa since 2005 but has increased in the Gatineau CMA.** Mode choice is linked to vehicle availability. This is especially true of employed household members, who often have priority for the household's vehicles, and whose habitual trips to and from work would otherwise be more conducive to using public transit and other alternatives to driving.

On average, in Ottawa, 1.08 vehicles were available per worker in 2022, representing a drop from 1.16 vehicles in 2011. However, in the Gatineau CMA, whose rates were higher than those of Ottawa for all three survey years, the average grew from 1.26 vehicles in 2011 to 1.30 vehicles per worker in 2022. While Ottawa's rates have dropped since 2005, the Gatineau CMA's rates have increased since 2005. Across the Study Area, these rates indicate that, on average, there was at least one vehicle available to each worker.¹²

- **Average vehicle availability for the driving-age population has dropped slightly in Ottawa since 2005 but has increased in the Gatineau CMA.** Table 3 lists the average number of vehicles that are available to the 16+ population – that is, to people who are of driving age. The changes over time and the differences between Ottawa and the Gatineau CMA echo those of vehicle availability for workers, although the actual availability rates are much lower than those for workers. On average, in Ottawa, 0.66 vehicles were available per person 16+ in 2022, representing a slight drop from 2011 and 2005 (0.67 and 0.68 vehicles, respectively). However, rates in the Gatineau CMA, which were higher than those of Ottawa for all three survey years, grew moderately to an average of 0.80 vehicles in 2022 from 0.76 vehicles in 2011 and 2005.

¹² Note that workers' priority for the household vehicle reflects experience observed in surveys across Canada. The focus here on workers' mode choices also corresponds to their primacy as a target market for public transit because the regularity of their trip to and from home makes them most conducive to switch to that mode.

3 FACTORS INFLUENCING TRAVEL

The previous section looked at basic trends and relationships among household and demographic indicators. This section focuses on two other factors that are key influences on travel behaviour: where people work and vehicle availability.

3.1 Workplace and work from home

3.1.1 Workplace location

The work commute is a key contributor to peak period travel by all modes. Commuters to and from work make up an important component of public transit ridership, especially those who are commuting to and from a fixed work location.

Previous TRANS surveys explored telecommuting. However, telecommuting, now called working from home (WFH), grew significantly because of the pandemic and has had a lingering effect on peak period travel. It is important to note that employer WFH policies were evolving during the survey's conduct and have continued to evolve since then – for example, the Federal government announced its hybrid return-to-the-office approach in mid-December 2022 for implementation in early 2023.¹³

Figure 4 profiles workplace location for 2022, according to usual workplace (did not telecommute last week), usual workplace (hybrid), no fixed workplace and work exclusively from home.¹⁴ The figure combines full-time and part-time workers. Note that the results in this section (3.1) of this report examine the survey data for all workers, including students who work at a job that might be considered a secondary occupational status.

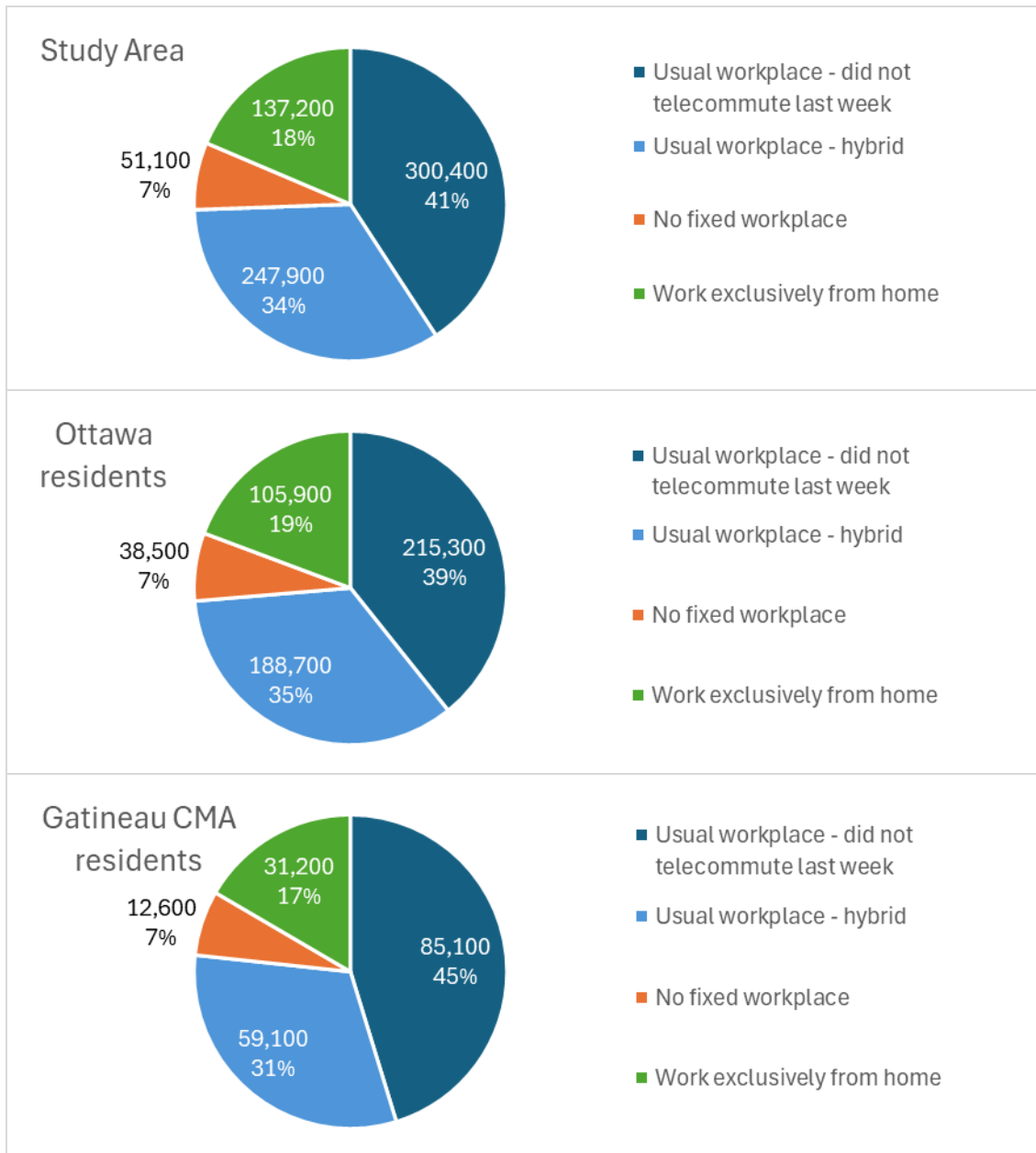
¹³ *Government mandates public servants to return to office 2 to 3 days per week by April, Ottawa Citizen, December 16, 2022.*

¹⁴ 'Usual workplace' refers to a worker's place of work that does not change (is fixed). When a worker is commuting, they always go the same location. Two options are discussed in the figure: the worker had a hybrid working arrangement, meaning they commuted to the office for only part of the work week, or they did not telecommute, meaning they worked each day in at the workplace.

"No fixed workplace" refers to itinerant workplace locations – for example, that of a construction worker, who may go to different construction sites on different days.

"Work exclusively from home" refers to workers who work entirely at their home – i.e., they do not have a workplace outside the home. An example is someone who has a home-based business.

Figure 4. Workplace location, 2022



Notes:

- These figures include both full-time and part-time workers.
- No telecommuting - did not report telecommuting instead of travelling to work in the week before being surveyed, i.e., worked exclusively at their usual workplace (may also include a small % of workers who did not work at all last week).
- Hybrid - has a usual workplace and reported telecommuting instead of going to work at least once the previous week (i.e., without also travelling to or from work on the same day).

From Figure 4, it can be seen that:

- **Three-quarters of all workers had a usual place of work outside the home.** Another fifth (19%) of workers worked exclusively from home, with the remaining 7% not having a fixed workplace. These proportions were consistent across the Study Area.
- **Among those with a usual place of work outside the home, just under half (45% of those with a usual workplace, or 34% of total workers) had a hybrid working arrangement,** representing 35% of Ottawa’s workers but 31% of the Gatineau CMA’s workers.
- **Just over half of those with a usual place of work outside the home (55% of such workers, or 41% of total workers) did not telecommute in the previous week.** Almost half the Gatineau CMA’s workers (45%) had a usual workplace outside the home but did not telecommute the previous week. The corresponding proportion for Ottawa was 39%.
- Not shown in the figure, among full-time workers alone, 40% of Ottawa workers and 35% of Gatineau CMA workers had a hybrid working arrangement. Only 10% of part-time workers in either jurisdiction had a hybrid working arrangement.

3.1.2 Changes over time

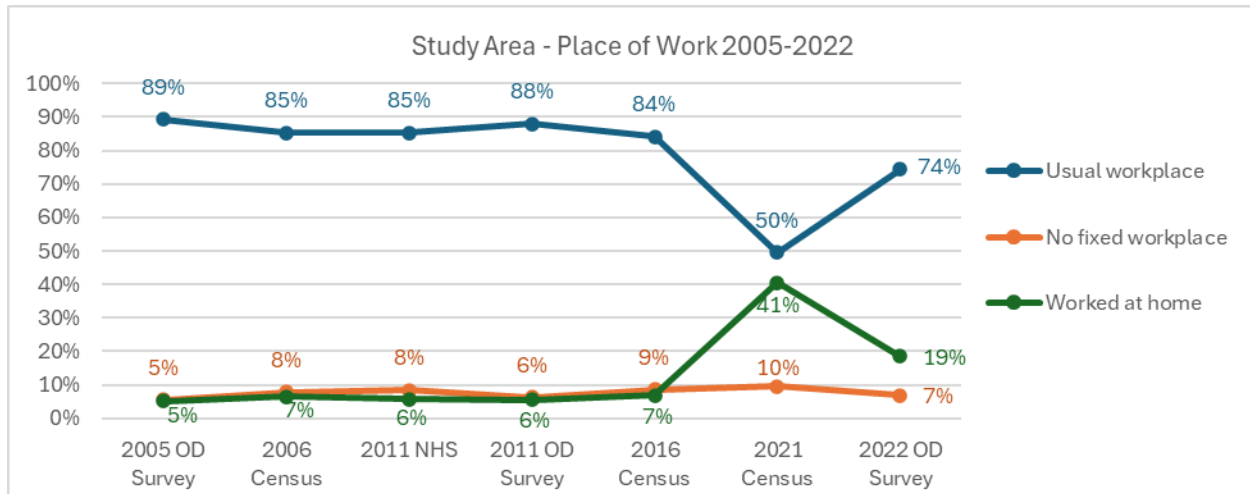
Figure 5 shows how this breakdown has varied over time across the Study Area. To provide a more complete profile, the figure shows results from the 2005, 2011 and 2022 O-D surveys as well as from the intervening Censuses. In particular, the 2021 Census shows the impact of pandemic-induced shifts to work from home. In this way, the emergence of post-pandemic behaviour recorded in the 2022 survey can be discerned.¹⁵

From Figure 5 it can be seen that, through the 2016 Census, the proportions of workers who had a usual workplace outside the home, no fixed workplace or worked from home remained fairly stable across the Study Area. There was a slight reduction in the usual workplace proportions from 89% in 2005 to 84% according to the 2016 Census¹⁶ and correspondingly slight increases in the proportion of people working from home (6%-7% in 2016) and those not having a fixed workplace (8%-10%).

¹⁵ Note that the Census data consider ‘usual workplace’ without distinction between hybrid and telecommuting activity, so Figure 5 shows this as a single category.

¹⁶ Note that the 2005 and 2011 surveys appear to moderately overstate these proportions relative to the closest Census years.

Figure 5. Workplace location, Study Area, 2005 to 2022



The 2005 survey is an estimate from comparing workplace traffic zones to home traffic zones. The 2011 survey may be subject to sampling bias, as very few cell-phone-only households would have been sampled in 2011. Other survey cycles may be subject to non-response bias not entirely corrected for by weighting.

2011 NHS = Statistics Canada’s National Household Survey, which complemented the Census in that year in lieu of a long-form Census form.

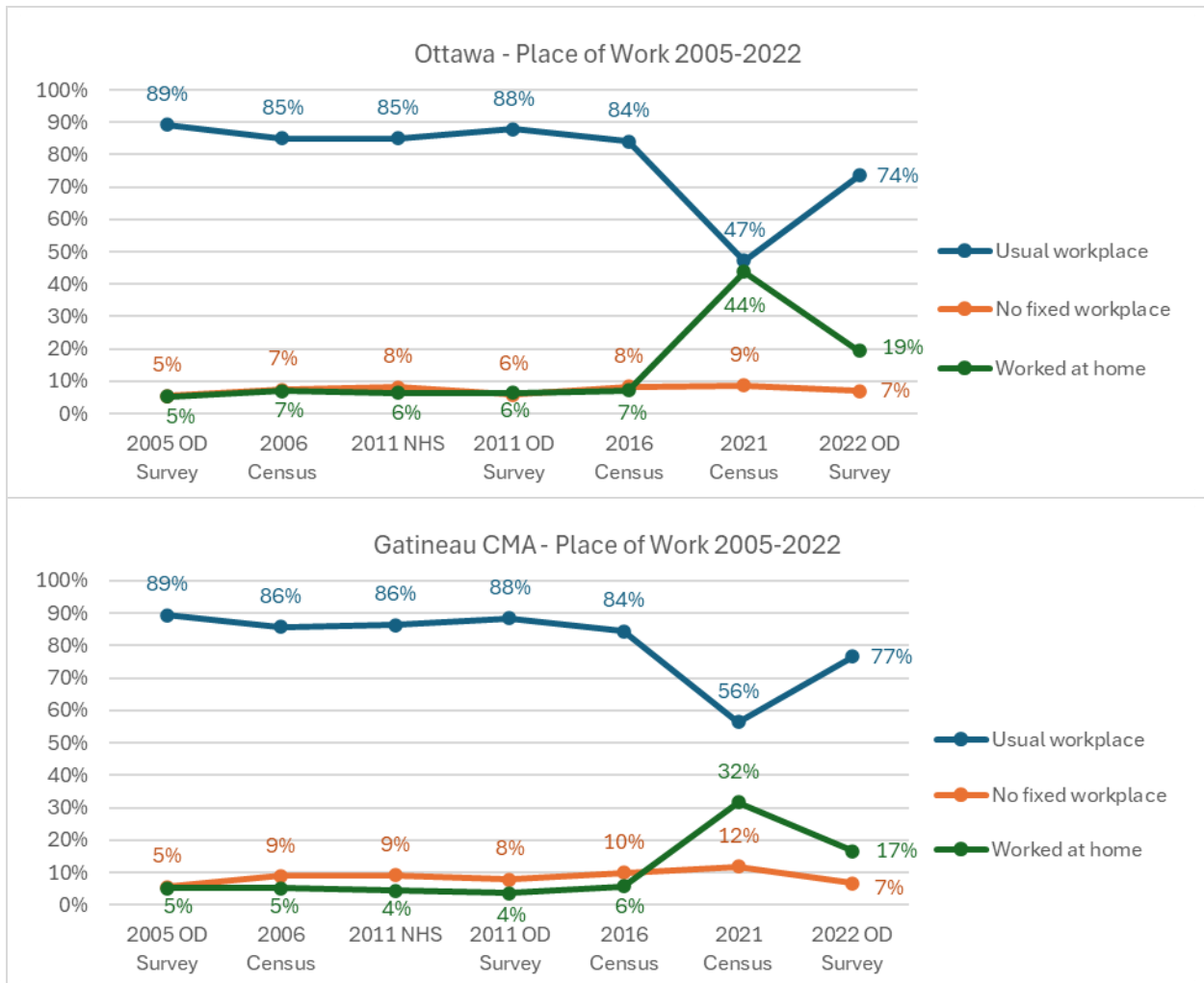
The 2016 and 2021 Censuses asked respondents whether and where they *usually* worked *most of the time* (worked from home, worked outside of Canada, had no fixed worked address, or worked at a specific address) in the week prior to the Census. In the 2021 Census, the reference week of May 2-8, 2021 was during a peak wave of the COVID-19 pandemic and many people were working from home even if they would otherwise normally commute to a usual workplace. The 2022 TRANS survey asked respondents to identify whether they had a usual workplace they travelled to *either regularly or occasionally*, no fixed workplace, or work *exclusively* from home. Even if some people were temporarily working from home or had hybrid work arrangements, the wording of the 2022 TRANS survey should capture a realistic picture of those with a usual workplace outside them home versus those whose work arrangements are entirely home-based.

However, according to the 2021 Census, across the Study Area only 50% reported a usual workplace and 41% worked from home in the week before the Census. As shown in Figure 6, these proportions varied between the two jurisdictions. In Ottawa, the proportions were almost equal, with 47% having a usual workplace and 44% working from home. In the Gatineau CMA, more than half (56%) of workers had a usual workplace but only one-third (32%) worked from home. The proportion of workers with no fixed workplace rose slightly to 10% across the Study Area.

The high 2021 WFH proportions reflect the dominance of the Federal government and high-tech sectors in the Study Area, although the differences between Ottawa and the Gatineau CMA are important.¹⁷ While these WFH proportions are not unexpected, and the Census and survey results are not directly comparable, the 2022 TRANS survey proportions suggest that the pandemic has had some lingering effects.

¹⁷ By comparison, the ‘usual workplace’ rates in Calgary dropped to 57.3% in the Calgary CMA and 64.6% in the Québec City CMA, according to 2021 Census data.

Figure 6. Workplace location, Ottawa residents, Gatineau CMA residents, 2005 to 2022



The 2005 survey is an estimate from comparing workplace traffic zones to home traffic zones. The 2011 survey may be subject to sampling bias, as very few cell-phone-only households would have been sampled in 2011. Other survey cycles may be subject to non-response bias not entirely corrected for by weighting.

2011 NHS = Statistics Canada's National Household Survey, which complemented the Census in that year in lieu of a long-form Census form.

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In particular, the share of workers who worked exclusively from home had almost tripled from pre-pandemic norms. Across the Study Area, the proportions reporting a usual workplace increased from 50% in 2021 to 74% in 2022, falling short of the pre-pandemic level of 84% in 2016. There was a corresponding reduction in the share of people working from home, relative

to the 41% proportion recorded in the 2021 Census. Even so, 19% (almost one in five workers) still worked from home in fall 2022, which is almost triple the pre-pandemic proportion of 7% observed in the 2016 Census.

However, with the emergent hybrid workplace environment, the rebound in those reporting a usual workplace does not necessarily mean that average peak period travel volumes and public transit ridership levels have seen a similar rebound towards pre-pandemic levels. In fact, even though population has grown since 2011, results presented later in this report will show that travel to the usual workplace is lower in the AM peak period than in 2011 and that public transit ridership is also lower in the AM peak and throughout the entire day. It is also too soon to tell whether and how much the 2022 proportions will continue to shift as workplace policies evolve.



3.1.3 Hybrid work patterns

Figure 7 describes hybrid work patterns observed in 2022 for full-time workers who had a usual place of work outside the home. Several observations can be made:

- **Half of all workers with a usual workplace telecommuted at least one weekday in the last week.** In addition to the increase in people working from home, half (51%) of all full-time workers residing in the Study Area who have a usual workplace have hybrid work arrangements and telecommuted on at least one weekday (i.e., when they do not travel to work or for a work-related trip) in the week previous to participating in the survey. The proportion is slightly higher in Ottawa, at 53%, but lower among Gatineau CMA workers, at 46%.
- **On an average weekday, one-third of workers with a usual workplace worked from home.** On an average weekday, one-third (34%) of full-time workers living in the Study Area having a usual workplace outside the home, work from home (35% of Ottawa workers and 30% of Gatineau CMA workers). The work-from-home proportions were highest on Mondays and Fridays, at 38% and 39% respectively. These days also saw the lowest proportions of people working, whether at a workplace or at home (a total of 90% reported working on Friday and 91% on Monday, compared with 94% on other weekdays): These proportions were similar for both Ottawa and the Gatineau CMA. The day-to-day variations are consistent with flex day practices and with Mondays and Fridays being more common days for people to take vacation days .

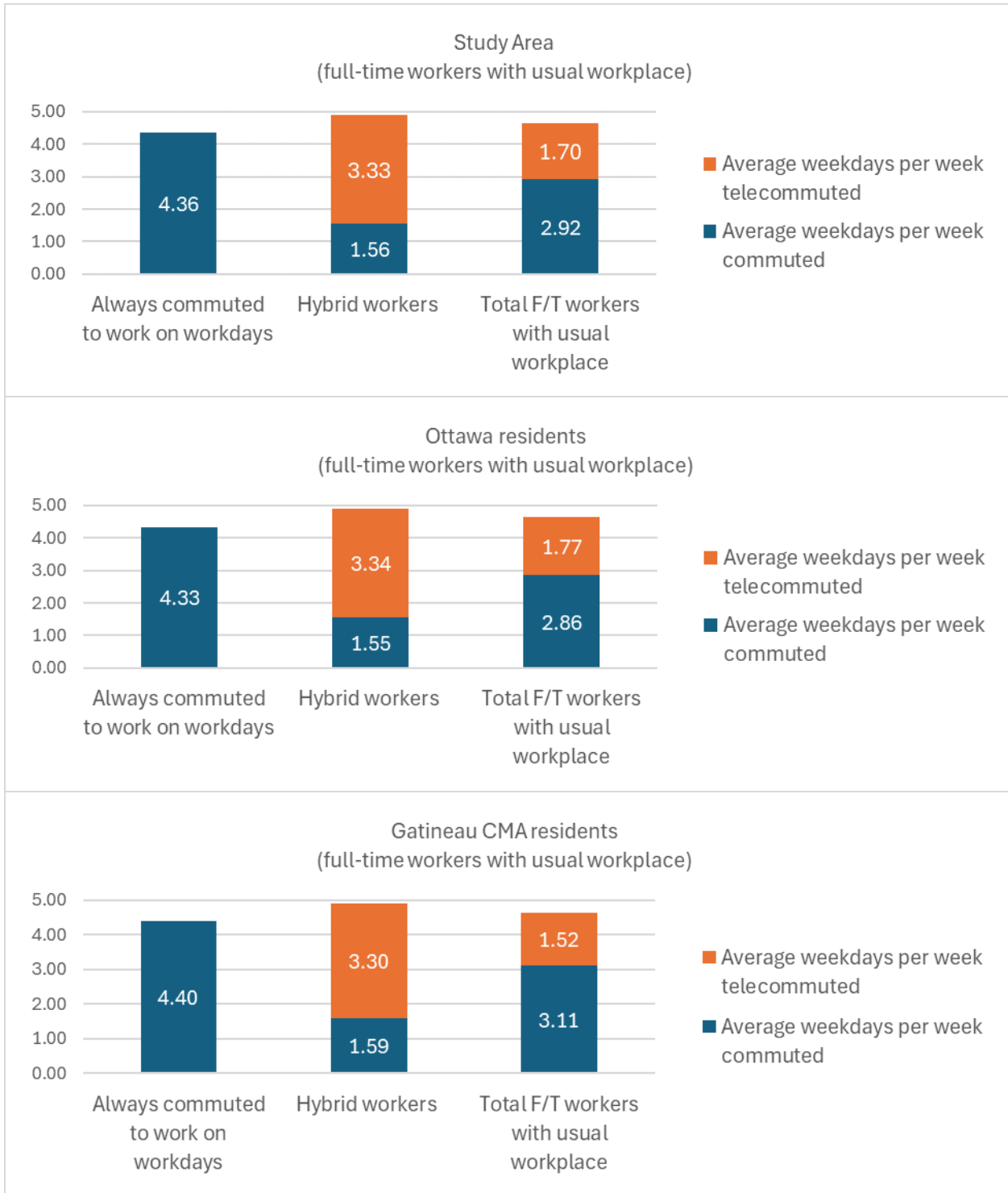
Figure 8 shows the average numbers of weekdays commuted and telecommuted in the previous week, examining just full-time workers with a usual workplace. Hybrid workers telecommuted (worked from home) an average of 3.33 days per week, for an overall average among all full-time workers with a usual workplace of 1.70 days per week. Interestingly, all workers who always commuted to work on workdays average 4.36 working days each week.

The average numbers of weekdays per week commuted and telecommuted were largely consistent across the Study Area for workers who always commuted and for hybrid workers. However, the combined averages for all full-time workers vary between Ottawa workers and Gatineau CMA workers. Full-time Ottawa workers were more likely to telecommute than their Gatineau CMA counterparts, at 1.77 versus 1.52 average weekdays per week on which they telecommuted, respectively. Full-time Gatineau CMA workers were more likely to commute than their Ottawa counterparts, at 3.11 versus 2.86 average weekdays per week on which they commuted, respectively.

Figure 7. Hybrid work patterns – full-time workers, usual workplace outside the home, 2022



Figure 8. Average number of weekdays commuted, telecommuted in previous week, full-time workers with usual workplace, 2022

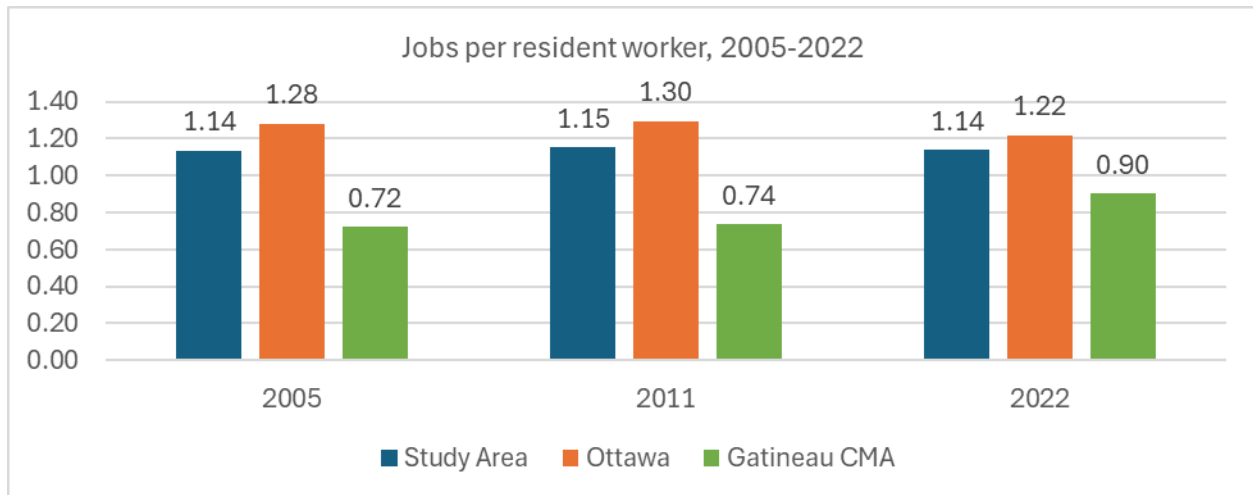


3.2 Workplace location and cross-river commutes

To this point, the discussion has looked at characteristics at the home end: that is, where people live. The discussion considered the characteristics of the working population, whose habitual commuting patterns have traditionally dominated peak period travel, public transit use and more. However, where the workplace is located – where people work – also shapes commuting choices. Of particular interest to TRANS members is the exchange of workers across the Ottawa River – that is, people who live in the Gatineau CMA and work in Ottawa and vice versa.

Figure 9 traces the respective rates of jobs per resident worker for the Study Area, the City of Ottawa and the Gatineau CMA, using survey and Census Journey to Work linkages from 2005 to 2022.¹⁸ Table 4 provides supporting details.

Figure 9. Jobs per resident worker, Ottawa and the Gatineau CMA, 2005-2022



¹⁸ The region's commutershed extends beyond the NCR's boundaries. However, these external residents are not included in the survey study area.

Table 4. Jobs per resident worker, details, 2005-2022

Year	Study Area			Ottawa			Gatineau CMA		
	Employed Population *	Employment (Jobs)	Jobs / Resident Worker	Employed Population *	Employment (Jobs)	Jobs / Resident Worker	Employed Population *	Employment (Jobs)	Jobs / Resident Worker
2022	681,600	776,351	1.14	508,300	620,109	1.22	173,300	156,242	0.90
2011	587,800	677,000	1.15	436,300	565,100	1.30	151,500	111,900	0.74
2005	543,200	616,700	1.14	401,300	514,100	1.28	142,000	102,700	0.72

Notes:

- Employed population includes only those workers whose primary occupation is full-time or part-time employment. For comparability with 2011 and 2005, the 2022 figures for employed population were filtered accordingly to exclude full-time and part-time students with part-time work and full-time students with full-time work (but including part-time students with full-time work). If the 2022 figures had included all workers, including students with a ‘secondary’ occupation status of worker, the figures for employed population for Ottawa, Gatineau, and the Study Area would be 548,500, 188, 100, and 736,600 respectively, and jobs/resident worker would be 1.13, 0.83, and 1.05, respectively.
- Values may not add due to rounding.
- Sources:
 - Employed Population: from survey results.
 - Employment – Ottawa: 2001 and 2006 Employment Surveys, with refinements to estimates in 2001 and 2006 derived from building permits from 2001-2005 and 2006-2011, respectively.
 - Employment – Gatineau CMA: 2005 Liste des industries et commerces (LIC), provided by Ville de Gatineau; 2007 LIC for Ville de Gatineau projected to 2010 provided by Emploi-Québec, with estimations for other municipalities in the survey Study Area prepared by MTQ based on the 2006 Census, LFS 2005-2009, and property data from the Ministère des Affaires municipales, des Régions et de l’Occupation du territoire;
 - Employment – Ottawa and Gatineau CMA, 2022: The 2022 estimate was derived from two sources: (1) survey estimates of workers residing within the Study Area who have a usual workplace inside the Study Area (excluding external workplaces) or who work from home or have no fixed workplace address and (2) 2021 Census commuter flow data for workers residing outside the Study Area with a usual place of work in the Study Area, scaled to mitigate impact of COVID work-from-home trend on usual workplace commuter flow data, scaled for growth in employment from comparison of Labour Force survey data for Oct-Nov 2021 to Oct-Nov 2022. The City of Ottawa’s most recent estimates of jobs derived from pre-pandemic (2018) employment summaries suggest a total of 755,568 jobs in the Study Area (649,075 in Ottawa, 106,493 in the Gatineau CMA), which is a similar order of magnitude to the 2022 estimate in the table, albeit with a different distribution by geography, and possible differences in the accounting of workers with multiple jobs. Institut de la statistique du Québec (ISQ) estimates suggest 210,800 jobs in 2022, 193,100 in 2011, and 180,000 in 2006 in the Outaouais administration region of Quebec, which is larger than Gatineau CMA portion of the Study Area.
 - It may also be noted that the 2022 number of jobs in the Study Area is a sum of the survey estimate for location of employment of residents of the Study Area, plus 2021 Census Journey-to-Work data for those living outside the Study Area scaled upwards to reflect the increase in returns-to-work between 2021 and 2022 (See Section 3.1).

It can be observed that:

- Historically, the Study Area has had more jobs than residents, with the shortfall made up by workers who live in the adjoining areas outside the Study Area.¹⁹
- Within the Study Area, historically Ottawa has been a net importer of work trips, having more jobs than it has working residents. The Gatineau CMA has been a net exporter of work trips, with more working residents than jobs.
- Across the Study Area, this trend continues to hold at 1.14 jobs per worker in 2022 compared with 1.15 jobs per worker in 2011. It is important to note that the 2022 job figures are estimates – see note following Table 4.
- The Gatineau CMA's gap has closed to 0.90 jobs per resident worker in 2022, from 0.74 jobs per resident worker in 2011 and 0.72 jobs per resident worker in 2005. This has been accompanied by a modest drop in the jobs per resident worker in Ottawa to 1.22, from 1.30 in 2011 and 1.28 in 2005. Nonetheless, there is still a strong out-commute from the Gatineau CMA to Ottawa.

3.3 Vehicles and vehicle availability

There is a strong relationship between mode choice and the *availability* of a vehicle – in other words, if a household has a vehicle, it is likely to be used. This is especially true of workers, who tend to have priority over the use of the household vehicle for their commute to work. Table 5 summarizes the characteristics of households' vehicle availability.

Figure 10 shows how these characteristics have changed over time.

Vehicle availability remains high at 88% of all households, although this varies between the two jurisdictions. Vehicle availability is highest in the Gatineau CMA with 92% of all households having at least one vehicle, compared to 86% in Ottawa. Both rates are slightly higher than those recorded in 2011, which were lower than those of 2005. Meanwhile, in absolute terms households, private vehicles and households having at least one vehicle continue to grow in number.

¹⁹ Though now dated, a further analysis of travel patterns between the Study Area (NCR) and its extended commutershed can be found in the 2011 National Capital Region Travel Trend Study (<http://www.ncr-trans-rcn.ca/model/transportation-demand-studies/>).

Table 5. Vehicle availability to households, 2005-2022

	Study Area			Ottawa			Gatineau CMA		
	2005	2011	2022	2005	2011	2022	2005	2011	2022
Total Households	465,400	510,000	567,200	347,900	379,800	414,500	117,500	130,200	152,700
Private Vehicles	657,500	699,200	776,400	482,000	508,100	550,800	175,400	191,200	225,600
Avg. Vehicles per Household	1.41	1.37	1.37	1.39	1.34	1.33	1.49	1.47	1.48
% of Households with at least one Vehicle	88%	86%	88%	87%	84%	86%	91%	89%	92%

Figure 10. Vehicle availability to households, Study Area, 2005-2022

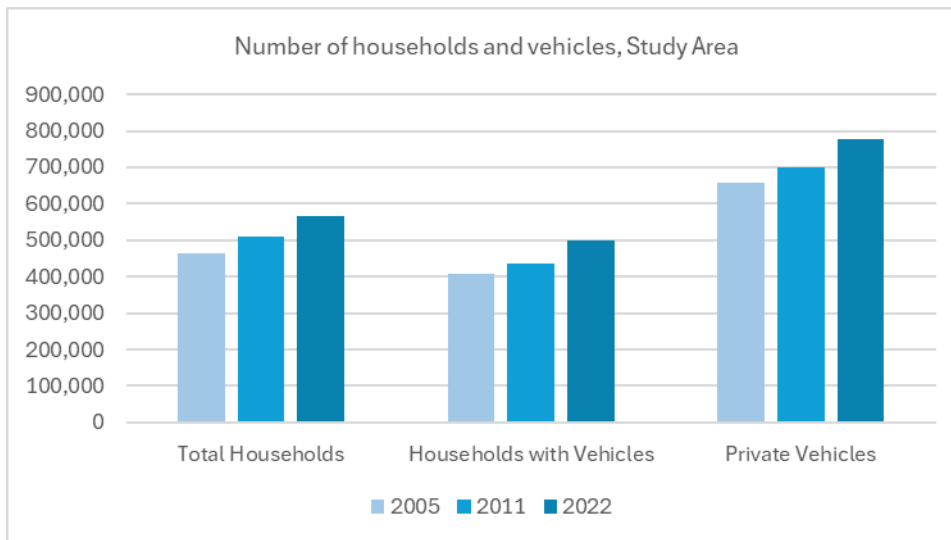


Figure 11 looks at how the proportions of 0, 1, 2 and 3+ vehicle households have changed over time. Table 6 provides additional details.

The overall average number of vehicles per household has been stable (marginal reduction in Ottawa and marginal increase in the Gatineau CMA). However, the distribution of these averages has shifted:

- More one-vehicle households.** Growth in single-vehicle households has been faster than growth in multi-vehicle households. Table 6 shows that although a vehicle is available to most households and the number of households has increased, the single-vehicle households now comprise just under half of all households (49% in 2022 versus 45% in 2011).

Figure 11. Percent of households by number of vehicles, 2005-2022

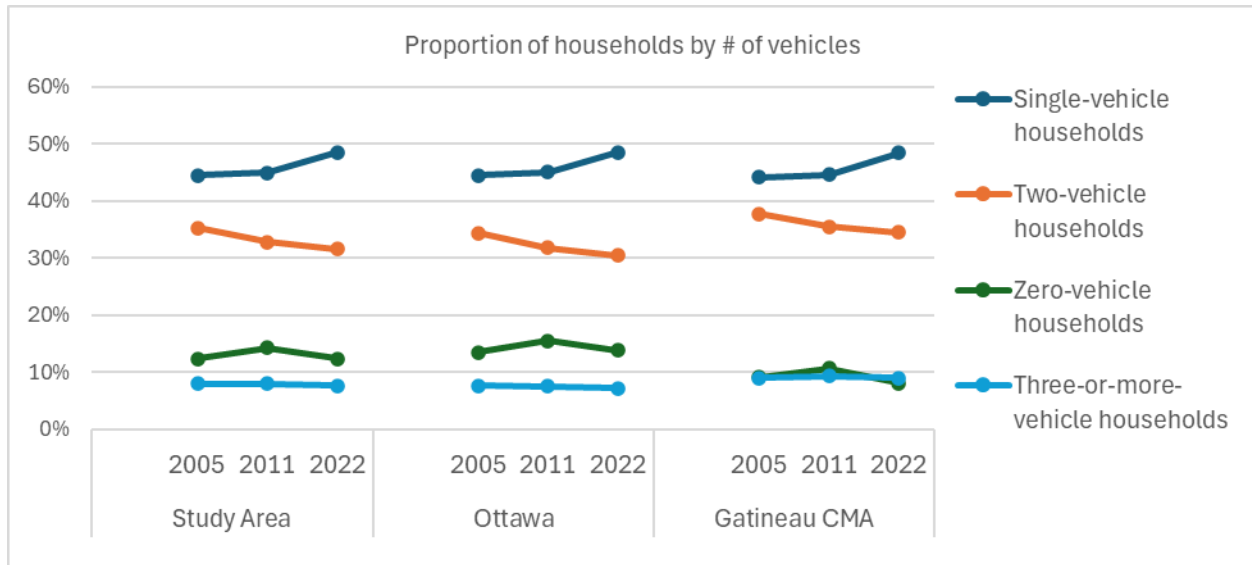


Table 6. Details of vehicles per household, 2005-2022

	Study Area		
	2005	2011	2022
Zero-vehicle households	57,400	72,800	69,700
Single-vehicle households	206,900	229,300	275,200
Two-vehicle households	164,200	167,100	179,000
Three-or-more-vehicle households	36,800	40,700	43,200
Total households	465,400	510,000	567,200
Total vehicles	657,500	699,200	776,400
Total vehicles in multi-vehicle households	450,500	469,900	501,200
Average number of vehicles in multi-vehicle households (two or more)	2.24	2.26	2.26

	Ottawa			Gatineau CMA		
	2005	2011	2022	2005	2011	2022
Zero-vehicle households	46,800	59,000	57,400	10,600	13,800	12,300
Single-vehicle households	155,000	171,300	201,200	51,900	58,100	74,000
Two-vehicle households	119,800	120,900	126,400	44,400	46,200	52,700
Three-or-more-vehicle households	26,300	28,600	29,500	10,500	12,100	13,700
Total households	347,900	379,800	414,500	117,500	130,200	152,700
Total vehicles	482,000	508,100	550,800	175,400	191,200	225,600
Total vehicles in multi-vehicle households	327,000	336,800	349,600	123,500	133,100	151,600
Average number of vehicles in multi-vehicle households (two or more)	2.24	2.25	2.24	2.25	2.28	2.28

- **Fewer zero-vehicle households.** Zero-vehicle households (69,700 households in 2022, or 12%) have decreased proportionately after a slight increase in 2011. Uniquely, these households also decreased in absolute terms, even with an overall growth in households and, again, after a slight increase in 2011.
- **Fewer multi-vehicle households, but vehicle availability remains stable.** The number of households with at least two vehicles has grown, though not as quickly as one-vehicle households. Their overall proportions have dropped slightly in Ottawa (to 37% in 2022 from 40% in 2011) and remained stable in the Gatineau CMA: at 44% in 2022 and 2011, the Gatineau CMA has a higher proportion of multi-vehicle households than Ottawa (although at less than half Ottawa's absolute number of multi-vehicle households). The proportions of three-or-more-vehicle households dropped marginally in Ottawa to 7% of all households in 2022 and stable in the Gatineau CMA at 9%. The average numbers of vehicle per multi-vehicle household remains stable, at 2.24 vehicles in Ottawa (a marginal reduction from 2011) and 2.28 vehicles in the Gatineau CMA.



4 KEY TRAVEL CHARACTERISTICS

4.1 Overview

This section presents key travel characteristics from the 2022 survey and compares them with previous surveys. The discussion mostly describes person-trips – i.e., trips made by persons – as opposed to the vehicles or modes they use to make these trips. Total trips, trip rates, trip purposes and measures of travel activity are described. Mode share is presented in section 5.

It should be noted that:

- Prior to 2011, trips made by the population 11 years and older were included. Beginning with 2011, trips by the population 5 years and older are captured.
- Unless explicitly noted, to ensure consistency with previous reporting of TRANS surveys, when results are presented for Ottawa and the Gatineau CMA, the results are tabulated for Ottawa residents and Gatineau residents (as opposed to examining the trips within Ottawa and within Gatineau).

4.2 Total trips and trip rates

4.2.1 Daily trips

Figure 12 shows the immediate comparison of total daily trips and average daily trip rates per person 5+ for 2011 and 2022. Figure 13 shows these values from 2005 through 2022, for the 11+ population as well as trip rates by household, with Table 7 providing additional details.

Through 2011, the total number of daily trips made by residents of the Study Area increased, even as the average daily number of trips made per person decreased steadily. Between 2011 and 2022, **the total number of trips continued to grow, although only slightly**, by 2.9%, well less than the 11%+ increase in population, workers, households and vehicles (see Table 1). Consistent with this disproportionate growth in total trips, **2022 marked a continued drop in the average trip rate per person**, for both the 5+ and 11+ thresholds (2.47 trips per person for both thresholds) and **a stronger drop in the average trip rate per household**, to 5.23 daily trips per households for the 11+ population.²⁰

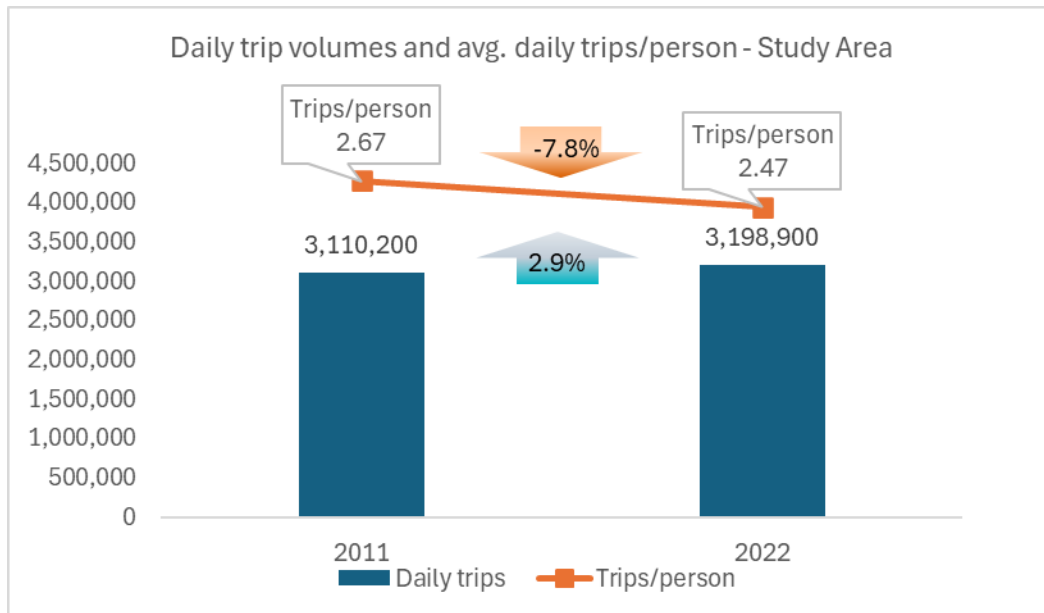
Both trip rate reductions reflect ongoing trends, with almost equal reductions since 2011 (-8.2% for trips per person 11+ and -8.3% for trips per household). The continued reductions beyond the pandemic suggest that the decline in trip rates may have been reinforced by work from home and other pandemic-induced changes in people's daily activities.

²⁰ Including 5+ persons, there were 5.64 trips per Study Area household in 2022, down 7.5% from the 2011 average of 6.10 trips per households. See Table 8.

However, there are some differences between Ottawa and Gatineau CMA residents. These are shown in Figure 14 and Table 8. Between 2011 and 2022, Ottawa’s trip rate for the 5+ population dropped by 9.2%, which dampened the total increase in trips by Ottawa residents to 0.7%. In the Gatineau CMA, the person trip rate dropped by only 3.0%, with a corresponding increase in daily trips of 10.3%.²¹ Even so, Ottawa residents’ rate of 2.50 trips per person 5+ exceeded that of Gatineau CMA residents’ 2.35 trips per person 5+.

Table 8 also indicates that four out of every five people 5+ travelled on the survey date, unchanged from 2011 for Ottawa but representing a slight increase in the Gatineau CMA.

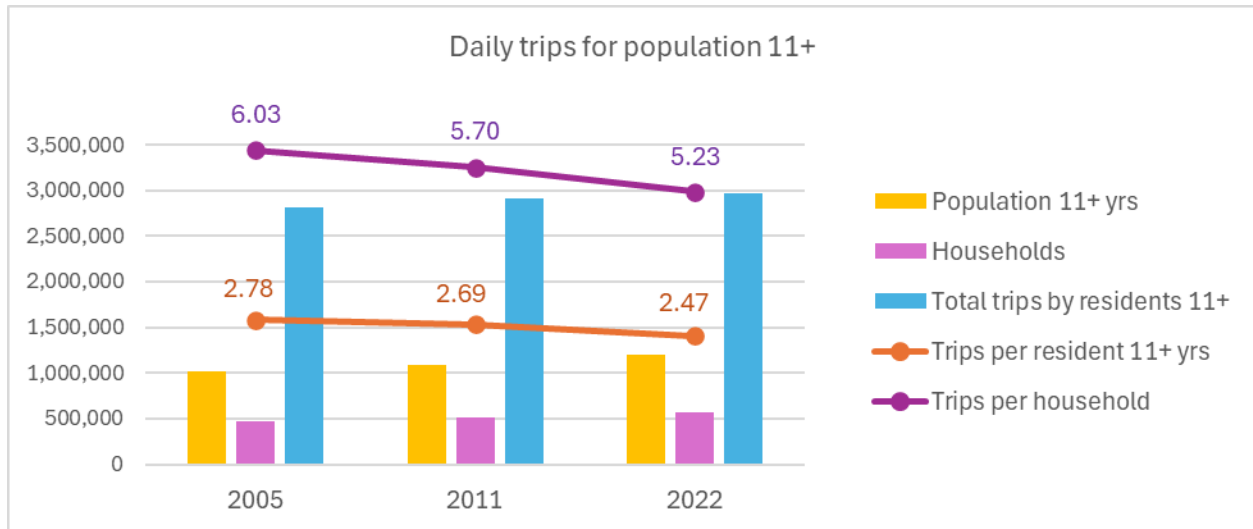
Figure 12. Daily trips for the population 5+, Study Area, 2011 and 2022



Total trip volumes: all trips in the Study Area. Trips/person: trips made by Study Area residents.

²¹ Note that for the Gatineau CMA, a portion of the increase in the number of daily trips is likely due to the increase in the size of the survey area to include the small municipalities in the CMA that are outside the MRC des Collines-de-l’Outaouais. These municipalities represent about 0.6% of the entire study area and 2.3% of the population of the Gatineau CMA).

Figure 13. Trips for the population 11+, Study Area, 2005-2022



Includes all trips in the Study Area that are made by Study Area residents 11+.

Table 7. Details of trips for the population 11+, Study Area, 2005-2022

	2005	2011	2022	% diff		
				6-yr 2005- 2011	11-yr 2011- 2022	17-yr 2005- 2022
Population 11+ yrs	1,010,500	1,163,200	1,200,800	7.0%	11.1%	18.8%
Households	465,400	510,000	567,200	9.6%	11.2%	21.9%
Total trips by residents 11+	2,806,200	2,909,000	2,966,300	3.7%	2.0%	5.7%
Trips per resident 11+ yrs	2.78	2.69	2.47	-3.2%	-8.2%	-11.1%
Trips per household	6.03	5.70	5.23	-5.4%	-8.3%	-13.3%

Includes all trips in the Study Area that are made by Study Area residents 11+.

Figure 14. Daily trips for the population 5+, Ottawa, Gatineau CMA residents, 2011 and 2022

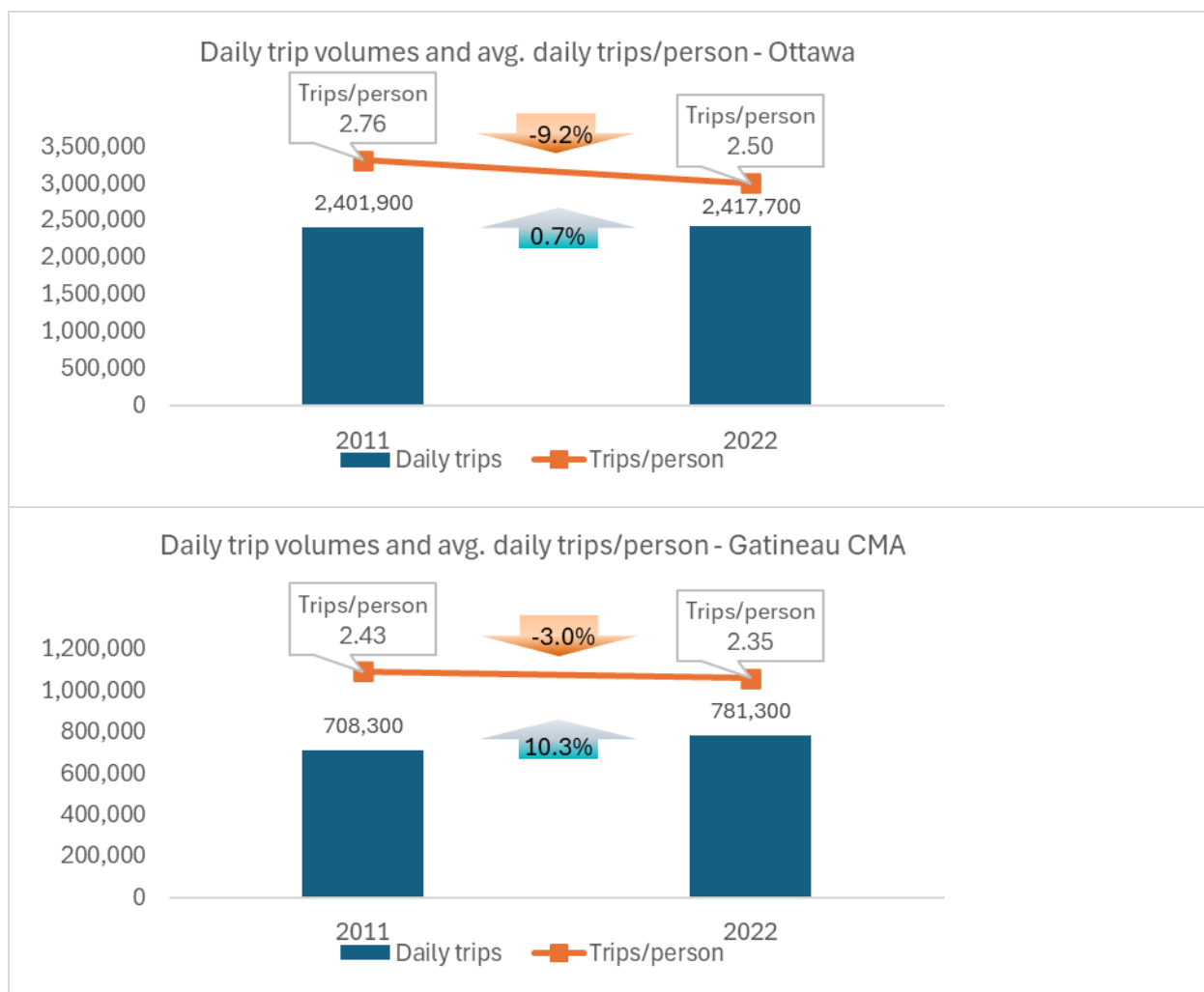


Table 8. Trips and trip rates for the population 5+, 2011 and 2022

	Study Area		Ottawa		Gatineau CMA	
	2011	2022	2011	2022	2011	2022
Households	510,000	567,200	379,800	414,500	130,200	152,700
Persons 5+yrs of age	1,163,200	1,297,600	871,200	965,500	292,100	332,100
% who travelled	79.7%	79.8%	80.7%	79.8%	76.5%	79.7%
Total trips	3,110,200	3,198,910	2,401,878	2,417,651	708,322	781,259
Household trip rate	6.10	5.64	6.32	5.83	5.44	5.12
Person trip rate	2.67	2.47	2.76	2.50	2.42	2.35

4.2.2 Trips by hour of the day

Figure 15 plots person-trip volumes by hour of the day for 2011 and 2022. The person-trip volumes are plotted by start time. This figure addresses three important questions: first, how the temporal distribution and magnitude of travel have changed after the pandemic; second, whether the PM peak period is beginning earlier (as it is in several Canadian cities); and third, whether inter-peak daytime activity has grown (as is also the case in some Canadian cities). The general profile of the trips remains the same, with the morning and afternoon commuter peaks registering the greatest volumes of the day. As shown by the shading in the figure, the AM peak period ranges from 6:30 to 8:59 a.m. (a 2½-hour duration) and the PM peak period ranges between 3:00 and 5:59 p.m. (a 3-hour duration).²² The 1 p.m. start of the rise in afternoon volumes continues from 2011, with the long evening taper ending slightly earlier in 2022.²³

However, the number of trips dropped during the AM peak period, evening and overnight, while increases were recorded from the end of the AM peak period through the PM peak period. The most notable changes occur in the hours starting at:

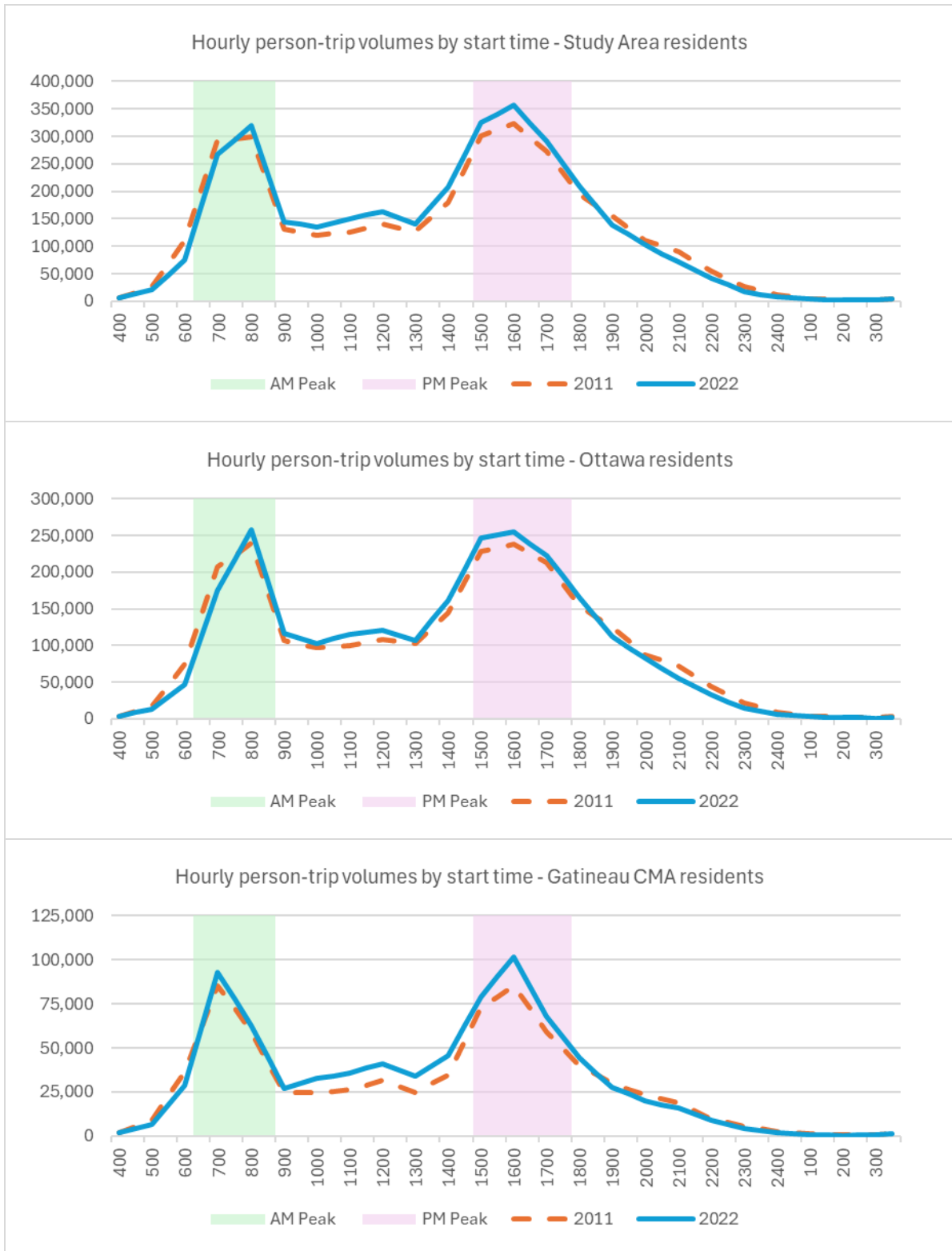
- 6 a.m. and 7 a.m., at -35,200 trips (the largest single hourly drop in the day) and -24,500 trips, respectively (the peak of the AM commuter peak). These reductions reflect a delay in morning peak volumes, with an increase of 21,900 trips at 8 a.m.
- 11 a.m., at +24,600 trips, noon, at +22,500 trips and 2 p.m. +28,000 trips (the midday peak).
- 4 p.m. through 6 p.m., with increases of +32,800 at 4 p.m. (the largest single hourly gain), +18,800 trips at 5 p.m. and +15,600 trips at 6 p.m. (during the PM commuter peak).
- 7 p.m., at -15,000 trips and 9 p.m., at -19,800 trips (through the evening).
- 10 p.m., at -12,800 trips and 11 p.m., at -8,900 trips (during the late evening).

In other words, the changes are not limited to the typical peak travel times. Their breadth across the day may reflect changes in work and school commutes, as well as shopping, restaurant/bar and social activities and other activities that occur outside the commuter peaks.

²² Note that the peak periods changed in 2022, and the survey reporting here matches the definition for the new transportation model. The 2011 survey reporting and the 2019 transportation model both used the same range for its definition of the AM peak period, but had a shorter PM peak period from 3:30 – 5:59 p.m., while the 2019 transportation model had a PM peak period from 3:30 – 6:29 p.m.

²³ Note that for visual clarity and ease of legibility, Figure 15 shows hours in 24-hour format. Thus, 6:00 a.m. is 0600 and 5:00 p.m. is 1700.

Figure 15. Person-trip volumes by hour of day, population 5+, 2011 and 2022



Note that these data are aggregated by hour. Drilling deeper into the data by 15-minute period reveals that the single busiest hour in the AM peak period spans 7:30 – 8:29 am, at 346,500 trips. The single busiest hour in the PM peak period (and the busiest hour of the day) spans 3:45 – 4:44 pm, at 367,200 trips. Compared with 2011, these times are 15 minutes later in the AM and 15 minutes earlier in the PM, respectively.

Finally, it should also be noted that the largest hourly reduction, which begins at 6 a.m., is consistent across the Study Area. Breaking down the 6 a.m. reduction of -35,200 trips, in Ottawa is -27,200 trips and in the Gatineau CMA the reduction is -8,000 trips. However, the largest hourly gain occurs at different times of the day: The largest single hourly gain in Ottawa is +18,500 trips at 8 a.m. In the Gatineau CMA, the largest single hourly gain is +16,300 trips at 4 p.m. These times correspond to the peak AM and PM commuting hours, respectively.

4.3 Trip purpose

4.3.1 Daily trip purpose

Trip purpose – the reason for making a trip – is an important indicator of travel patterns and choices. Trip purposes are broken out in Figure 16 for 2022, based on the activity at the trip destination. Table 9 compares the purposes for 2011 and 2022, for the 5+ population across the Study Area, noting that one purpose (picking up a package or online purchase) is new to the 2022 survey. Across the Study Area:

- For context, 59% of all trips were to destinations outside the home, and 41% returned home in both survey years.
- Commuting trips to work and school comprised 20% of daily trips.²⁴ Stated another way, these commuting trips represented one-third (34%) of all trip destinations outside the home. Including trips to pick up or drop off passengers (which typically are mostly associated with commuting to and from work or school) brings the total commuting and commuting-related trips to just under half (49%) of the non-return-home trips.
- Trips for shopping, household maintenance and personal business comprised 16% of all trips, or 27% of all trips other than return home. Note that trips for shopping and household maintenance represented the largest single trip purpose, apart from return home trips, at 13% of all trips.
- Trips for recreational, dining (restaurant) and social activities make up 13% of all trips, or 23% of all trips other than return home.
- Other trips, including picking up a package or online purchase, were 1% of all trips.

²⁴ Note that these trips represent travel *to* work or to school. The return trip *from* work or school is categorized according to the destination – e.g., return home or a trip to a shopping destination.

While the work and school commutes remain dominant, the 2022 volumes represent an important reduction from 2011. Notably, there were 140,000 fewer trips to work, a reduction of more than one quarter (-28%), and 8,200 fewer post-secondary commutes (-12%). ‘Other’ trips also represent notable reductions (-88,100 or -70%) although this may be related to more detailed definitions in the 2022 survey and/or to differences in re-coding of ‘other, specify’ responses to existing categories.²⁵

These losses were offset by increases in trips for other purposes, notably elementary and secondary school trips, shopping, household maintenance, health and personal care, restaurant, recreation, social and pick-up or drop-off passenger. Combined with return home trips, which increased by 53,100 trips, or 4%, these gains offset the losses and result in a net 3% increase in daily trips (see Figure 12).

Excluding return home trips, the trip purposes can be grouped as non-discretionary (meaning trips to work or school, which are typically habitual and at a set time) and discretionary (meaning all other trips, whose frequency and time-of-day can vary). Table 9 shows that non-discretionary trips dropped by -123,900 trips (-16%). Discretionary trips increased by 159,500 trips (15%). Combined with the 4% increase in return home trips, there was an overall increase of 3%.

These findings generally held true across the Study Area. Figure 17 and Table 10 present the corresponding data for Ottawa. Figure 18 and Table 11 present the corresponding data for the Gatineau CMA. In Ottawa, the drop of -99,600 non-discretionary trips (-17%) was offset by an increase of 87,000 discretionary trips (10%) which, coupled with a 3% increase in return home trips, resulted in a 1% overall increase in travel by Ottawa residents. In the Gatineau CMA, the drop of -24,300 non-discretionary trips (-13%) was offset by an increase of 72,500 discretionary trips (33%) which, combined with an 8% increase in return home trips, resulted in an overall 10% increase in travel by Gatineau CMA residents.

²⁵ ‘Other’ purpose aggregates ‘picking up a package or online purchase’ (new category in 2022), voting in the election (Ontario municipal elections and Québec provincial elections occurred during the Fall 2022 data collection period), and ‘other (please specify)’ purposes not recoded to other categories. For 2011 data, ‘other’ includes both ‘other purpose’ and ‘don’t know / refused’. There were no ‘don’t know / refused’ responses in validated 2022 data. The apparent reduction in ‘Other’ purposes may be related in part to more detailed definitions in the 2022 survey (which provided mouseover definitions for each category) and differences in recoding of ‘other, specify’ responses to existing categories. In 2011, selection of ‘other purpose’ did not allow for capture of the specifics of that other purpose. In 2022, selection of ‘other purpose’ led to the capture of a description of that purpose that could later be recoded to an existing category. In total 39,800 recodes to other categories were made. In 2022, the majority of such recodes were to ‘shopping / household maintenance’ (15,700 recodes), ‘recreation, sports, leisure, arts, or other activities’ (10,500 recodes), and ‘social / visiting friends / family, religious gathering’ (6,000 recodes). As such recodes of the 2011 ‘other purpose’ trips were not possible, the 2022 recodes may contribute in part to the increases observed in the noted categories.

Figure 16. Daily trip purpose, Study Area, population 5+, 2022

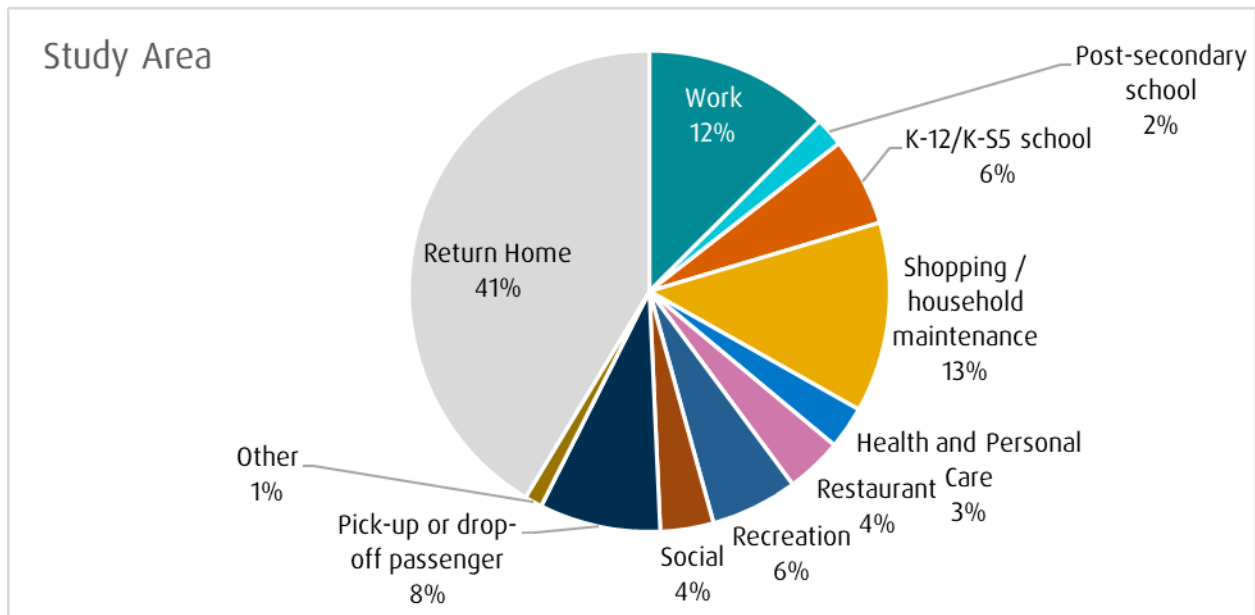


Table 9. Details of trip purpose, Study Area, population 5+, 2011-2022

Trip Purpose	2011	2022	change	difference
Work*	540,400	400,300	-140,100	-26%
Post-secondary school^	70,600	62,300	-8,200	-12%
K-12/K-S5 school^	165,200	189,700	24,500	15%
Shopping / household maintenance	356,900	408,900	52,000	15%
Health and personal care	64,300	91,600	27,400	42%
Restaurant	74,000	121,500	47,600	64%
Recreation	147,300	187,500	40,200	27%
Social	78,300	114,400	36,100	46%
Pick-up or drop-off passenger	216,800	261,100	44,200	20%
Other	126,000	37,900	-88,100	-70%
Return Home	1,270,500	1,323,600	53,100	4%
Total	3,110,200	3,198,900	88,700	3%
Non-discretionary subtotal †	776,200	652,300	-123,900	-16%
Discretionary subtotal ‡	1,063,500	1,223,000	159,500	15%

* Work includes travel to usual work and work-related trips such as business meetings or working on the road, but does not include commercial driving trips.

^ 2011 break out of school trips in to post-secondary and K-12/K-S5 is an estimate based on age, and the difference between 2022 and 2011 should be interpreted with caution.

† Non-discretionary subtotal = work and school purposes; ‡ Discretionary subtotal = all other purposes except Return Home. Apparent reduction in 'Other' purposes may be related to more detailed definitions in the 2022 survey and/or differences in recoding of 'other, specify' responses to existing categories.

Figure 17. Daily trip purpose, Ottawa residents, population 5+, 2022

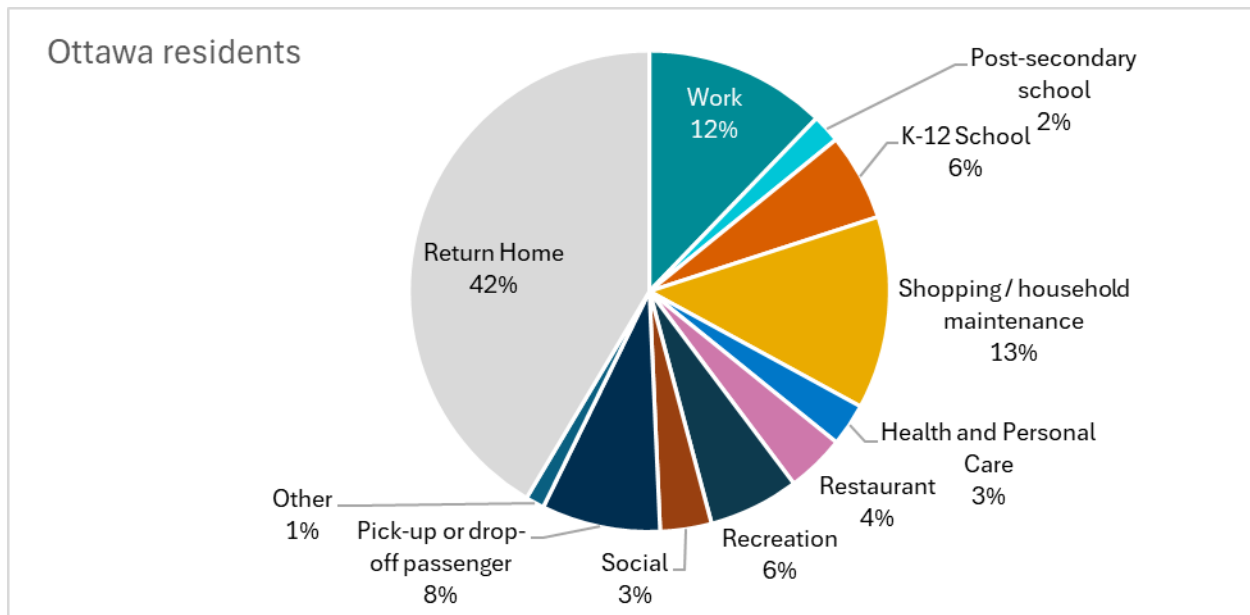


Table 10. Details of trip purpose, Ottawa residents, population 5+, 2011-2022

Trip Purpose	2011	2022	change	difference
Work *	404,500	295,700	-108,800	-27%
Post-secondary school ^	54,000	46,100	-7,900	-15%
K-12 school ^	124,500	141,600	17,100	14%
Shopping / household maintenance	287,100	313,100	26,000	9%
Health and personal care	52,100	69,200	17,100	33%
Restaurant	61,500	95,000	33,500	54%
Recreation	116,200	147,400	31,200	27%
Social	60,200	83,500	23,300	39%
Pick-up or drop-off passenger	162,000	193,300	31,300	19%
Other	105,800	30,500	-75,300	-71%
Return Home	973,900	1,002,200	28,300	3%
Total	2,401,900	2,417,700	15,800	1%
Non-discretionary subtotal †	583,000	483,400	-99,600	-17%
Discretionary subtotal ‡	845,000	932,100	87,000	10%

* Work includes travel to usual work and work-related trips such as business meetings or working on the road, but does not include commercial driving trips.

^ 2011 break out of school trips in to post-secondary and K-12/K-S5 is an estimate based on age, and the difference between 2022 and 2011 should be interpreted with caution.

† Non-discretionary subtotal = work and school purposes; ‡ Discretionary subtotal = all other purposes except Return Home. Apparent reduction in 'Other' purposes may be related to more detailed definitions in the 2022 survey and/or differences in recoding of 'other, specify' responses to existing categories.

Figure 18. Daily trip purpose, Gatineau CMA residents, population 5+, 2022

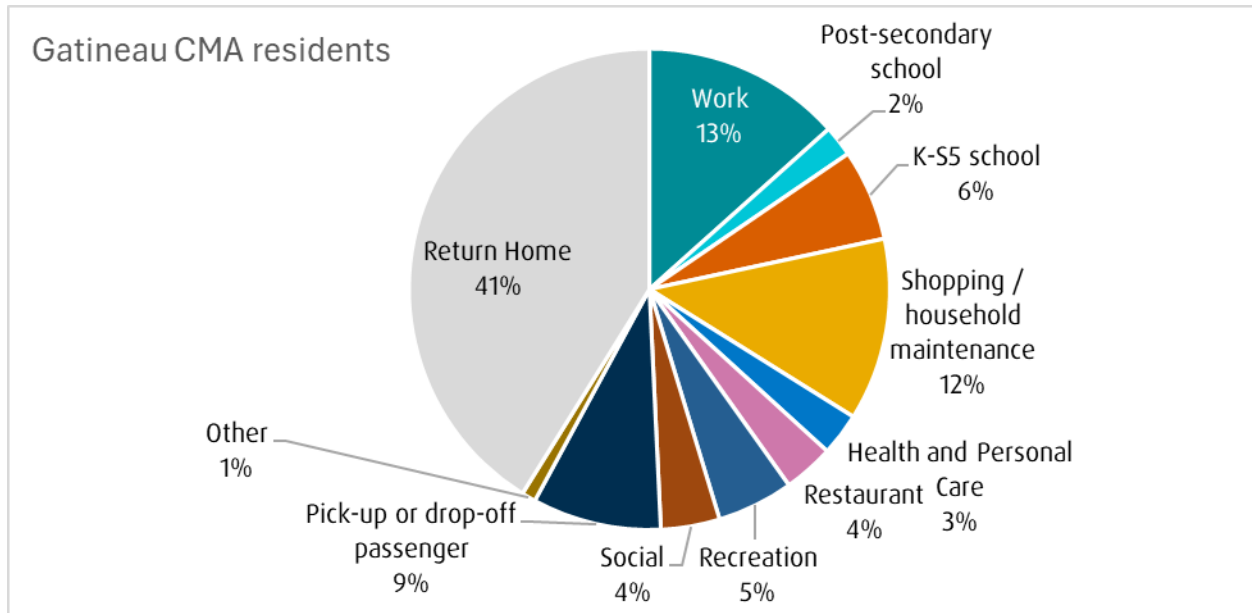


Table 11. Details of trip purpose, Gatineau CMA residents, population 5+, 2011-2022

Trip Purpose	2011	2022	change	difference
Work*	136,000	104,600	-31,300	-23%
Post-secondary school ^	16,600	16,200	-300	-2%
K-S5 school ^	40,700	48,100	7,300	18%
Shopping / household maintenance	69,800	95,800	26,000	37%
Health and personal care	12,200	22,400	10,200	84%
Restaurant	12,400	26,500	14,100	114%
Recreation	31,000	40,100	9,100	29%
Social	18,100	30,900	12,900	71%
Pick-up or drop-off passenger	54,800	67,700	12,900	24%
Other	20,200	7,400	-12,800	-63%
Return Home	296,600	321,400	24,800	8%
Total	708,300	781,300	72,900	10%
Non-discretionary subtotal †	193,200	168,900	-24,300	-13%
Discretionary subtotal ‡	218,500	290,900	72,500	33%

* Work includes travel to usual work and work-related trips such as business meetings or working on the road, but does not include commercial driving trips.

^ 2011 break out of school trips in to post-secondary and K-12/K-S5 is an estimate based on age, and the difference between 2022 and 2011 should be interpreted with caution.

† Non-discretionary subtotal = work and school purposes; ‡ Discretionary subtotal = all other purposes except Return Home. Apparent reduction in 'Other' purposes may be related to more detailed definitions in the 2022 survey and/or differences in recoding of 'other, specify' responses to existing categories.

To sum, the large losses in work and post-secondary trips are consistent with the increased work from home and remote studying that was induced by the pandemic and appears to be lingering. However, these effects might since have been partly mitigated by the introduction of the Federal government’s hybrid return-to-work policies which did not come into effect until early 2023. On the other hand, many jobs in the hi-tech sector (an important part of the Study Area’s economy), have become entirely or mainly remote.²⁶

For the Study Area as a whole, the 15% growth rate in almost all the remaining purposes is noticeably greater than the 11% population growth over the 11-year interval. However, the growth in these discretionary trip purposes varies: In Ottawa, these trip purposes grew at the same rate as the population (10%). In the Gatineau CMA, the 33% growth in these trip purposes is more than 2.5 times the 13% population growth rate.

Growth in these purposes may reflect a post-pandemic return to in-person activities like shopping, dining out and – especially – primary and secondary schooling. Growth in trips for these purposes may also be enabled by more people working from home, which gives people the ability to make trips that they otherwise would have to make outside the workday or at all (see next section). On the other hand, regarding the school trips, some of the changes might be attributable to differences in data weighting (with 2022 having a more precise balance between people 15-17/18-19 in Ottawa and 15-16/17-19 in the Gatineau CMA), or might be due to limits on extreme weights for groups that are more difficult to survey, such as post-secondary students, in one or the other cycle.

4.3.2 Trip purpose by time of day

This section breaks down trip purpose by time of day. For clarity, the discussion distinguishes work trips to the usual workplace from work-related travel / work on the road.²⁷ The aim is to better understand these two aspects of work travel by time of day, including any changes from

²⁶ Shopify’s 2020 decision to go entirely remote at its downtown Ottawa headquarters is the most prominent example of permanent remote working in the hi-tech sector. See T. Fleming, *Shopify vacating Elgin Street HQ as company goes ‘digital by default’*, [CTV News](#), September 1, 2020. While a permanent switch to remote work remains the company’s operating paradigm, since then, however, Shopify has opened its former office space to any staff who want to work at a location with traditional office amenities. The uptake is not known. However, less than half (44%) of its global staff now live within commuting distance of a Shopify office. The company has also set up “bursts,” which are small scale off-site locations where workers can come together for a few days to focus on specific topics. See J. Lindzon, *How Shopify’s anti-meeting, anti-mandatory-office experiment is going*, [FastCompany](#), September 25, 2023.

Data are not available for other hi-tech firms. However, informal anecdotal evidence suggests that other hi-tech firms are also promoting WFH, at least in a hybrid approach.

²⁷ As worded in the survey questionnaire, the distinction is between “going to work (usual place of work),” and “business meeting or work-related (other than usual place of work) and “working on the road / itinerant workplace / no fixed work address.”

2011. Trips to pick up or drop off a passenger) are shown separately, as time of day is relevant to these types of trips.

Figure 19 shows the distribution of trip purposes across the Study Area in each of five time periods:²⁸

- Night 0000 to 0629 trip depart times from 12:00 a.m. to just before 6:30 a.m.
- AM peak 0630 to 0859 6:30 a.m. to just before 9:00 a.m.
- Midday 0900 to 1459 9:00 a.m. to just before 3:00 p.m.
- PM peak 1500 to 1759 3:00 p.m. to just before 6:00 p.m.
- Evening 1800 to 2359 6:00 p.m. to just before midnight

The AM peak period featured high proportions of trips to work, trips to primary and secondary (K-12 / K-S5) school and drop-off trips. Shopping / household maintenance trips represented the largest shares of non-home destinations in the midday and PM peak periods.

Figure 20 provides a different view, looking at Study Area-wide volumes of trip purposes by period along with a comparison to 2011. Table 12 provides details. Notable observations include:

- Travel to a usual workplace work showed important reductions over the day, with reductions of 31% in the AM peak period (at -88,900 trips, the largest single reduction for any purpose), 24% in the evening and 32% overnight for an overall daily reduction of 25%. Daily work-related travel / work on the road dropped by 30%. This is consistent with the reduction in usual-workplace trips and with fewer offsite meetings. It may also reflect changes in employment activity by workers who do not have a usual workplace.
- Primary and secondary school trips increased by 15% in the AM peak period (22,000 trips). This is consistent with, though greater than, the overall population growth. These increases, along with increases in discretionary trips (see below), may explain the large increase in passenger drop-off trips, which grew by 26,000 trips: the corresponding drop in travel to a usual workplace suggest that families now had the time to drive their children to school or chose to drive their children rather than let them take public transit or walk or bicycle to school.
- Travel to post-secondary school dropped moderately in the AM peak period by 13% or -4,200 trips with a larger proportional drop recorded in the PM peak period (-43% or -2,600 trips).
- Return-home trips increased during the AM peak period and especially midday (with a gain of 23% or 63,200 trips, the largest single increase of any purpose). However, return-home trips dropped at all other times of day, notably during the PM peak period which saw increases in personal and recreational activities like shopping and dining:

²⁸ For visual clarity and ease of reading, the 24-hour clock is used in the ensuing figures and tables (e.g., 1500-1759, rather than 3:00 pm to 5:59 pm).

these gains nonetheless were not sufficient to offset the decreases in work, work-related, post-secondary school and other trips.

- The evening period had the greatest drop in total trips, especially for work, work-related, shopping / household maintenance, recreational and other trips. Restaurant / bar / coffee trips increased by 22%.²⁹
- Interestingly, the AM peak, midday and PM peak periods saw increases in discretionary trips like shopping / household maintenance, health and personal care, restaurant / bar / coffee, recreation and social trips, even as many of these activities declined in the evening peak period. These increases may explain the corresponding increases in passenger pick-ups, return home trips and, to some extent, passenger drop offs.
- Figure 21 and Table 13 summarize the changes between 2011 and 2022 for non-discretionary and discretionary trips (excluding return home trips). The drop in non-discretionary trips is especially evident in the AM peak, as is the absolute growth in discretionary trips in the AM peak, midday and, especially, the PM peak.
- Finally, it can be noted that these patterns generally held true across the Study Area. Figure 22 and Figure 23 present the 2022 distributions and comparisons with 2011 for Ottawa. Figure 24 and Figure 25 present the corresponding data for the Gatineau CMA. The proportional distributions by trip purpose were largely similar within each time period in 2022, excepting moderate differences at night. However, between 2011 and 2022, Ottawa residents experienced a greater proportional reduction in AM peak period trips than did Gatineau CMA residents. Gatineau CMA residents experienced greater proportional increases in midday and PM peak period trips than did Ottawa residents.

²⁹ Some behaviour associated with this trip purposes may not be captured in the survey. Specifically, some people now have their meals, groceries and other purchases delivered, rather than going to the restaurant or store themselves. These deliveries are considered as commercial trips, which are not captured in this household survey.

Figure 19. Distribution of trips by trip purpose by time period, population 5+, Study Area, 2022

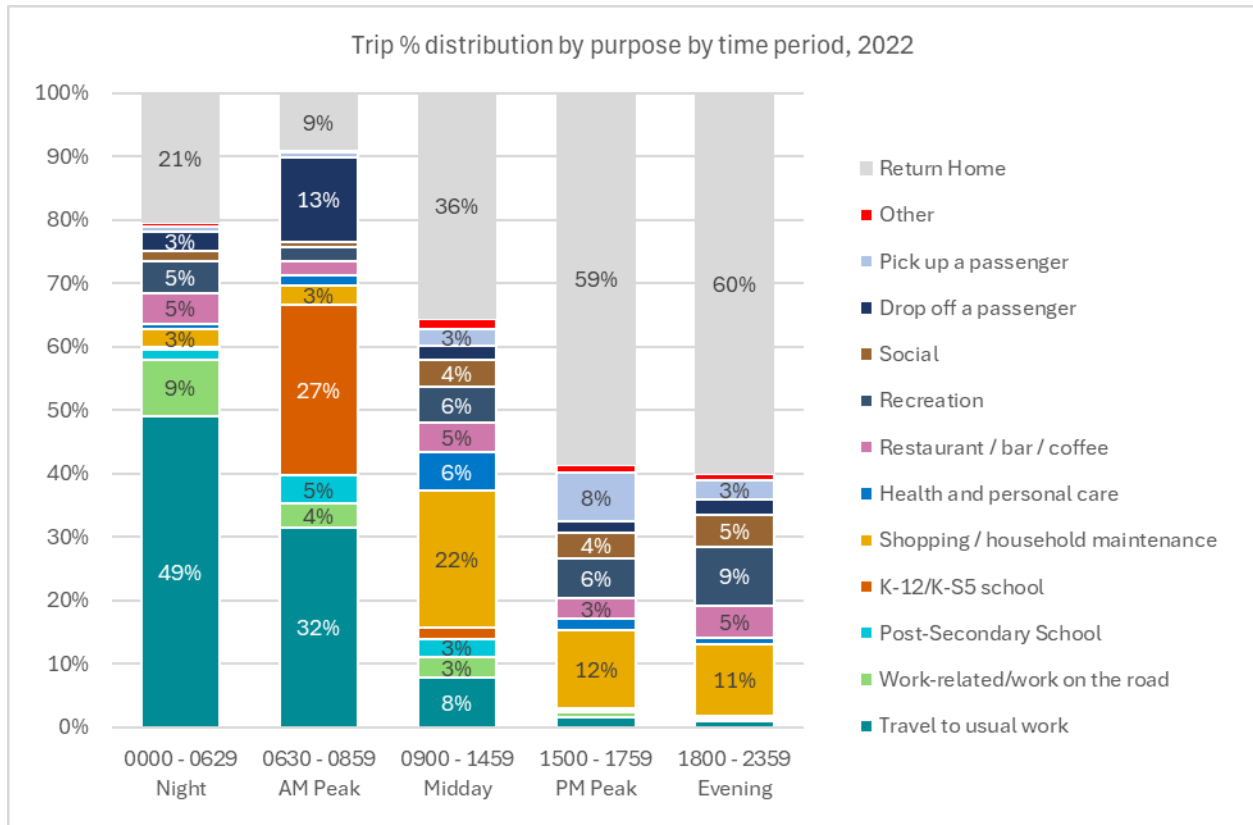


Figure 20. Trip volumes by trip purpose by time period, population 5+, Study Area, 2011-2022

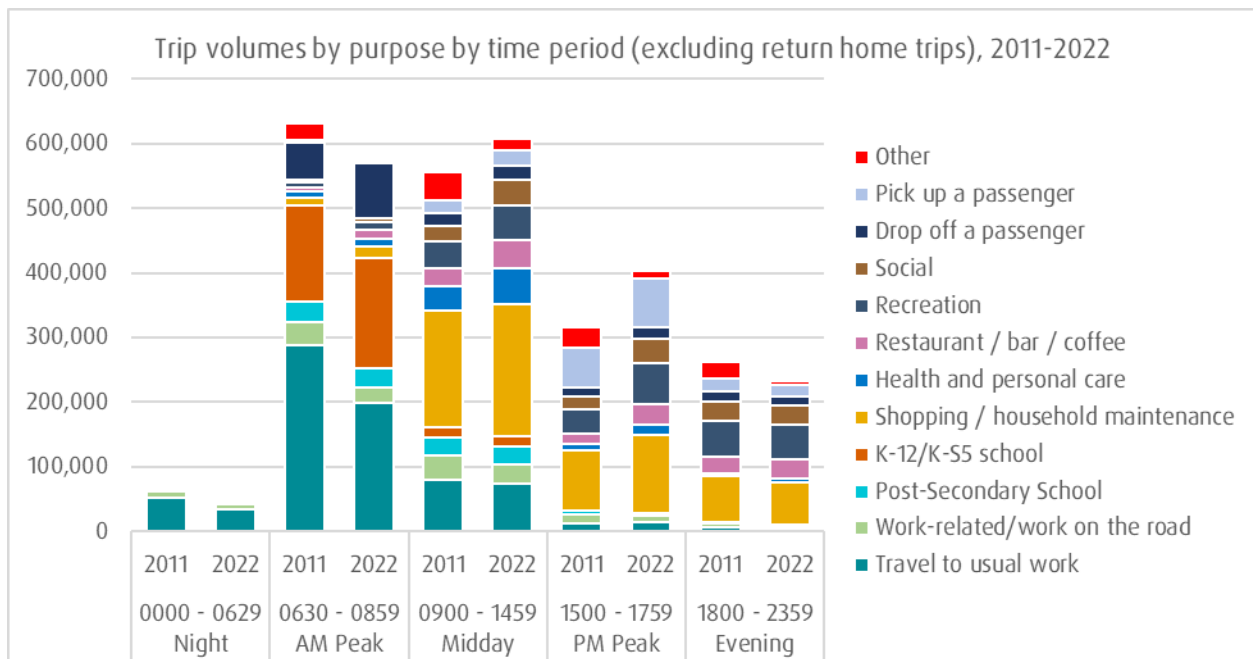


Table 12. Trips by trip purpose by time period, population 5+, Study Area, 2022, with change from 2011

	0000 – 0629 Night	0630 – 0859 AM Peak	0900 – 1459 Midday	1500 – 1759 PM Peak	1800 – 2359 Evening	24-Hour Total
Total Trips	71,500	632,900	939,900	972,500	582,100	3,198,900
Travel to usual work	35,100	199,700	73,400	15,400	5,200	328,900
Work-related/work on the road	6,300	23,300	31,300	8,200	2,400	71,500
Post-Secondary School	1,200	29,100	26,400	3,400	2,300	62,300
K-12/K-S5 school	300	170,100	16,700	1,600	1,000	189,700
Shopping / household maintenance	1,900	18,400	203,000	120,000	65,700	408,900
Health and personal care	700	11,200	56,600	17,300	5,800	91,600
Restaurant / bar / coffee	3,400	13,700	43,400	31,600	29,400	121,500
Recreation	3,600	13,600	54,300	62,100	53,900	187,500
Social	1,100	5,600	39,600	39,200	28,900	114,400
Drop off a passenger	2,100	84,800	21,400	17,100	14,200	139,500
Pick up a passenger	700	4,700	23,600	74,400	18,100	121,500
Other	300	2,300	16,600	12,600	6,200	37,900
Return Home	14,700	56,600	333,700	569,600	349,000	1,323,600
Difference from 2011						
Total Trips	-27,100	-25,400	114,600	75,800	-49,200	88,700
Travel to usual work	-16,300	-88,900	-6,400	3,200	-1,700	-110,100
Work-related/work on the road	-4,700	-10,900	-6,100	-5,500	-2,900	-30,100
Post-Secondary School	200	-4,200	-1,600	-2,600	0	-8,200
K-12/K-S5 school	-100	22,000	1,600	400	600	24,500
Shopping / household maintenance	1,000	6,500	22,000	27,900	-5,400	52,000
Health and personal care	-500	800	18,700	7,000	1,400	27,400
Restaurant / bar / coffee	2,400	8,900	15,500	15,500	5,200	47,600
Recreation	1,100	4,300	12,200	25,200	-2,700	40,200
Social	600	2,400	15,600	17,900	-300	36,100
Drop off a passenger	-1,700	26,600	2,000	3,100	-2,300	27,700
Pick up a passenger	-200	1,500	4,800	12,900	-2,400	16,500
Other	-2,300	-23,700	-26,800	-17,200	-18,000	-88,100
Return Home	-6,500	29,300	63,200	-12,100	-20,700	53,100
% difference						
Total Trips	-27%	-4%	14%	8%	-8%	3%
Travel to usual work	-32%	-31%	-8%	27%	-24%	-25%
Work-related/work on the road	-43%	-32%	-16%	-40%	*	-30%
Post-Secondary School	*	-13%	-6%	-43%	*	-12%
K-12/K-S5 school	*	15%	10%	*	*	15%
Shopping / household maintenance	*	55%	12%	30%	-8%	15%
Health and personal care	*	8%	49%	68%	31%	43%
Restaurant / bar / coffee	*	188%	56%	96%	22%	64%
Recreation	46%	46%	29%	68%	-5%	27%
Social	*	74%	65%	84%	-1%	46%
Drop off a passenger	*	46%	10%	23%	-14%	25%
Pick up a passenger	-26%	48%	25%	21%	-12%	16%
Other	*	-91%	-62%	-58%	-74%	-70%
Return Home	-31%	108%	23%	-2%	-6%	4%

* Comparison suppressed due to very small sample size in cell in at least one survey year.

2011 break out of school trips in to post-secondary and K-12/K-S5 is an estimate based on age, and the difference between 2022 and 2011 should be interpreted with caution.

Figure 21. Trips by aggregated non-home purpose by time period, population 5+, Study Area, 2011-2022

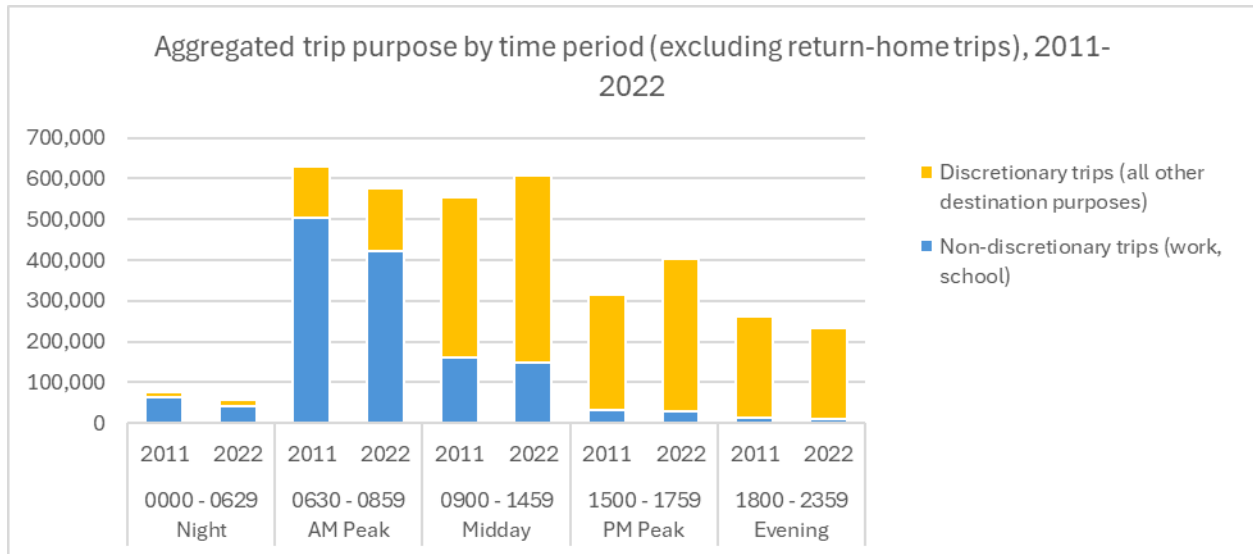


Table 13. Trip volumes by aggregated non-home purpose by time period, population 5+, Study Area, 2022, with change from 2011

Study Area	0000 – 0629 Night	0630 – 0859 AM Peak	0900 – 1459 Midday	1500 – 1759 PM Peak	1800 – 2359 Evening	24-Hour Total
2022 Subtotals						
Non-discretionary (work, school)	42,900	422,098	147,868	28,549	10,910	652,325
Discretionary (other non-home destinations)	13,923	154,235	458,363	374,361	222,124	1,223,006
Difference from 2011						
Non-discretionary (work, school)	-20,896	-82,129	-12,497	-4,400	-3,970	-123,893
Discretionary (other non-home destinations)	367	27,422	63,948	92,271	-24,523	159,485
% difference						
Non-discretionary (work, school)	-33%	-16%	-8%	-13%	-27%	-16%
Discretionary (other non-home destinations)	3%	22%	16%	33%	-10%	15%

Excludes trips with Return Home trip purpose.

Figure 22. Distribution of trips by trip purpose by time period, population 5+, Ottawa residents, 2022

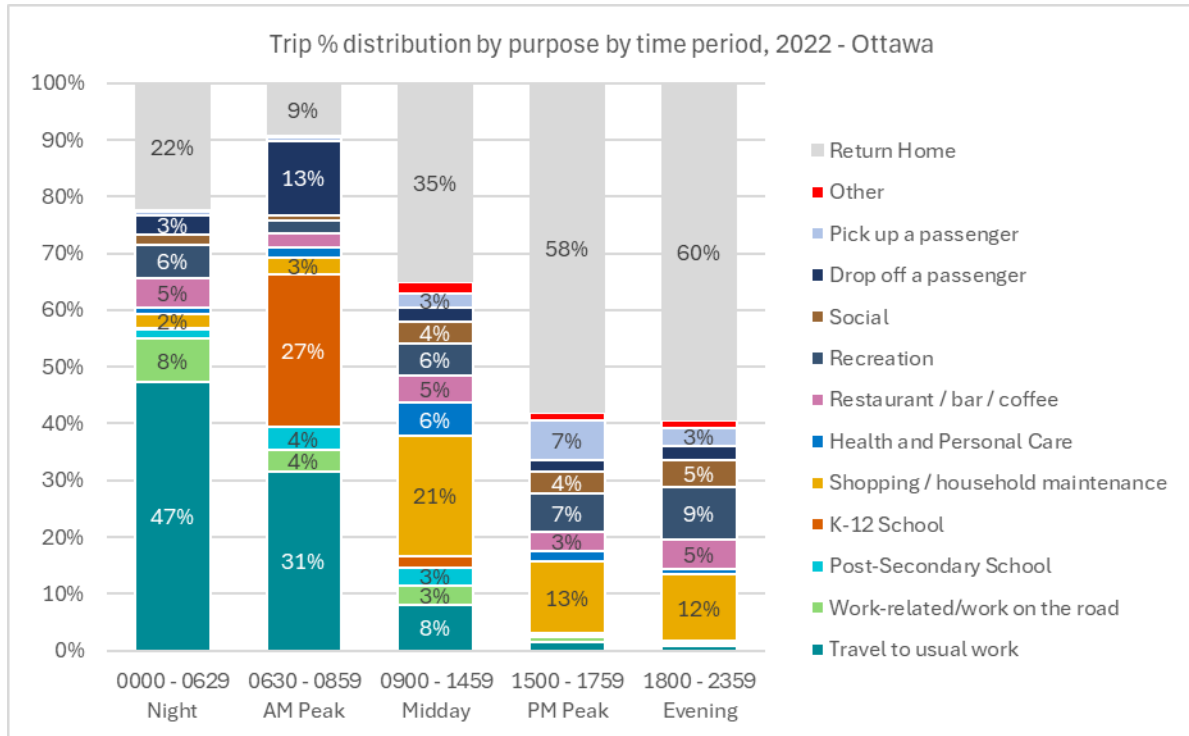


Figure 23. Trip volumes by trip purpose by time period, population 5+, Ottawa residents, 2011-2022

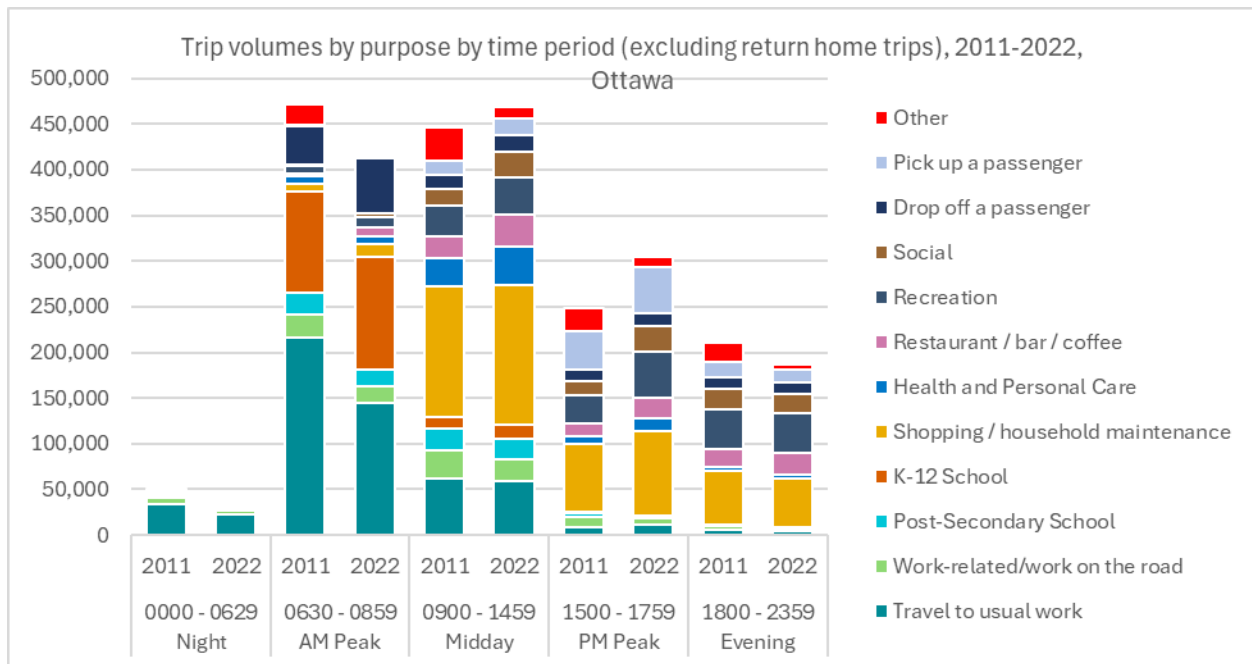


Figure 24. Distribution of trips by trip purpose by time period, population 5+, Gatineau CMA residents, 2022

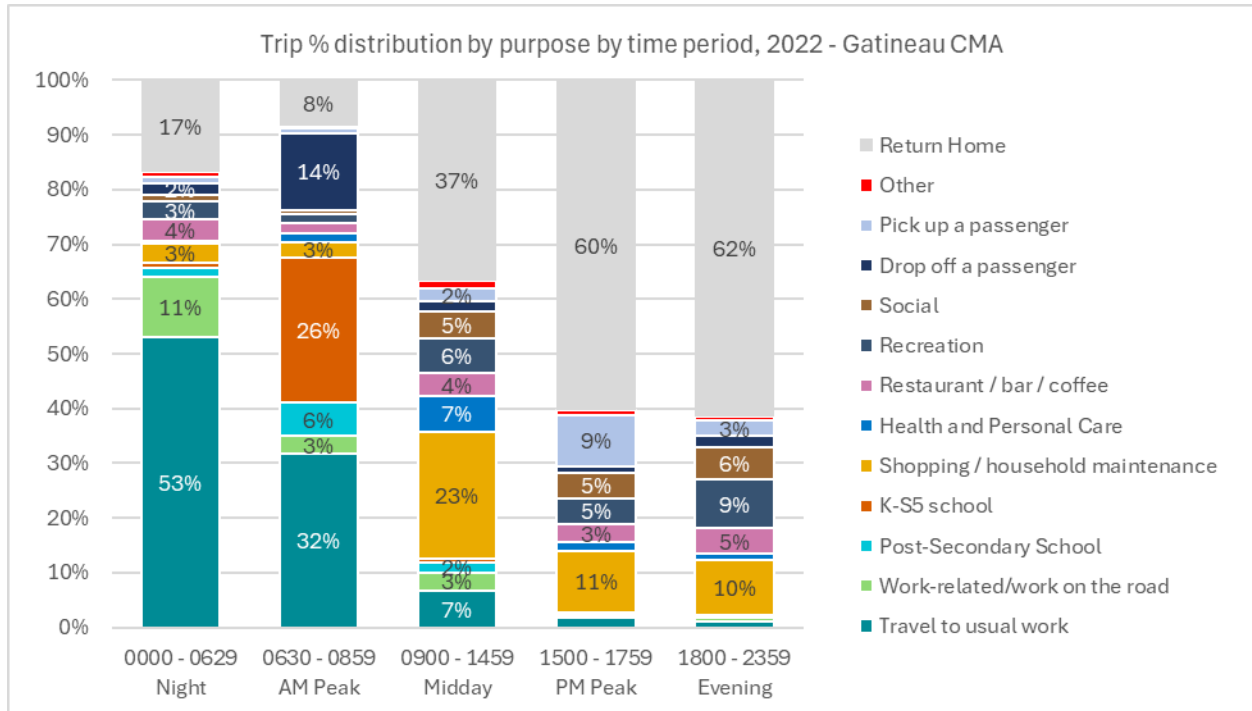
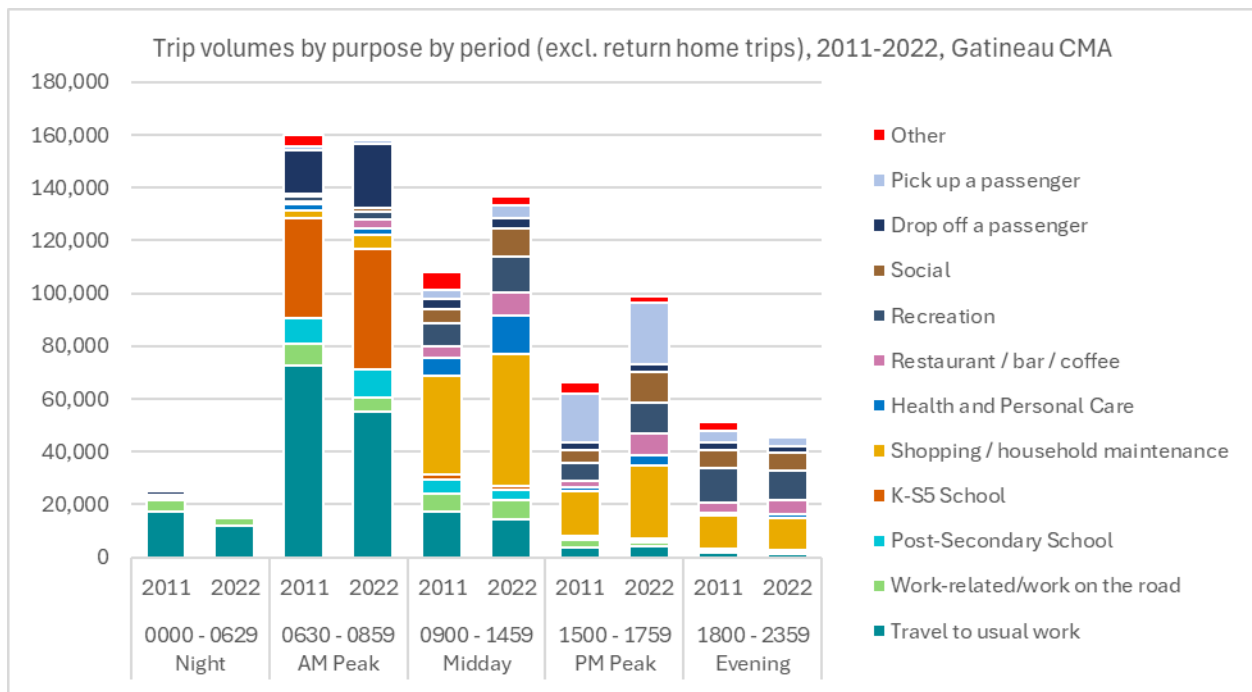


Figure 25. Trip volumes by trip purpose by time period, population 5+, Gatineau CMA residents, 2011-2022

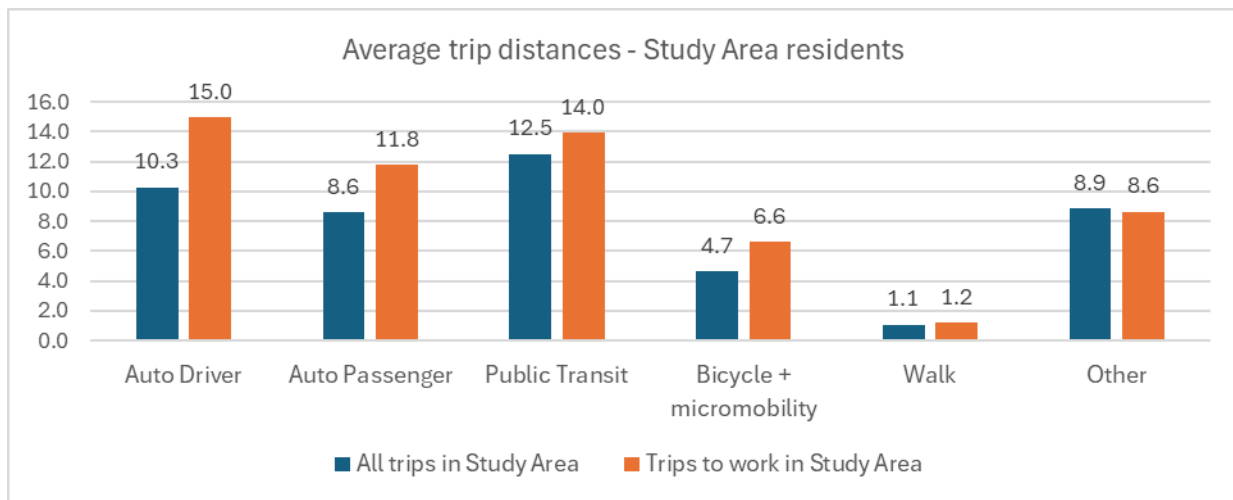


4.4 Passenger- and vehicle-kilometres travelled

Passenger-kilometres travelled (PKT) and vehicle kilometres travelled (VKT) are useful measures of travel activity. PKT measures kilometres travelled by all persons using all modes. VKT measures auto vehicle activity (i.e., kilometres travelled by auto drivers).

Figure 26 presents average trip distance, VKT for auto driver trips, and PKT for other modes of travel using ‘Google distances’ for trips entirely within the Study Area (excludes the 6% of trips with either origin or destination outside the Study Area). Table 14 provides the details for the Study Area, Ottawa and the Gatineau CMA. The Google distance for a trip is for the route on actual roads, public transit routes, bike paths or pedestrian paths recommended by Google Map Directions for the given mode of travel, origin, destination, and time of day, and may not necessarily reflect the traveller’s actual route choice on their travel day. The Google algorithm did not always return a value,³⁰ and no Google distances were generated for school bus trips. Trip records with missing distance data have been compensated for in the calculation of VKT and PKT by scaling up the result to represent all trips. Note that the work trip VKT and PKT only reflect trips to a work destination, and not the return home trip.

Figure 26. ‘Google distance’ VKT and PKT, Study Area, 2022



Refers to all trips made by population 5+.

³⁰ Google Map Directions did not provide a result in 3% of total auto driver trips and 8% of total public transit trips. The algorithm does not always immediately return a good result for public transit trips, particularly multi-mode public transit trips (e.g., with auto access mode). For work trips, these figures are 1% for auto driver trips and 3% of public transit trips. Non-return of Google distances for other modes is within the range of these figures.

Table 14. 'Google distance' VKT and PKT, 2022 – Study Area, Ottawa, and Gatineau CMA

	All trips		Trips to work	
	Daily VKT or PKT	Average Trip Km	Daily VKT or PKT	Average Trip Km
Study Area				
Total Excl. School Bus	26,014,000	8.6	5,036,300	13.0
Auto Driver (VKT)	17,708,400	10.3	3,915,100	15.0
Auto Passenger	4,083,700	8.6	269,000	11.8
Public Transit	3,043,200	12.5	644,300	14.0
School Bus	n/a	n/a	n/a	n/a
Bicycle + micromobility	546,300	4.7	136,600	6.6
Walk	454,600	1.1	41,300	1.2
Other	177,700	8.9	30,000	8.6
Ottawa residents				
Total Excl. School Bus	18,819,200	8.3	3,564,700	12.4
Auto Driver (VKT)	12,374,200	9.9	2,688,300	14.5
Auto Passenger	3,021,000	8.5	202,600	11.7
Public Transit	2,466,200	12.6	512,500	14.1
School Bus	n/a	n/a	n/a	n/a
Bicycle + micromobility	424,100	4.5	100,600	6.2
Walk	377,800	1.1	34,900	1.2
Other	156,000	8.9	25,800	8.7
Gatineau CMA residents				
Total Excl. School Bus	7,200,000	9.8	1,471,400	14.4
Auto Driver (VKT)	5,339,100	11.3	1,226,800	16.0
Auto Passenger	1,063,400	9.0	66,400	11.9
Public Transit	577,200	12.3	131,800	13.5
School Bus	n/a	n/a	n/a	n/a
Bicycle + micromobility	122,500	5.4	36,000	8.0
Walk	76,800	1.1	6,300	1.2
Other	21,100	8.2	4,100	8.1

Excludes trips with origin or destination outside the Study Area. Estimates have been adjusted to compensate for trips for which a Google distance was not returned. Refers to all trips made by population 5+.

Note that, as used here, auto driver is a proxy for unique vehicle trips (person-trips with the auto driver as the mode = unique vehicle trips). The driver may or may not have had passengers in the vehicle with them. Auto passenger trips are person-trips made as auto passengers (often, though not always, with a driver from the same household).

It can be seen that trips to work were longer than they were for all trips. This was true for all modes except “other,” where the reverse was true (although only marginally). The differences were greatest for auto drivers (a 45% difference), auto passengers (37%) and bicycles and micromobility (42%). For public transit, the difference was 11% and for walking the difference was 13%. The extent of these differences reflects several factors, including the proportions of work trips that are made by each mode, the number of trips and the network configuration (i.e., public transit, sidewalks and bicycling paths are found across large parts of the Study Area but roads are everywhere). Interestingly, work trips made up 25% of all bicycling and micromobility trips (29% in the Gatineau CMA) but only 9% of walk trips (the latter reflecting, in part, where people lived relative to where they worked).

Table 15 provides a basis for comparison to historical data from previous survey cycles, for the Study Area. Table 16 adds a comparison for Ottawa and the Gatineau CMA. For the comparison, the 2022 data have been analysed using the 2011 transportation model zone-to-zone distances.³¹ The data have been filtered to only trips with both origin and destination within the 2011 Study Area (excluding parts of the Gatineau CMA), as well as filtering outliers with high distances, as was done for the historical figures from the 2011 report. The 2011 data have also been reanalysed to determine the 2011 PKT for the Study Area and both 2011 VKT and 2011 PKT for Ottawa and Gatineau CMA. For 2005, comparable data were not available for PKT due to 11+ age cut-off for trip capture in that survey. However comparable VKT data are available, given that only persons 16+ years can be auto drivers.

The results reveal overall reductions in VKT and PKT. For all trips, between 2011 and 2022, VKT dropped marginally by -2% (consistent with the -1% 2005 to 2011 drop) while PKT dropped by -8%. Reductions were greater for work trips, registering -17% in work VKT (compared with the -6% reduction between 2005 and 2011) and -27% in work PKT.

These work-trip reductions likely result from the lingering impact of remote working. In fact, average VKT trip lengths dropped by -5% between 2011 and 2022 (comparable to the -6% reduction between 2005 and 2011) and average PKT trip lengths dropped by -10%. However,

³¹ For the 2011 survey, the TRANS transportation model was used to develop the distances. The model divides the Study Area into small geographies called transportation analysis zones (TAZs). For modelling purposes, each TAZ is represented as a single point (centroid) and is connected to the model’s road network via short centroid connectors. These connectors represent the local roads within the TAZ. The zone-to-zone distance, accordingly, represents the centroid-to-centroid distance (centroid of TAZ A to road network to centroid of TAZ B, and so on). The centroid connectors (local roads) typically represent only a very small portion of the overall zone-to-zone distance. To calculate the zone-to-zone distances among all TAZs, an auto vehicle matrix derived from the 2011 survey was assigned to the model network, which traces the path taken by all vehicles (such that their journey time is minimized). TRANS considers the zone-to-zone distances as close to the distances generated from Google.

average work VKT trip lengths *increased* by 7% while average work PKT trip lengths did not change.

Table 15. 2011-model-equivalent VKT and PKT for 2005, 2011 and 2022 comparisons, population 5+, Study Area

	Study Area			Change		% Change	
	2005	2011	2022	2005 to '11	2011 to '22	2005 to '11	2011 to '22
VKT							
All	18,126,700	17,867,700	17,549,000	-259,000	-318,700	-1%	-2%
Work	4,917,800	4,625,800	3,851,800	-292,000	-774,000	-6%	-17%
Avg. Trip Km							
All	11.4	10.7	10.2	-0.7	-0.5	-6%	-5%
Work	14.4	13.7	14.7	-0.7	1.0	-5%	7%
	2005	2011	2022	2005 to '11	2011 to '22	2005 to '11	2011 to '22
PKT							
All	n/a	29,262,400	26,863,100	n/a	-2,399,300	n/a	-8%
Work	n/a	6,806,200	4,980,400	n/a	-1,825,800	n/a	-27%
Avg. Trip Km							
All	n/a	9.5	8.6	n/a	-0.9	n/a	-10%
Work	n/a	12.8	12.8	n/a	0.0	n/a	0%

Table 16. 2011-model-equivalent VKT and PKT for 2011 and 2022 comparisons, population 5+, Ottawa and Gatineau CMA residents

	Ottawa residents				Gatineau CMA residents			
	2011	2022	Change	%	2011	2022	Change	%
VKT								
All	12,879,800	12,139,600	-740,200	-6%	4,987,300	5,409,400	422,100	8%
Work	3,242,900	2,618,200	-624,700	-19%	1,383,600	1,233,600	-150,000	-11%
Avg. Trip Km								
All	10.3	9.7	-0.6	-6%	11.8	11.5	-0.3	-3%
Work	13.3	14.1	0.8	6%	14.8	16.1	1.4	9%
	2011	2022	Change	%	2011	2022	Change	%
PKT								
All	21,714,000	19,271,000	-2,443,000	-11%	7,548,400	7,592,000	43,600	1%
Work	4,932,500	3,501,800	-1,430,700	-29%	1,873,800	1,478,600	-395,200	-21%
Avg. Trip Km								
All	9.2	8.2	-1.0	-11%	10.8	9.9	-0.9	-8%
Work	12.3	12.2	-0.1	-1%	14.0	14.5	0.5	4%

In sum, the reductions that occurred in total VKT and PKT and in average trip lengths may suggest a welcome progress towards more sustainable travel behaviour. However, the impact of remote working and studying, as well as growth in e-commerce shopping, may also be factors. The changes could also reflect higher walking, bicycling and micromobility shares or they could be a function of other demographic and economic factors that cannot be explored further here. The addition of more data points from future surveys would help to determine trends and the underlying explanations.



5 TRAVEL BY DIFFERENT MODES

5.1 Daily mode shares

This section describes daily modal shares and how these have changed since 2011. For the purpose of analysis, modes have been aggregated as follows:

Mode Group	Included Modes
Driver	auto driver, motorcycle
Passenger	auto passenger
Public Transit	public transit bus, O-Train, other bus/minibus
School Bus	school bus (yellow bus) ³²
Bike + Micromobility	bike, e-bike, e-scooter
Walk	walk, assisted mobility (wheelchair)
Other	all other modes: paratransit ³³ , taxi, paid rideshare, intercity bus, rail, air, other

Figure 27 compares the 2011 and 2022 mode shares for the population 5+. Table 17 provides details and Table 18 expresses these details in percentages. While auto driver and auto passenger shares are general similar across the Study Area, among non-auto shares there has been a shift from public transit to active transportation (bicycle, micro-mobility and walking). The bicycling and micro-mobility volumes represent a more-than-doubling increase, to 117,000 trips (a 4% share) from 53,900 trips in 2011 (2%). Walk trips have increased by 30%, to 427,000 daily trips (a 13% share, from 10% in 2011). Combined, active transportation's share increased to 17% in 2022 from 12% in 2011.

All modal volumes have increased except for public transit, which contracted by 39% (-155,200 trips) across the Study Area, school bus (-4% or -5,500 trips) and other (-11% or -

³² School oriented trips on regular public transit service (e.g., OC Transpo 600 series) are included within the "Public Transit" and not the "School Bus" category.

³³ Although paratransit is operated under the purview of OC Transpo and STO in their respective service areas, it serves a specialized "eligible" market of riders who cannot otherwise use conventional public transit, has a different fare structure from conventional public transit, and operates as a shared-ride, book-in-advance service between customer-specified origins and destinations. Accordingly, for the purposes of this report it is not grouped with public transit. For more information, see <https://www.octranspo.com/en/para-transpo/> and <https://www.sto.ca/transport-adapte/demandes-et-conditions-dadmission/>.

2,700 trips).³⁴ In 2022, public transit had an 8% share, down from 13% in 2011. The reduction is consistent with increases in working and studying from home (see section 3.1).

The auto driver share remained dominant, at 56% of all daily travel, or 1,777,400 trips. This represented a marginal (1%) increase in the auto driver's share. The daily auto passenger share remained stable at 15%, or 490,700 trips. Combined, then, trips by auto comprise 71% of all daily activity.

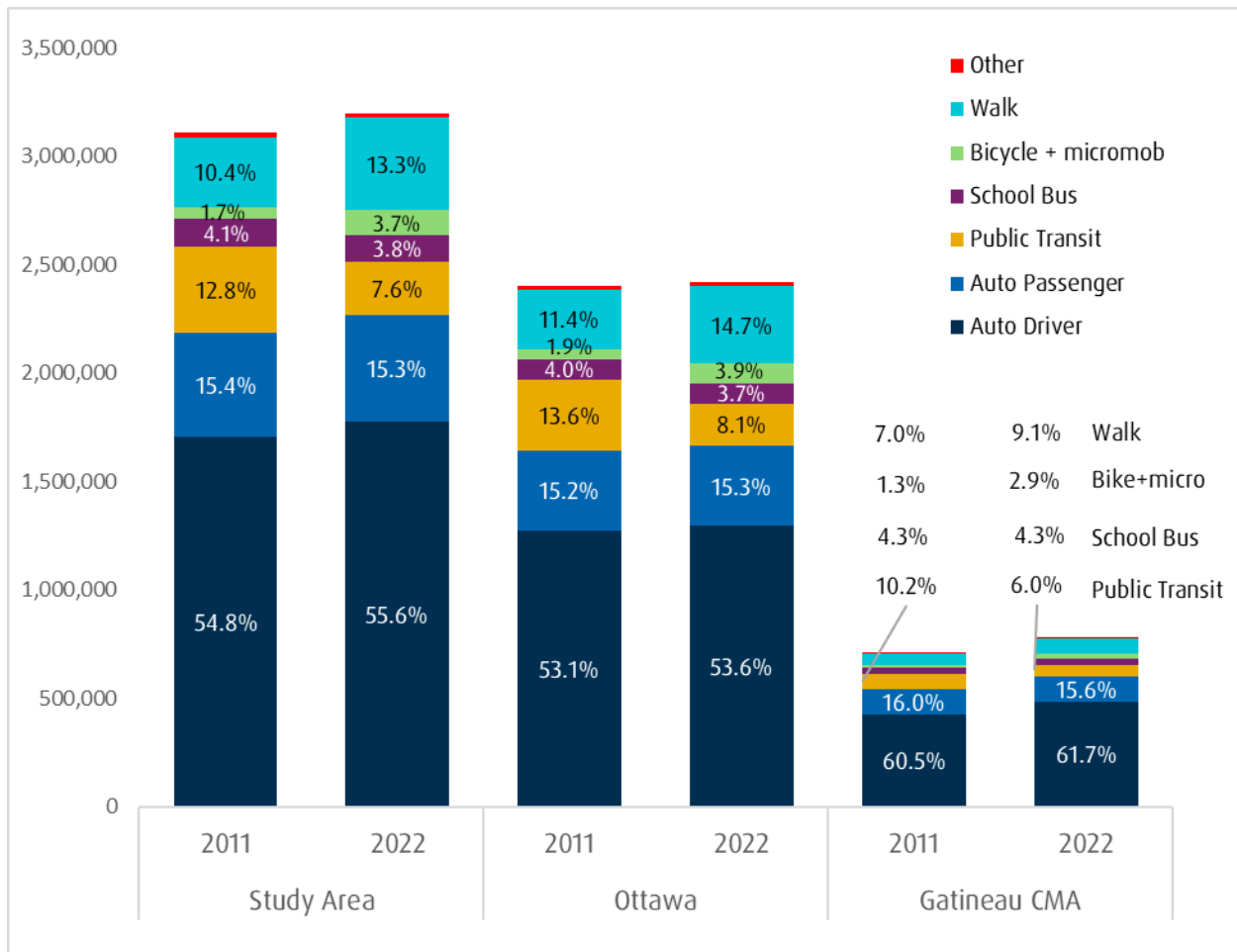
However, although the stability of the auto and non-autos shares as a group was consistent across the Study Area, the changes in individual modal shares were more accentuated in the Gatineau CMA than in Ottawa. In the Gatineau CMA, the auto driver share increased by 13%, auto passenger by 7%, bicycle and micromobility by 146%, and walking by 43%. Public transit's share experienced a profound reduction of -35%. School bus trips increased by 8%, to 33,300 trips. Other trips in the Gatineau CMA dropped by 38% (albeit representing only 1,800 trips).

In Ottawa, the auto driver share increased by 2%, auto passenger by 1%, bicycle and micromobility by 111%, and walking by 30%. Public transit's share experienced a profound reduction of -40%. The school bus share dropped by 8% (-8,100 trips – a much smaller drop than in Gatineau).

In sum, trips by auto remained dominant but stable at 71%, active transportation trips increased to a 17% share from 12% in 2011 but public transit trips contracted to an 8% share from 13% in 2011, consistent with increases in remote working and schooling, with ridership down by 39%. These Study Area-wide shifts largely reflect conditions in Ottawa. However, differences were noted in the Gatineau CMA, especially with more accentuated growth in auto driver, auto passenger, active transportation and school bus numbers than Ottawa.

³⁴ A trip can entail more than one mode of travel, such as Park & Ride trips. In these instances, the primary mode was assigned based on the following hierarchy (with public transit, at the top of the hierarchy, always being assigned if a trip involved public transit and another mode): public transit, school bus, auto driver, auto passenger, other, bicycle, walked. Generally speaking, the primary mode assigned to a multi-mode trip is usually the mode by which the greatest distance would be travelled.

Figure 27. Daily mode shares, population 5+, 2011 and 2022



Other mode percentages and volumes are not labelled; within 0.8% of total trips in each survey cycle.

Table 17. Details of daily mode shares and changes, population 5+, 2011 and 2022

	Study Area		Ottawa		Gatineau CMA	
	2011	2022	2011	2022	2011	2022
Daily Trip Volumes	#	#	#	#	#	#
Total Trips	3,110,200	3,198,900	2,401,900	2,417,700	708,300	781,300
Auto Driver	1,703,600	1,777,400	1,275,400	1,295,300	428,200	482,100
Auto Passenger	479,600	490,700	366,100	368,900	113,400	121,800
Public Transit	398,500	243,300	326,500	196,300	72,000	47,000
School Bus	127,800	122,300	97,100	89,000	30,700	33,300
Bicycle + micromobility	53,900	117,000	44,600	94,200	9,300	22,900
Walk	322,900	427,000	273,000	355,800	49,800	71,300
Other	23,900	21,200	19,100	18,200	4,800	3,000
Active Mode Subtotal	376,800	544,000	317,600	450,000	59,100	94,200
Sustainable Subtotal	903,100	909,600	741,200	735,300	161,800	174,500
Change 2011 to 2022	#	% change	#	% change	#	% change
Total Trips	88,700	3%	15,800	1%	73,000	10%
Auto Driver	73,800	4%	19,900	2%	53,900	13%
Auto Passenger	11,100	2%	2,800	1%	8,400	7%
Public Transit	-155,200	-39%	-130,200	-40%	-25,000	-35%
School Bus	-5,500	-4%	-8,100	-8%	2,600	8%
Bicycle + micromobility	63,100	117%	49,600	111%	13,600	146%
Walk	104,100	32%	82,800	30%	21,500	43%
Other	-2,700	-11%	-900	-5%	-1,800	-38%
Active Mode Subtotal	167,200	44%	132,400	42%	35,100	59%
Sustainable Subtotal	6,500	1%	-5,900	-1%	12,700	8%

Active = Walk + Bicycle + Micromobility. Sustainable = Public Transit + Walk + Bicycle + Micromobility

Table 18. Daily mode shares and changes, percentages, population 5+, 2011 and 2022

	Study Area		Ottawa		Gatineau CMA	
	2011	2022	2011	2022	2011	2022
Mode Share	%	%	%	%	%	%
Total Trips	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Auto Driver	54.8%	55.6%	53.1%	53.6%	60.5%	61.7%
Auto Passenger	15.4%	15.3%	15.2%	15.3%	16.0%	15.6%
Public Transit	12.8%	7.6%	13.6%	8.1%	10.2%	6.0%
School Bus	4.1%	3.8%	4.0%	3.7%	4.3%	4.3%
Bicycle + micromobility	1.7%	3.7%	1.9%	3.9%	1.3%	2.9%
Walk	10.4%	13.3%	11.4%	14.7%	7.0%	9.1%
Other	0.8%	0.7%	0.8%	0.8%	0.7%	0.4%
Active Mode Subtotal	12.1%	17.0%	13.2%	18.6%	8.3%	12.0%
Sustainable Subtotal	29.0%	28.4%	30.9%	30.4%	22.8%	22.3%
Change in mode share 2011 to 2022		%-pt change		%-pt change		%-pt change
Auto Driver		0.8%		0.5%		1.2%
Auto Passenger		-0.1%		0.0%		-0.4%
Public Transit		-5.2%		-5.5%		-4.1%
School Bus		-0.3%		-0.4%		-0.1%
Bicycle + micromobility		1.9%		2.0%		1.6%
Walk		3.0%		3.3%		2.1%
Other		-0.1%		0.0%		-0.3%
Active Mode Subtotal		4.9%		5.4%		3.7%
Sustainable Subtotal		-0.6%		-0.4%		-0.5%

Active = Walk + Bicycle + Micromobility. Sustainable = Public Transit + Walk + Bicycle + Micromobility

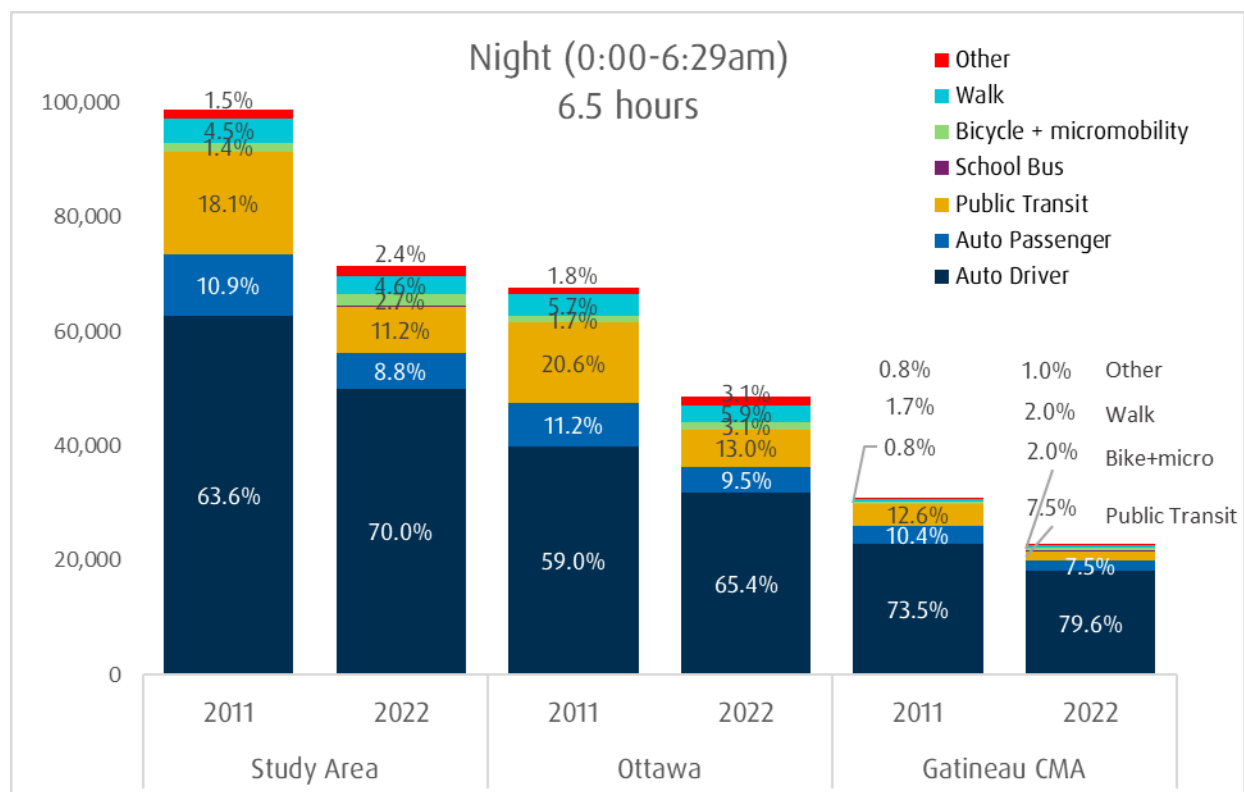
5.2 Mode shares by time of day

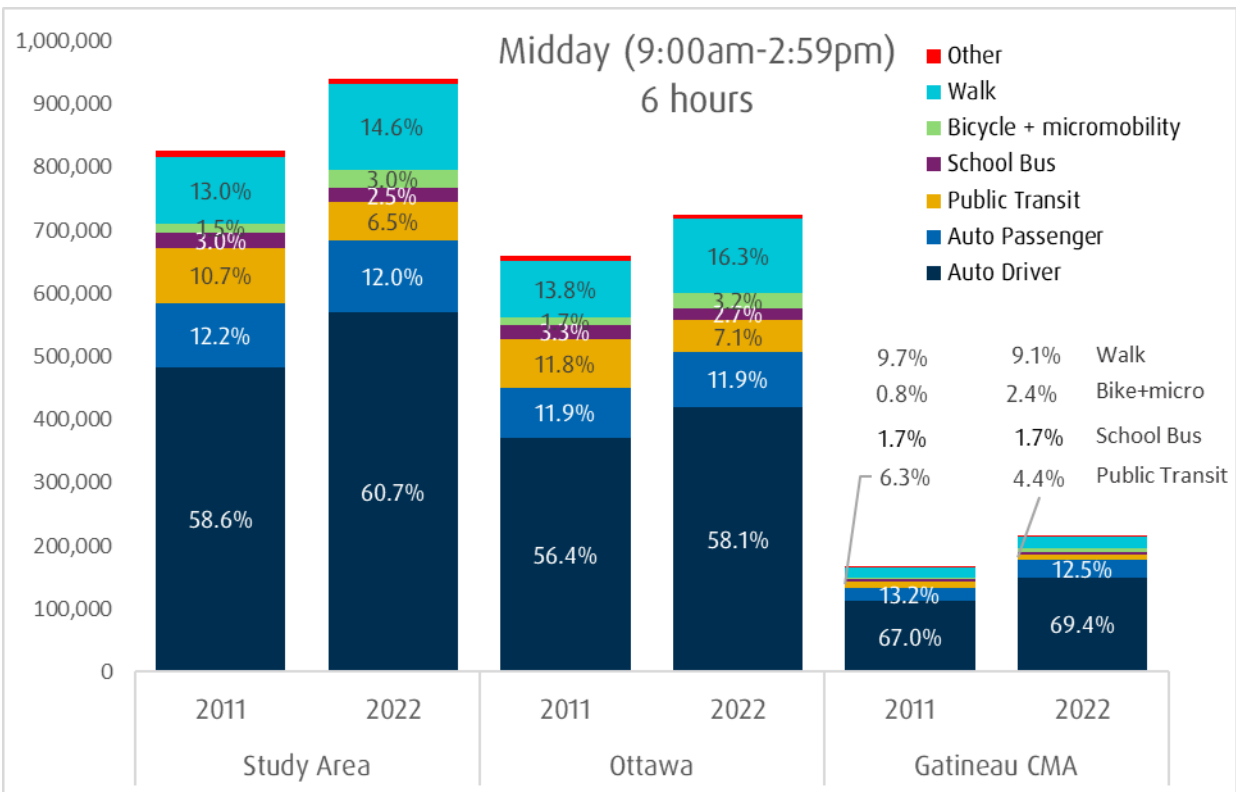
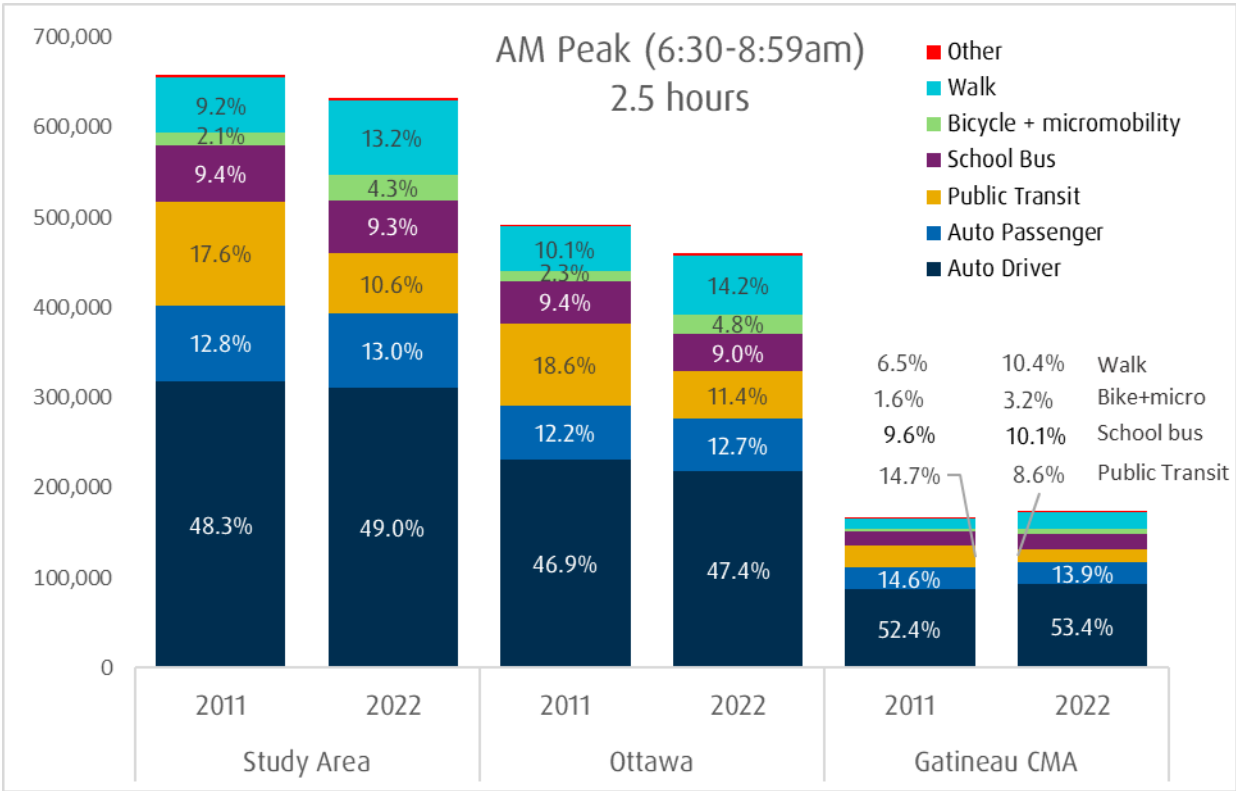
This section extends the previous discussion, now comparing how mode shares have changed since 2011 according to five periods of the day. Figure 28 presents the results. Key points to note:

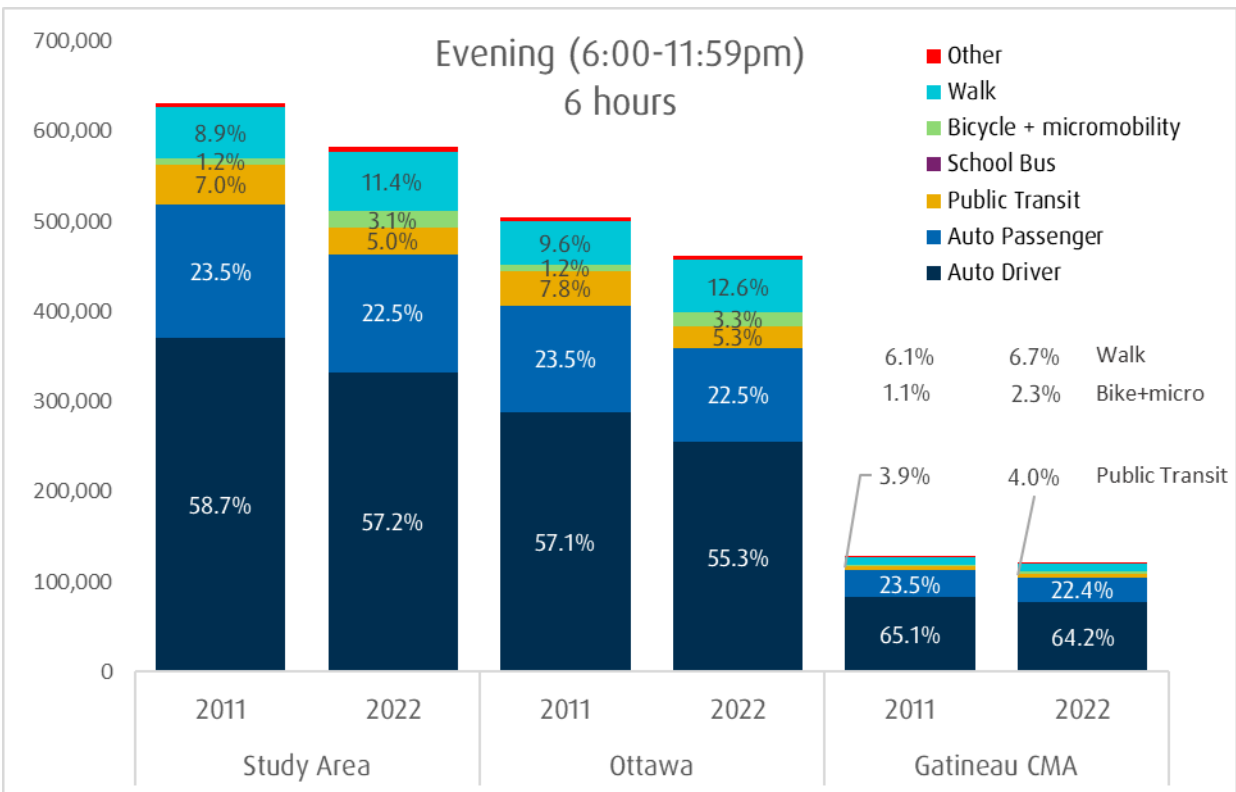
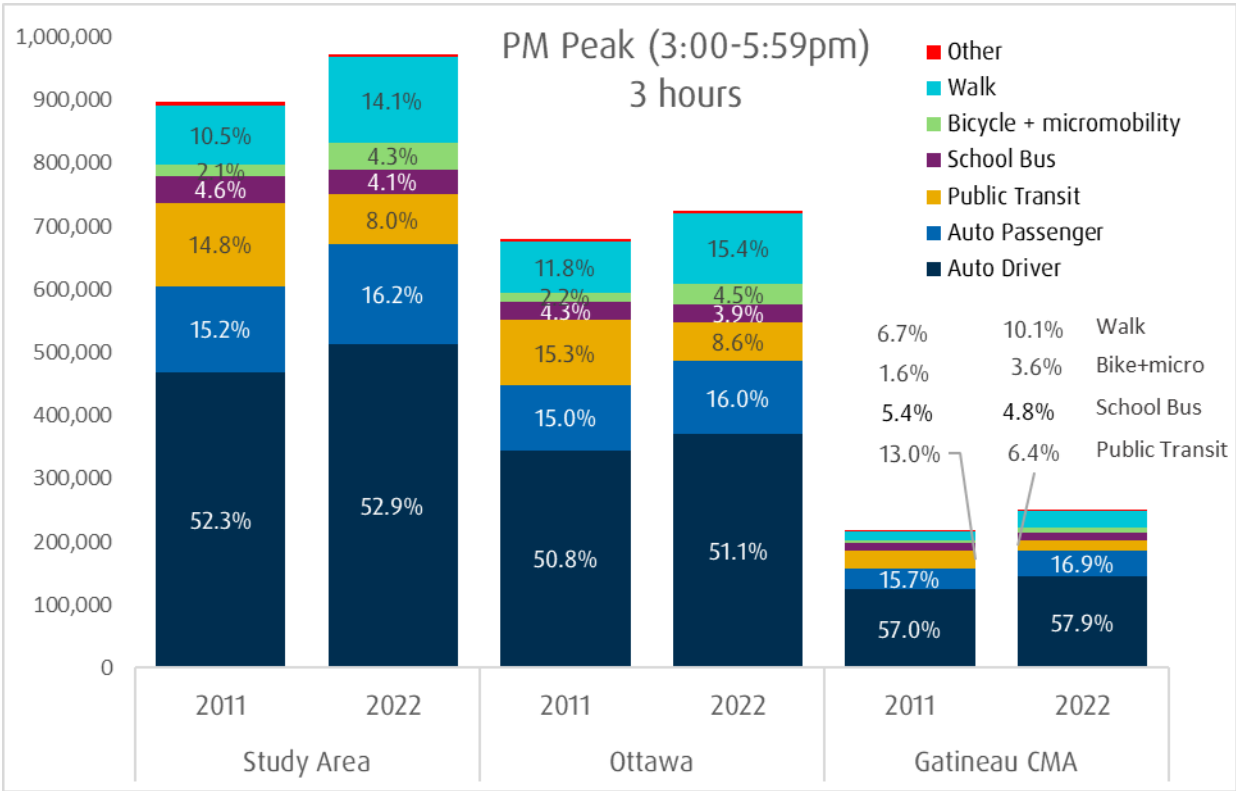
- Total person-trip volumes dropped in the AM peak period, in the evening and at night. However, volumes increased during the midday and the PM peak period.

- The auto driver share was dominant at all times of day, especially at night (70%, up from 64% in 2011) and midday (61%, up from 59% in 2011).
- Auto passenger shares were highest in the PM peak period (16%, up slightly from 15% in 2011) and especially in the evening (22%, down slightly from 23% in 2011). The AM peak period and midday shares were stable, at 13% and 12% respectively.
- Public transit shares and volumes contracted at all times of day, especially during the AM peak period (11% share in 2022 from 18% in 2011) and the PM peak period (8% share in 2022 compared with 15% in 2011), which are typically the times of peak public transit usage.
- The walking and cycling shares and volumes correspondingly increased at all times of day, especially during the AM peak period (17% share in 2022 compared with 11% in 2011) and the PM peak period (18% share in 2022, from 13% in 2011). The midday share increased to 18% in 2022 from 15% in 2011.

Figure 28. Travel by mode across the day, population 5+, Study Area, 2011 and 2022







A series of tables breaks down these changes by modal volume and by modal share for the Study Area (Table 19 and Table 20), Ottawa (Table 21 and Table 22) and the Gatineau CMA (Table 23 and Table 24).

Large increases in auto driver and walk trips, and lesser increases in auto passenger trips occurred during the midday and PM peak period. Walking and bicycling and micromobility trips grew throughout the day, except for the nighttime. Offsetting these increases were losses in public transit throughout the day, especially during the AM and PM peak periods.

Combined, the increases resulted in a slight net increase in total daily trips between 2011 and 2022. The patterns by mode in Ottawa and the Gatineau CMA were largely similar, although the gains and losses were more accentuated in the Gatineau CMA, as noted.

The shifts at different times of day are consistent with pandemic-induced increases in remote working and schooling but also may reflect shifts in people's trip purposes at other times of day, as evidenced in section 4.3.2. The pandemic-induced public transit service changes should also be considered. At the same time, activity like the increased use of active transportation modes may reflect supportive policies and new infrastructure. The increase in remote shopping over the last several years (e-commerce), inflation and other factors beyond this analysis could also be important. Further research is needed.



Table 19. Mode volumes by time period, population 5+, Study Area, 2011-2022

Study Area	Night	AM Peak	Midday	PM Peak	Evening
2011 Mode Volumes					
Total Trips	98,600	658,300	825,300	896,800	631,300
Auto Driver	62,600	317,900	483,300	469,100	370,600
Auto Passenger	10,800	84,100	100,600	136,000	148,100
Public Transit	17,900	115,800	88,300	132,400	44,100
School Bus	100	62,000	24,700	41,000	100
Bicycle + micromobility	1,400	14,000	12,700	18,500	7,400
Walk	4,400	60,700	107,000	94,400	56,400
Other	1,400	3,700	8,600	5,400	4,800
2022 Mode Volumes					
Total Trips	71,500	632,900	939,900	972,500	582,100
Auto Driver	50,000	310,400	570,300	514,000	332,700
Auto Passenger	6,300	82,500	113,200	157,900	130,800
Public Transit	8,000	67,200	60,700	78,200	29,100
School Bus	100	58,900	23,100	40,000	200
Bicycle + micromobility	2,000	27,500	28,100	41,400	18,100
Walk	3,300	83,300	137,300	136,900	66,300
Other	1,700	3,000	7,300	4,200	4,900
Change 2011 to 2022					
Total Trips	-27,100	-25,400	114,600	75,700	-49,200
Auto Driver	-12,600	-7,500	87,000	44,900	-37,900
Auto Passenger	-4,500	-1,600	12,600	21,900	-17,300
Public Transit	-9,900	-48,600	-27,600	-54,200	-15,000
School Bus	0	-3,100	-1,600	-1,000	100
Bicycle + micromobility	600	13,500	15,400	22,900	10,700
Walk	-1,100	22,600	30,300	42,500	9,900
Other	300	-700	-1,300	-1,200	100

Table 20. Mode shares by time period, population 5+, Study Area, 2011-2022

Study Area	Night	AM Peak	Midday	PM Peak	Evening
2011 Mode Shares					
Total Trips	98,600	658,300	825,300	896,800	631,300
Auto Driver	63.6%	48.3%	58.6%	52.3%	58.7%
Auto Passenger	10.9%	12.8%	12.2%	15.2%	23.5%
Public Transit	18.1%	17.6%	10.7%	14.8%	7.0%
School Bus	0.1%	9.4%	3.0%	4.6%	0.0%
Bicycle + micromobility	1.4%	2.1%	1.5%	2.1%	1.2%
Walk	4.5%	9.2%	13.0%	10.5%	8.9%
Other	1.5%	0.6%	1.0%	0.6%	0.8%
2022 Mode Shares					
Total Trips	71,500	632,900	939,900	972,500	582,100
Auto Driver	70.0%	49.0%	60.7%	52.9%	57.2%
Auto Passenger	8.8%	13.0%	12.0%	16.2%	22.5%
Public Transit	11.2%	10.6%	6.5%	8.0%	5.0%
School Bus	0.2%	9.3%	2.5%	4.1%	0.0%
Bicycle + micromobility	2.7%	4.3%	3.0%	4.3%	3.1%
Walk	4.6%	13.2%	14.6%	14.1%	11.4%
Other	2.4%	0.5%	0.8%	0.4%	0.8%
%-pt difference					
Auto Driver	6.4%	0.8%	2.1%	0.5%	-1.5%
Auto Passenger	-2.1%	0.3%	-0.2%	1.1%	-1.0%
Public Transit	-6.9%	-7.0%	-4.2%	-6.7%	-2.0%
School Bus	0.1%	-0.1%	-0.5%	-0.5%	0.0%
Bicycle + micromobility	1.3%	2.2%	1.5%	2.2%	1.9%
Walk	0.2%	3.9%	1.6%	3.5%	2.5%
Other	1.0%	-0.1%	-0.3%	-0.2%	0.1%

Table 21. Mode volumes by time period, population 5+, Ottawa residents, 2011-2022

Ottawa	Night	AM Peak	Midday	PM Peak	Evening
2011 Mode Volumes					
Total Trips	67,600	492,100	658,700	679,400	504,100
Auto Driver	39,900	230,900	371,700	345,200	287,800
Auto Passenger	7,600	59,900	78,700	101,800	118,200
Public Transit	14,000	91,400	77,900	104,100	39,100
School Bus	0	46,100	21,800	29,100	100
Bicycle + micromobility	1,100	11,300	11,300	15,000	6,000
Walk	3,900	49,900	90,900	79,800	48,600
Other	1,200	2,700	6,500	4,400	4,300
2022 Mode Volumes					
Total Trips	48,600	459,800	724,000	723,800	461,500
Auto Driver	31,800	217,900	420,400	369,900	255,200
Auto Passenger	4,600	58,400	86,100	115,900	103,800
Public Transit	6,300	52,300	51,200	62,200	24,300
School Bus	0	41,500	19,400	28,000	200
Bicycle + micromobility	1,500	21,900	22,900	32,500	15,300
Walk	2,800	65,200	117,700	111,700	58,300
Other	1,500	2,500	6,300	3,500	4,400
Change 2011 to 2022					
Total Trips	-19,000	-32,300	65,300	44,400	-42,600
Auto Driver	-8,100	-13,000	48,700	24,700	-32,600
Auto Passenger	-3,000	-1,500	7,400	14,100	-14,400
Public Transit	-7,700	-39,100	-26,700	-41,900	-14,800
School Bus	0	-4,600	-2,400	-1,100	100
Bicycle + micromobility	400	10,600	11,600	17,500	9,300
Walk	-1,100	15,300	26,800	31,900	9,700
Other	300	-200	-200	-900	100

Table 22. Mode shares by time period, population 5+, Ottawa residents, 2011-2022

Ottawa	Night	AM Peak	Midday	PM Peak	Evening
2011 Mode Shares					
Total Trips	67,600	492,100	658,700	679,400	504,100
Auto Driver	59.0%	46.9%	56.4%	50.8%	57.1%
Auto Passenger	11.2%	12.2%	11.9%	15.0%	23.5%
Public Transit	20.6%	18.6%	11.8%	15.3%	7.8%
School Bus	0.1%	9.4%	3.3%	4.3%	0.0%
Bicycle + micromobility	1.7%	2.3%	1.7%	2.2%	1.2%
Walk	5.7%	10.1%	13.8%	11.8%	9.6%
Other	1.8%	0.5%	1.0%	0.7%	0.9%
2022 Mode Shares					
Total Trips	48,600	459,800	724,000	723,800	461,500
Auto Driver	65.4%	47.4%	58.1%	51.1%	55.3%
Auto Passenger	9.5%	12.7%	11.9%	16.0%	22.5%
Public Transit	13.0%	11.4%	7.1%	8.6%	5.3%
School Bus	0.1%	9.0%	2.7%	3.9%	0.0%
Bicycle + micromobility	3.1%	4.8%	3.2%	4.5%	3.3%
Walk	5.9%	14.2%	16.3%	15.4%	12.6%
Other	3.1%	0.5%	0.9%	0.5%	1.0%
%-pt difference					
Auto Driver	6.4%	0.5%	1.6%	0.3%	-1.8%
Auto Passenger	-1.7%	0.5%	0.0%	1.0%	-1.0%
Public Transit	-7.7%	-7.2%	-4.8%	-6.7%	-2.5%
School Bus	0.0%	-0.3%	-0.6%	-0.4%	0.0%
Bicycle + micromobility	1.4%	2.5%	1.4%	2.3%	2.1%
Walk	0.2%	4.1%	2.5%	3.7%	3.0%
Other	1.3%	0.0%	-0.1%	-0.2%	0.1%

Table 23. Mode volumes by time period, population 5+, Gatineau CMA residents, 2011-2022

Gatineau CMA	Night	AM Peak	Midday	PM Peak	Evening
2011 Mode Volumes					
Total Trips	31,000	166,200	166,600	217,400	127,200
Auto Driver	22,800	87,000	111,700	124,000	82,800
Auto Passenger	3,200	24,200	21,900	34,200	29,800
Public Transit	3,900	24,400	10,400	28,300	4,900
School Bus	0	16,000	2,900	11,800	0
Bicycle + micromobility	300	2,700	1,400	3,500	1,400
Walk	500	10,800	16,200	14,600	7,700
Other	300	1,000	2,100	1,000	500
2022 Mode Volumes					
Total Trips	22,900	173,100	216,000	248,700	120,600
Auto Driver	18,200	92,500	149,800	144,100	77,500
Auto Passenger	1,700	24,100	27,000	41,900	27,000
Public Transit	1,700	14,900	9,600	16,000	4,800
School Bus	100	17,500	3,700	12,000	0
Bicycle + micromobility	500	5,600	5,200	8,900	2,700
Walk	400	18,100	19,600	25,100	8,000
Other	200	600	1,000	700	500
Change 2011 to 2022					
Total Trips	-8,100	6,900	49,400	31,300	-6,600
Auto Driver	-4,600	5,500	38,100	20,100	-5,300
Auto Passenger	-1,500	-100	5,100	7,700	-2,800
Public Transit	-2,200	-9,500	-800	-12,300	-100
School Bus	100	1,500	800	200	0
Bicycle + micromobility	200	2,900	3,800	5,400	1,300
Walk	-100	7,300	3,400	10,500	300
Other	-100	-400	-1,100	-300	0

Table 24. Mode shares by time period, population 5+, Gatineau CMA residents, 2011-2022

Gatineau CMA	Night	AM Peak	Midday	PM Peak	Evening
2011 Mode Shares					
Total Trips	31,000	166,200	166,600	217,400	127,200
Auto Driver	73.5%	52.4%	67.0%	57.0%	65.1%
Auto Passenger	10.4%	14.6%	13.2%	15.7%	23.5%
Public Transit	12.6%	14.7%	6.3%	13.0%	3.9%
School Bus	0.1%	9.6%	1.7%	5.4%	0.0%
Bicycle + micromobility	0.8%	1.6%	0.8%	1.6%	1.1%
Walk	1.7%	6.5%	9.7%	6.7%	6.1%
Other	0.8%	0.6%	1.2%	0.4%	0.4%
2022 Mode Shares					
Total Trips	22,900	173,100	216,000	248,700	120,600
Auto Driver	79.6%	53.4%	69.4%	57.9%	64.2%
Auto Passenger	7.5%	13.9%	12.5%	16.9%	22.4%
Public Transit	7.5%	8.6%	4.4%	6.4%	4.0%
School Bus	0.3%	10.1%	1.7%	4.8%	0.0%
Bicycle + micromobility	2.0%	3.2%	2.4%	3.6%	2.3%
Walk	2.0%	10.4%	9.1%	10.1%	6.7%
Other	1.0%	0.3%	0.5%	0.3%	0.4%
%-pt difference					
Auto Driver	6.1%	1.0%	2.3%	0.9%	-0.9%
Auto Passenger	-2.9%	-0.6%	-0.7%	1.1%	-1.0%
Public Transit	-5.1%	-6.1%	-1.8%	-6.6%	0.1%
School Bus	0.3%	0.5%	0.0%	-0.6%	0.0%
Bicycle + micromobility	1.2%	1.6%	1.6%	2.0%	1.2%
Walk	0.2%	3.9%	-0.6%	3.4%	0.6%
Other	0.2%	-0.3%	-0.8%	-0.2%	0.0%

Finally, Table 25 summarizes how total trip volumes have varied across the day. Key points to note:

- Increases and reductions occurred throughout the day. Across the Study Area, the greatest absolute reductions occurred during in the evening (the largest absolute reduction, at -49,200 trips), at night (proportionately the greatest reduction, at -27%) and during the AM peak period. Increases occurred during the midday (proportionately the greatest increase, at 14%) and the PM peak period. These increases were sufficient to offset the reductions, for an overall 3% increase in daily trips, as noted (88,700 trips).

- For trips made by Ottawa residents, a 1% increase was recorded over the day. Midday trips increased by 10% and PM peak period trips increased by 7%, while AM peak period trips dropped by -7%.
- For trips made by Gatineau CMA residents, a 10% increase was recorded over the day. Midday trips increased by 30% and PM peak period trips increased by 14%, while AM peak period trips grew by 4%.

Table 25. Trip volumes by time period, population 5+, 2011-2022

Study Area	Trips				% of daily trips		
	2011	2022	difference	% diff.	2011	2022	%-pt diff.
Night (0:00-6:29am, 6.5 hrs)	98,600	71,500	-27,100	-27%	3.2%	2.2%	-0.9%
AM Peak (6:30-8:59am, 2.5 hrs)	658,300	632,900	-25,400	-4%	21.2%	19.8%	-1.4%
Midday (9:00am-2:59pm, 6 hrs)	825,300	939,900	114,600	14%	26.5%	29.4%	2.8%
PM Peak (3:00pm-5:59pm, 3 hrs)	896,800	972,500	75,700	8%	28.8%	30.4%	1.6%
Evening (6:00pm-11:59pm, 6 hrs)	631,300	582,100	-49,200	-8%	20.3%	18.2%	-2.1%
24-Hour Total	3,110,200	3,198,900	88,700	3%	100%	100%	

Ottawa*	Trips				% of daily trips		
	2011	2022	difference	% diff.	2011	2022	%-pt diff.
Night (0:00-6:29am, 6.5 hrs)	67,600	48,600	-19,000	-28%	2.8%	2.0%	-0.8%
AM Peak (6:30-8:59am, 2.5 hrs)	492,100	459,800	-32,300	-7%	20.5%	19.0%	-1.5%
Midday (9:00am-2:59pm, 6 hrs)	658,700	724,000	65,300	10%	27.4%	29.9%	2.5%
PM Peak (3:00pm-5:59pm, 3 hrs)	679,400	723,800	44,400	7%	28.3%	29.9%	1.7%
Evening (6:00pm-11:59pm, 6 hrs)	504,100	461,500	-42,600	-8%	21.0%	19.1%	-1.9%
24-Hour Total	2,401,900	2,417,700	15,800	1%	100%	100%	

Gatineau CMA*	Trips				% of daily trips		
	2011	2022	difference	% diff.	2011	2022	%-pt diff.
Night (0:00-6:29am, 6.5 hrs)	31,000	22,900	-8,100	-26%	4.4%	2.9%	-1.4%
AM Peak (6:30-8:59am, 2.5 hrs)	166,200	173,100	6,900	4%	23.5%	22.2%	-1.3%
Midday (9:00am-2:59pm, 6 hrs)	166,600	216,000	49,400	30%	23.5%	27.6%	4.1%
PM Peak (3:00pm-5:59pm, 3 hrs)	217,400	248,700	31,300	14%	30.7%	31.8%	1.1%
Evening (6:00pm-11:59pm, 6 hrs)	127,200	120,600	-6,600	-5%	18.0%	15.4%	-2.5%
24-Hour Total	708,300	781,300	73,000	10%	100%	100%	

* As noted in section 4.1, all figures measure trips made by residents of the respective jurisdictions as opposed necessarily to where the trips originate or are destined.

In sum, changes occurred during the commuter peak periods but also throughout the day. Some of these changes may be consistent with the pandemic-induced shifts to remote working and schooling described in previous sections. At the same time, these changes suggest shifts in activity patterns that go beyond simple changes to commuting, with the midday and PM peak periods gaining in activity while the evening, night and AM peak periods losing activity. At a broad level, these changes are consistent with pandemic-induced changes observed in surveys elsewhere.³⁵ At the same time, it is important to note that the 2011 comparator is eleven years old: as noted, some of these shifts may be the result of intervening changes in demographics and local economic conditions, as well as the pandemic and possibly the introduction of major new infrastructure like the O-Train. Further research is needed.



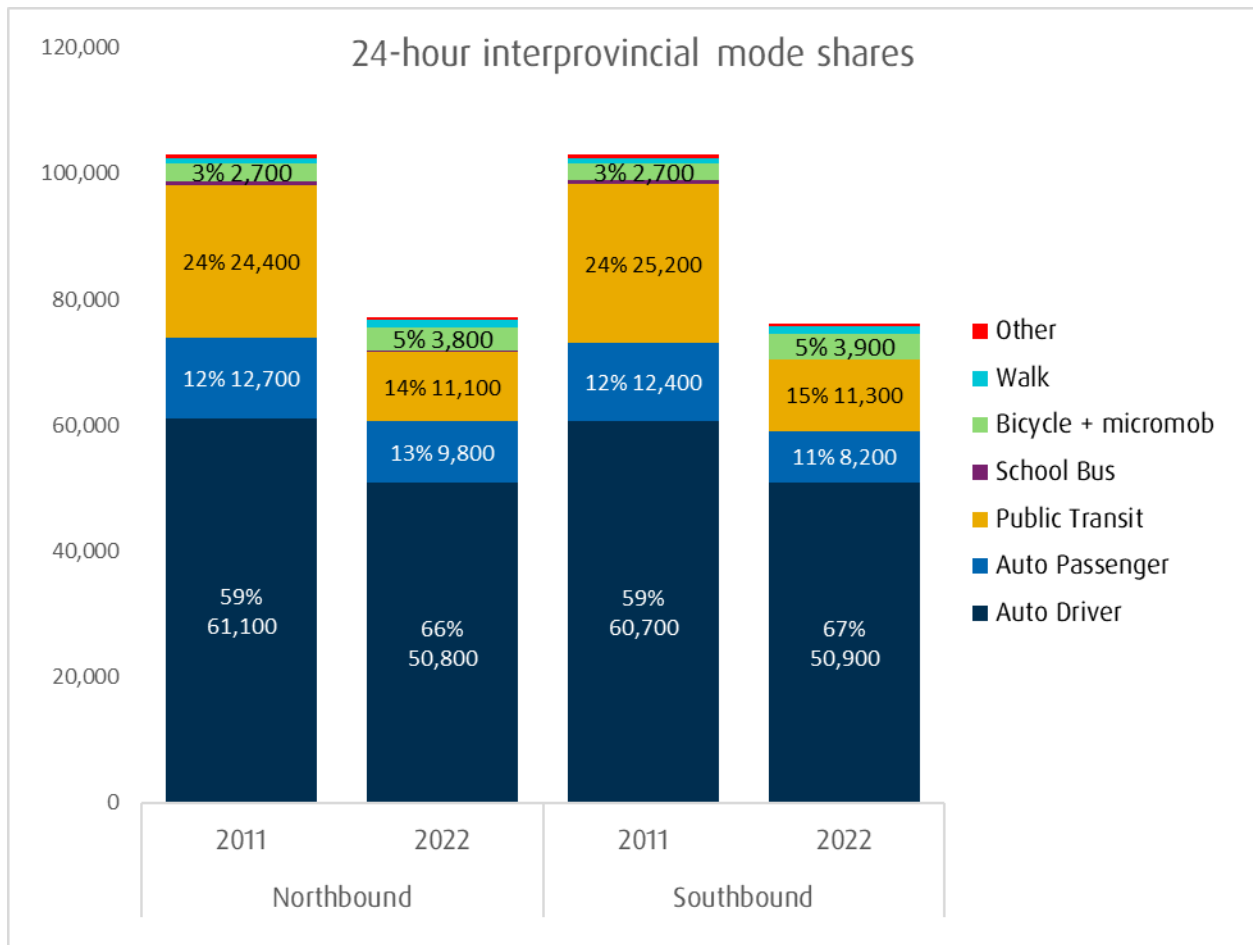
³⁵ For example, the Capital Regional District (Victoria area) survey, which was conducted in 2022. Other post-pandemic surveys may offer further insights.

5.3 Interprovincial mode shares

This section profiles interprovincial travel by mode – that is, travel across the Ottawa River between Ottawa and the Gatineau CMA. Note that this excludes trips made to or from locations external to the Study Area that may have crossed the provincial border. Figure 29 shows daily interprovincial travel by mode for 2011 and 2022. The figure shows that:

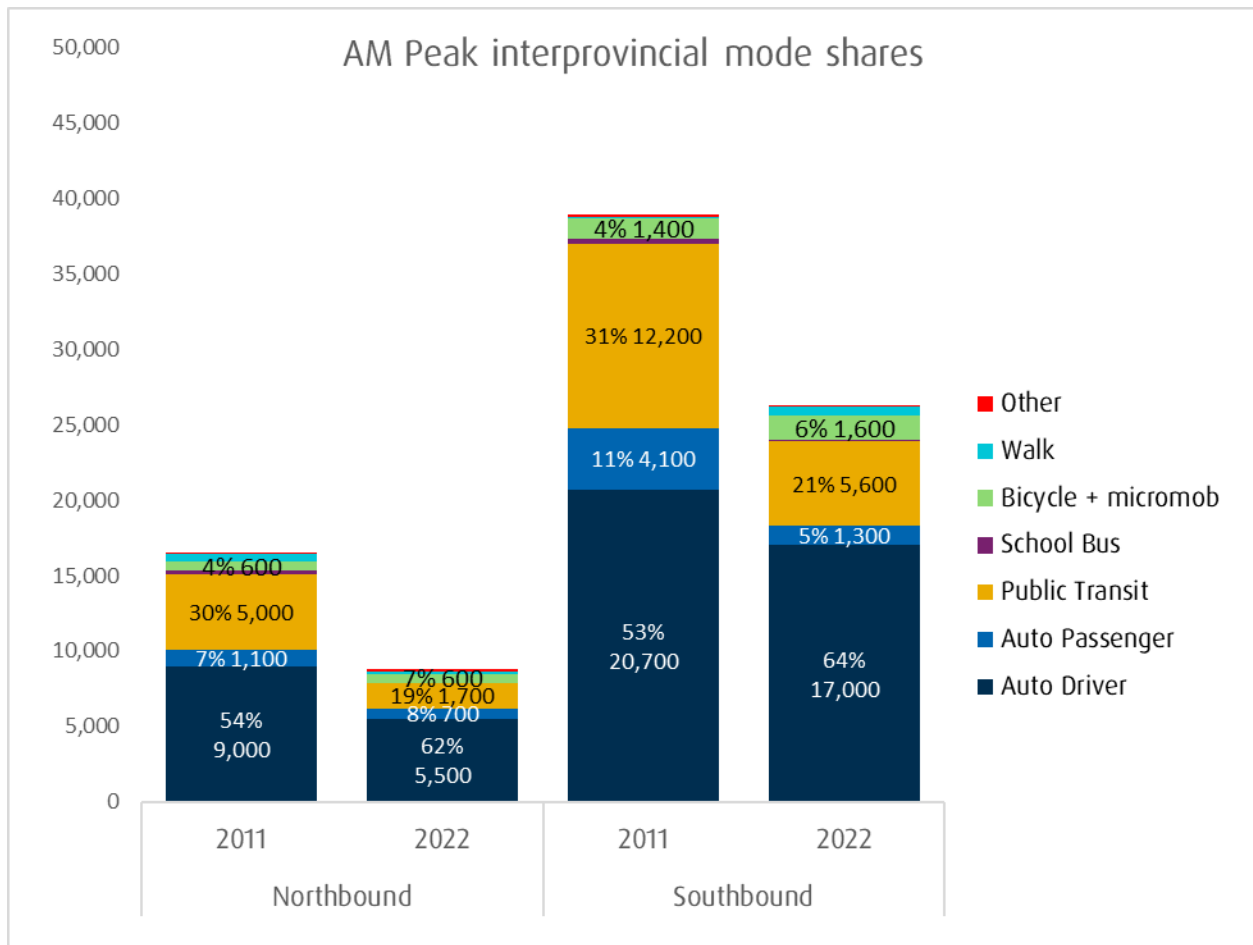
- Total interprovincial trip volumes dropped across the day in each direction.
- Across the day, reductions were observed for all motorized modes. The greatest absolute and proportional reductions occurred for public transit, whose bi-directional share dropped by more than half (-55%). Active transportation modes recorded gains, with walk trips increasing by 56% in both directions combined (a gain of 900 trips) and bicycling and micromobility trips increased by 43% (a gain of 2,300 trips).

Figure 29. Interprovincial travel by mode, population 5+, 2011 and 2022 – daily



Modes with shares of 2% or less are not labelled in the graph.

Figure 30. Interprovincial travel by mode, population 5+, 2011 and 2022 – AM peak period



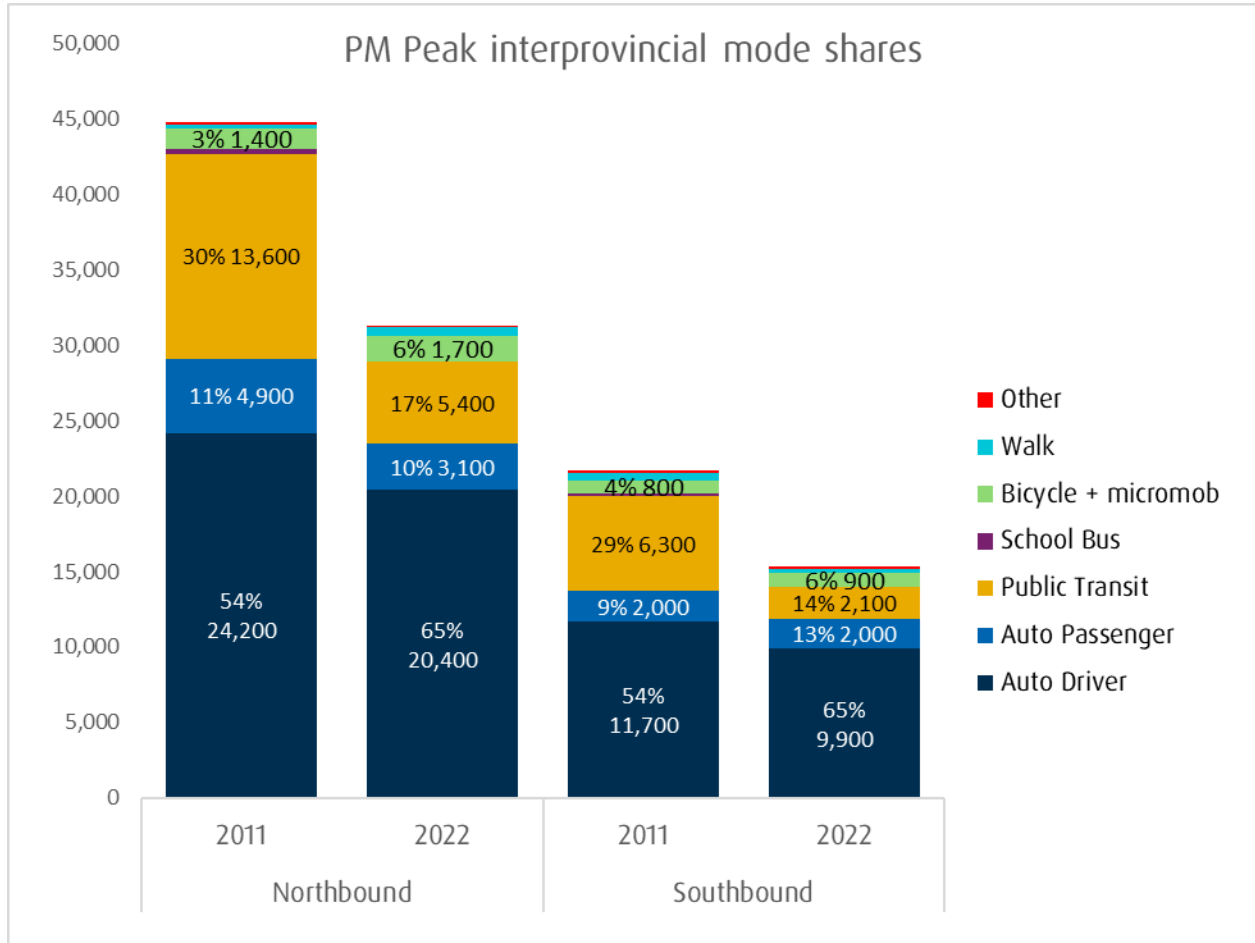
Modes with shares of 2% or less are not labelled in the graph.

Figure 30 and Figure 31 present AM peak period and PM peak period interprovincial travel, respectively. The daily changes cited above also occurred during the two commuter peak periods. The reductions in public transit trips were slightly more pronounced in both peaks and in both directions, which is consistent with peak daily public transit ridership occurring during the two commuter peaks. During the AM peak period, auto passenger trips in the peak southbound direction dropped by 60%, while auto driver trips in the counter-peak northbound direction dropped by 39% - both larger than the overall daily reductions. Auto passenger reductions in the PM peak period also exceeded the daily average in the peak northbound direction, at -37%. These shifts may reflect changes in trip purposes that occurred in the two peak periods (see section 4.3.2).

Walking, bicycling and micromobility trips during the peak periods grew between 10% and 29% - strong gains though less than the 56% and 43% daily gains recorded for these modes

respectively (in other words, much of the gain in active transportation trips occurred outside the commuter peaks).

Figure 31. Interprovincial travel by mode, population 5+, 2011 and 2022 – PM peak period



Modes with shares of 2% or less are not labelled in the graph.



5.4 Downtown Core mode shares

This section looks at travel to and from the Downtown Core. As shown in Figure 32, this area is defined by Ottawa Centre (the area north of Gloucester Street) and Île de Hull.³⁶

Figure 32. Map of Downtown Core



The section reports on the mode shares of AM peak period trips that were destined to the core. These are profiled in Figure 33. All motorized modes recorded absolute and proportionate reductions. However, the drop was sharpest for public transit, whose volumes dropped by almost two-thirds (-65%) to 15,400 person trips in 2022. This reflected a mode

³⁶ Note that the National Capital Commission defines a different boundary for the core area. See *National Capital Core Area Plan*, <https://ncc-ccn.gc.ca/our-plans/canadas-capital-core-area-sector-plan>.

share of 30% in 2022 (compared with 45% in 2011). Public transit trips destined to Ottawa Centre dropped by 66%, resulting in a 32% mode share (compared with 49% in 2011). Public transit trips to Île de Hull experienced a 60% drop, resulting in a 26% mode share (compared with 33% in 2011). These reductions, and those of auto driver and auto passenger trips, were consistent with remote working (especially at Downtown Core Federal offices but also hi-tech and other office workers and nearby retail areas) as well as remote schooling at nearby post-secondary institutions.

The walk and bicycling and micromobility shares both increased to a combined 24%, and there was an absolute increase in the number of bicycling and micromobility trips.

Figure 33. AM peak period travel by mode to Downtown Core, population 5+, 2011 and 2022

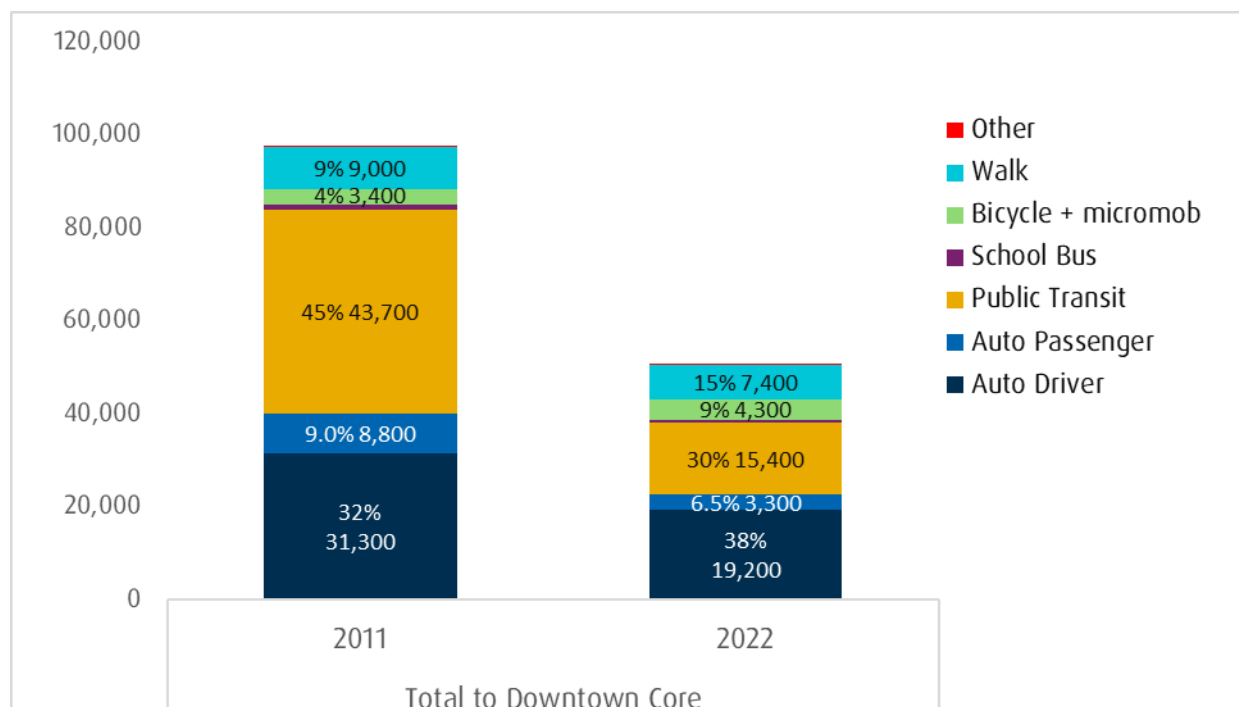
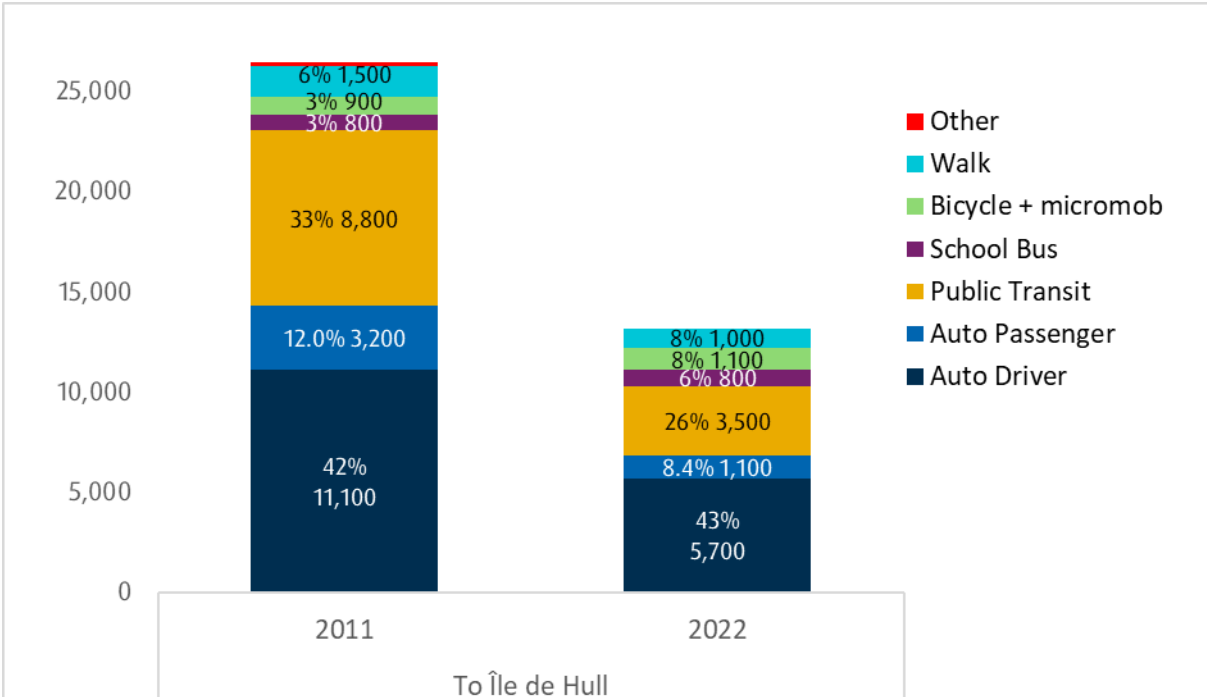
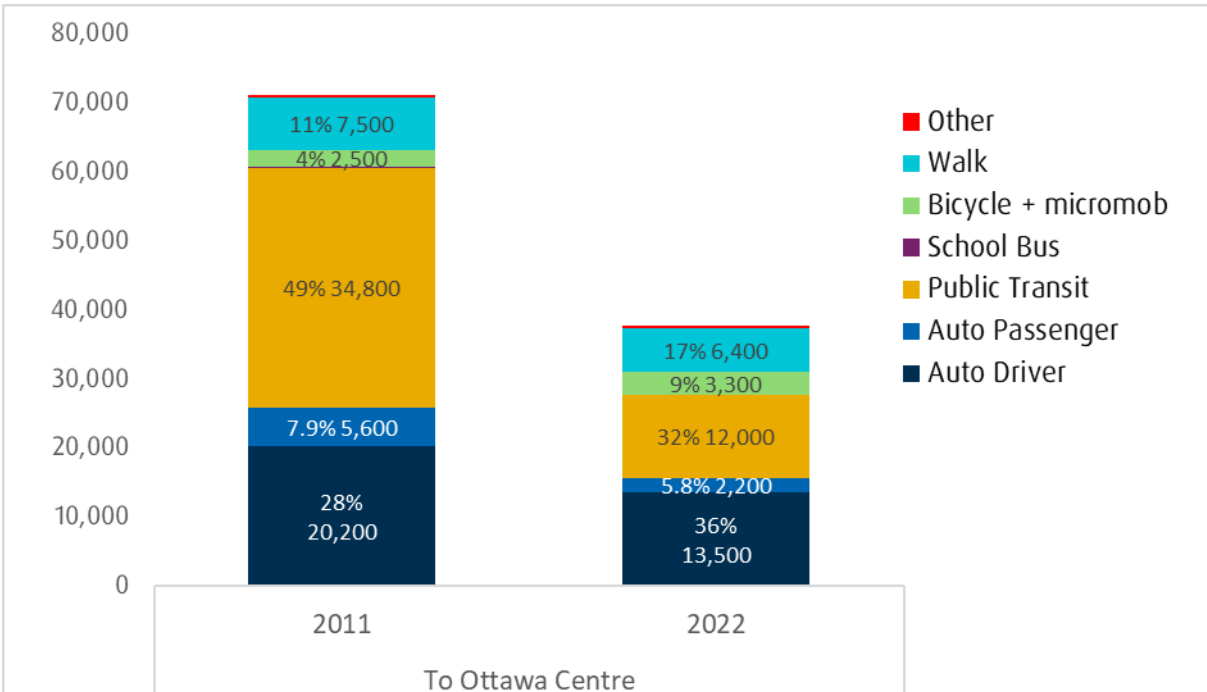


Figure 33. AM peak period travel by mode to Downtown Core, population 5+, 2011 and 2022



6 CONCLUSION

This report previews selected key findings from the *TRANS 2022 Origin-Destination Household Travel Survey*. It provides a glimpse into regional travel patterns from the 2022 survey. The report has identified a number of changes in travel patterns since the last (2011) survey.

Most evident are lower daily trip rates, continuing an ongoing trend, and increased work from home (even as many workers transition to a post-pandemic hybrid approach).

Reflecting both these changes, trip purposes have shifted. Although commute trips to work and school remain dominant, the 2022 volumes represent an important reduction. At the same time, trips for other purposes increased. Taken together, there was a slight overall increase in total daily trips of 3% between 2011 and 2022. However, reflecting the lower daily trip rate, this increase was less than that of the Study Area's key demographic indicators, namely population (10.7% growth over the same period), working population (16.0%), households (11.2%) and vehicles (11.0%).

In terms of mode shares, auto driver and auto passenger shares are generally similar. However, among non-auto shares there has been a shift from public transit to active transportation (bicycle, micromobility and walking).

This *Preview Report* is accompanied by a detailed *Travel Analysis Report*. This report is now in preparation.

