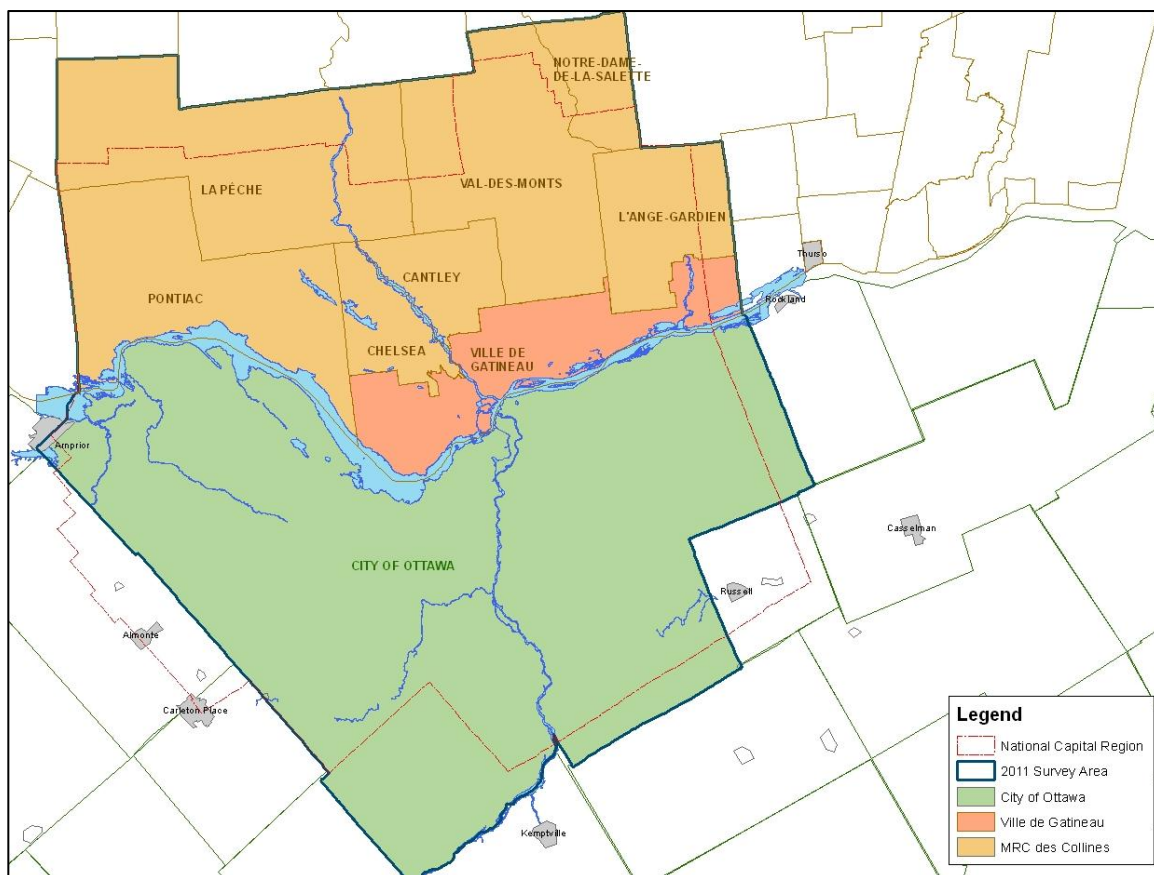


## 2011 National Capital Region Travel Survey – Key Findings

### 1. ABOUT THE 2011 SURVEY

The survey captured the travel behaviour of over 25,000 randomly sampled households in the City of Ottawa, the Ville de Gatineau and the MRC des Collines-de-l'Outaouais. Figure 1 shows the survey area. The survey collected information about each household, its residents and – for residents aged 5 and over - their travel activities over a 24-hour weekday in autumn 2011. The results profile current travel behaviour and demographics. They are essential for planning transportation infrastructure and services in the National Capital Region (NCR).



**Figure 1: 2011 Survey Area**

*There have been many changes since the last NCR survey in 2005. These are summarized below.*

## 2. A GROWING POPULATION WITH MORE HOUSEHOLDS

Travel grows as the population grows. In 2011, the NCR was home to:

- 1,233,800 residents
- 510,000 households
- 587,800 employed residents (workers)
- 699,200 personal vehicles

Compared with 2005, households grew fastest, by 9.6%, and the employed population grew by 8.2%. Both growth rates were higher than those for the population overall (7.2%) and personal vehicles (6.3%).

At the same time, Figure 2 shows that the average numbers of residents, workers and vehicles per households have all dropped, to 2.42 persons per household, 1.15 workers (employed persons) per household and 1.37 vehicles per household. All of these rates are important indicators of travel.



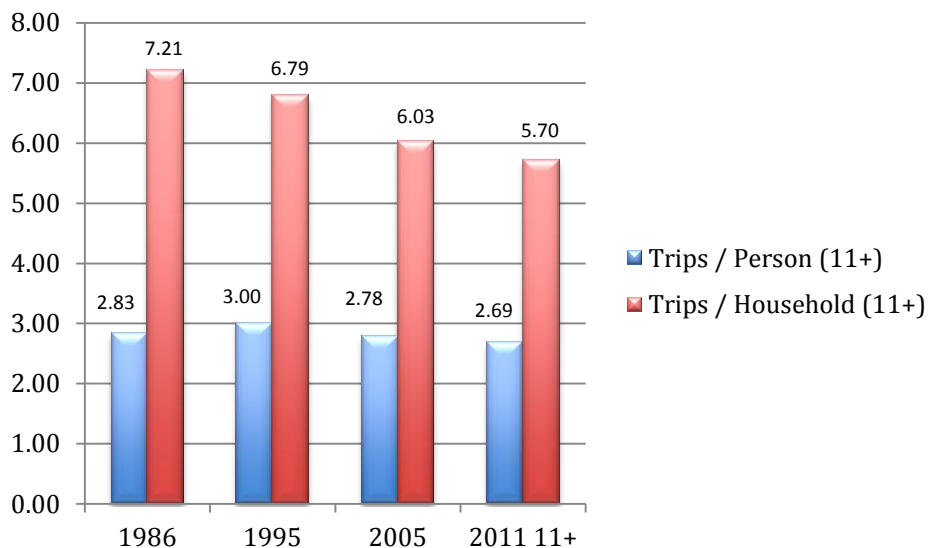
Figure 2: Changes in Household Indicators, 1986 - 2011

## 3. TRIP RATES CONTINUE TO DROP

As household sizes decrease, average daily trip rates per person continue to drop, continuing trends observed in the NCR and elsewhere. The current average is 2.69 trips per person.<sup>1</sup>

<sup>1</sup> Previous surveys covered trips for people 11 years and older. To enable comparisons, only trips made by people 11+ years are used here for 2011.

Average daily trip rates per household also continue to drop, to 5.70 trips per household. Figure 3 shows the trends.

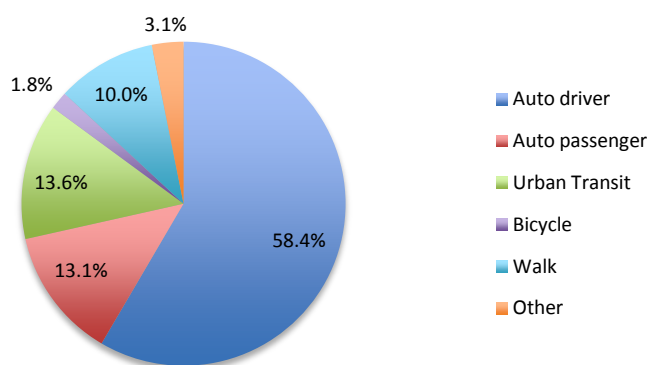


**Figure 3: Changes in Trip Rates, 1986 – 2011 11+**

*Note: for comparability with previous years, 2011 rates are shown only the population 11 years and older. These are designated as 2011 11+.*

#### 4. TRANSIT AND CYCLING MODE SHARES HAVE INCREASED

Figure 4 shows the daily 2011 11+ mode shares. The daily share of transit trips increased to 13.6%, from 12.9% in 2005. Bicycle share also has increased, to 1.8% from 1.4% in 2005, although the share of walk trips has dropped to 10.0% from 10.6% in 2005.



**Figure 4: Daily Mode Share, 2011 11+**

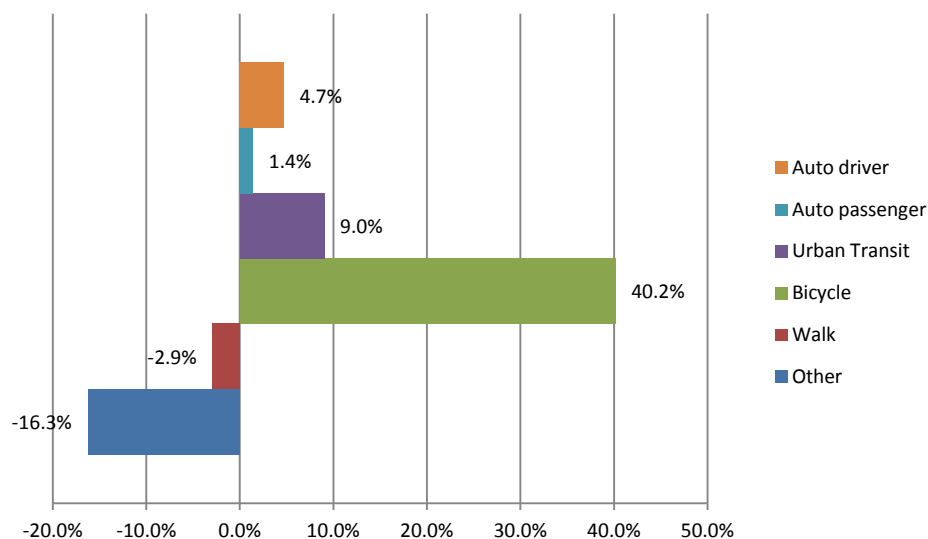
**The numbers of transit and bicycling trips have gone up since 2005, by 9.0% and 40.2% respectively – faster growth than trips by other modes.**

### Travel growing – especially transit and bicycling

Table 1 breaks down daily trip numbers by mode for 2011 11+, and how they have changed since 2005. Overall, daily travel has gone up, to 2,909,000 person-trips, a 3.7% increase over 2005. As Figure 5 shows, travel by all modes has gone up, except for walking (-2.9%), with transit increasing by 9.0% and bicycling by 40.2%. Auto passenger trips increased by 1.4% - a smaller increase than for auto driver trips (4.7%).

**Table 1: Breakdown of Changes in Travel by Mode, 2005 – 2011 11+**

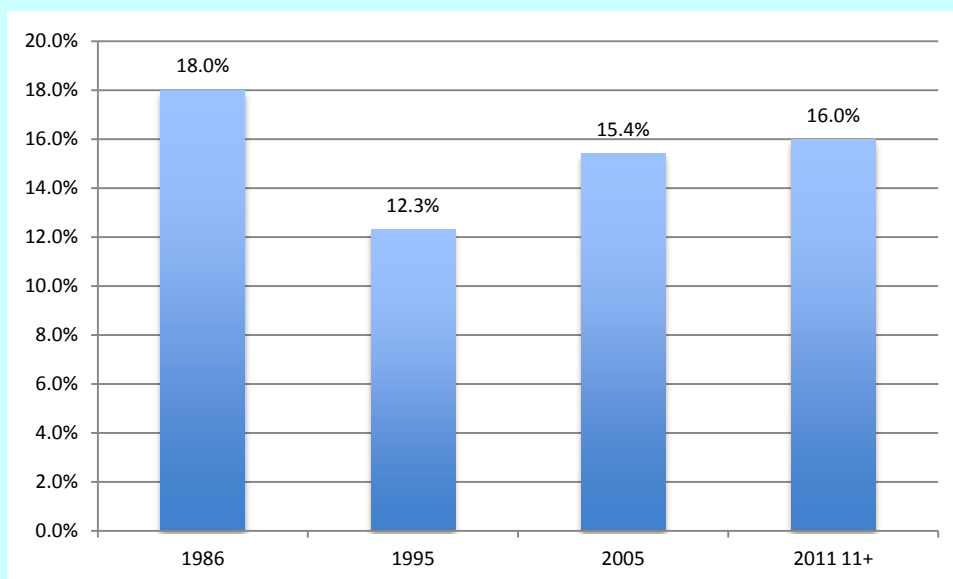
Mode	2011 11+ Trips	Change from 2005
Auto driver	1,700,100	+76,400
Auto passenger	379,700	+5,300
Urban transit	395,700	+32,800
Bicycle	52,000	+14,900
Walk	289,900	-8,700
Other (e.g., taxi)	91,600	-17,800
Total	2,909,000	+102,900



**Figure 5: Changes in Travel by Mode, 2005 – 2011 11+**

### ***Transit mode split has increased***

Transit's share of motorized trips (trips made by auto or transit) continues to increase, after a drop in 1995. Figure 6 shows that the 2011 11+ daily split was 16.0%, compared with 15.4% in 2005.



**Figure 6: Transit Modal Split, daily, 1986 – 2011 11+**

## **5. SUSTAINABLE MODE CHOICES VARY BY GENDER**

Figure 7 and Figure 8 plot daily mode share by age group for males and females, respectively. For context, Table 2 gives the proportional break down by gender for each age group. It can be seen that the general mode share profiles – including the dominance of the auto mode for all age groups (of driving-age) – is similar for both genders. However, the magnitudes differ, with the female auto driver shares consistently lower than the male shares across all age groups. The auto driver share also peaks for males in the 65-74 age group, whereas for female it peaks in the 45-54 age group. On the other hand, the female transit and (especially) auto passenger shares are generally higher across the age groups than the corresponding male shares. Cycling is higher for males, as is walking for younger age groups. Note that 'other,' which is strongest for the 0-14 and 15-24 age groups, is primarily school bus.

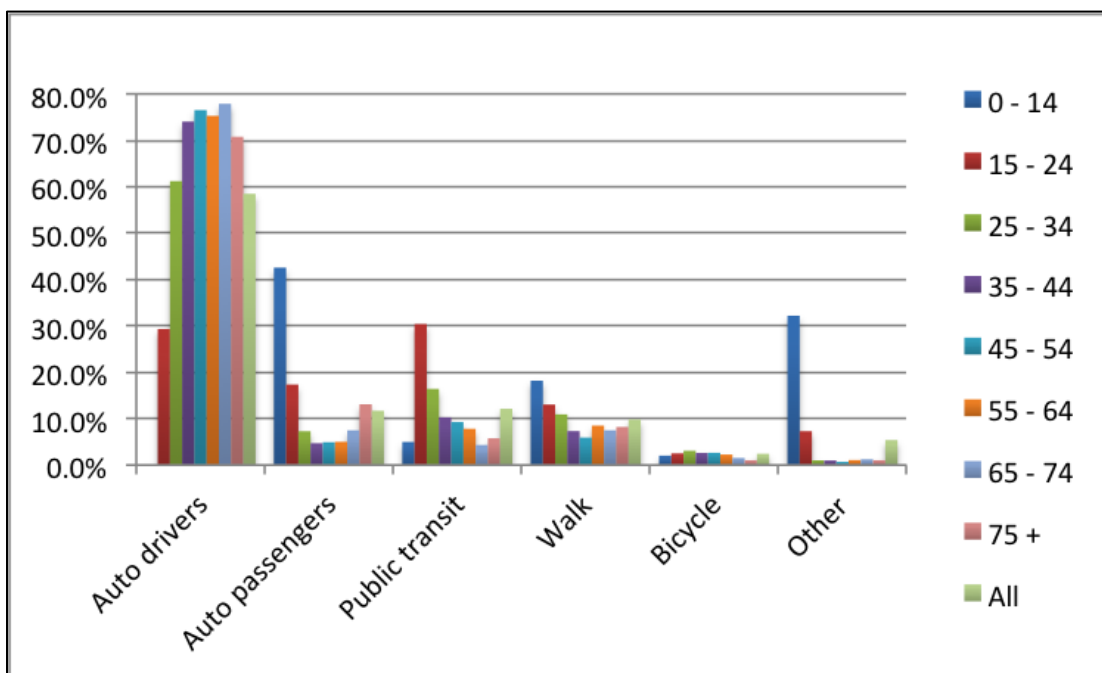


Figure 7: Daily Mode Share by Gender – Male, 2011

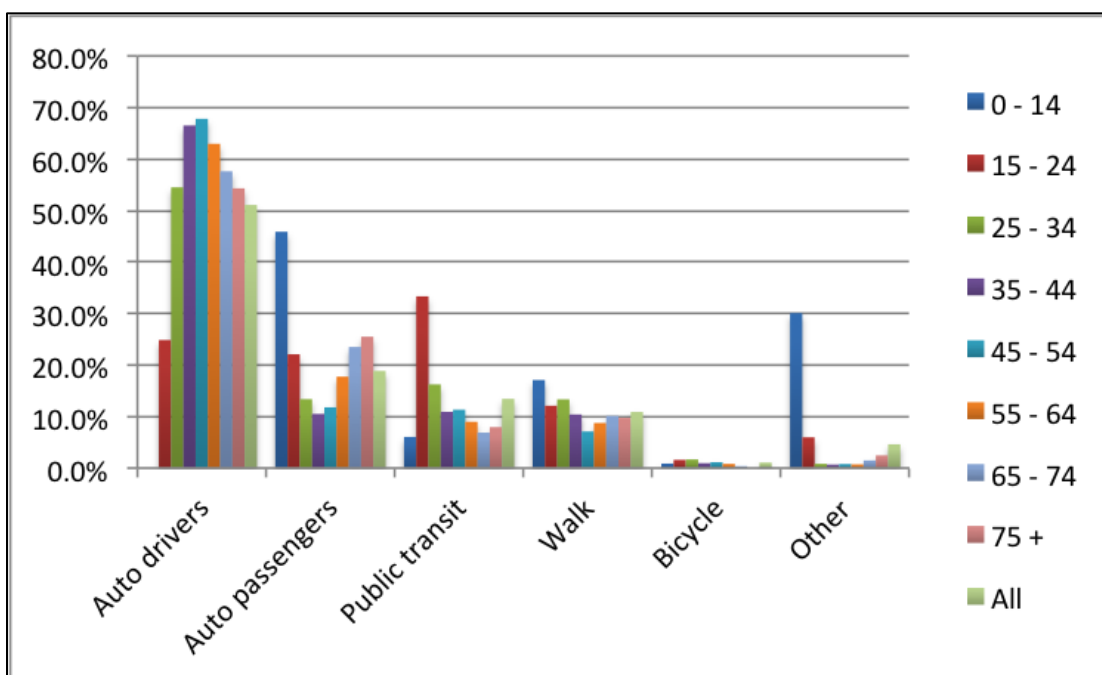


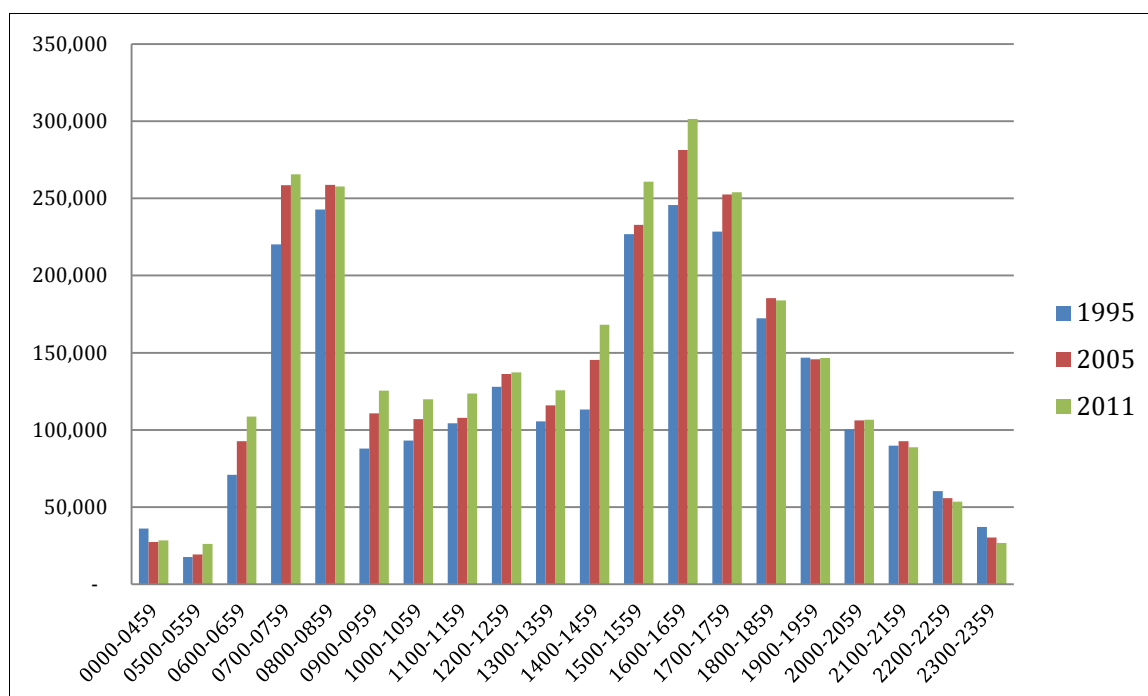
Figure 8: Daily Mode Share by Gender – Female, 2011

**Table 2: Gender Distribution by Age Group**

Population by Age Group	% Male	% Female
0 - 14	50.7%	49.3%
15 - 24	50.6%	49.4%
25 - 34	48.5%	51.5%
35 - 44	48.0%	52.0%
45 - 54	48.9%	51.1%
55 - 64	48.8%	51.2%
65 - 74	46.8%	53.2%
75+	39.1%	60.9%
All ages	48.5%	51.5%

## 6. TRAVEL HAS GROWN IN MOST PERIODS OF THE DAY

Figure 9 plots the total numbers of trips (all modes, all purposes) for 1995, 2005 and 2011 11+. It can be seen that the AM and PM commuter peaks continue to have the greatest concentration of daily travel, but growth is also taking place in the mid-day inter-peak and in the post-PM evening.



**Figure 9: Travel by Time of Day, 1995, 2005, 2011 11+**

## 7. TRIP PURPOSE VARIES BY TIME OF DAY

Figure 10 breaks down trip purpose by time of day. The commute to work (and on-the-job work trips) and to school dominates the morning peak, at 77% of the trips starting during the AM peak period, while the return home comprises 65% of trips beginning in the PM peak period. Picking up / dropping off passengers and trips for medical appointments are generally evenly distributed throughout the day, at 7% and 2% of all trips, respectively. Leisure and shopping trips are spread throughout the day at 9% and 10% respectively, except in the AM commuter peak.

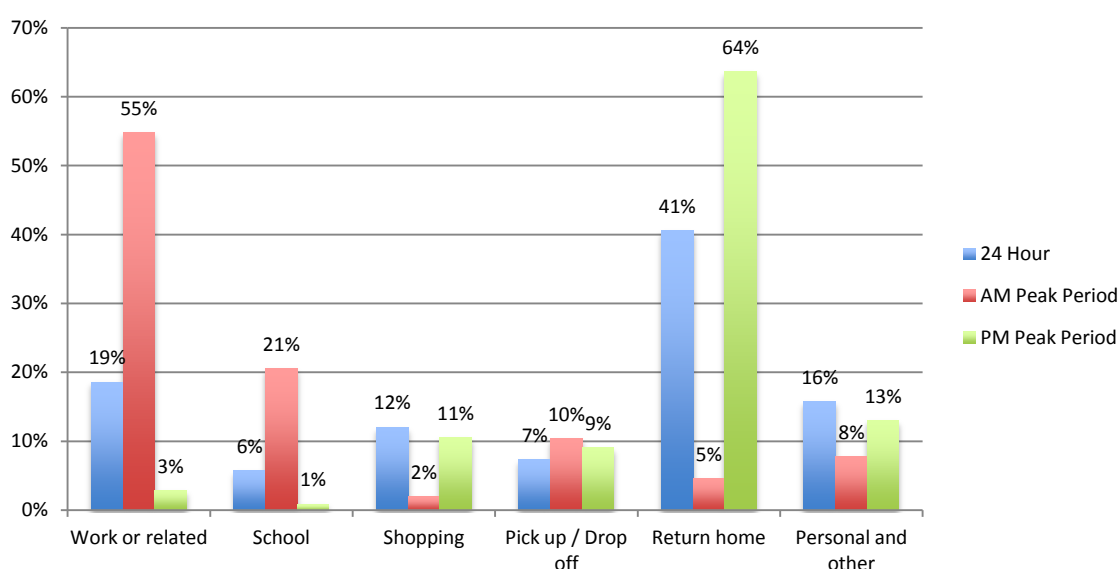


Figure 10: Trip Purpose by Time of Day, 2011 11+

## 8. TRIP LENGTHS VARY BY MODE

Figure 11 shows that the average trip distance for each mode varies.<sup>2</sup> Average trip distances for each mode are:

- Auto drivers: 10.7 km
- Auto passengers: 9.1 km
- Transit: 13.4 km
- Bicycle: 5.1 km
- Walk (entire trip): 1.3 km
- Other (e.g., school bus, taxi): 7.7 km

<sup>2</sup> For practicality, this analysis includes all trips up to 40 km in length. These represent 98% to 100% of the trips for each mode.



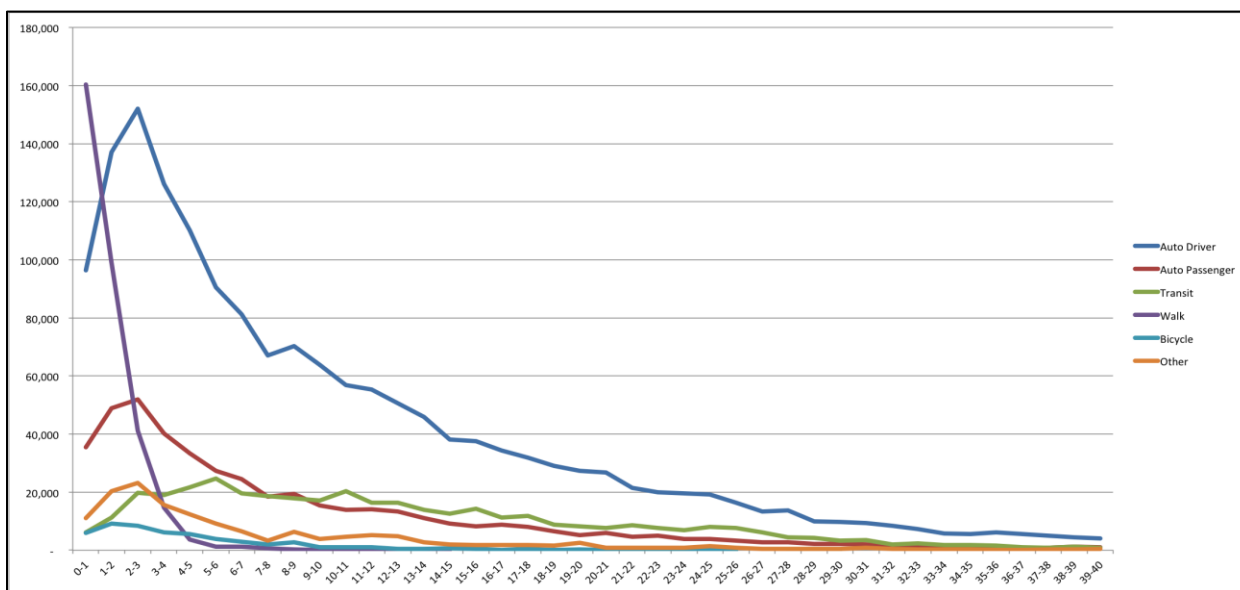


Figure 11: Number of Trips by Distance (kilometer) by Mode (up to 40 km)

## 9. TRIP DURATIONS VARY BY TIME OF DAY

The time taken to travel also varies by time of day, with the average AM peak period trip being longer than the PM peak period average, as shown in Figure 12. This is true for all trip purposes and for the trip to work, with average durations being as follows:

- All trip purposes, AM peak period: 26.1 minutes
- Work trips, AM peak period: 30.6 minutes
- All trip purposes, PM peak period: 25.0 minutes
- Work trips, PM peak period: 21.2 minutes

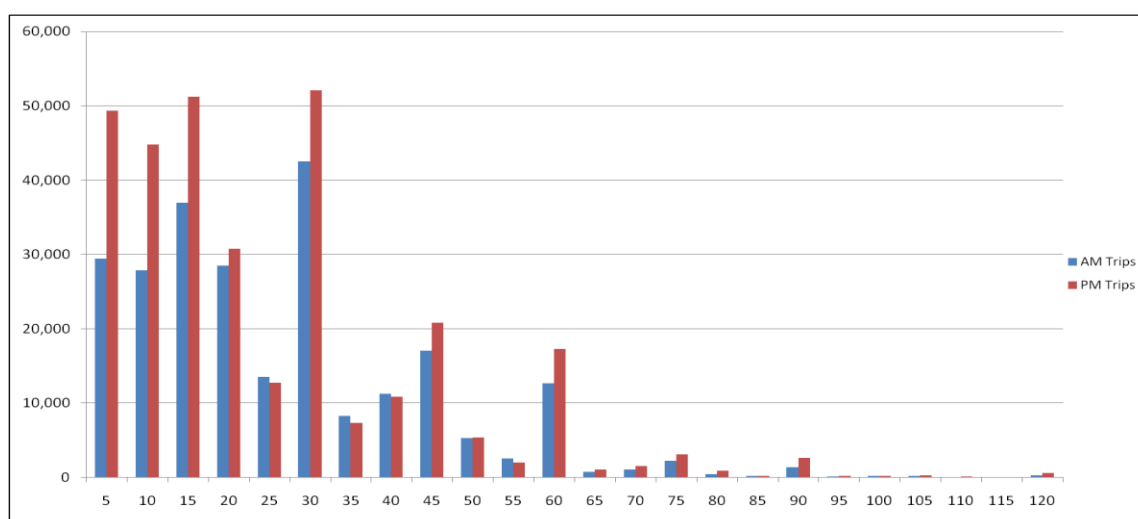


Figure 12: AM & PM Peak Periods – Trip Duration (in 5-minute intervals)

## 10. AUTO OCCUPANCY CONTINUES TO DROP

Figure 13 shows that for auto trips, the average number of people in each vehicle continues to drop, although the rate of reduction has slowed, to 1.22 persons per vehicle.

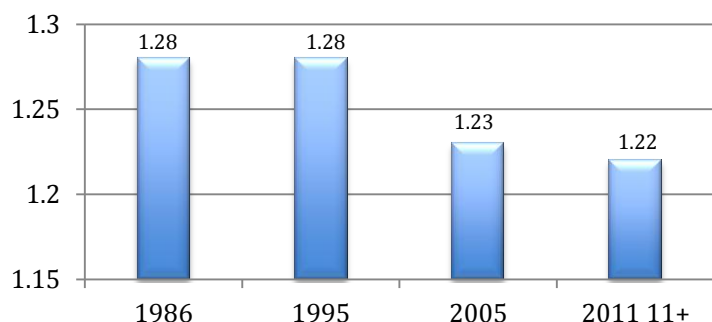


Figure 13: Changes in Average Auto Occupancy (daily persons per vehicle)

## 11. RIDESHARING

Figure 14 shows that 18% of people who indicated they were the passengers in an auto were sharing a ride with someone outside their household, such as a work or study colleague.

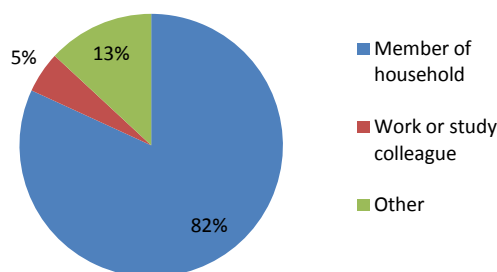


Figure 14: Relationship of Auto Passenger to Driver

## 12. DESIRE LINES

Figure 15 shows the key desire lines – that is, the largest person-trip flows between origin and destination districts – during the AM peak period. This is a graphical depiction of ‘where people want to go.’ It can be seen that Ottawa Centre / Inner Area together are the top destination, at 20% of all trips.

Note: Only flows greater than 2,500 person trips are shown.

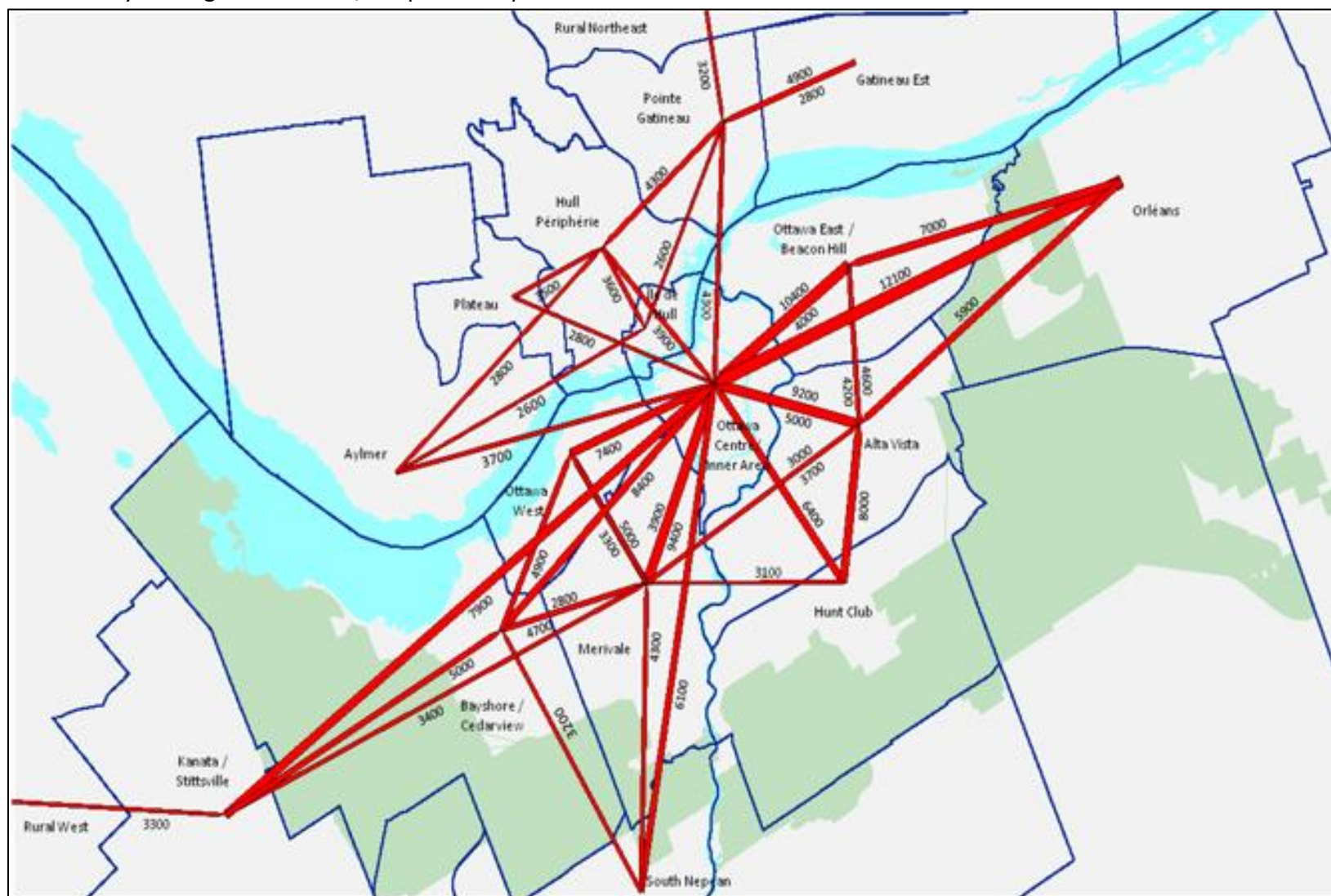


Figure 15: Major Origin-Destination Flows (by district) – AM Peak Period

### 13. OTTAWA AND THE OUTAOUAIS

The 75 - 25 split between Ottawa and the Outaouais continues in terms of population, households and vehicles. However, almost 85% of the jobs are in Ottawa (also maintaining a trend).

The transit modal splits are strong in both regions. However, they are higher for Ottawa origins, at 17% of all daily trips, compared with 11% of all daily trips originating in the Outaouais. During the AM peak period, the transit shares are 25% for Ottawa origins and 19% for Outaouais origins. During the PM peak period, the transit shares are 20% for Ottawa origins and 12% for Outaouais origins. In all cases, transit shares are slightly higher or equal for trips originating in the transit service areas than for the respective regions as a whole.

The distribution of daily trips by purpose is fairly even between the regions. A slightly higher percent of work trips starting in the Outaouais is offset by a correspondingly lower proportion of shopping and household maintenance trips originating in the Outaouais.

As Figure 16 shows, there continues to be a strong commute from the Outaouais to Ottawa. During the AM peak period, (27%) of all trips originating in the Outaouais, or 38,600 trips, cross the Ottawa River. Only four percent of all trips originating in Ottawa go to the Outaouais (16,300 trips). In the PM peak period, the volumes are reversed – 37,600 trips cross into the Outaouais (7% of all trips originating in Ottawa) and 18,300 trips cross into Ottawa (13% of all Outaouais origins).

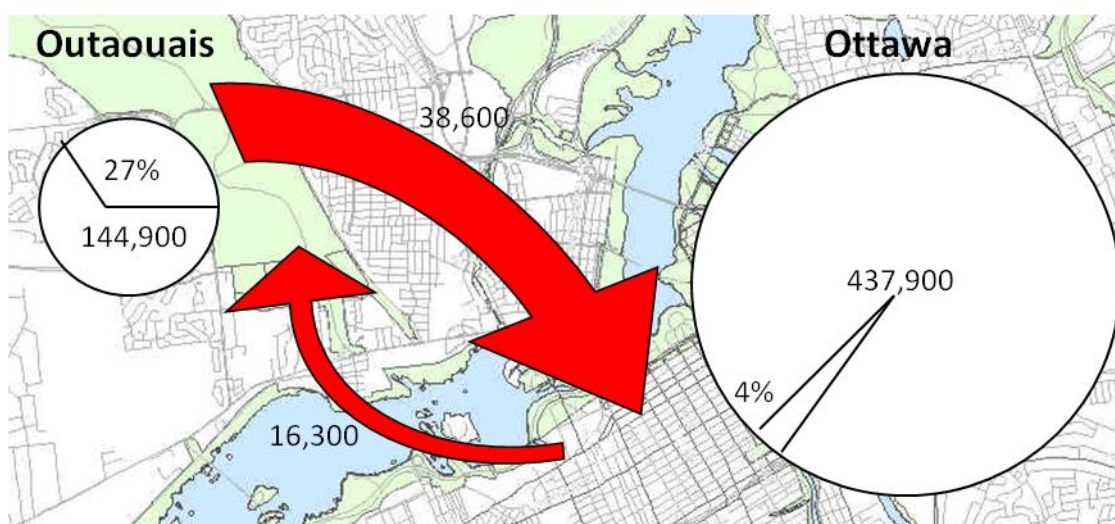


Figure 16: Interprovincial Travel, AM Peak Period, 2011 11+

## 14. CORE AREA TRAVEL

In 2011 (11+ population), 17% of all AM peak period trips in the survey area, and 26% of work trips, were attracted to the urban core; i.e. to Ottawa Centre (the area north of Gloucester Street) and Île de Hull. Both percentages have increased slightly, by about 1% since 2005.

The core's transit shares were 33% of 24-hour trip destinations, 45% of AM peak period destinations and 44% of PM peak period origins. Among all the TRANS districts, Ottawa Centre had the highest transit shares: 36% of 24-hour trip destinations (compared with 30% in 2005), 49% of AM peak period destinations (43% in 2005) and 48% of PM peak period origins (41% in 2005). For Île de Hull, the 2011 transit shares were 25% of 24-hour destinations (21% in 2005), 34% of AM peak period destinations (32% in 2005) and 32% of PM peak period origins (29% in 2005).

***The transit share of trips to the urban core of Ottawa and Gatineau has increased by 2% - 7%, between 2005 and 2011.***

## 15. INTERNALIZATION

An important planning goal in both Ottawa and the Outaouais is to maximize the availability of jobs and other activities close to where people live, making it more convenient for people to use sustainable alternatives to driving alone. The rate of internalization – that is, the percent of trips that start and end in the same district – is one measure of this. The two figures below express internalization rates for the NCR, as divided into 26 districts: Figure 17 plots the internalization of work trips and Figure 18 plots the internalization of all trips made by district residents.

While these are percentages only (not actual trips), they are indicative of self-containment. For work trips, the two Central Business Districts (Ottawa Centre and Île de Hull) have high internalization rates, as do three of Ottawa's Urban Communities (Kanata / Stittsville, South Nepean and Orléans), Alta Vista, Hull Périphérie and Masson-Angers. On average, (24%) of all trips to work are made within the same district.

For trips made by a district's residents, for all purposes and all modes, the average district internalization rate is 59%, with the highest proportions observed in Kanata / Stittsville, Orléans and Masson-Angers – all close to or exceeding 70%.



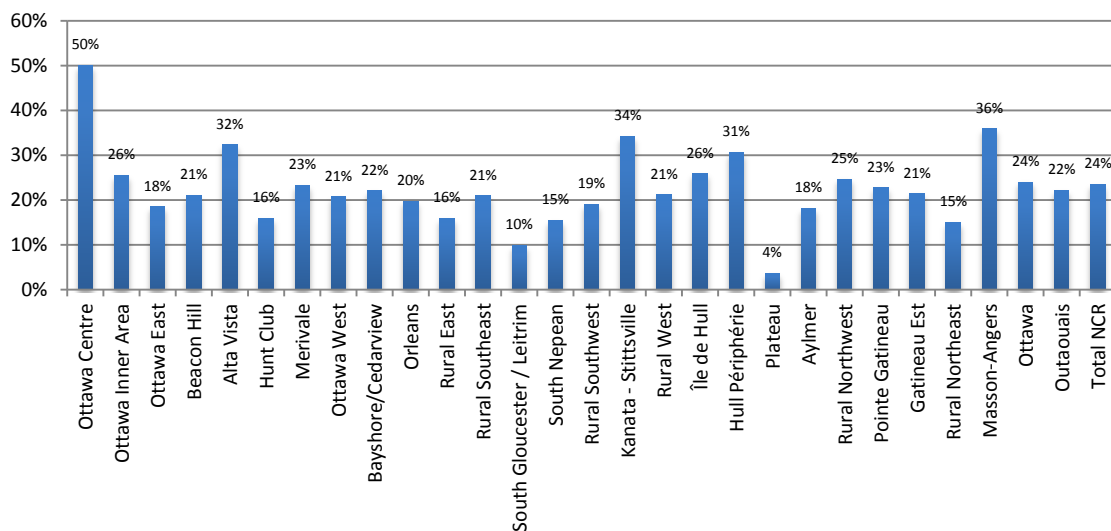


Figure 17: Internalization of Work Trips (daily), 2011

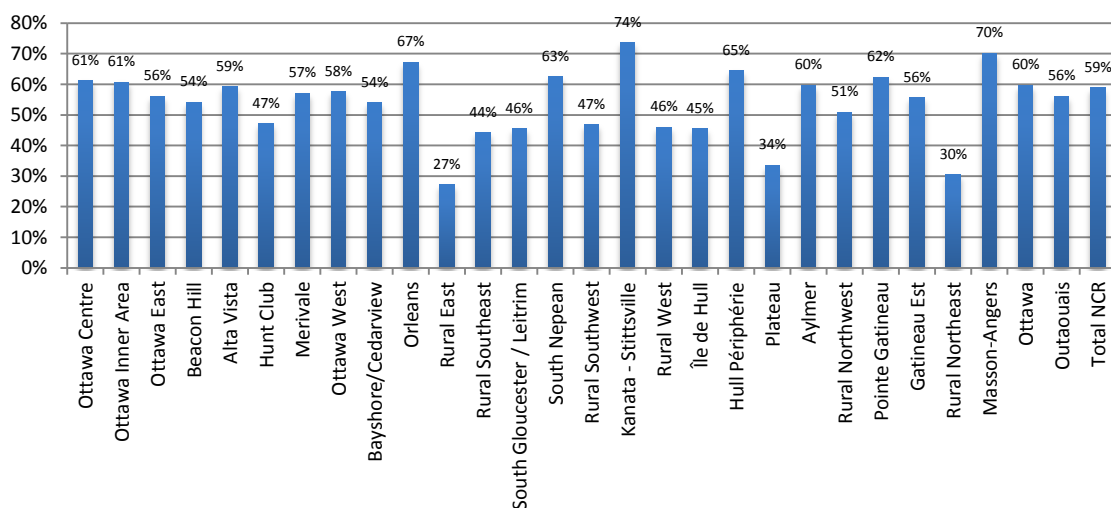


Figure 18: Internalization of All Trips Made by Residents (daily), 2011

Prepared for TRANS by R.A. Malatest & Associates Ltd. in association with HDR Inc. and David Kriger Consultants Inc., December 2012.