## TRANS Committee

## 2011 Origin-Destination Survey Bicycle Profile

National Capital Region

December 2012

## TRANS Committee Members:

City of Ottawa, including OC Transpo
Ville de Gatineau
Société de transport de l'Outaouais
Ministry of Transportation of Ontario
Ministère des Transports du Québec
National Capital Commission

## TABLE OF CONTENTS

1. INTRODUCTION ..... 2
1.1 Purpose ..... 2
1.2 Survey Background ..... 2
1.3 Seasonality and Cycling ..... 2
1.4 General Observations ..... 3
2. BICYCLE MODE PROFILE ..... 4
2.1 Bicycle Mode Share by Location ..... 4
2.2 2011 Bicycle Modal Share by Time of Day ..... 5
2.3 Bicycle Trips by Age Group ..... 5
2.4 Bicycle Trips by Occupation ..... 7
2.5 Bicycle Trips by Gender ..... 8
2.6 Bicycle Trips by Dwelling Type ..... 8
2.7 Bicycle Trips by Driver’s Licence and Transit Pass ..... 9
2.8 Bicycle Trips by Household Income ..... 9
2.9 Bicycle Trips by Household Vehicle Availability ..... 10
2.10 Bicycle Trips by Travel Purposes ..... 10
2.11 Bicycle Trips by Travel Distance ..... 12
2.12 Bicycle Trips by Time of Travel ..... 14
2.13 Bicycle Trips by Origin - Destination. ..... 15

## TABLE OF FIGURES

Figure 1: Seasonal Distribution of Bicycle Trips ..... 3
Figure 2: 2011 Modal Shares by Time of Day (Population 11+ years) ..... 5
Figure 3: Daily Bicycle Trips by Age Group in 2005 and 2011 (Population 11+ years) ..... 6
Figure 4: 2011 Daily Bicycle \& All Mode Trips by Age Group ..... 6
Figure 5: 2011 Morning Peak Period Bicycle \& All Mode Trips by Age Group ..... 7
Figure 6: 2011 Daily Bicycle Trips by Occupation Status (Population 11+ years) ..... 7
Figure 7: 2011 Daily Trips by Gender. ..... 8
Figure 8: 2011 Daily Bicycle Trips by Dwelling Type ..... 8
Figure 9: 2011 Daily Bicycle Trips by Cyclists with Valid Driver's License and Transit Pass. ..... 9
Figure 10: 2011 Daily Bicycle Trips by Household Income ..... 9
Figure 11: 2011 Daily Bicycle Trips Distribution by Household Vehicle Availability ..... 10
Figure 12: 2011 Bicycle Trip Purposes by Time of Day ..... 11
Figure 13: 2011 Daily All Mode Trip Purposes ..... 11
Figure 14: 2011 Daily Bicycle Trips by Travel Distance ..... 12
Figure 15: 2011 Daily Bicycle Trips by Trip Distance and Purpose. ..... 13
Figure 16: 2011 Daily Cumulative Bicycle Trips by Distance by Purpose ..... 13
Figure 17: Bicycle Travel by Time of Day (Population 11+ years) ..... 14
Figure 18: 2011 Morning Bicycle Trips by Origin TRANS District (Population 11+ years) ..... 16
Figure 19: 2011 Morning Bicycle Trips by Destination TRANS District (Population 11+ years) . ..... 17
Figure 20: Morning Major Bicycle Desire Lines - (TRANS Districts) ..... 19
Figure 21: TRANS Districts Map ..... 23
LIST OF TABLES
Table 1: Terminology ..... 2
Table 2: Daily Bicycle Trips (Population 11+ years) ..... 3
Table 3: Bicycle Modal Share by Aggregated District of Origin (Population 11+ years) ..... 4
Table 4: Morning Peak Period Bicycle Trip* - All Purposes (TRANS Districts) ..... 20
Table 5: Afternoon Peak Period Bicycle Trip* - All Purposes (TRANS Districts) ..... 21
Table 6: 24-Hour Bicycle Trip* - All Purposes (TRANS Districts) ..... 22

## 1. INTRODUCTION

### 1.1 Purpose

This report analyzes the findings of the 2011 Origin-Destination Survey of the National Capital Region as it relates to bicycle travel. The context of cycling trips developed through this analysis will assist planners in identifying region-wide transportation infrastructure needs and services, measuring trends and monitoring progress towards an increasingly cycling friendly city.

### 1.2 Survey Background

The 2011 Origin-Destination (O-D) Survey is a joint project of the TRANS Committee, made up of the National Capital Commission, the City of Ottawa, the City of Gatineau, the Ontario and Quebec Ministries of Transportation, and the transit agencies of Ottawa and Gatineau (OC Transpo and STO).

The survey was conducted throughout Fall 2011, by way of telephone interviews. In all, 25,400 telephone interviews were completed, representing $5.0 \%$ of all households in both urban and rural districts of the survey area. Statistically, this is considered a rich sample. The results of the sample have been factored up to the general population of the National Capital Region (NCR).

Findings of the 2011 O-D Survey may be found on the O-D Survey Web site at www.ODSurvey.ca. Some additional results relating to bicycle trips are presented below. Total trip numbers in this document account for the population of age 5 and older for the 2011 O-D survey and age 11 and older for the 2005 O-D survey. The statistics presented in this report are all based on the population of age 5 and older unless otherwise stated (particularly those comparing numbers to 2005) and represent a typical Fall weekday. The survey did not capture commercial trips or trips generated outside of the National Capital Region.

Table 1: Terminology

| Trip | A single movement by a person from an origin to a destination, for a single <br> purpose. It may comprise one or more modes and one or more transfers. |
| :--- | :--- |
| Bicycle Trip | A single movement by a person from an origin to a destination made on a <br> bicycle, for a single purpose. A trip is not considered a bicycle trip if any leg of <br> the trip involve motorized mode such as auto or transit. |
| Origin | The location where a trip begins. |
| Destination | The location where a trip ends. |
| District | A geographic area defined for the purpose of reporting O-D Survey results. |
| Morning Peak Period | Refers to the Morning AM peak period (06:30 to 08:59). |
| Afternoon Peak Period | Refers to the Afternoon PM peak period (15:30 to 17:59). |
| Modal Share | The proportion of trips by any given mode out of the total trips by all modes, for <br> a given time period. |

### 1.3 Seasonality and Cycling

Cycling rates are usually based on a Primary Cycling Period (PCP) running from April to November inclusively. Figure 1 below shows the cycling profile over the PCP as measured in 2011 through the use of actual bike counters in Ottawa. This graph shows the distribution of bike trips per month as measured across the entire PCP based on the counter numbers to give an overall picture of bike trip distribution as the year progresses. The O-D survey takes place during the end of the PCP when bicycling rates are slightly lower than the average across the PCP.

Figure 1: Seasonal Distribution of Bicycle Trips


It should be noted that the 2011 O-D survey, although a large sample size survey, may not have fully captured all bicycle trips made by residents of the NCR. For example, the survey only covered households - excluding those living in rooming houses, on campus, etc. Further, bicycle use for non-utilitarian trips (recreation/exercise) may not have been fully captured in the survey. Much of these bicycle trips happen on weekends and in summer. Most importantly, the survey spans the whole fall season, at the end of which weather may not be very favourable to bicycle use.

### 1.4 General Observations

- Approximately 53,800 daily bicycle trips were made (by 5 years of age and older) in the National Capital Region during a typical Fall weekday in 2011.
- Of the total, about 52,000 daily bicycle trips were made by persons 11 years of age and older - this is an additional 14,900 trips, about 40\% growth from 37,100 in 2005. This provides a fair comparison against the 2005 value as both numbers contain travel made by 11 years of age and older.
- More than three quarters i.e. about $84 \%$ of trips originate from Ottawa and about 16\% originate from the Gatineau side; destinations have similar proportions.
- Inter-provincial bicycle travel accounts for 10\% of daily bicycle trips in the Region.
- About $89 \%$ of daily bike trips originate from Ottawa occur within its greenbelt.

Table 2: Daily Bicycle Trips (Population 11+ years)

|  |  | Destination |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2005 |  |  | 2011 |  |  | Growth |  |  |
|  |  | Ottawa | Gatineau | Total | Ottawa | Gatineau | Total | Ottawa | Gatineau | Total |
|  | Ottawa | 29,220 | 1,860 | 31,080 | 40,950 | 2,650 | 43,600 | +40\% | +42\% | +40\% |
| 은 | Gatineau | 1,880 | 4,130 | 6,010 | 2,710 | 5,640 | 8,340 | +44\% | +37\% | +39\% |
|  | Total | 31,100 | 5,990 | 37,090 | 43,660 | 8,290 | 51,950 | +40\% | +38\% | +40\% |

## 2. BICYCLE MODE PROFILE

### 2.1 Bicycle Mode Share by Location

- In 2011, the highest bicycle modal share was observed in Central Ottawa at $6.1 \%$ of AM peak period trip origins. This illustrates a growth of about $69 \%$ from $3.6 \%$ bicycle modal share in 2005. Although the absolute numbers are smaller compared to Central Ottawa, Central Gatineau has the second highest bicycle modal share i.e. 5.4\%.
- The AM peak period bicycle modal share of trips originating from inside the Greenbelt has also increased by 58\% from 2.4\% in 2005 to 3.8\% in 2011.
- About $5.0 \%$ of all work trips originating from inside the Greenbelt during the 2011 AM peak period were made by bicycle.
- Overall, the City of Ottawa and Gatineau side observed a bicycle modal share of about 2.4\% and $1.9 \%$ respectively during the 2011 AM peak period.
- The bicycle modal shares have increased across the region during the AM peak period except slight decreases in Suburban Ottawa.

Table 3: Bicycle Modal Share by Aggregated District of Origin (Population 11+ years)

| Aggregated <br> District of Origin |  | 2005 Bike <br> Mode Share, <br> AM Peak | 2011 Bike Mode <br> Share, AM Peak | 2011 Bike <br> Mode Share, <br> Daily |  | 2011 Bike <br> Trips, <br> Daily |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Central Ottawa | $3.6 \%$ | $6.1 \%$ | $4.2 \%$ | 18,310 |  |  |
| Urban Ottawa | $2.1 \%$ | $3.2 \%$ | $1.9 \%$ | 20,610 |  |  |
| Inside Greenbelt | $2.4 \%$ | $3.8 \%$ | $2.5 \%$ | 38,910 |  |  |
| Suburban Ottawa | $0.9 \%$ | $0.8 \%$ | $0.7 \%$ | 4,040 |  |  |
| Rural Ontario | $0.2 \%$ | $0.2 \%$ | $0.5 \%$ | 640 |  |  |
| Ottawa Total | $1.7 \%$ | $2.4 \%$ | $1.9 \%$ | 43,600 |  |  |
| Central Gatineau | $3.8 \%$ | $5.4 \%$ | $3.5 \%$ | 1,860 |  |  |
| Urban Gatineau | $2.1 \%$ | $2.8 \%$ | $1.5 \%$ | 1,820 |  |  |
| Suburban Gatineau | $1.1 \%$ | $1.9 \%$ | $1.2 \%$ | 3,790 |  |  |
| Rural Quebec | $0.5 \%$ | $0.5 \%$ | $0.9 \%$ | 910 |  |  |
| Gatineau Total | $1.3 \%$ | $1.9 \%$ | $1.4 \%$ | 8,370 |  |  |
| Total | $\mathbf{1 . 6 \%}$ | $\mathbf{2 . 3 \%}$ | $\mathbf{1 . 8 \%}$ | $\mathbf{5 1 , 9 7 0}$ |  |  |

The urban structural level separates the TRANS districts as follows (see Figure $\mathbf{2 1}$ for TRANS District map):

- Central Ottawa (Ottawa Centre, Ottawa Inner Area);
- Urban Ottawa (Alta Vista, Bayshore/Cedarview, Beacon Hill, Hunt Club, Merivale, Ottawa East, Ottawa West);
- Suburban Ottawa [outside greenbelt] (Kanata/Stittsville, Orléans, South Gloucester/Leitrim, South Nepean);
- Rural Ontario (Rural East, West, Southeast and Southwest);
- Central Gatineau (Île de Hull);
- Urban Gatineau (Hull Périphérie);
- Suburban Gatineau (Aylmer, Gatineau Centre, Gatineau Est, Plateau);
- Rural Québec (Masson-Angers, Rural Northeast and Northwest).


### 2.2 2011 Bicycle Modal Share by Time of Day

- An examination of the 2011 origin-destination mode share revealed that about $1.8 \%$ of all trips over 24 hours were made by bicycle. The corresponding 2005 bicycle mode share for the 24 -hour period was $1.3 \%$-- a growth of about $38 \%$. (bicycle modal share for $5+$ population is $1.7 \%$ )
- In the AM and PM peak periods, the mode share for bicycle trips within the National Capital Region is $2.2 \%$ (2005 mode share was around 1.6\%). Figure 2 illustrates the share of all modes at these time periods.
- Further, a bicycle is used as an access mode for an estimated 500 transit trips each day or approximately $0.1 \%$ of all daily transit trips.

Figure 2: 2011 Modal Shares by Time of Day (Population 11+ years)




### 2.3 Bicycle Trips by Age Group

Figure 3 highlights the distribution of daily bicycle trips by age groups in 2005 and 2011.

- In 2011, the 25-34 age group accounts for the highest percentage of daily bicycle trips at $22 \%$. This is followed by the $45-54$ age group with $21 \%$. In 2005, the $35-44$ age group had the highest percentage of daily bicycle trips at 23\%, but only accounts for $18 \%$ in 2011.
- The percentage of bicycle trips made by the 55-64 age group went up from $7 \%$ in 2005 to 12\% in 2011.
- The percentage of bicycle trips declines sharply after the 55 and older age groups, while the lowest percentage of bicycle trips is the 75+ age group.
- Overall, bicycle travel has increased among most of the age groups since 2005 except 1524 and 35-44 age groups, which have seen a relative decline in percentage of daily bicycle trips from 2005. Although there is a decrease, the proportion of cycling trips in these age groups is still higher than that of all mode trips.
- The proportion of daily bicycle trips taken by those 25-34 years of age is significantly higher than the proportion of daily all mode trips by that age group. (Figure 4)
- Age group 25-34 are 5\% more active in favour of bicycle. Overall, compared to all modes, age groups under 54 are $6 \%$ more active in favour of bicycle while age group over 54 are $7 \%$ less active in terms of bicycle.

Figure 3: Daily Bicycle Trips by Age Group in 2005 and 2011 (Population 11+ years)


Figure 4: 2011 Daily Bicycle \& All Mode Trips by Age Group


Figure 5 displays the distribution of morning peak period bicycle and all mode trips among age groups.

- In the morning peak period, bicycle trips distributions by age groups are almost similar to the daily distribution.
- Similar to daily patterns, the age group 25-34 are $5 \%$ more active in terms of bicycle. For age group 5-14, the percentage of bicycle trips compared to the percentage of all mode trips is significantly lower during the morning peak period.

Figure 5: 2011 Morning Peak Period Bicycle \& All Mode Trips by Age Group


### 2.4 Bicycle Trips by Occupation

- Together, full-time workers and students account for $78 \%$ of all bicycle trips over the 24 -hour period. Retirees and Part-time workers shares are equally distributed at about 8\%.
- Unemployed, Homemakers and Others bicycle less frequently.

Figure 6: 2011 Daily Bicycle Trips by Occupation Status (Population 11+ years)


### 2.5 Bicycle Trips by Gender

- As illustrated in Figure 7, $68 \%$ of cycling trips over 24 -hours are made by males.
- The proportion of daily bicycle trips made by females increased to $32 \%$ in 2011 compared to 28\% in 2005.

Figure 7: 2011 Daily Trips by Gender


### 2.6 Bicycle Trips by Dwelling Type

Figure 8 illustrates the distribution of cycling trips and all mode trips among dwelling types.

- Of all trips made by cyclists over the 24 -hour period, approximately $46 \%$ originate from a single-detached dwelling type, which is down from the $56 \%$ from the 2005 O-D Survey.
- Apartment / Condo dwellers account for $29 \%$ of daily bicycle trips.
- The proportion of bicycle trips generating from Apartment / Condo dwellings is $8 \%$ higher than those of all mode trips while Single-detached is $8 \%$ lower.
- In 2005, the proportion of bicycle trips from Apartment-type dwellings accounted for less than $20 \%$ of all bicycle trips, but now has grown to $29 \%$.

Figure 8: 2011 Daily Bicycle Trips by Dwelling Type


### 2.7 Bicycle Trips by Driver's Licence and Transit Pass

Figure 9 displays the percentage of bicycle trips by cyclists holding valid driver's licenses and valid transit passes in greater detail.

- $73 \%$ of cyclists hold a valid driver's license.
- $23 \%$ of cyclists do not hold a valid driver's license or transit pass.
- $13 \%$ of all bicycle trips are made by cyclists holding a valid transit pass.

Figure 9: 2011 Daily Bicycle Trips by Cyclists with Valid Driver's License and Transit Pass


### 2.8 Bicycle Trips by Household Income

- About $40 \%$ of bicycle trips were made by cyclists whose household income ranges from $\$ 60,000$ to $\$ 119,999$. Above this household income bracket, the percentage of bicycle trips declines sharply. (Figure 10)
- A large portion of the bicycle trips (i.e. about $15 \%$ ) were made by cyclist who did not report his / her household income information. Thus any analysis related to bicycle trips distribution by household income must be made carefully.

Figure 10: 2011 Daily Bicycle Trips by Household Income


### 2.9 Bicycle Trips by Household Vehicle Availability

- About $25 \%$ of bicycle trips were made by cyclists that belong to zero car households.
- Almost $50 \%$ of bicycle trips were made by cyclists who belong to a one vehicle household. (Figure 11).
- The percentage of bicycle trips made by cyclist with 3+ cars household is very low.

Figure 11: 2011 Daily Bicycle Trips Distribution by Household Vehicle Availability


### 2.10 Bicycle Trips by Travel Purposes

- Overall, the proportion of daily bicycle trips by purpose are similar to those of trips by all modes.
- Trips defined by "Personal and Other" include visiting friends and family, health-related trips, and other.

Figure 12 and Figure 13 further details bicycle trip purposes categorized by the time of day.

- Over the 24 -hour period, $34 \%$ of bicycle trips are made for work or school related purposes; compared to $25 \%$ of trips by all modes for work or school related purposes.
- Over the 24 -hour period, $7 \%$ of trips are made by bicycle for shopping purposes, compared to $11 \%$ of trips by all modes.
- For the morning peak period, $67 \%$ of bicycle trips are work related followed by $24 \%$ for school purposes.

Figure 12: 2011 Bicycle Trip Purposes by Time of Day


Figure 13: 2011 Daily All Mode Trip Purposes


### 2.11 Bicycle Trips by Travel Distance

- About $52 \%$ of all daily bicycle trips are within a distance of 2.5 km , while $79 \%$ of trips are within 5 km in total distance (Figure 14).
- Approximately $85 \%$ of daily work trips by bike are within a trip distance of 7 km .
- Of all daily bicycle trips within 5 km , approximately $50 \%$ occurred during the peak periods; about $24 \%$ of those occur during the AM peak and $28 \%$ of those in the PM peak.
- About $61 \%$ of all AM peak period work trips by bike are within a distance of 5 km .
- About $6 \%$ of daily bicycle trips are greater than 10 km in total distance while only $2 \%$ are greater than 15 km .
- Figure 15 illustrates bicycle trip length distribution by purpose and Figure 16 shows cumulative bicycle trips based on distance and purpose. Average bicycle trip length for work, school, leisure, shopping, and other purposes is $4.5 \mathrm{~km}, 2.3 \mathrm{~km}, 2.4 \mathrm{~km}, 2.6 \mathrm{~km}$, and 3.1 km respectively.
- The number of bike trips for most purposes decrease as trip distance increases, however work trips jumps sharply upwards for trips around 2-3km in length before going down.

Figure 14: 2011 Daily Bicycle Trips by Travel Distance


[^0]Figure 15: 2011 Daily Bicycle Trips by Trip Distance and Purpose*


Figure 16: 2011 Daily Cumulative Bicycle Trips by Distance by Purpose*


[^1]
### 2.12 Bicycle Trips by Time of Travel

Figure 17 illustrates the daily distribution of bicycle trips over 24 hours.

- There are two visible peak periods of travel; between 7:30 \& 8:59 and between 15:00 \&17:30. The morning peak is sharper, spread over 1.5 hours, while the afternoon peak spreads over a longer period i.e. 2.5 hours. Over $50 \%$ of all bicycle trips occur within these two periods.
- There are a steady amount of bicycle trips being made between the two visible peak periods (9:00 to 15:00).
- After 18:30, the number of bicycle trips begins to decline.
- Since 2005, bicycle travel generally has grown at all hours of the day but there has been a significant increase in the morning and afternoon peaks. More than 8,800 additional bicycle trips have been added to the peak periods mentioned above since 2005. The largest increase of cyclists occurs in the 8:00-8:59 period, having an additional 3,400 bicycle trips. Also, the single highest hourly volume of bicycle trips occurred during this time period, during which 7,890 bicycle trips were made. (These numbers only considered population of $11+$ years)

Figure 17: Bicycle Travel by Time of Day (Population 11+ years)


Note: Time of travel is based on reported time of departure of trips

### 2.13 Bicycle Trips by Origin - Destination

Figure 18 and Figure 19 quantify the approximate number of bicycle trips which originate from and are destined to TRANS districts during the morning peak period in the National Capital Region.

- The top 5 origin districts are:
- Ottawa Inner Area
- Ottawa West
- Merivale
- Ottawa East
- Alta Vista
- The top 5 destination districts are:
- Ottawa Inner Area
- Ottawa Centre
- Ottawa West
- Merivale
- Alta Vista
- The high number of trips destined to Ottawa Centre is disproportionate to the low number of trips originating from Ottawa Centre.
- The number of bicycle trips originating from Ottawa Inner Area grew by about 1200 trips (around a 68\% increase) since 2005.

Figure 18: 2011 Morning Bicycle Trips by Origin TRANS District (Population 11+ years)


Figure 19: Morning Bicycle Trips by Destination TRANS District (Population 11+ years)


Figure 20 highlights intra-zonal activity and major desire lines of bicycle travel in the Morning Peak Period.

- For the purpose of this report, a desire line is defined as greater than 125 bicycle trips among TRANS districts.
- The top 10 bicycle desire lines among TRANS districts in the Morning Peak Period are the following:
- Ottawa Inner Area to Ottawa Inner Area (1400 trips)
- Ottawa Inner Area to Ottawa Centre (810 trips)
- Ottawa West to Ottawa West (500 trips)
- Orléans to Orléans (490 trips)
- Merivale to Merivale (440 trips)
- Ottawa East to Ottawa Centre (380 trips)
- Ottawa East to Ottawa Inner Area (350 trips)
- Alta Vista to Alta Vista (340 trips)
- Ottawa West to Ottawa Centre (340 trips)
- Bayshore/Cedarview to Bayshore/Cedarview (330 trips)
- An underlying trend in bicycle desire lines is a high level of intra-zonal travel. This is consistent with Figure 14, which demonstrated that $79 \%$ of trips are 5 km or less.
- Table 4, Table 5 and Table 6 further detail the distribution of bicycle trips from origin to destination in the corresponding Morning Peak, Afternoon Peak and 24 Hour Period.

Figure 20: Morning Major Bicycle Desire Lines - (TRANS Districts)


Bicycle Profile
2011 Origin-Destination Survey
Table 4: Morning Peak Period Bicycle Trip* - All Purposes (TRANS Districts)


[^2]
## Table 5: Afternoon Peak Period Bicycle Trip* - All Purposes (TRANS Districts)

|  |  |  | $\begin{aligned} & \text { ్ٓ } \\ & \text { W゙ } \\ & \text { N} \\ & \tilde{\mathbb{N}} \\ & 0 \end{aligned}$ |  | $\underset{\substack{\frac{\pi}{6} \\ \sum_{6}^{5}}}{\substack{5}}$ | $\begin{aligned} & \frac{0}{3} \\ & 0 \\ & 0 \\ & \text { N } \\ & \text { 도 } \end{aligned}$ | $\begin{aligned} & \frac{0}{\pi} \\ & \stackrel{\rightharpoonup}{0} \\ & \stackrel{N}{0} \\ & \hline \end{aligned}$ |  |  |  |  |  |  |  |  | Kanata/Stittsville |  |  |  | $\begin{aligned} & \text { च्च } \\ & \stackrel{0}{0} \\ & \frac{\pi}{\square} \end{aligned}$ | $$ |  |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ottawa Centre | 170 | 930 | 400 | 100 | 220 | 30 | 50 | 310 | 60 | 60 |  |  | 20 |  |  |  |  | 30 | 110 | 100 | 80 |  | 50 |  | 30 |  | 2,730 |
| Ottawa Inner Area | 210 | 1,750 | 570 | 20 | 170 | 50 | 290 | 370 | 80 |  |  |  | 10 |  |  |  |  | 250 | 120 | 110 | 20 |  | 120 | 30 |  |  | 4,190 |
| Ottawa East | 50 | 180 | 380 | 40 | 10 |  | 10 |  |  |  |  |  |  |  |  |  |  |  | 10 |  |  |  |  |  |  |  | 680 |
| Beacon Hill |  |  | 40 | 50 |  |  |  |  |  | 50 | 10 |  |  |  |  |  |  |  | 20 |  |  |  |  |  |  |  | 160 |
| Alta Vista |  | 180 | 70 |  | 470 | 50 | 140 | 40 | 10 | 80 |  |  | 20 | 30 |  |  |  |  |  | 20 |  |  |  |  |  |  | 1,110 |
| Hunt Club |  | 10 | 20 |  | 80 | 80 |  | 10 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 210 |
| Merivale |  | 90 | 10 | 20 | 60 | 20 | 310 | 260 | 60 | 30 |  |  |  | 30 |  |  |  |  |  |  | 20 |  |  |  |  |  | 910 |
| Ottawa West |  | 340 |  |  | 40 |  | 130 | 1,000 | 110 |  |  |  |  |  | 20 | 20 |  | 10 | 10 | 70 |  | 10 |  |  |  |  | 1,750 |
| Bayshore/Cedarview |  | 40 |  |  |  | 10 | 120 | 140 | 230 |  |  |  |  | 40 |  | 60 |  |  |  | 10 |  |  |  |  |  |  | 640 |
| Orleans |  |  |  |  |  |  |  |  |  | 380 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 380 |
| Rural East |  |  | 10 |  |  |  |  |  |  |  | 10 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 20 |
| Rural Southeast |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0 |
| South Gloucester/Leitrim |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 20 |  |  |  |  |  |  | 20 |
| South Nepean |  |  |  |  |  | 30 | 60 |  |  |  |  |  |  | 150 |  |  |  |  |  |  |  |  |  |  |  |  | 240 |
| Rural Southwest |  |  |  |  |  |  |  |  |  |  |  |  | 20 | 20 | 80 |  |  |  |  |  |  |  |  |  |  |  | 120 |
| Kanata/Stittsville |  | 10 |  |  | 10 |  |  |  | 10 |  |  |  |  |  |  | 260 |  |  |  |  | 20 |  |  |  |  |  | 310 |
| Rural West |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 10 | 20 |  |  |  |  |  |  |  |  |  | 40 |
| Île de Hull | 10 | 250 | 70 | 20 | 20 |  | 10 | 100 |  | 20 |  |  |  |  |  |  |  |  | 260 | 110 |  | 30 | 100 | 20 |  |  | 1,020 |
| Hull Périphérie |  | 90 | 110 | 10 |  |  |  | 20 |  |  |  |  |  |  |  |  |  | 130 | 190 |  |  |  |  |  |  |  | 550 |
| Plateau |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0 |
| Aylmer |  | 10 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 20 | 250 | 40 |  |  |  |  | 320 |
| Rural Northwest |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 40 | 70 |  |  |  |  | 110 |
| Gatineau Centre |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 50 |  |  |  | 200 | 50 |  |  | 310 |
| Gatineau Est |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 20 |  |  | 20 |
| Rural Northeast |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0 |
| Buckingham/Masson-Angers |  |  | 10 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 20 |  | 90 | 120 |
| Total | 440 | 3,890 | 1,680 | 260 | 1,080 | 270 | 1,100 | 2,250 | 560 | 620 | 20 | 0 | 80 | 260 | 100 | 360 | 20 | 420 | 770 | 460 | 430 | 140 | 480 | 130 | 30 | 90 | 15,940 |

* Note: The numbers are rounded to the nearest 10. As a result, there might be some minor differences between the control totals and distribution.

DESTINATION

|  |  |  |  |  |  | $\begin{aligned} & \frac{\pi}{0} \\ & \sum_{5}^{W} \\ & \frac{\pi}{4} \end{aligned}$ |  | $\begin{aligned} & \frac{0}{N 0} \\ & \stackrel{\rightharpoonup}{0} \\ & \sum \\ & \sum \end{aligned}$ |  |  |  |  |  |  |  |  |  |  |  |  | $\begin{aligned} & \overrightarrow{\widetilde{\sigma}} \\ & \stackrel{9}{0} \\ & \frac{\pi}{\square} \\ & \hline \end{aligned}$ | $\begin{aligned} & \stackrel{\rightharpoonup}{\otimes} \\ & \frac{\stackrel{E}{2}}{\grave{<}} \end{aligned}$ |  |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Ottawa Centre | 360 | 1,760 | 660 | 120 | 260 | 40 | 60 | 370 | 60 | 70 |  | 20 | 20 |  |  |  |  | 80 | 130 | 140 | 80 |  | 60 |  | 50 |  | 4,340 |
|  | Ottawa Inner Area | 1,800 | 7,380 | 950 | 70 | 780 | 170 | 540 | 1,060 | 170 | 20 |  |  | 10 |  |  | 10 |  | 640 | 280 | 150 | 50 |  | 120 | 30 |  |  | 14,240 |
|  | Ottawa East | 640 | 920 | 1,290 | 200 | 140 | 70 | 30 | 20 | 0 | 30 |  |  |  |  |  |  |  | 80 | 160 |  |  | 30 |  |  |  | 10 | 3,630 |
|  | Beacon Hill | 110 | 90 | 180 | 340 |  |  | 20 | 30 |  | 80 | 10 |  |  |  |  |  |  | 20 | 30 |  |  |  |  |  |  |  | 900 |
|  | Alta Vista | 290 | 770 | 120 | 40 | 1,390 | 190 | 330 | 170 | 40 | 110 |  |  | 20 | 50 |  | 10 |  | 20 |  | 20 |  |  |  |  |  |  | 3,570 |
|  | Hunt Club | 40 | 170 | 70 |  | 210 | 360 |  | 10 | 10 | 20 |  |  |  | 30 |  |  |  |  |  |  |  |  |  |  |  |  | 920 |
|  | Merivale | 70 | 610 | 30 | 20 | 310 | 20 | 1,340 | 790 | 380 | 30 |  |  |  | 100 |  | 10 |  | 10 |  |  | 20 |  |  |  |  |  | 3,740 |
|  | Ottawa West | 400 | 1,020 | 20 |  | 170 | 10 | 760 | 3,110 | 290 |  | 20 |  |  | 10 | 30 | 80 |  | 120 | 20 | 70 |  | 30 | 50 | 20 |  |  | 6,230 |
|  | Bayshore/Cedarview | 60 | 100 | 0 |  | 30 | 10 | 530 | 300 | 1,160 |  |  |  |  | 70 |  | 70 |  |  |  | 10 | 30 |  |  |  |  |  | 2,360 |
| $\mathcal{J}$ | Orleans | 90 |  | 40 | 80 | 100 | 20 | 30 |  |  | 1,600 |  |  |  |  |  |  |  | 50 |  |  |  |  |  |  |  |  | 2,000 |
|  | Rural East |  |  | 10 |  |  |  |  | 20 |  |  | 100 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 130 |
|  | Rural Southeast |  | 20 |  |  |  | 20 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 50 |
|  | South Gloucester/Leitrim | 20 | 10 |  |  | 20 |  |  |  |  |  |  |  | 20 |  |  | 20 |  |  |  | 20 |  |  |  |  |  |  | 120 |
|  | South Nepean |  | 30 |  |  | 50 | 30 | 100 | 10 | 30 |  |  |  |  | 960 | 40 | 20 |  |  |  |  |  |  |  |  |  |  | 1,270 |
|  | Rural Southwest |  |  |  |  |  |  |  | 20 |  |  |  |  | 20 | 20 | 250 |  |  |  |  |  |  |  |  |  |  |  | 310 |
|  | Kanata/Stittsville |  | 30 |  |  | 10 |  | 10 | 20 | 90 |  |  |  |  | 20 |  | 960 | 180 |  |  |  | 20 |  |  |  |  |  | 1,320 |
|  | Rural West |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 180 | 50 |  |  |  |  | 10 |  |  |  |  | 230 |
|  | Île de Hull | 110 | 560 | 80 | 20 | 20 |  | 10 | 120 |  | 50 |  |  |  | 30 |  |  |  | 140 | 360 | 130 |  | 30 | 170 | 20 |  |  | 1,860 |
|  | Hull Périphérie | 130 | 290 | 160 | 30 |  |  |  | 20 |  |  |  |  |  |  |  |  |  | 380 | 610 | 20 | 40 | 20 | 70 |  | 20 | 20 | 1,820 |
|  | Plateau | 140 | 170 |  |  | 16 |  |  | 70 | 10 |  |  |  | 20 |  |  |  |  | 130 | 40 | 40 | 50 |  |  |  |  |  | 680 |
|  | Aylmer | 80 | 70 |  |  |  |  | 20 |  | 30 |  |  |  |  |  |  | 20 |  |  | 40 | 50 | 880 | 40 |  |  |  |  | 1,230 |
|  | Rural Northwest |  | 10 | 30 |  |  |  |  | 30 |  |  |  |  |  |  |  |  |  | 20 | 20 |  | 50 | 220 | 20 | 20 |  |  | 410 |
|  | Gatineau Centre | 60 | 120 |  |  |  |  |  | 60 |  |  |  |  |  |  |  |  |  | 200 | 80 |  |  | 20 | 950 | 90 | 10 |  | 1,590 |
|  | Gatineau Est |  | 30 |  |  |  |  |  | 20 |  |  |  |  |  |  |  |  |  | 20 |  |  |  | 20 | 110 | 200 |  | 20 | 410 |
|  | Rural Northeast | 50 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 20 |  |  |  | 10 |  |  | 20 | 100 |
|  | Buckingham/Masson-Angers |  |  | 10 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 20 |  |  |  |  | 20 |  | 340 | 390 |
|  | Total | 4,430 | 14,160 | 3,660 | 920 | 3,500 | 940 | 3,780 | 6,250 | 2,290 | 1,990 | 130 | 20 | 120 | 1,280 | 320 | 1,360 | 220 | 1,910 | 1,810 | 640 | 1,220 | 410 | 1,560 | 390 | 80 | 410 | 53,840 |

* Note: The numbers are rounded to the nearest 10. As a result, there might be some minor differences between the control totals and distribution.

2011 TRANS Districts



[^0]:    Note: Trip distance is measured as a Euclidean distance (i.e. straight line distance from origin to destination). The actual travel distance may be longer after considering the road network.

[^1]:    *The "return home" trip purpose not included in the graph

[^2]:    * Note: The numbers are rounded to the nearest 10. As a result, there might be some minor differences between the control totals and distribution.

