

# Mobility monitor

## Transportation Data

Monitoring today,  
for tomorrow.

## This issue

### Downtown Mode Split and Vehicle Occupancy Methodology

March 2012  
Issue #40

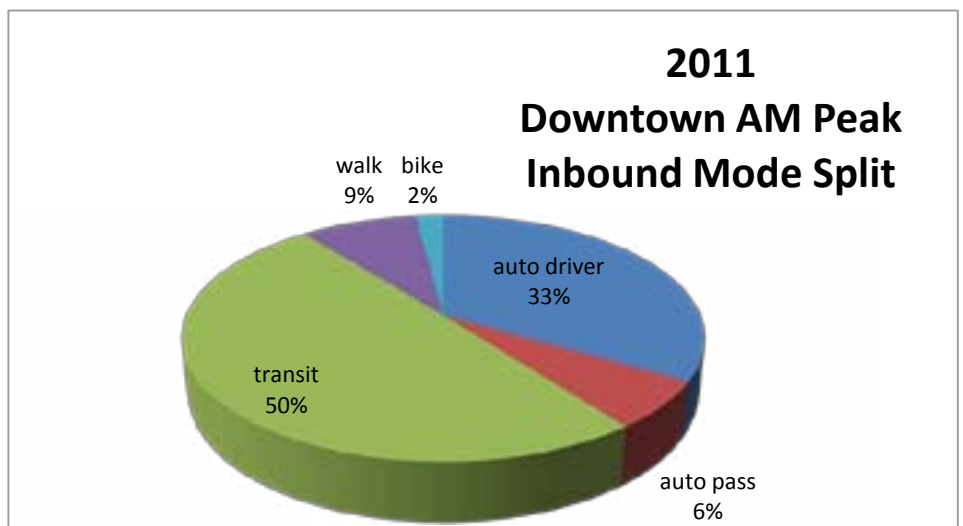
#### KEY FINDING:

*For the first time in Calgary's history half of all trips to the downtown (AM peak hour) were made by transit.*



The Downtown remains the most important travel destination in the City, with about one-fifth of all Calgary jobs located there. The map above shows the downtown cordon.

In 2011, 50% of trips to the downtown (AM peak hour) were made by transit, 39% by private automobile (i.e. as auto driver or auto passenger), 9% walked and 2% cycled.



**KEY FINDING:**

**The auto mode split continues to fall and reaches an all-time low of 39%.**

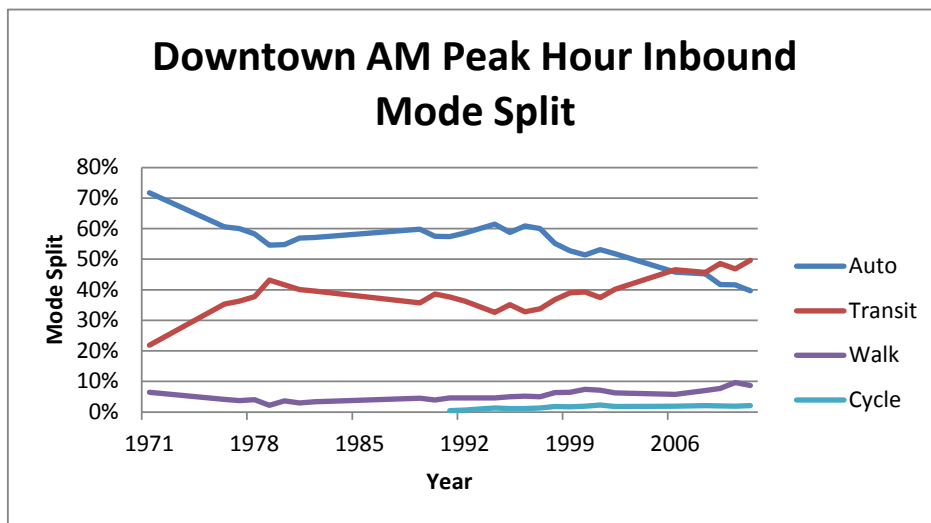
The mode split is determined by manually counting the number of people entering downtown by automobile (as driver or passenger), transit, walk and cycle, and dividing each number by the total number of people using all modes.

Back in 1971 the automobile accounted for 72% of trips to the downtown during the AM peak hour while transit accounted for 22%. In 2011 the automobile usage fell to 39% while transit climbed to 50%.

Since 2006 transit has been the preferred travel mode used to enter the downtown during the a.m. peak hour.

The proportion of trips by people walking has been trending upwards in recent years with 9% in 2011.

Since 1991 when cycling was first monitored in Calgary, the proportion of trips made by cycling has remained low varying between 1% and 2%.



**KEY FINDING:**

**Vehicle Occupancy (a measure of carpooling) has leveled off at 1.2 persons per vehicle.**

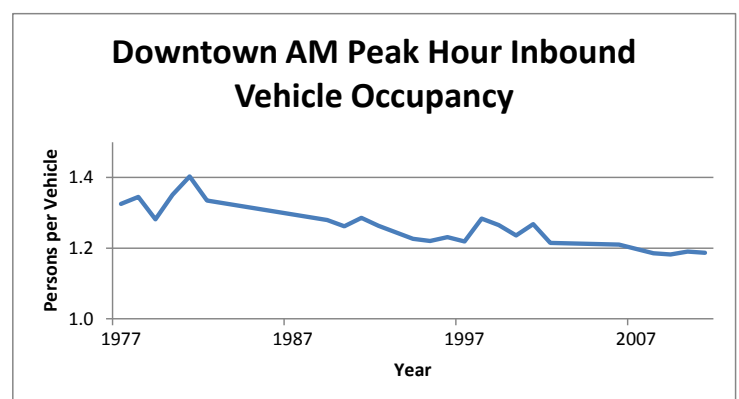
Vehicle Occupancy is the average number of people traveling in each vehicle. The occupant counts are performed by observers stationed along the roadside using electronic count boards.

These counts include cars and trucks, but exclude transit and bicycles. Vehicle Occupancy is calculated by adding the number of drivers to the number of passengers and dividing by the number of drivers (or vehicles).

In the late 1970's and early 1980's Vehicle Occupancy fluctuated, but remained high. During the mid 1980's and early 1990's Vehicle Occupancy dropped at a steady rate.

In 1998 Vehicle Occupancy experienced a large increase, fluctuated for a few years and then experienced a decrease in 2002.

Since that time Vehicle Occupancy has leveled off at 1.2 persons per vehicle.



## Counting SOVs and HOVs

A single occupant vehicle (SOV) is a vehicle whose only occupant is the driver whereas a high occupancy vehicle (HOV) is a vehicle with a driver and one or more passengers. When an automobile is used as an HOV, it is often called a carpool, though the term HOV includes buses and vans.

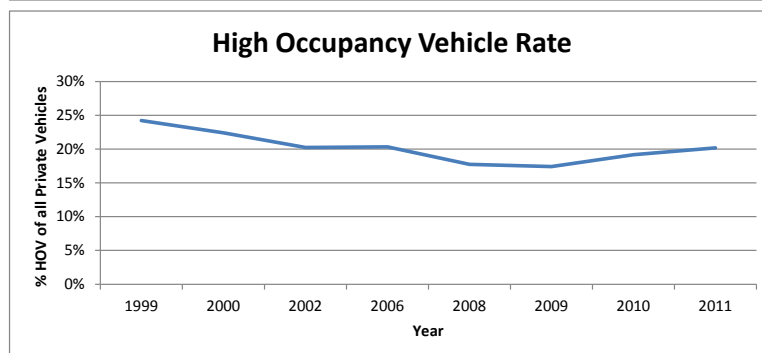
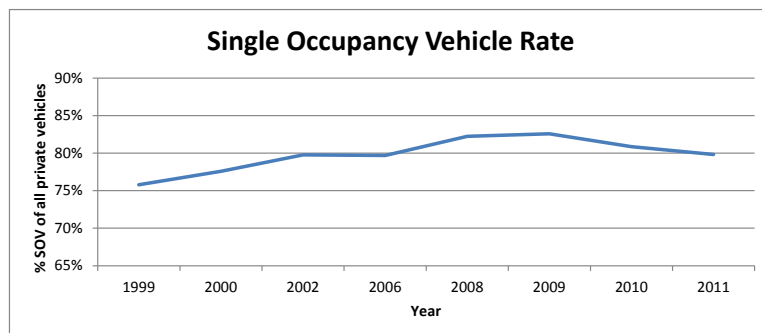
In the methodology used, single occupant vehicles include automobiles and motorcycles only. Trucks and buses are excluded. This count is different from Vehicle Occupancy as it pertains to the number of vehicles and not the number of people. The SOV rate is the number of single occupant vehicles divided by the total number of vehicles.

Raw data for SOV calculations was not available before 1999. In 1999 the SOV rate for inbound AM peak hour vehicles into downtown was 76% climbing to 83% in 2009 and dropping to 80% in 2011. Conversely, the HOV rate was 24% in 1999 dropping to 17% in 2009 and climbing to 20% in 2011.

## Conclusions and Implications

The upward trends in the use of the transit and walking modes, and the downward trend in the use of the automobile are in line with the goals set out in the Calgary Transportation Plan (CTP). However, the continued decline in vehicle occupancy is contrary to the CTP goals.

This suggests that policies, programs and plans to encourage transit and walking have been successful in Calgary. The picture is less clear with high vehicle occupancy. Carpooling has been encouraged with the introduction of carpool



websites, HOV lanes and new parking initiatives specifically geared for carpoolers. As with all commuting decisions convenience is weighed against cost in determining the mode chosen, and carpooling has been losing favor in Calgary. Apparently the cost savings of carpooling do not outweigh the inconvenience. Also carpooling numbers may be down because of more effective reliable dependable transit service.

Cycling into the downtown has not been common but with recent City bicycle funding and programs in place to promote awareness and improve infrastructure supporting this mode, perhaps cycling will become more popular although weather condition is probably a deterrent to most commuters considering this mode, especially in the winter months.

Transportation by automobile is considered the least sustainable passenger transport mode. By balancing the transport modes used in the downtown and city-wide, the City and its citizens can reduce environmental, social and economic impacts of an automobile-dependent transport system, such as pollution, greenhouse gas emissions, congested traffic, higher collision rate and cost of transportation in terms of idle and drive time, and increased demand on transportation infrastructure. Ultimately the goal is to improve the quality of life for current and future Calgarians.

## How accurate and reliable are these data?

How concerned should you be by the potential for error in the data presented in The Mobility Monitor? Traffic on a road can vary by ten per cent or more from one day to the next. To minimize this issue, the City tries to do the counts of traffic entering and leaving the Downtown on the same day each year.

Even so, a change from one year to the next may be due to some random event, such as the weather, accidents or illness. This is why it is wise to look at trends, since changes that are consistent over a long period of time are more likely to be real, and not just the result of random events.

It must be kept in mind that no one source of information can claim to be infallible. Consideration and appropriate weighting of other sources of information is to be encouraged before making decisions.

## Sources of Information

Data from the City's Downtown Cordon Traffic Count Program were used to track the trends in modes used to enter the downtown. Since 1958 The City of Calgary has monitored travel to the downtown by counting the vehicles and people entering and leaving the downtown.

## The Mobility Monitor

The Mobility Monitor is part of the Ongoing Monitoring and Implementation Program (OMIP) for the Calgary Transportation Plan (CTP). The purpose of the Mobility Monitor is to report on strategic trends and events that affect the implementation of the CTP. The Mobility Monitor is produced by the Transportation Data division of Transportation Planning.

