



2016 Central Business Cordon Report

by Monitoring & Geospatial Services

Sustainable Development | City Planning

City of Edmonton

July, 2017

Executive Summary

The purpose of the count is to acquire data on how people travel into and out of downtown Edmonton.

506,030 trips are made into and out of downtown Edmonton on a weekday between the hours of 6:30 AM and 6:30 PM

The City of Edmonton conducts the Central Business District Cordon Count (CBD) approximately every two years since 1977. The purpose of the count is to acquire data on how people travel into and out of downtown Edmonton and their chosen mode of travel. The cordon count is performed at **37** locations around downtown Edmonton over a two week time period sometime in the fall. The survey methodology added cyclists and pedestrians to the cordon count in 2008.

The 2016 CBD count found that approximately **506,030** trips are made into and out of downtown Edmonton on a typical fall weekday between the hours of 6:30 AM and 6:30 PM, an increase of **4.6%** from 2014 and an increase of **20.9%** from 2007.

Key Findings:

AM Peak Hours (7:30 AM – 8:30 AM)

- 54% of trips are by Auto
- 39% of trips are by Transit (Bus/LRT)
- 6% of trips are by Pedestrians
- 1% of trips are by Cyclists

PM Peak Hours (4:15 PM – 5:15 PM)

- 60% of trips are by Auto
- 30% of trips are by Transit (Bus/LRT)
- 8% of trips are by Pedestrians
- 2% of trips are by Cyclists

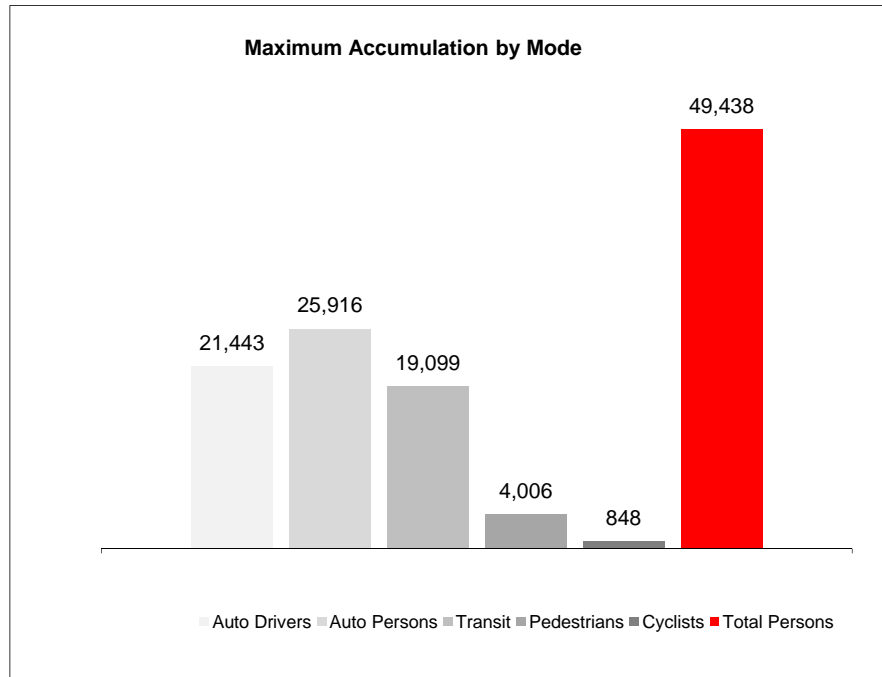
Daily Time Period (6:30 AM – 6:30 PM)

- 65% of trips are by Auto
- 27% of trips are by Transit (Bus/LRT)
- 7% of trips are by Pedestrians
- 1% of trips are by Cyclists

Figure 1: 2016 Highlights

Maximum accumulation= Number of people remaining in the CBD boundary within a 15 minute time period between the hours of 6:30 AM and 6:30 PM.

Maximum accumulation for Total Persons in 2016 occurred between 11:30 AM – 11:45 AM.



Auto Persons: Includes Driver and Passenger

Transit: Includes Bus and LRT passengers

All other definitions can be found in Appendix 1.

Over 19,000 Pedestrians and Cyclists enter the CBD daily.

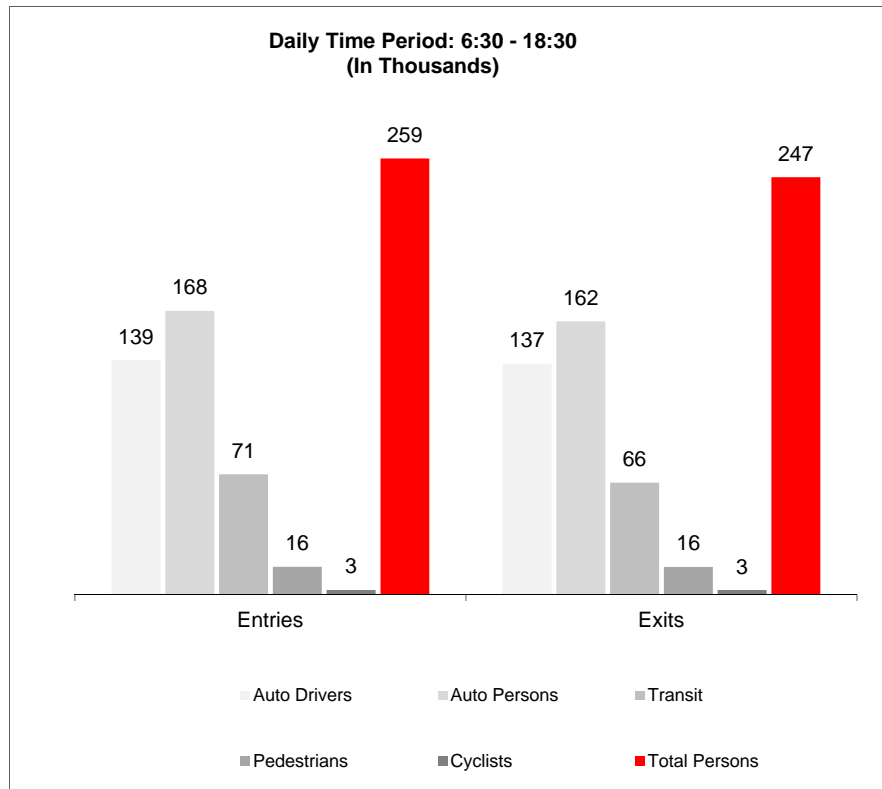


Table of Contents

Introduction.....	4
Background.....	5
Trends: 1977 to 2016.....	7
Data Analysis.....	8
Survey Methodology.....	12
Appendix 1 – Definitions.....	13
Appendix 2 – Time of Day Distribution.....	14

Introduction

Data acquired through the CBD count supports the Regional Travel Model and the Transportation Master Plan.

The City of Edmonton conducts the Central Business District Cordon Count (CBD) approximately every two years since 1977. The purpose of the count is to acquire data on how people travel into and out of downtown Edmonton and their chosen mode of travel. For the purpose of the count, mode of travel can be either as an Auto Driver, Auto Passenger, Transit (Bus/LRT), Pedestrian or Cyclist.

The data acquired through this count supports the Regional Travel Model and assists in validating two strategic initiatives of the City's Transportation Master Plan:

- *Efficient movement of goods, convenient mobility of the labour force and access to a vibrant city centre are features of the transportation system that enhances the economic vitality and competitive advantage of Edmonton and the Region.*
- *Public transportation and active transportation modes are the preferred choice for more people making it possible for the transportation system to move more people more efficiently in fewer vehicles.*

Many factors can influence the number of trips and the mode of travel into and out of the CBD.

The number of trips into and out of downtown Edmonton can be influenced by many factors. Some of these include: economic conditions, real-estate conditions (commercial and residential), labour trends and construction. Likewise, the mode of travel of these trips can also be influenced by many factors including: cost, relative travel time and convenience.

Background

The CBD is a recurring survey going back as far as 1977.

The Central Business District Cordon Count (CBD) is a recurring survey that has been conducted by the City of Edmonton approximately every two years going back to the year 1977. This survey provides trend information on the modes chosen to travel into and out of the Central Business District. The CBD boundary can be seen on Figure 2 on the following page.

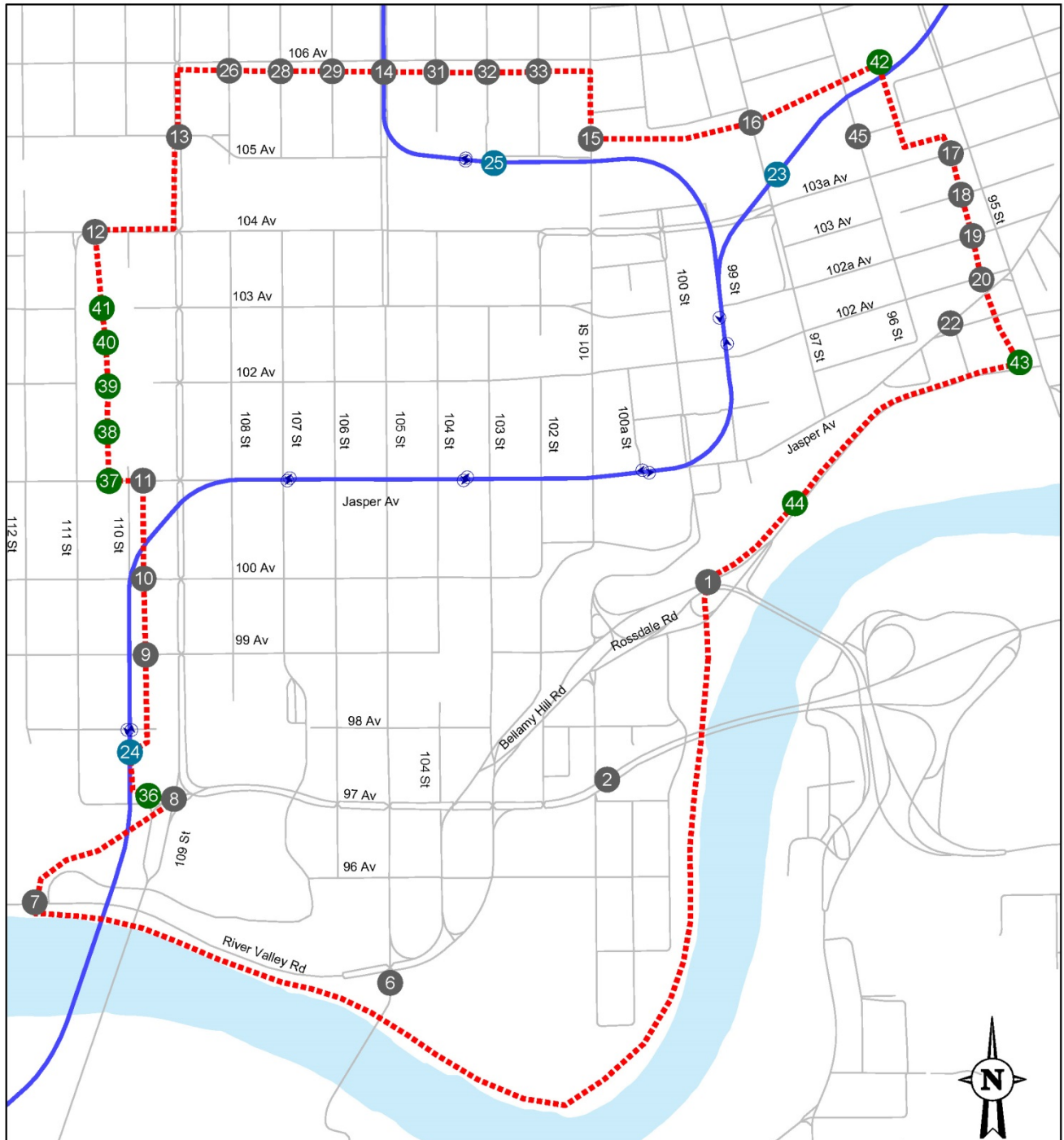
Maximum accumulation= Number of people remaining in the CBD boundary.

Entries and exits indicate the number of trips into and out of the CBD boundary while the maximum accumulation shows how many people are remaining within the CBD boundary. By assessing the relationship between these two variables, we can theorize about activity within the CBD. For example, an increase in entries and exits with no change or minimal change in accumulation would indicate more through trips. An increase in maximum accumulation and an increase in entries and exits would indicate that more people are attracted to the CBD. Conversely, a decrease in accumulation and entries and exits would imply fewer people are in the CBD.

The data presented in this report is meant for general observations of the CBD activity.

These two indicators are influenced by a number of different variables such as economic conditions, real-estate conditions (commercial and residential), labour trends, parking availability and construction. It is important to note that this survey does not discuss the impact of these variables and therefore; the data presented is meant for general observations of the CBD activity. The survey methodology and its limitations are outlined in the Survey Methodology section of the report.

Figure 2: Central Business District Cordon Boundary Map



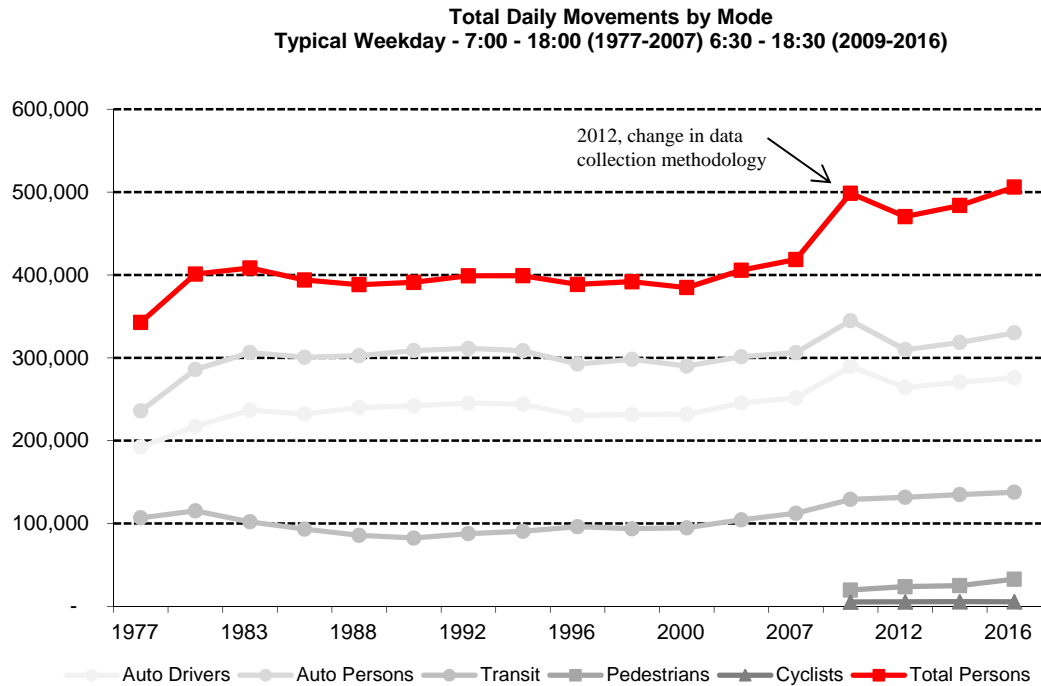
Legend

- CBD Boundary
- Ⓜ LRT Station Bus Stops
- Railway
- Roads
- ALL MODES
- LRT
- MULTIUSE TRAIL

CBD CORDON BOUNDARY (2016)

Trends: 1977 to 2016

Between the years of 1980 and 2000, the total number of trips into and out of downtown Edmonton remained on average, fairly constant. However, between the years 2000 and 2016, the number of trips into and out of the CBD increased by approximately 32%.



The primary mode of travel continues to be Auto Drivers.

The primary mode of travel into and out of the CBD boundary continues to be auto drivers.

Since the inception of the CBD survey, Edmonton Transit introduced four new LRT extensions. There were three extensions to the current Capital Line. In 1992, the line was extended to University station; in 2009, the line was extended again to South Campus station; and finally, in 2010, the line was extended to Century Park station. The fourth extension occurred in 2015 with the introduction of the Metro Line, introducing 3 new stations.

Data Analysis

The following tables and figures compare the data collected in 2016 with that of 2014. Table 1 is a two year comparison by different modes and figure 4 is a two year comparison of mode share by various time periods.

Table 1: Comparison by Mode

*Entries: Total entries from
6:30AM – 6:30PM.*

*Exits: Total exits from
6:30AM – 6:30PM.*

*Maximum accumulation=
Number of people
remaining in the CBD
boundary.*

*AM Peak: 7:30AM –
8:30AM*

*PM Peak: 4:15PM –
5:15PM*

	2012	2014	2016	% Change 2012 to 2014	% Change 2012 to 2014
Total Persons					
Entries	239,558	245,749	258,602	3%	5%
Exits	230,878	238,081	247,429	3%	4%
Total	470,436	483,830	506,031	3%	5%
Maximum Accumulation	49,576	51,075	49,438	3%	-3%
AM Peak Entries	40,642	40,957	38,944	1%	-5%
PM Peak Exits	36,789	37,450	38,584	2%	3%

	2012	2014	2016	% Change 2012 to 2014	% Change 2014 to 2016
Auto Drivers					
Entries	133,090	136,773	139,007	2%	2%
Exits	131,001	133,825	136,783	2%	2%
Total	270,598	270,598	275,790	2%	2%
Maximum Accumulation	22,260	23,553	21,443	-9%	-9%
AM Peak Entries	20,029	20,015	18,027	-10%	-10%
PM Peak Exits	19,202	18,833	19,664	-3%	4%

	2014	2014	2016	% Change
Auto Persons				
Entries	160,566	160,566	168,131	5%
Exits	157,939	157,939	161,997	3%
Total	318,505	318,505	330,128	4%
Maximum Accumulation	26,664	26,664	25,916	-3%
AM Peak Entries	22,819	22,819	21,020	-8%
PM Peak Exits	22,069	22,069	23,277	5%

Table 1 Continued: Two Year Comparison by Mode

	2014	2016	% Change
<u>Transit Passengers</u>			
Entries	69,928	71,305	2%
Exits	64,935	66,388	2%
Total	134,863	137,693	2%
Maximum Accumulation	21,159	19,099	-10%
AM Peak Entries	15,759	15,075	-4%
PM Peak Exits	12,808	11,668	-9%

*Pedestrian Entries
increased by 33%*

*Pedestrian Exits increased
by 30%*

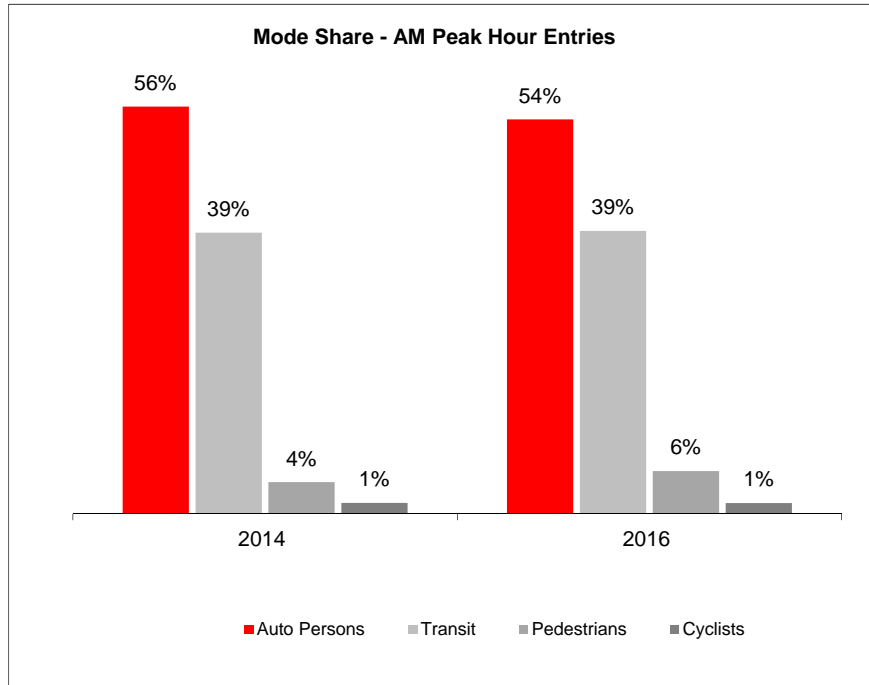
*Maximum Accumulation for
pedestrians increased by
48%*

	2014	2016	% Change
<u>Pedestrians</u>			
Entries	12,360	16,442	33%
Exits	12,565	16,354	30%
Total	24,925	32,796	32%
Maximum Accumulation	2,712	4,006	48%
AM Peak Entries	1,771	2,277	29%
PM Peak Exits	1,984	2,990	51%

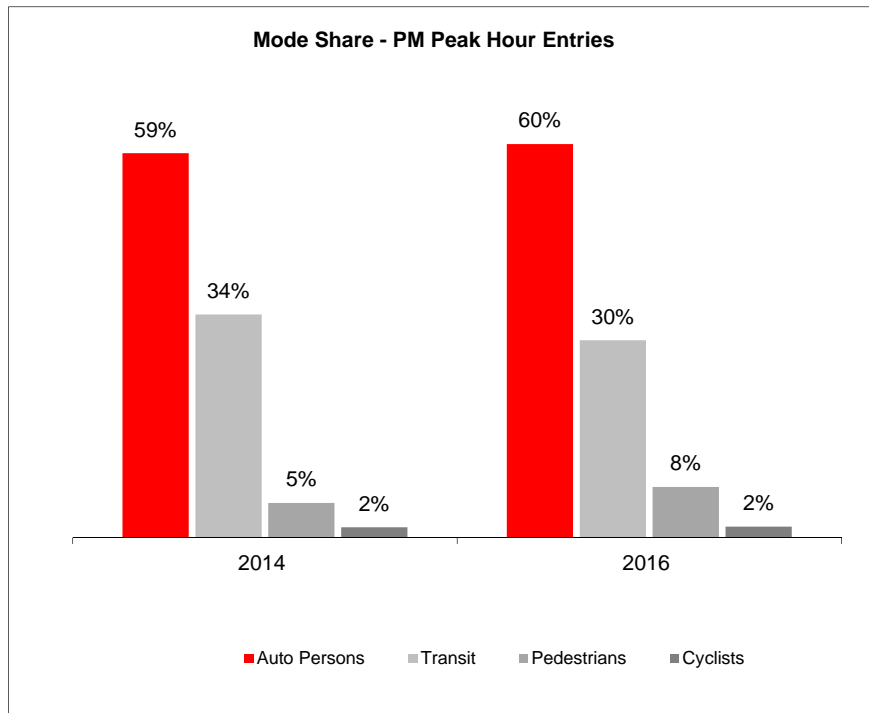
	2014	2016	% Change
<u>Cyclists</u>			
Entries	2,895	2,724	-6%
Exits	2,642	2,690	2%
Total	5,537	5,414	-2%
Maximum Accumulation	870	848	-3%
AM Peak Entries	569	563	-1%
PM Peak Exits	589	649	10%

Figure 4: Two Year Comparison of Mode Share by Time Period

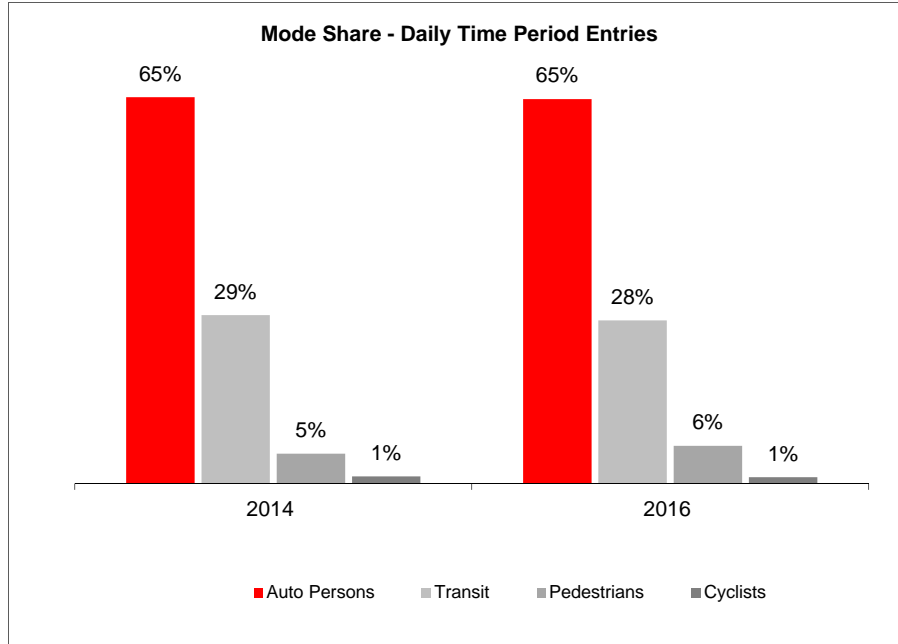
Mode share for Transit and Pedestrians both increased from 2014 during the AM Peak Hour.



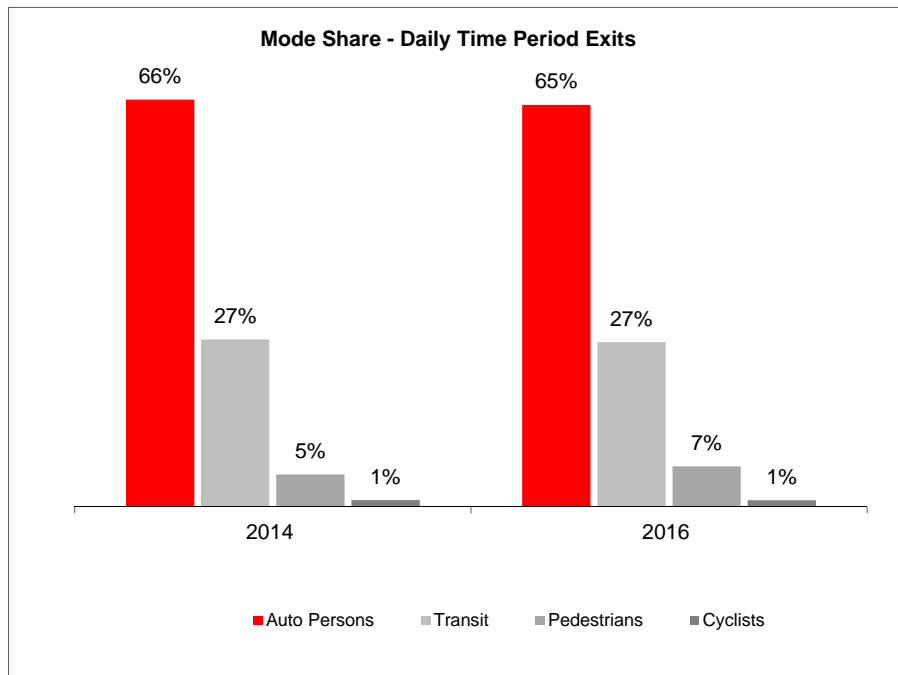
Mode share for Auto Persons and Pedestrians both increased from 2014 during the PM Peak Hour.



Mode Share remained constant for the Entries during the Daily Time Period (6:30AM – 6:30PM).



Mode share for Pedestrians increased from 2014 for the Exits during the Daily Time Period (6:30AM – 6:30PM).



A comprehensive Time of Day Distribution for all modes can be found in Appendix 2.

Survey Methodology

There were 37 locations identified for the CBD Cordon Count. 25 locations were set up where data for all modes was captured, 9 locations were set up in multi-use trails and the final 3 locations were set up at LRT Transit Stations. Figure two provides a detailed description of the CBD map boundary. It is important to note that during the 2014 count, stations 31 and 32 were closed due to the construction of the Metro Line LRT. Both stations were re-opened for 2016 count.

Data was collected using a combination of video camera technology (Miovision) and manual counting. Every vehicle or person that crossed the CBD boundary was assigned a category: Auto, Truck, Transit (ETS, County of Strathcona and St Albert), Pedestrian and Cyclist.

Data collection time frames:

- Auto, Truck, Pedestrian and Cyclist data was collected between September 14 and September 22, 2016.
- ETS LRT data was collected between September 26 and October 26, 2016.
- ETS Bus data was aggregated from the SEPT16 signup (September 4 to December 3, 2016) using data from Automatic Passenger Counter System.
- Regional transit data was provided as a one day snapshot (November 23, 2016) by the County of Strathcona and the City of St Albert.

DISCLAIMER

The Monitoring Services team makes an extensive effort to assure the quality of information contained in this report is correct. Transit usage can vary by 10 percent or more from one day to the other or by season to season. Our team tries to minimize the variations by conducting surveys around the same time of the year. Year to Year variation may be due to random events such as weather, accidents or unforeseen events affecting service delivery. It is impossible to achieve complete accuracy and consistency in the reported data.

We recommend looking at trends, since variation that is consistent over a longer period is more likely to be real and not just the result of random events. Consideration and appropriate weighting of other sources is to be encouraged before making decisions.

Appendix 1 - Definitions

Accumulation: The number of people entering the cordon after 6:30 AM minus the number of people exiting the cordon after 6:30 AM. Note: this is not a true picture of the people in the CBD because:

- People enter the cordon before 6:30 AM
- People using other modes (walk, bicycle) can be more flexible in their routing
- Exiting CBD residents are included as a reduction in accumulation; entering CBD residents are included as an addition.

AM Peak Period: 7:30AM – 08:30AM

Auto Driver: Cars, vans and ½ ton trucks with a single driver

Auto Person: Combination of the Auto Driver and Auto Passenger.

Auto Passenger: The occupant in a vehicle who was not the driver.

Daily Time Period: 6:30AM – 6:30PM

PM Peak Period: 4:15PM – 5:15PM

Pedestrian: Includes walking, skateboarding and in-line skate as a mode choice to access the CBD.

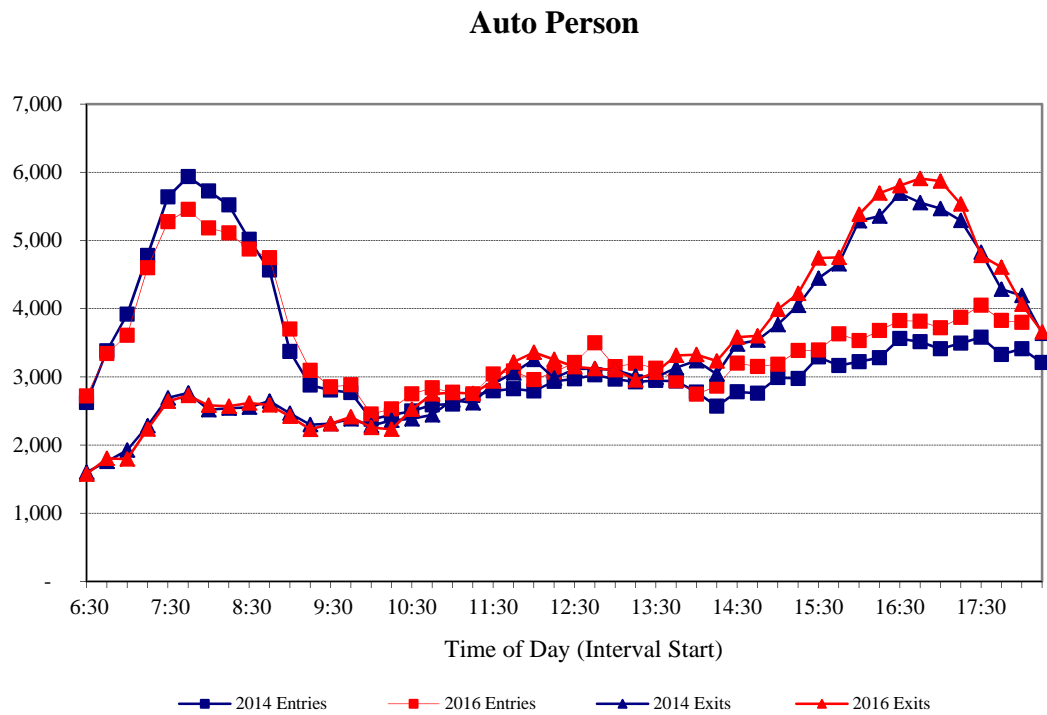
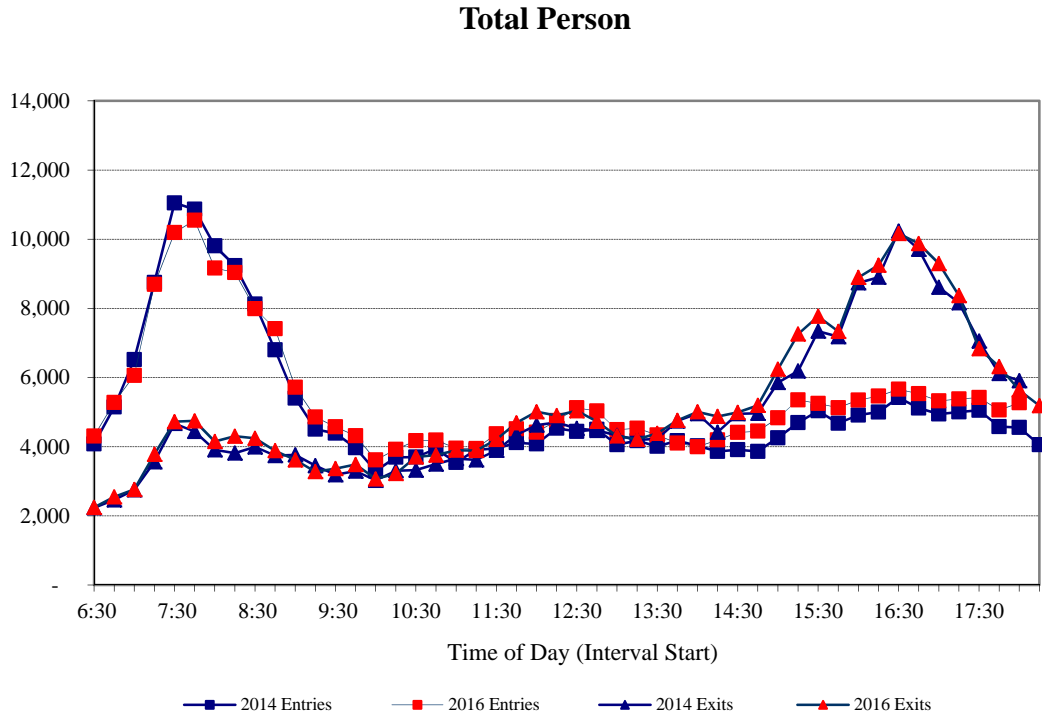
Total Persons: Combination of Auto Person, Transit, Pedestrian and Cyclist. Total Persons does not include commercial truck drivers/passengers or Other Bus passengers.

Transit: ETS Buses and LRT including all regional transit service in addition to the County of Strathcona and St Albert. Does not include Other Bus categories such as DATS and commercial carriers (Greyhound, Red Arrow etc.),

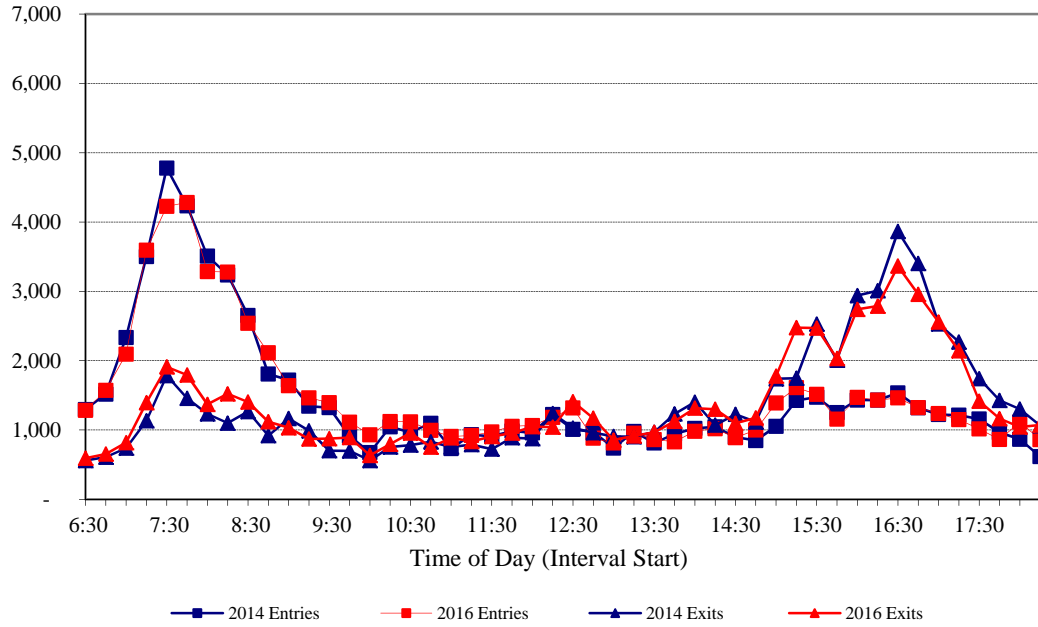
Trip: One-way movement, either an exit or an entry to the CBD.

Appendix 2 – Time of Day Distribution

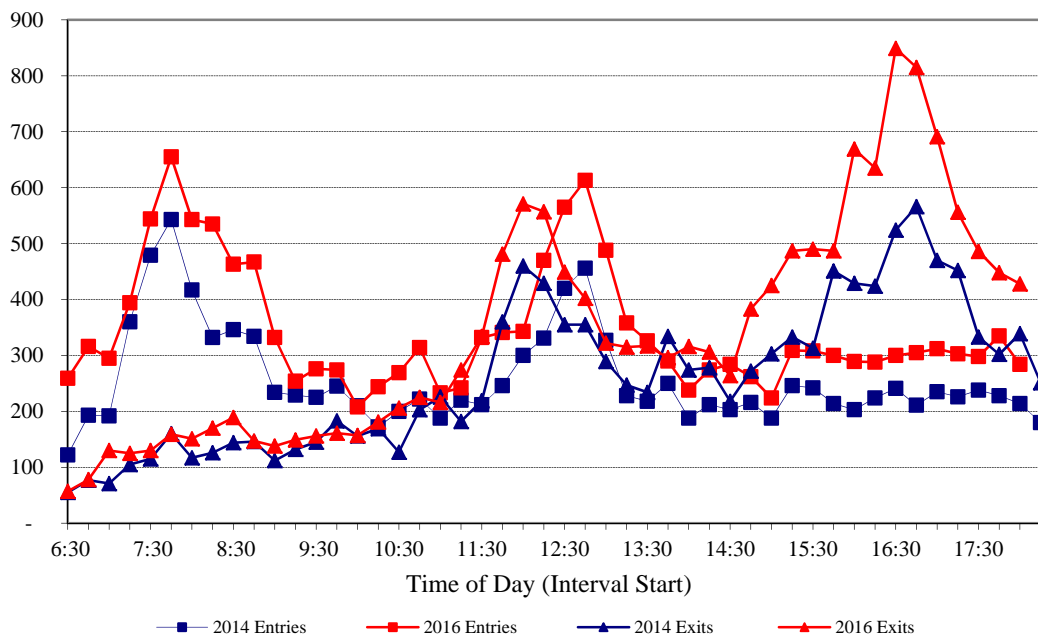
Figure 5: Time of Day Distribution by Mode for Entries and Exits



Transit



Pedestrian



Cyclist

