Dublin City Council
Comhairle Cathrach Bhaile Átha Cliath

Údarás Náisiúnta Iompair
National Transport Authority

# Canal Cordon Report 2015

## Report on trends in mode share of vehicles and people crossing the Canal Cordon

## 2006 to 2015

**April 2016**

# Contents

# Introduction

## Background to data collection

Since 1980, Dublin City Council (DCC) has been conducting traffic counts at 33 locations around the cordon formed by the Royal and Grand Canals. The counts are conducted during the month of November each year. Since 1997 the counts have been conducted over the period between 07:00 and 10:00.

Between 1997 and 2009, the Dublin Transportation Office (DTO) collected data from a number of sources on people crossing the Canal Cordon into Dublin's City Centre in the morning peak between 07:00 and 10:00. The National Transport Authority (NTA) subsumed the DTO in 2009, and has continued to collate this data on an annual basis.

Combining the two sets of data enables the tracking of trends in the modes of travel that people are using to travel into the City Centre. This in turn gives an indication of the effectiveness or otherwise of various transport measures and policies that have been introduced since 1997 in changing people's travel behaviour.

## Definition of the Canal Cordon

Figure 1.1 below is a map of the Canal Cordon and the 33 locations on the Cordon where data is annually collected on the movement of people in the morning peak period between 7:00 and 10:00. As the name suggests, the cordon has been chosen to ensure (as far as possible) that any person entering the City Centre from outside must pass through one of the 33 locations where the surveys were undertaken. It should be noted that the data as presented in this report refers to movements of people in one direction only (i.e. inbound into the city centre) across the various cordon points.

All 33 cordon points are on routes for general traffic into the City Centre, while 22 of the cordon points (shown in red in Figure 1.1) are on bus routes into the City. People using DART and suburban rail services to enter the City Centre cross the cordon close to cordon points 2, 16 and 31 in Figure 1.1, while those travelling on the two LUAS lines cross the cordon at points 7 and 13.

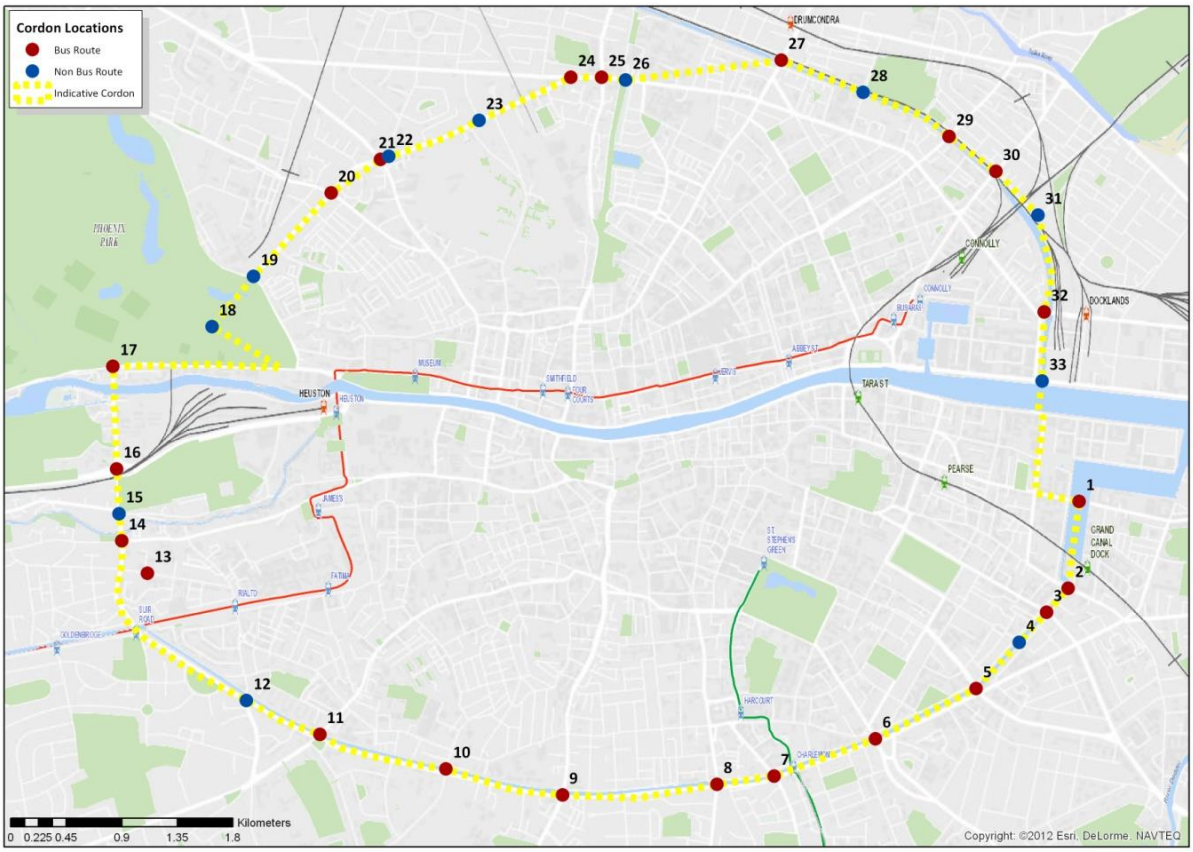



*Figure 1.1 Canal Cordon Showing all 33 count locations*

## Data Sources

Data on the movement of people across the Canal Cordon has been assembled from a number of sources as outlined below:

- Dublin City Council has being undertaking surveys at the Canal Cordon in November annually since 1980. Surveys are undertaken over two days and an average across the two days is reported. The survey counts pedestrians, cyclists, cars, taxis, buses, goods vehicles and motorbikes crossing the cordon points in the inbound direction in the three hour, morning peak period 0700-1000.

- To complement the Dublin City Council Canal Cordon annual surveys, Dublin Bus have undertaken their own surveys annually on a single day at each location in November. This is not necessarily the same day as the DCC cordon counts. Since 1997 this survey has counted the number of passengers on all buses (including privately operated bus services)[1] crossing inbound over the canal cordon points. This survey is undertaken at the 22 cordon points that are on bus routes into the City (shown in red in figure 1.1).
- Since 2012, Iarnród Éireann have undertaken a census of passenger boardings and alightings on all services passing through all stations in the national rail network on a single day. In 2015 the

[1] Surveyors board all Dublin Bus services at the cordon point and conduct a count of passengers. For non-Dublin Bus services (such as Bus Éireann and privately operated services),; experienced surveyors estimate the volume of passengers on board as the bus crosses the cordon point.

national rail census was carried out on November the 19th. Prior to 2012 and since 1997, Iarnród Éireann had undertaken a similar passenger census for services operating within the Greater Dublin Area (GDA)[2]. Analysis of this data enables a calculation of the numbers of rail passengers crossing the three Canal Cordon points (inbound) between 0700-1000 on the census day.

- Transport Infrastructure Ireland (TII)[3] undertakes an annual census of boardings and alightings at all LUAS tram stops. This census is undertaken on a single day in November. It has been undertaken every year since both LUAS lines became operational in 2004. This data enables calculation of the number of LUAS passengers crossing the two Canal Cordon points (inbound) between 0700-1000 on census day.

By combining these four data sources, the NTA and DCC have been able to compile a comprehensive picture of the modes of travel used by people travelling across the Cana Cordon into the City in a typical morning peak period. There may be gaps in the data compiled in certain years, and some changes in the survey methodology for the DCC cordon counts have been introduced in recent years.

The introduction of LUAS also had a significant impact on the data trends. For these reasons, the analysis of trends in chapter 2 of this report is restricted to the years 2006 – 2015. For these ten years, there is a consistent and continuous set of data that enables a direct comparison of mode share trends.

[2] When the Census was GDA only, passengers who began their trip outside of the GDA would still be counted once they completed their trip within the GDA. For example a passenger travelling from Cork to Dublin would be counted crossing the Cordon at point 16 i.e. departing Parkwest and Cherry Orchard station.
Previously Railway Procurement Agency (RPA)

[3] Previously Railway Procurement Agency (RPA)

# Data Analysis

## Overview

Table 2.1 below presents the total numbers of vehicles, pedestrians and cyclists crossing the Canal Cordon inbound between 0700-1000 from 2006-2015.

| Mode | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|
| Bus | 1,680 | 1,740 | 1,814 | 1,704 | 1,688 | 1,539 | 1,503 | 1,539 | 1,504 | **1,528** |
| Car | 58,664 | 58,686 | 58,897 | 58,232 | 58,047 | 55,745 | 55,343 | 54,458 | 53,033 | **53,064** |
| Taxi | 3,825 | 4,583 | 5,079 | 4,980 | 4,809 | 4,862 | 5,277 | 5,458 | 4,955 | **4,699** |
| Walk | 17,114 | 18,594 | 18,360 | 14,618 | 15,092 | 14,551 | 17,070 | 17,495 | 19,711 | **18,727** |
| Cycle | 4,839 | 5,676 | 6,143 | 6,326 | 5,952 | 6,870 | 7,943 | 9,061 | 10,349 | **10,893** |
| Goods | 2,291 | 1,445 | 1,223 | 1,087 | 993 | 1,176 | 1,099 | 1,045 | 1,087 | **1,096** |
| M.Bike[4] | 2,395 | 2,429 | 2,375 | 2,060 | 1,656 | 1,485 | 1,425 | 1,423 | 1,372 | **1,390** |

*Table 2.1 – Vehicle, cyclists and pedestrians crossing the Canal Cordon by mode of travel 2006-2015*

In figure 2.1 the data is displayed in graphical format.

The next section provides an analysis of this data by mode of travel, identifying the trends in the number of vehicles, pedestrians and cyclists crossing the canal cordon during the peak morning period from 0700-1000.

This analysis is then supplemented with additional public transport patronage data to provide a full picture of the travel trends in person terms across the canal cordon.

[4] Motor Bikes

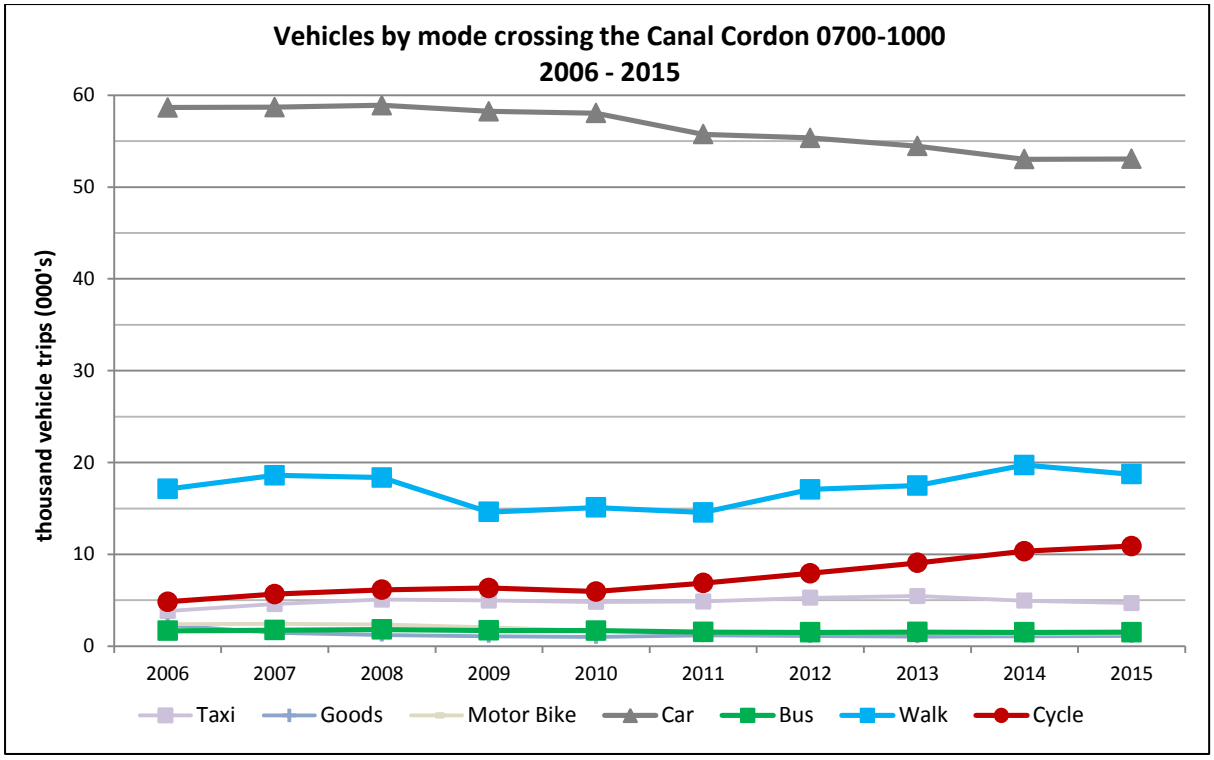


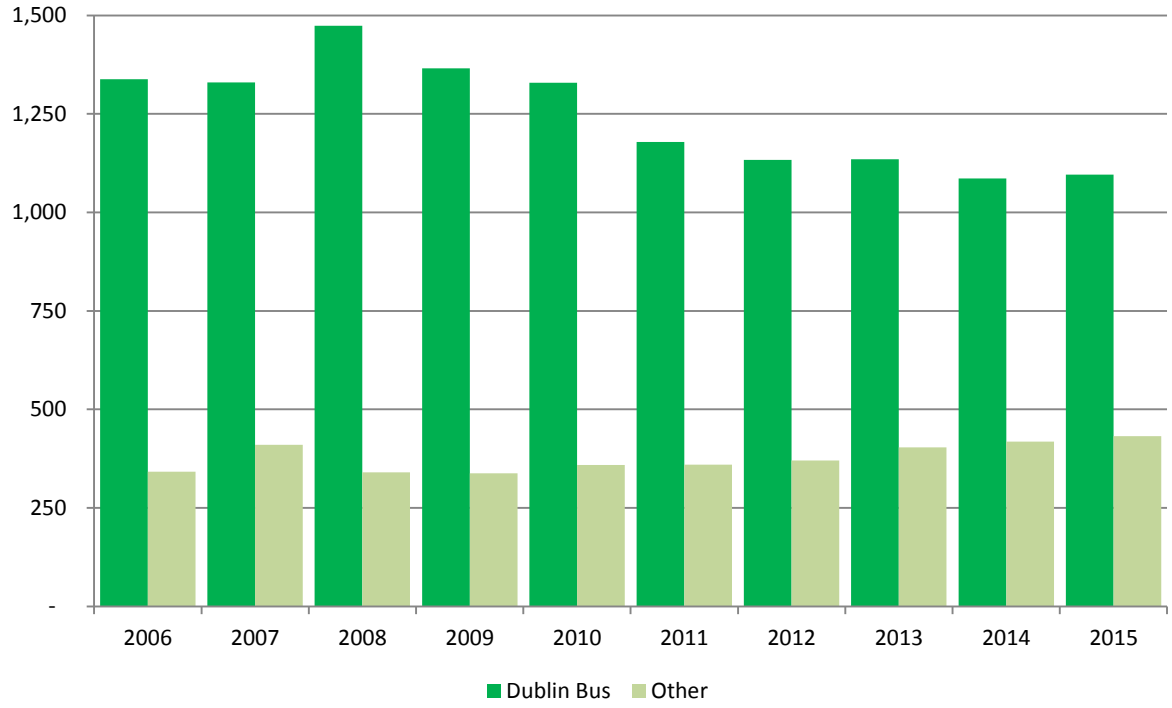

*Table 2.1 – Vehicle, cyclists and pedestrians crossing the Canal Cordon by mode of travel 2006-2015*

## Numbers of vehicles, cyclists and pedestrians crossing the canal cordon by mode

### Buses

Between 2014 and 2015, there has been an increase in the number of buses crossing the cordon from 1,504 to 1,528, a modest increase of just over 1%. Dublin Bus vehicle numbers increased by just under 1% whereas buses operated by Bus Éireann and private operators increased by almost 3%, albeit from a lower base.

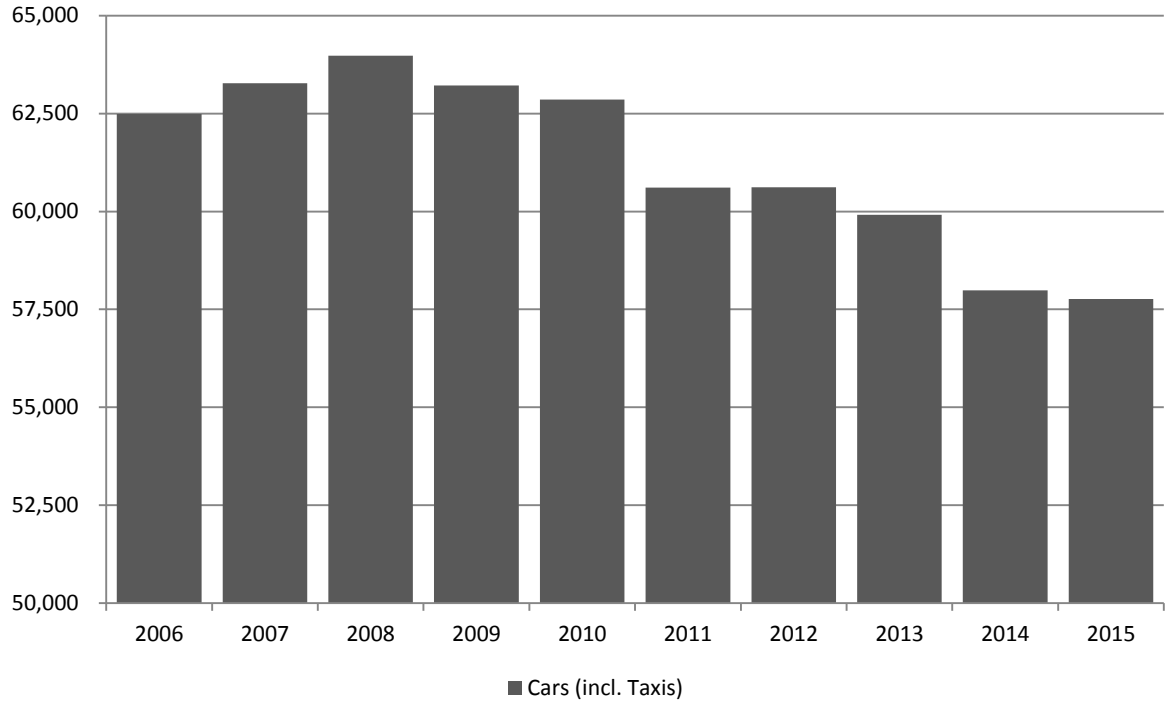
In the period 2006-2015 the total number of buses crossing the cordon has decreased by 9%. In the same time period, the number of Dublin Bus vehicles has decreased by 18% whilst the number of Bus Éireann and privately operated buses has increased by 26%.




## Cars and Taxis

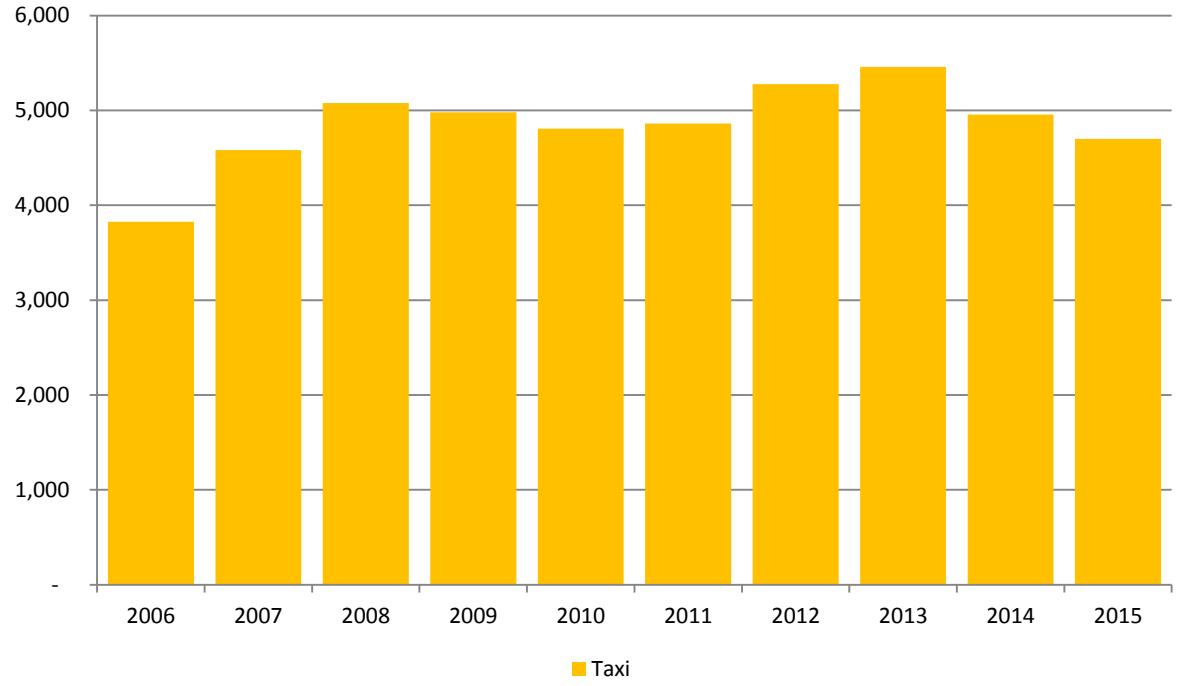
Between 2014 and 2015; there was a slight decrease in the number of cars and taxis crossing the cordon from 57,988 to 57,763, a decrease of almost half a percentage point.

In the period 2006-2015 the peak year for cars and taxis crossing the canal cordon was in 2008 with almost 64,000 vehicles. The 2015 figure represents a decrease of almost 10% or 6,213 vehicles since this peak.



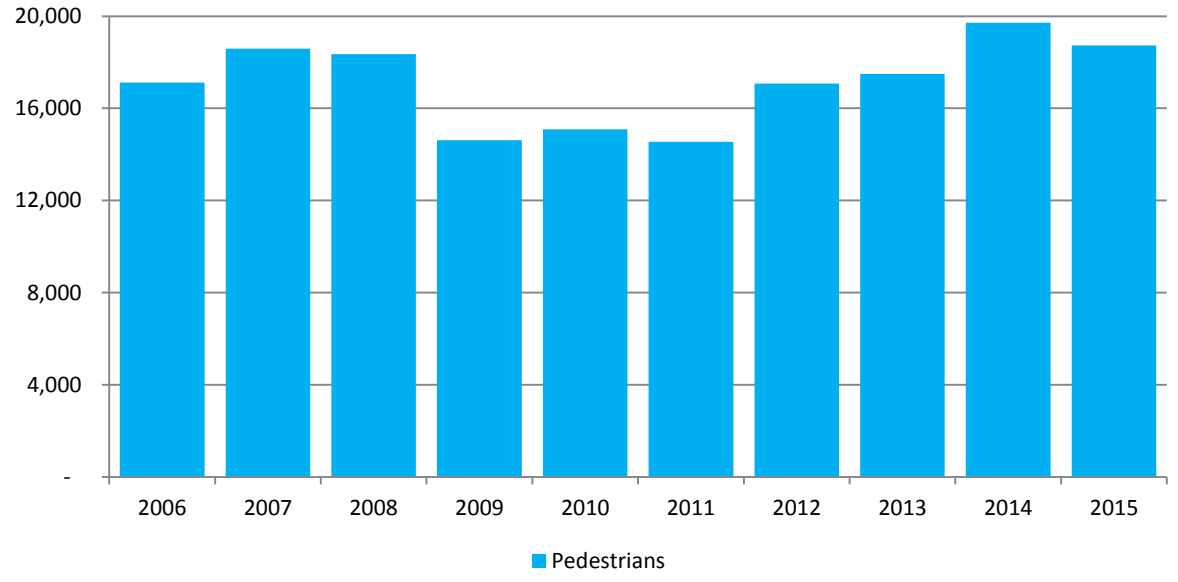
## Taxis

Taxis made up 6% of all cars crossing the canal cordon in 2006. This increased to 8.5% in 2014 and has decreased slightly to 8% in 2015. In the period 2006-2015 the total number of taxis crossing the cordon increased by 23%. However, there has been a decrease in the number of taxis crossing the cordon since 2013 of 14% a trend that continued in 2015.



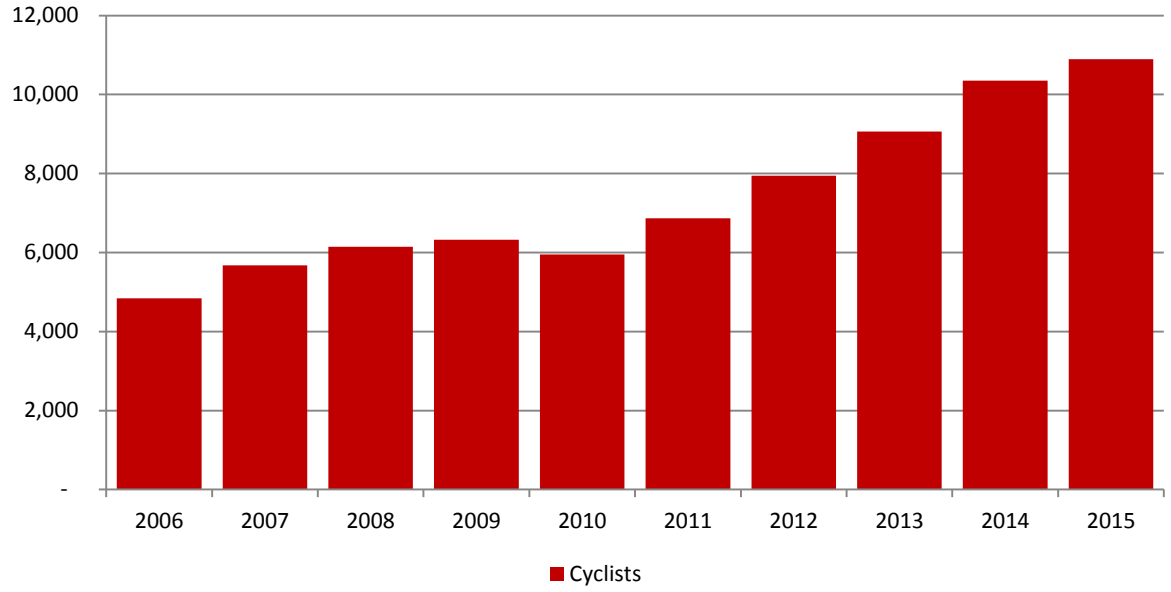

## Pedestrians

The number of pedestrians crossing the canal cordon decreased from 19,711 people in 2014 to 18,727 in 2015, a decrease of just under 5%. 2014 however recorded the highest number of pedestrians crossing the cordon in the period 2006-2015 and whilst there was a 5% drop from 2014 to 2015, the second highest number of pedestrians over the decade of analysis was recorded in 2015.



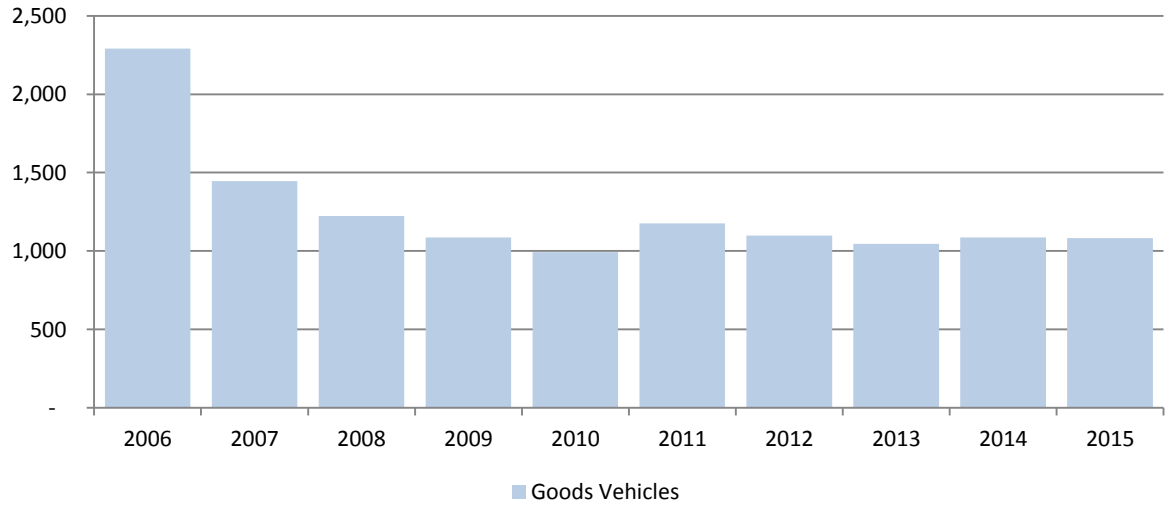
## Cyclists

There was an increase of over 5% in the number of cyclists crossing the canal cordon from 2014 to 2015. There has been a steady year on year growth in the number of cyclists crossing the cordon since 2010. In 2015 almost 11,000 cyclists crossed the cordon in the morning peak period. This represents an increase of 125% when compared with 2006.



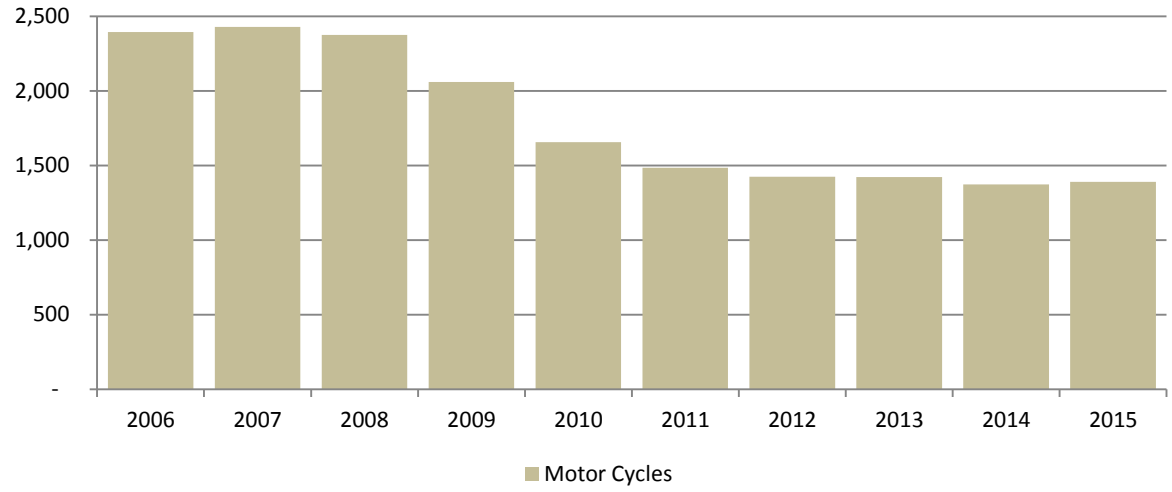

## Goods Vehicles

The number of goods vehicles crossing the cordon in the morning peak decreased by 4% between 2014 and 2015. Overall, the volume of goods vehicles crossing the cordon has remained broadly unchanged since 2009. Over the longer period from 2006 to 2015 however, the number of goods vehicles crossing the cordon has decreased by 53%. The majority of that decrease, 70%, occurred in the period 2006-2007.



## Motor Bikes

There was an increase of just over 1% in the number of motor cyclists crossing the canal cordon between 2014 and 2015. In the period 2006-2015 the volume of motor cyclists crossing the cordon in the morning peak fell by 42%. The declining trend however is stabilised somewhat since 2012.



## Numbers of People Crossing the Canal Cordon by Mode

Using the data obtained from the public transport surveys, table 2.2 gives the total numbers of people crossing the canal cordon inbound between 0700-1000 for 2015 and for each year between 2006 and 2015 broken down by mode of travel.

| Mode | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Bus** | 59,874 | 57,201 | 60,438 | 56,168 | 50,420 | 54,251 | 52,007 | 56,177 | 56,671[5] | **57,584** |
| **Rail** | 33,534 | 35,692 | 32,324 | 25,723 | 23,580 | 22,932 | 23,999 | 24,969 | 24,866 | **29,521** |
| **LUAS** | 9,029 | 9,171 | 9,242 | 8,776 | 9,111 | 9,949 | 10,014 | 10,835 | 11,670 | **12,503** |
| **Public Transport** | **102,437** | **102,064** | **102,004** | **90,667** | **83,111** | **87,132** | **86,047** | **91,981** | **93,207** | **99,608** |
| **Car** | 76,850 | 71,597 | 67,732 | 71,043 | 71,978 | 69,681 | 68,626 | 68,072 | 64,169 | **65,269** |
| **Taxi** | 1,453 | 2,154 | 1,930 | 2,739 | 2,260 | 2,674 | 3,271 | 3,111 | 2,775 | **2,960** |
| **Walk** | 17,114 | 18,594 | 18,360 | 14,618 | 15,092 | 14,551 | 17,070 | 17,495 | 19,711 | **18,727** |
| **Cycle** | 4,839 | 5,676 | 6,143 | 6,326 | 5,952 | 6,870 | 7,943 | 9,061 | 10,349 | **10,893** |
| **Goods** | 2,291 | 1,445 | 1,223 | 1,087 | 993 | 1,176 | 1,099 | 1,045 | 1,087 | **1,096** |
| **Motor Bike** | 2,395 | 2,429 | 2,375 | 2,060 | 1,656 | 1,485 | 1,425 | 1,423 | 1,372 | **1,390** |
| **Total Pers. Trips** | **207,379** | **203,959** | **199,767** | **188,540** | **181,042** | **183,569** | **185,481** | **192,188** | **192,670** | **199,943** |

*Table 2.2 – Numbers of people crossing the Canal Cordon by mode of travel 2006-2015*

The data is displayed in graphical format in figure 2.2

[5] The passenger numbers for non-Dublin Bus services crossing the cordon were not counted in 2014. Accordingly, Non Dublin Bus passenger numbers have been estimated by applying the 2013 average occupancy of non-Dublin Bus services to the 2014 vehicle count.

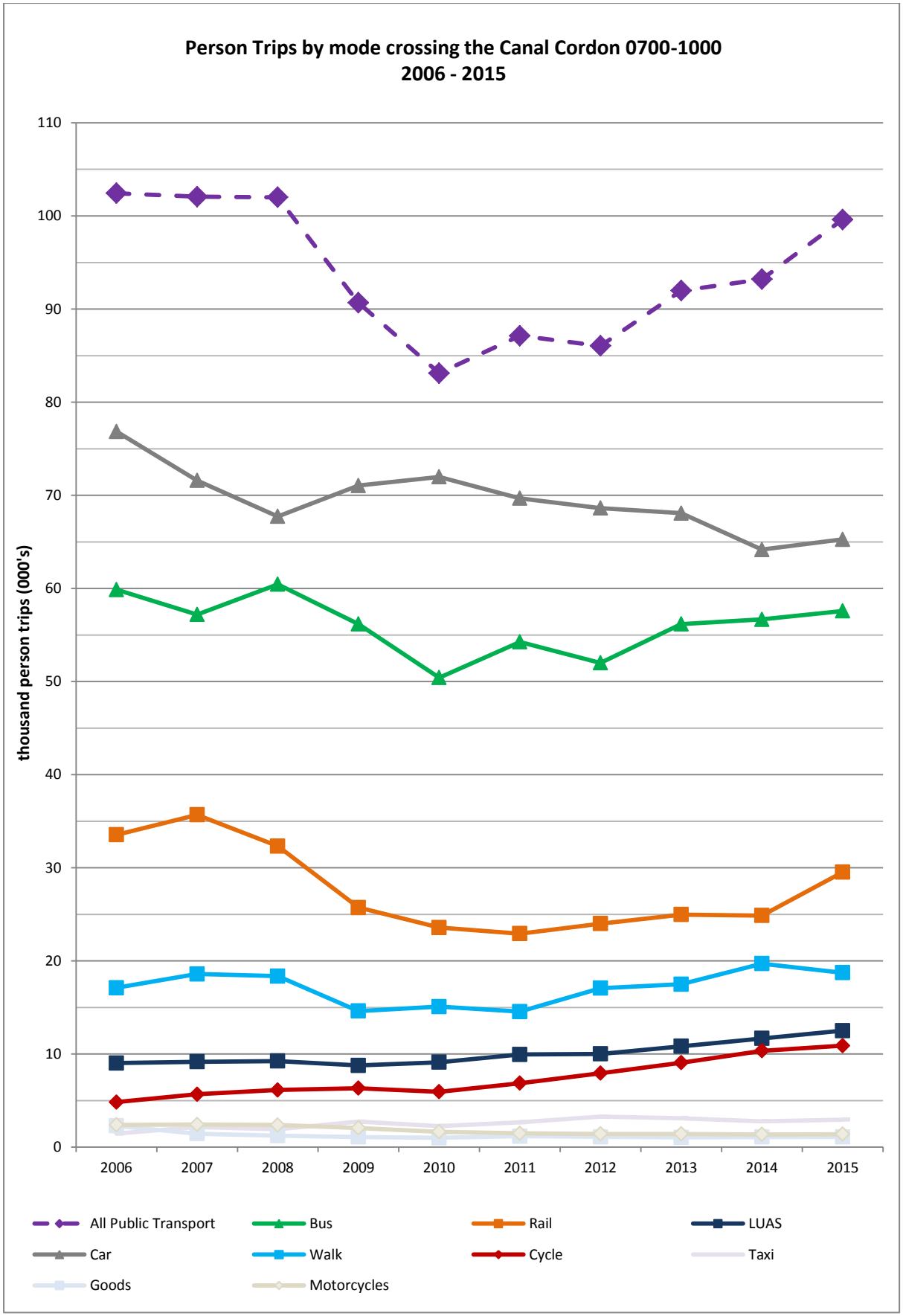



*Figure 2.2 – Numbers of people crossing the Canal Cordon by mode of travel 2006-2015*

*Analysis of trends in mode share of people crossing the canal cordon2006 - 2015*

## Percentage mode share of people crossing the canal cordon

Table 2.3 gives the percentage mode share for all modes of travel used by people crossing the canal cordon inbound between 0700 and 1000 for the years 2006 to 2015

| Mode | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|
| Bus | 28.9% | 28.1% | 30.3% | 29.8% | 27.9% | 29.6% | 28.0% | 29.2% | 29.4% | 28.8% |
| Rail | 16.2% | 17.5% | 16.2% | 13.6% | 13.0% | 12.5% | 12.9% | 13.0% | 12.9% | 14.8% |
| LUAS | 4.4% | 4.5% | 4.6% | 4.7% | 5.0% | 5.4% | 5.4% | 5.6% | 6.1% | 6.3% |
| **Public Transport** | **49.4%** | **50.0%** | **51.1%** | **48.1%** | **45.9%** | **47.5%** | **46.4%** | **47.9%** | **48.4%** | **49.8%** |
| Car | 37.1% | 35.1% | 33.9% | 37.7% | 39.8% | 38.0% | 37.0% | 35.4% | 33.3% | 32.6% |
| Taxi | 0.7% | 1.1% | 1.0% | 1.5% | 1.3% | 1.5% | 1.8% | 1.6% | 1.4% | 1.5% |
| Walk | 8.3% | 9.1% | 9.2% | 7.8% | 8.3% | 7.9% | 9.2% | 9.1% | 10.2% | 9.4% |
| Cycle | 2.3% | 2.8% | 3.1% | 3.4% | 3.3% | 3.7% | 4.3% | 4.7% | 5.4% | 5.4% |
| Goods | 1.1% | 0.7% | 0.6% | 0.6% | 0.6% | 0.6% | 0.6% | 0.5% | 0.6% | 0.5% |
| Motor Bike | 1.2% | 1.2% | 1.2% | 1.1% | 0.9% | 0.8% | 0.8% | 0.7% | 0.7% | 0.7% |
| **Total Pers. Trips** | **207,379** | **203,959** | **199,767** | **188,540** | **181,042** | **183,569** | **185,481** | **192,188** | **192,670** | **199,943** |

*Table 2.3 – Mode share of people crossing the Canal Cordon by mode of travel 2006-2015*

The trend is graphed in figure 2.3 below:

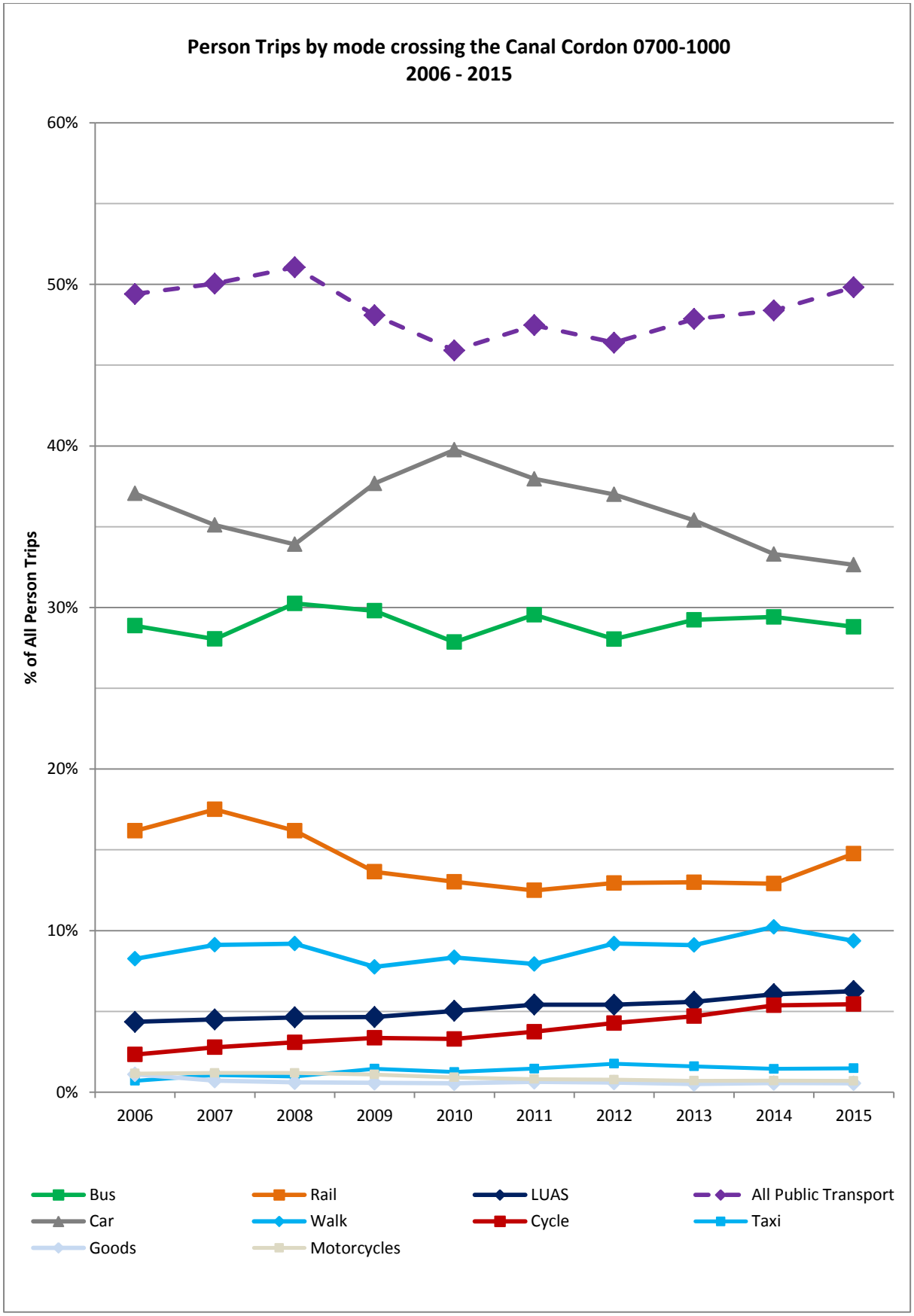



*Figure 2.3 – Mode share of people crossing the Canal Cordon by mode of travel 2006-2015*

## Trips Crossing the Canal Cordon by Sustainable Modes

The tables below show the number and mode share of trips crossing the canal cordon in the morning peak by sustainable modes during the period 2006 to 2015. Sustainable modes consist of public transport, active modes (walking and cycling) and taxi.

| Mode | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|
| Sustainable Modes | 125,843 | 128,488 | 128,437 | 114,350 | 106,415 | 111,227 | 114,304 | 121,648 | 126,042 | 132,188 |
| Car,Goods & Other | 81,536 | 75,471 | 71,330 | 74,190 | 74,627 | 72,342 | 71,150 | 70,540 | 66,628 | 67,755 |
| Total | 207,379 | 203,959 | 199,767 | 188,540 | 181,042 | 183,569 | 185,454 | 192,188 | 192,670 | 199,943 |

*Table 2.4 – Numbers of people crossing the Canal Cordon by sustainable modes of travel 2006-2015*

| Mode | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|
| Sustainable Modes | 61% | 63% | 64% | 61% | 59% | 61% | 62% | 63% | 65% | 66% |
| Car,Goods & Other | 39% | 37% | 36% | 39% | 41% | 39% | 38% | 37% | 35% | 34% |

*Table 2.5– Mode share of people crossing the Canal Cordon by sustainable modes 2006-2015*

During the 2015 morning peak period (7am to 10am), approximately two thirds of all inbound trips crossing the canal cordon are made by a sustainable mode (walking, cycling or public transport). The sustainable mode share has grown year on year since 2010. In the last 6 years the share for sustainable modes has grown by 7 percentage points, an increase of 25,780 person trips.

In 2015, 132,188 trips crossed the cordon by sustainable modes in the three hour morning peak period. This is the highest level of mode share and person trips by sustainable modes since the cordon count began. This represents 6,350 more person trips by sustainable mode than were made in 2006 when a peak of 207,379 people crossed the canal cordon in the morning peak period in total.

The graphs below show the trend in trips by sustainable modes over the 10 year period 2006 – 2015.

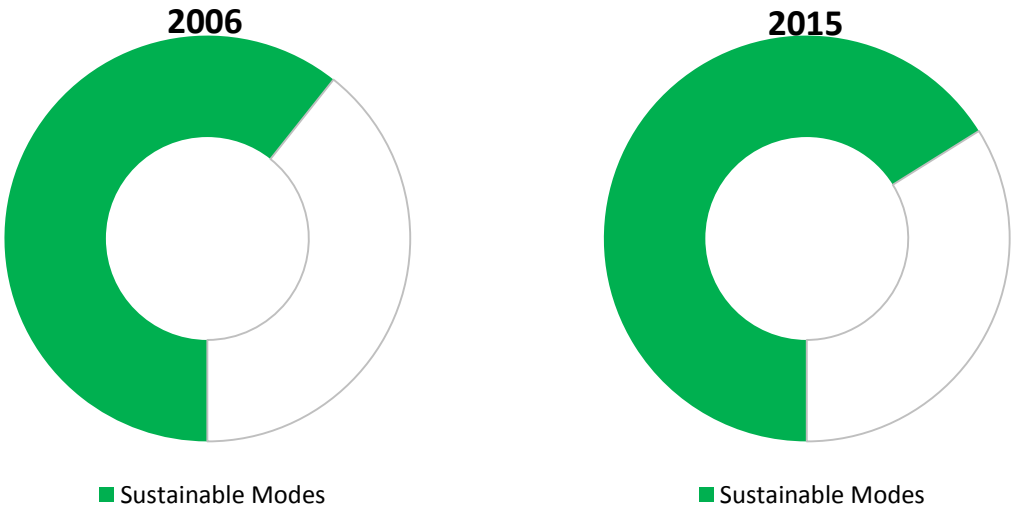



*Figure 2.4 – Mode share of people crossing the Canal Cordon by sustainable modes 2006 & 2015*

*Analysis of trends in mode share of people crossing the canal cordon2006 - 2015*

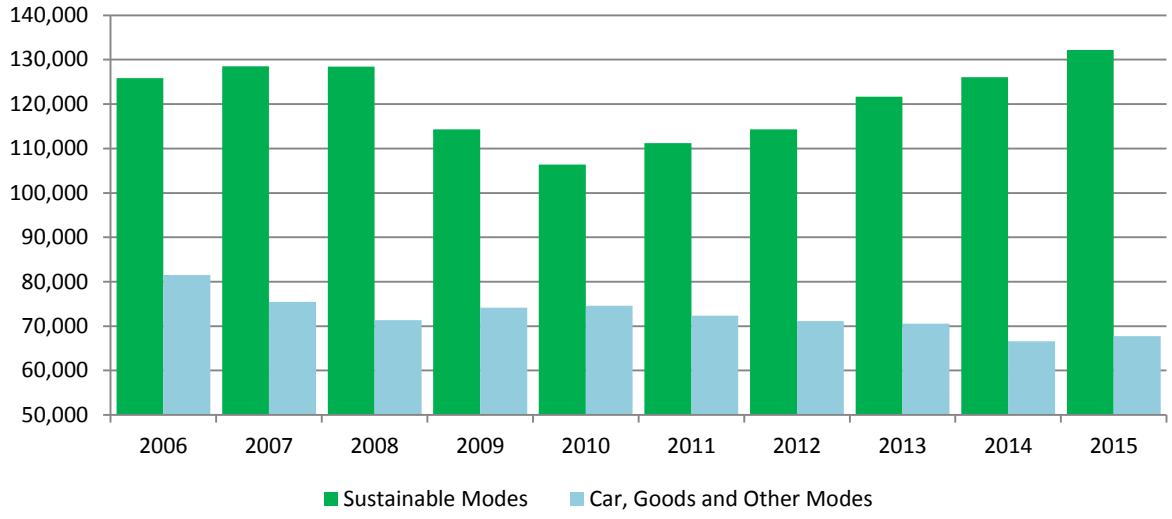



*Figure 2.5 – Numbers of people crossing the Canal Cordon by sustainable modes of travel 2006-2015*

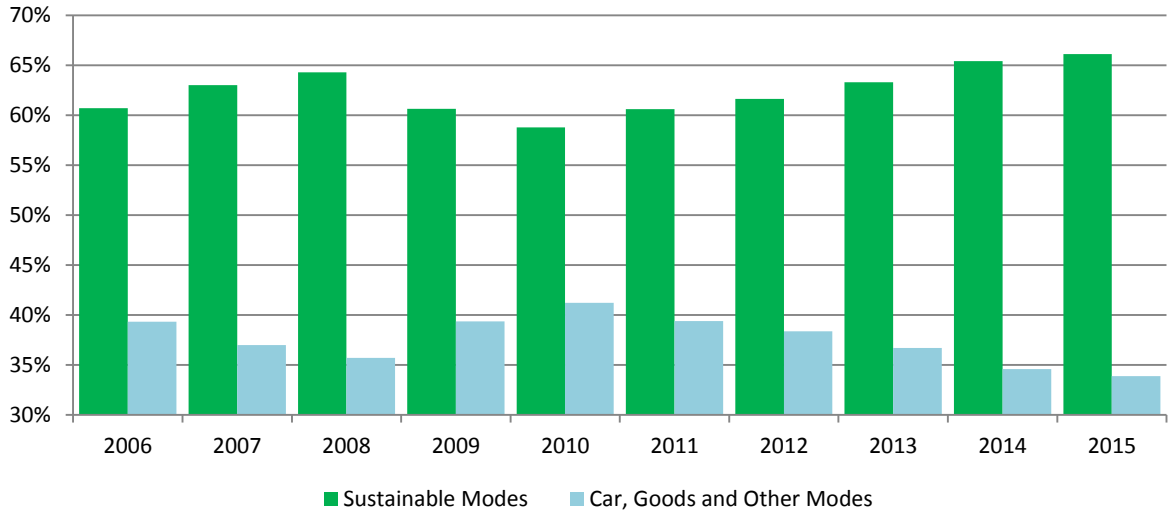



*Figure 2.6 – Mode share of people crossing the Canal Cordon by sustainable modes 2006-2015*

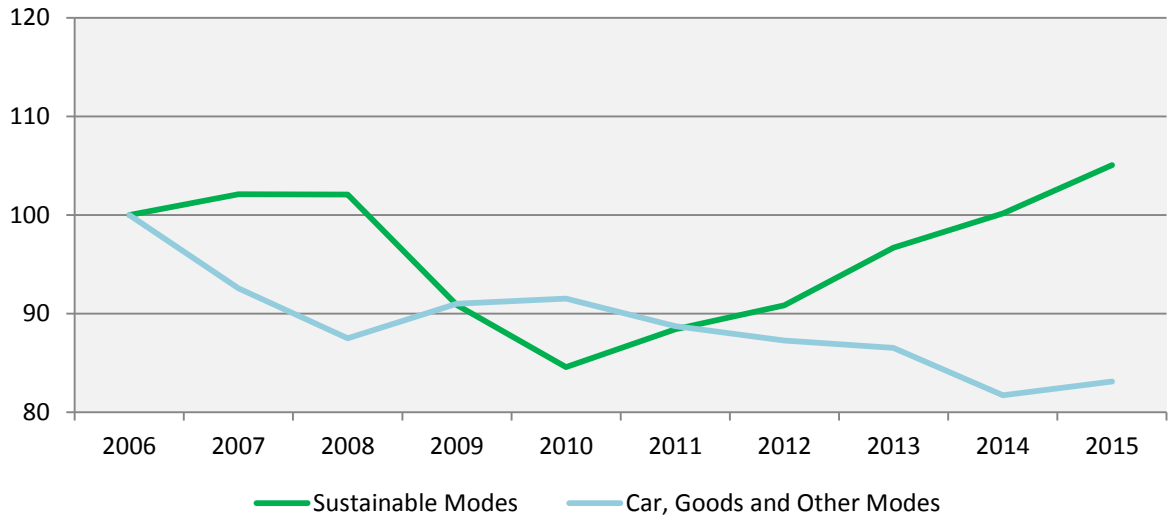



*Figure 2.7 – Relative increase/decrease in use of sustainable and other modes 2006-2015*

**INDEX: 2006 = 100**

# Commentary on Canal Cordon Trends

From an analysis of the data presented above, the following trends are apparent:

## Overall Trends

As shown in table 2.3 and figure 2.3, the total number of people crossing the canal cordon in the morning peak period (0700-1000) increased by 3.8% between 2014 and 2015. This is an increase of 7,273 person trips, bringing the total number of people crossing the canal (inbound) in the morning peak period to 199,943.

Over the longer period from 2006 to 2015, total person trips have decreased by 3.6% (7,450 persons), down from a peak of 207,379 in 2006. However the number of persons crossing the canal cordon in the morning peak has increased year on year since 2011, a trend that continued in 2015.

## Public Transport Usage

Between 2014 and 2015, there was an increase of 6.9% in the number of public transport users crossing the cordon between 0700 and 1000. In 2015 almost 100,000 people used public transport to get into the City Centre on census day.

There were increases in each of the public transport modes - bus, LUAS and rail. Rail showed an increase of almost 19% relative to 2014. However, a portion of this increase may be due to the fact that there were weather related service issues on the rail census date in 2014, leading to a potential under-stating of the 2014 numbers.

While continuing the trend of the last three years of increasing public transport passenger numbers, the number of passengers is still 2.8% below the equivalent 2006 numbers although overall public transport mode share is up half a percentage point in the same period.

In 2015 almost half (49.8%) of person trips into the City Centre in the morning peak on census day were made on public transport.

## Mode Trends

A summary of the key changes in travel across the canal cordon set out above is described below:

In percentage terms mode share for bus travel across the canal cordon in 2015 is 28.8%. This is a slight decrease on 2014 and down 1.4% from the peak bus mode share of 30.3% in 2008. Bus mode share underwent a slight decline in 2015, down by half a percentage point. However in overall terms bus patronage increased in 2015. Bus now carries almost 58,000 people into the City Centre in the morning peak. This represents 58% of all public transport trips

The mode share for rail across the canal cordon in 2015 was 14.8%. This is the highest it has been since 2008. However it is still some 2.7% below the peak rail mode share of 17.5% in 2007. Intercity, Suburban Rail and DART had lost a significant share of travel into the City Centre between 2007 and 2014. However this trend has been reversed in 2015 with a 2% increase in rail mode share relative to 2014. Rail patronage levels are still over 17% lower than peak 2007 levels.

Car mode share (excluding taxis) declined in 2015, continuing a year on year decline since 2010. Overall since 2006 car usage has declined by 15%. Although there was a growth of almost 2% in car

use between 2014 and 2015, on census day 2015 over 11,500 less cars entered the City during the morning peak than on census day 2006.

Walking declined slightly between 2014 and 2015. However the walking levels are at their second highest since 2006 (2014 being the highest). Almost 30,000 “active trips” (walking and cycling) cross the canal cordon during the morning peak, the same volume that is carried by the entire heavy rail network for the same period.

Cycling has continued its steady trend of increasing usage and now represents a mode a share of 5.4% as it did in 2014. The cycle mode share has more than doubled since 2006 and has increased year on year since 2010.

Almost 3,000 people entered the City by taxi in 2015 - this represents a 7% increase on 2014 levels. In 2015 more than double the amount of people entered the City by taxi than did in 2006.

The number of motor cyclists entering the City has reduced significantly in the last nine years (by over 40%). However the trend remained relatively flat between 2014 and 2015. Motor cycle mode share has been flat at 0.7% for the last three years

The number of goods vehicles entering the City during the morning peak has declined by over 50% since 2006. The mode share for goods vehicles has remained relatively unchanged since 2007. Between 2006 and 2007 the goods vehicle mode share fell by almost 40%. There was a slight increase in goods vehicles in 2015 relative to 2014.

Since 2010, there has been a trend of increasing mode share for sustainable transport modes, with a consistent level of increase each year. In 2015 the overall mode share for sustainable transport modes – walking, cycling and public transport – was 66%, its highest level since the canal cordon counts began. Goods vehicles and journeys by car and motorbike now account for only one third of the trips crossing the canal cordon.