

Item No. 4



Canal Cordon Report 2016

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

2006 to 2016

February 2017

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1 Introduction

1.1 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 AM peak period 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 for the period 2006-2016.

1.2 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 AM 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.

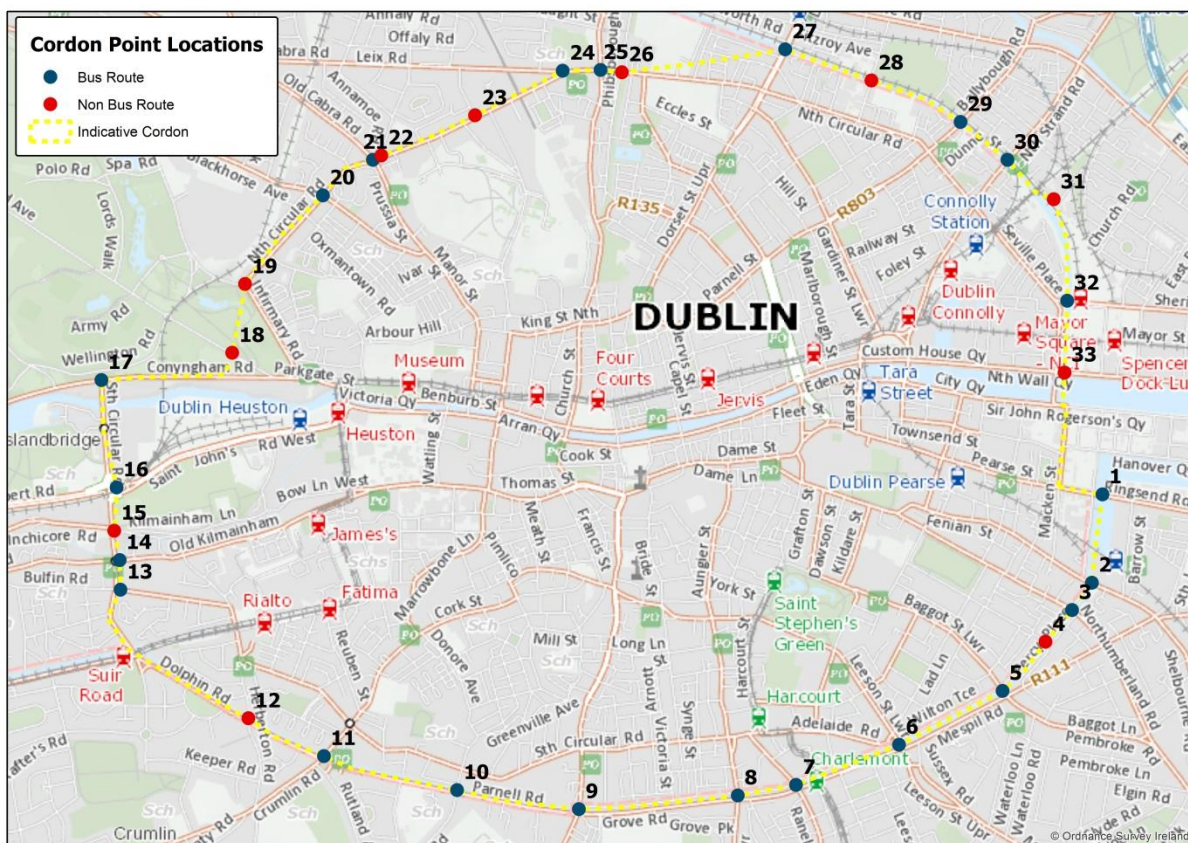


Figure 1.1 Canal Cordon Showing all 33 count locations

1.3 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 undertaken surveys at the Canal Cordon in November annually since 1980. Surveys are undertaken over two days at each location 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, AM 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 Figure1.1).

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.

- Since 2012, Iarnród Éireann has undertaken a census of passengers boarding and alighting on all services passing through all stations in the national rail network on a single day. In 2016 the national rail census was carried out on 17th November. 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 passengers boarding and alighting 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 Canal Cordon into the City in a typical AM 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 – 2016. For these 11 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.

³ Previously Railway Procurement Agency (RPA)

2 Traffic Surveys – Vehicles, Cyclist, Pedestrians

2.1 Overview

This Chapter of the report records the data collected from the traffic counts only, which records the numbers of vehicles of different types and the numbers of cyclists and pedestrians. It does not include the public transport surveys which supplements the traffic counts with the additional passenger numbers on the various modes of public transport. That information is included in Chapter 3 of this report.

Table 2.1 below presents the total numbers of vehicles, pedestrians and cyclists crossing the Canal Cordon inbound between 0700-1000 from 2006-2016.

Mode	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Bus	1,680	1,740	1,814	1,704	1,688	1,539	1,503	1,539	1,504	1,528	1,625
Car	58,664	58,686	58,897	58,232	58,047	55,745	55,343	54,458	53,033	53,064	51,908
Taxi	3,825	4,583	5,079	4,980	4,809	4,862	5,277	5,458	4,955	4,699	4,779
Walk	17,114	18,594	18,360	14,618	15,092	14,551	17,070	17,495	19,711	18,727	21,473
Cycle	4,839	5,676	6,143	6,326	5,952	6,870	7,943	9,061	10,349	10,893	12,089
Goods	2,291	1,445	1,223	1,087	993	1,176	1,099	1,045	1,087	1,096	1,093
M.Cyc ⁴	2,395	2,429	2,375	2,060	1,656	1,485	1,425	1,423	1,372	1,390	1,464

Table 2.1 – Vehicle, cyclists and pedestrians crossing the Canal Cordon by mode of travel 2006-2016

In Figure 2.1 the data is displayed in graphical format.

The next sections provide 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 AM peak period from 0700-1000.

In Chapter 3, this analysis is 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

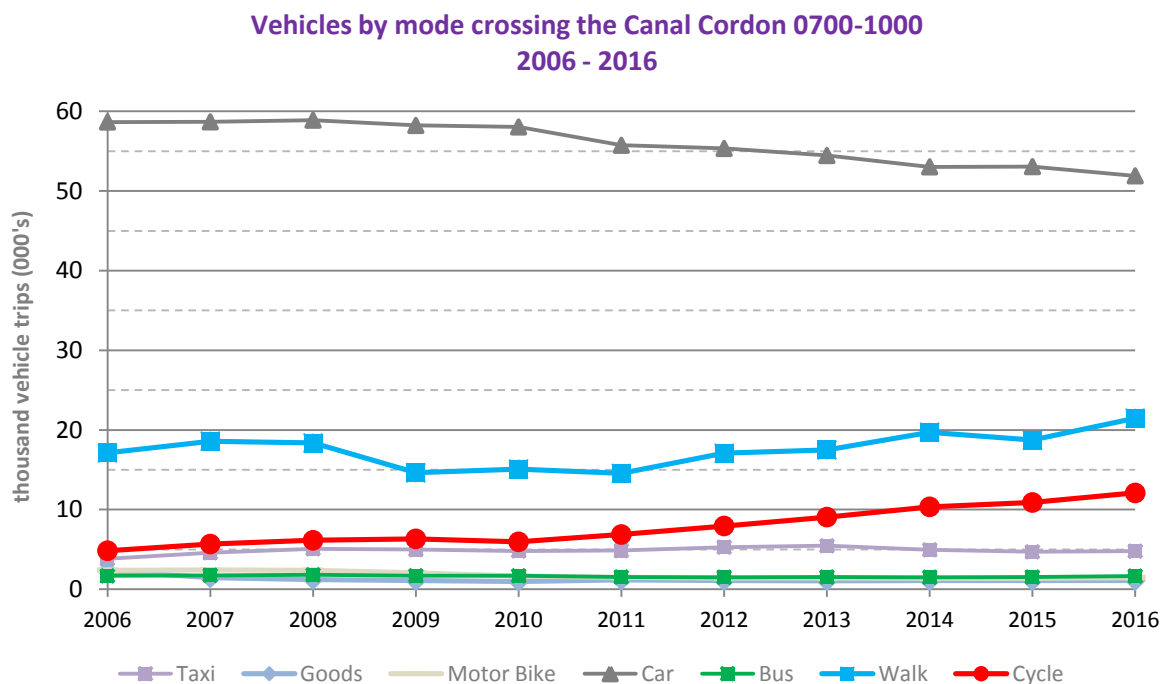


Table 2.1 – Vehicle, cyclists and pedestrians crossing the Canal Cordon by mode of travel 2006-2016

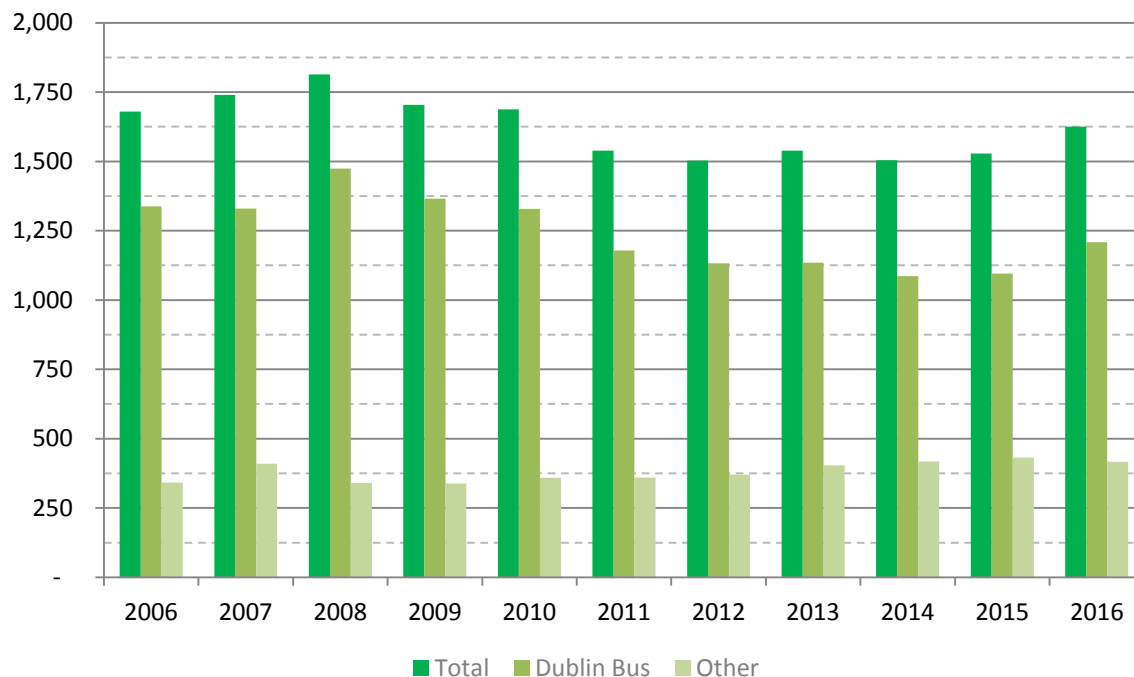
2.2 Numbers of vehicles, cyclists and pedestrians crossing the canal cordon by mode

2.2.1 Buses

Between 2015 and 2016, there has been an increase in the number of buses crossing the cordon from 1,528 to 1,625, which is an increase of just over 6%. Dublin Bus vehicle numbers increased by just over 10% whereas buses operated by Bus Éireann and private operators decreased by almost 4%.

In the period 2006-2016 the total number of buses crossing the cordon has decreased by 3%. In the same time period, the number of Dublin Bus vehicles has decreased by 10% whilst the number of Bus Éireann and privately operated buses has increased by 22%.

Number of Buses Crossing Cordon in AM Peak Period, 2006-2016

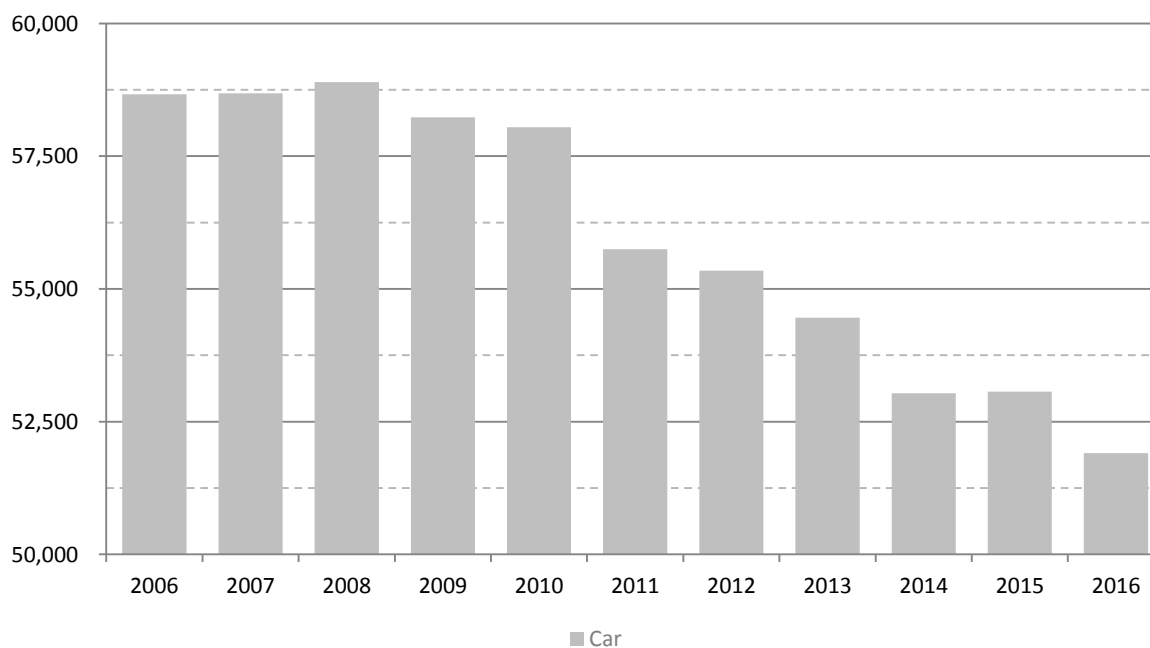


2.2.2 Cars

Continuing the trend of the last 3 years, there was a decrease in the number of cars crossing the cordon from 53,064 to 51,908 between 2015 and 2016. This represents a decrease of just over 2%.

In the period 2006-2016 the peak year for cars crossing the canal cordon was in 2008 with almost 59,000 vehicles. The 2016 Figure represents a decrease of 12% or 6,989 cars since this peak.

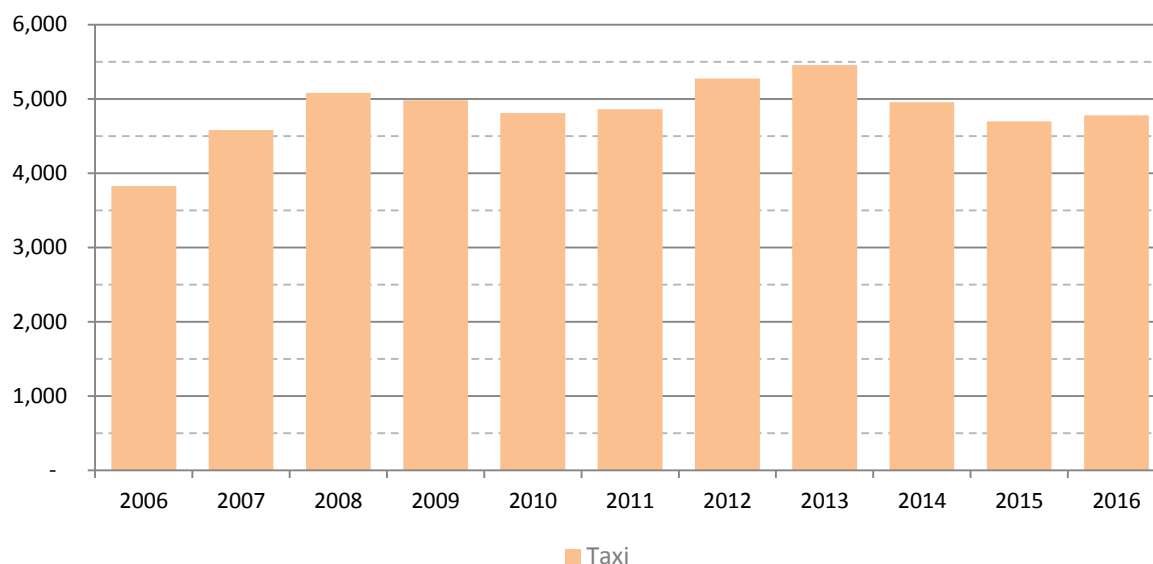
Number of Cars Crossing Cordon in AM Peak Period, 2006-2016



2.2.3 Taxis

Taxis made up 6% of all cars crossing the canal cordon in 2006. This increased to 8.1% in 2015 and has increased slightly to 8.4% in 2016. In the period 2006-2016 the total number of taxis crossing the cordon increased by 25%. 2016 saw the first increase in the number of taxis crossing the cordon in the AM peak period since 2013.

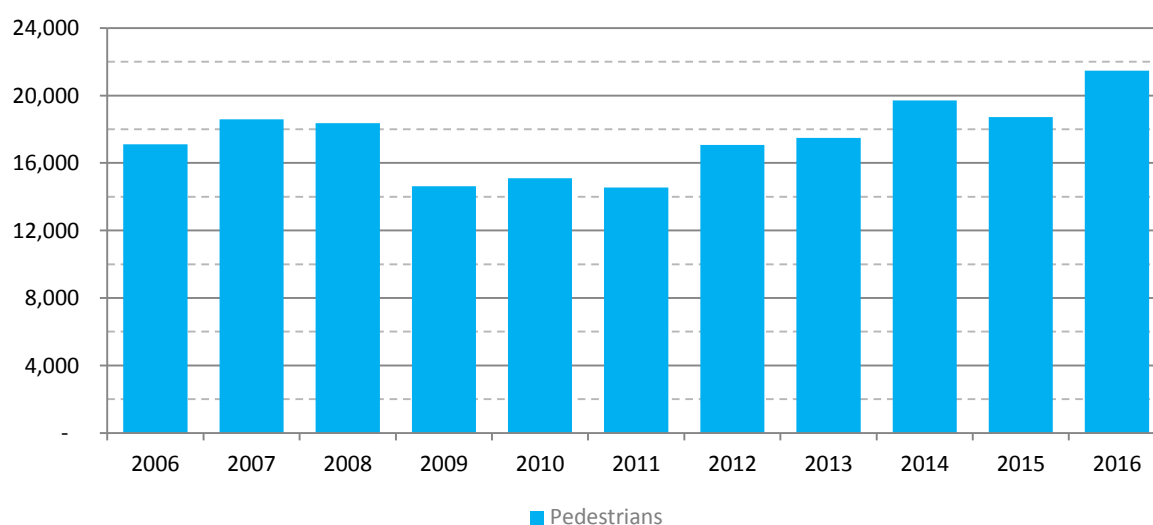
Number of Taxis Crossing Cordon in AM Peak Period, 2006-2016



2.2.4 Pedestrians

Reversing the trend of 2014 to 2015; the number of pedestrians crossing the canal cordon increased from 18,727 people in 2015 to 21,473 in 2016, an increase of almost 15%. 2016 is the first year on record that the number of pedestrians crossing the cordon in the AM peak has exceeded 20,000. In the period 2006 to 2016, there has been a 25% increase in the number of pedestrians crossing the cordon during the AM peak period.

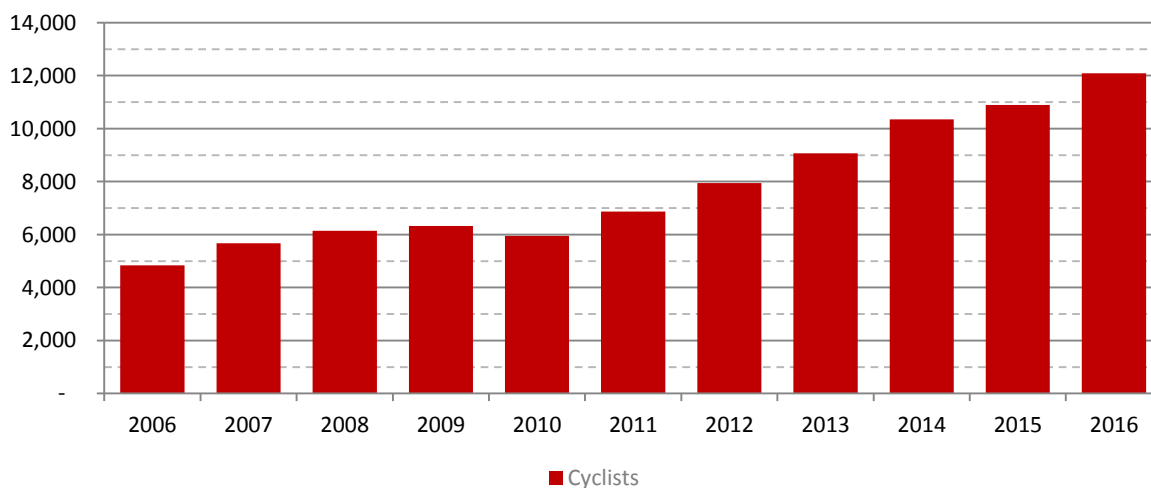
Number of Pedestrians Crossing Cordon in AM Peak Period, 2006-2016



2.2.5 Cyclists

There was an increase of 11% in the number of cyclists crossing the canal cordon from 2015 to 2016. There has been a steady year on year growth in the number of cyclists crossing the cordon since 2010. In 2016 over 12,000 cyclists crossed the cordon in the AM peak period. This represents an increase of 150% when compared with 2006, and represents an increase of over 50% in the last four years.

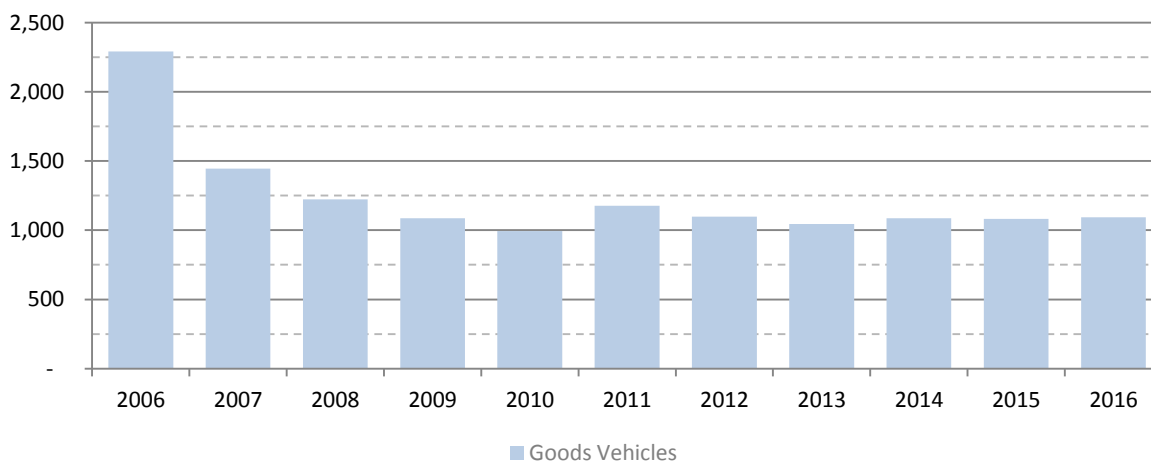
Number of Cyclists Crossing Cordon in AM Peak Period, 2006-2016



2.2.6 Goods Vehicles

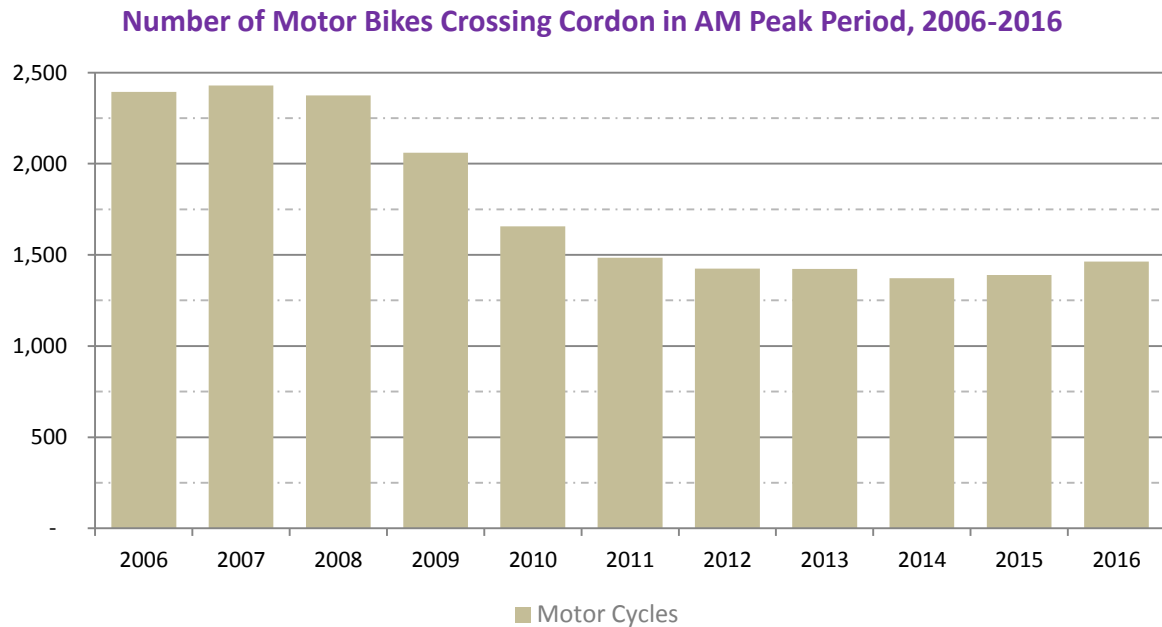
Following a slight decline between 2014 and 2015, the number of goods vehicles crossing the cordon in the AM peak period increased by 1% in the period 2015 to 2016. Overall, the volume of goods vehicles crossing the cordon has remained broadly unchanged since 2009. Over the longer period from 2006 to 2016 however, the number of goods vehicles crossing the cordon has decreased by over 52%. The majority of that decrease, 70%, occurred in the period 2006-2007, and coincided with the opening of the Dublin Port Tunnel in 2006 and the implementation of the HGV Management Strategy in 2007.

Number of Good Vehicles Crossing Cordon in AM Peak Period, 2006-2016



2.2.7 Motor Bikes

There was an increase of just over 5% in the number of motor cyclists crossing the canal cordon between 2015 and 2016. In the period 2006-2016 the volume of motor cyclists crossing the cordon in the AM peak has fallen almost 40%. The declining trend however is stabilised somewhat since 2012.



3 Traffic and Transport Surveys - Overall Movements

3.1 Overview

While Chapter 2 reports the number of vehicles, cyclists and pedestrians crossing the canal cordon, this chapter supplements that information with the data obtained from the public transport surveys, to give the overall number of people travelling into the central area of the City.

Using that supplementary data, Table 2.2 gives the total numbers of people crossing the canal cordon inbound between 0700-1000 for 2016 and for each year between 2006 and 2016, broken down by mode of travel.

Mode	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Bus	59,874	57,201	60,438	56,168	50,420	54,251	52,007	56,177	56,671 ⁵	57,584	54,710
Rail	33,534	35,692	32,324	25,723	23,580	22,932	23,999	24,969	24,866	29,521	31,309
LUAS	9,029	9,171	9,242	8,776	9,111	9,949	10,014	10,835	11,670	12,503	12,254
Public Transport	102,437	102,064	102,004	90,667	83,111	87,132	86,047	91,981	93,207	99,608	98,273
Car	76,850	71,597	67,732	71,043	71,978	69,681	68,626	68,072	64,169	65,269	64,885
Taxi	1,453	2,154	1,930	2,739	2,260	2,674	3,271	3,111	2,775	2,960	2,724
Walk	17,114	18,594	18,360	14,618	15,092	14,551	17,070	17,495	19,711	18,727	21,473
Cycle	4,839	5,676	6,143	6,326	5,952	6,870	7,943	9,061	10,349	10,893	12,089
Goods	2,291	1,445	1,223	1,087	993	1,176	1,099	1,045	1,087	1,096	1,093
Motor Bike	2,395	2,429	2,375	2,060	1,656	1,485	1,425	1,423	1,372	1,390	1,464
Total Pers. Trips	207,379	203,959	199,767	188,540	181,042	183,569	185,481	192,188	192,670	199,943	202,001

Table 2.2 – Numbers of people crossing the Canal Cordon by mode of travel 2006-2016

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.

Person Trips by mode crossing the Canal Cordon 0700-1000 2006 - 2016

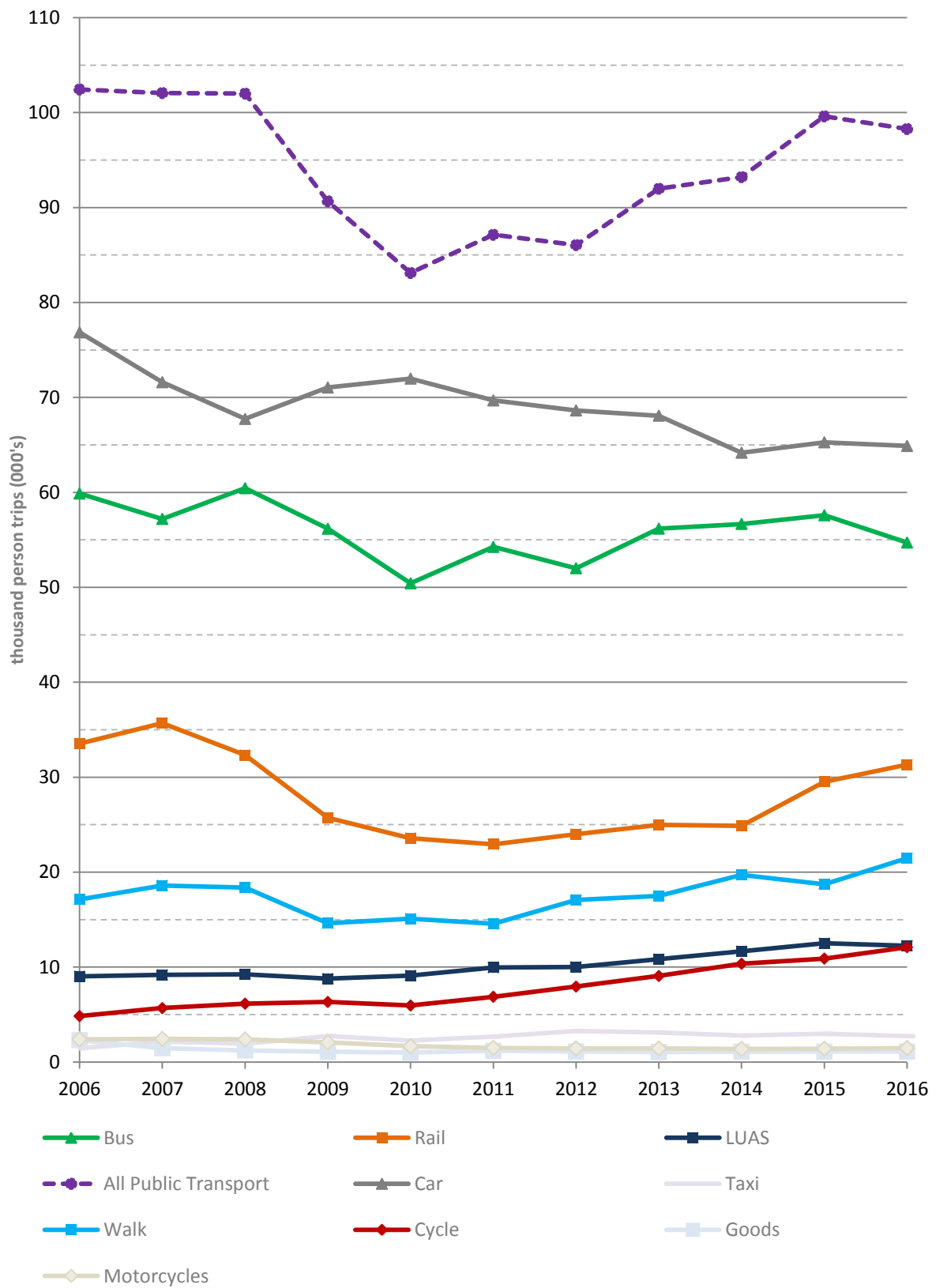


Figure 2.2 – Numbers of people crossing the Canal Cordon by mode of travel 2006-2016

3.2 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 2016.

Mode	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Bus	28.9%	28.1%	30.3%	29.8%	27.9%	29.6%	28.0%	29.2%	29.4%	28.8%	27.1%
Rail	16.2%	17.5%	16.2%	13.6%	13.0%	12.5%	12.9%	13.0%	12.9%	14.8%	15.5%
LUAS	4.4%	4.5%	4.6%	4.7%	5.0%	5.4%	5.4%	5.6%	6.1%	6.3%	6.1%
Public Transport	49.4%	50.0%	51.1%	48.1%	45.9%	47.5%	46.4%	47.9%	48.4%	49.8%	48.6%
Car	37.1%	35.1%	33.9%	37.7%	39.8%	38.0%	37.0%	35.4%	33.3%	32.6%	32.1%
Taxi	0.7%	1.1%	1.0%	1.5%	1.3%	1.5%	1.8%	1.6%	1.4%	1.5%	1.3%
Walk	8.3%	9.1%	9.2%	7.8%	8.3%	7.9%	9.2%	9.1%	10.2%	9.4%	10.6%
Cycle	2.3%	2.8%	3.1%	3.4%	3.3%	3.7%	4.3%	4.7%	5.4%	5.4%	6.0%
Goods	1.1%	0.7%	0.6%	0.6%	0.6%	0.6%	0.6%	0.5%	0.6%	0.5%	0.5%
Motor Bike	1.2%	1.2%	1.2%	1.1%	0.9%	0.8%	0.8%	0.7%	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	202,001

Table 2.3 – Mode share of people crossing the Canal Cordon by mode of travel 2006-2016

The trend is graphed in Figure 2.3 below:

Person Trips by mode crossing the Canal Cordon 0700-1000 2006 - 2016

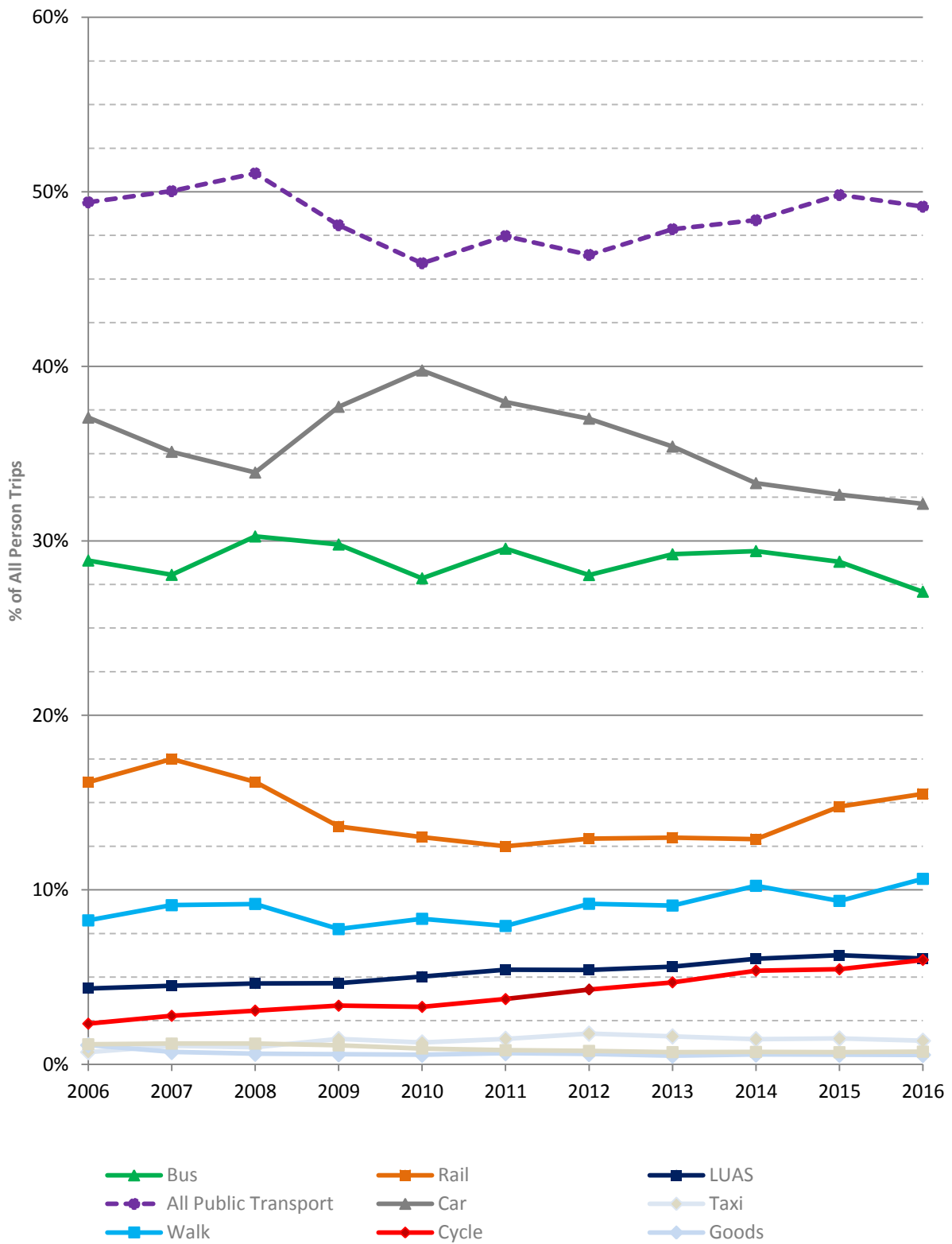


Figure 2.3 – Mode share of people crossing the Canal Cordon by mode of travel 2006-2016

3.3 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 AM peak period by sustainable modes during the period 2006 to 2016. Sustainable modes consist of public transport, active modes (walking and cycling) and taxi.

Mode	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Sustain Modes	125,843	128,488	128,437	114,350	106,415	111,227	114,304	121,648	126,042	132,188	134,559
Car, Goods, Other	81,536	75,471	71,330	74,190	74,627	72,342	71,150	70,540	66,628	67,755	67,442
Total	207,379	203,959	199,767	188,540	181,042	183,569	185,454	192,188	192,670	199,943	202,001

Table 2.4 – Numbers of people crossing the Canal Cordon by sustainable modes of travel 2006-2016

Mode	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Sustainable Modes	61%	63%	64%	61%	59%	61%	62%	63%	65%	66%	67%
Car, Goods & Other	39%	37%	36%	39%	41%	39%	38%	37%	35%	34%	33%

Table 2.5– Mode share of people crossing the Canal Cordon by sustainable modes 2006-2016

During the 2016 AM peak period (7am to 10am), approximately two thirds of all inbound trips crossing the canal cordon were made by a sustainable mode (walking, cycling public transport or taxi). The sustainable mode share has grown year on year since 2010. In the last 7 years the share for sustainable modes has grown by 8 percentage points, an increase of 28,144 person trips.

In 2016, 134,559 trips crossed the cordon by sustainable modes in the three hour AM peak period. This is the highest level of mode share and person trips by sustainable modes since the cordon count began. This represents 8,716 more person trips by sustainable mode than were made in 2006 when a peak of 207,379 people crossed the canal cordon in the AM peak period in total.

The graphs below show the trend in trips by sustainable modes over the 10 year period 2006 – 2016.

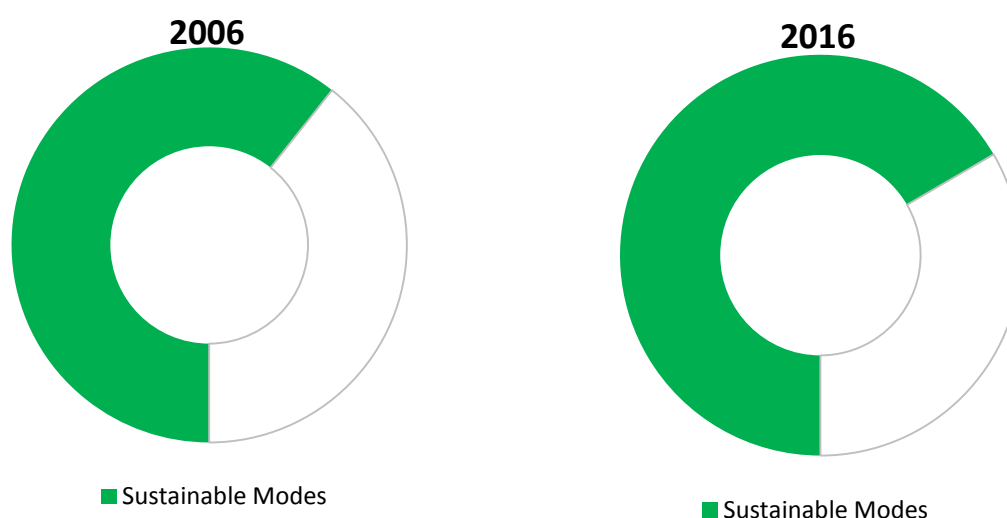


Figure 2.4 – Mode share of people crossing the Canal Cordon by sustainable modes 2006 & 2016

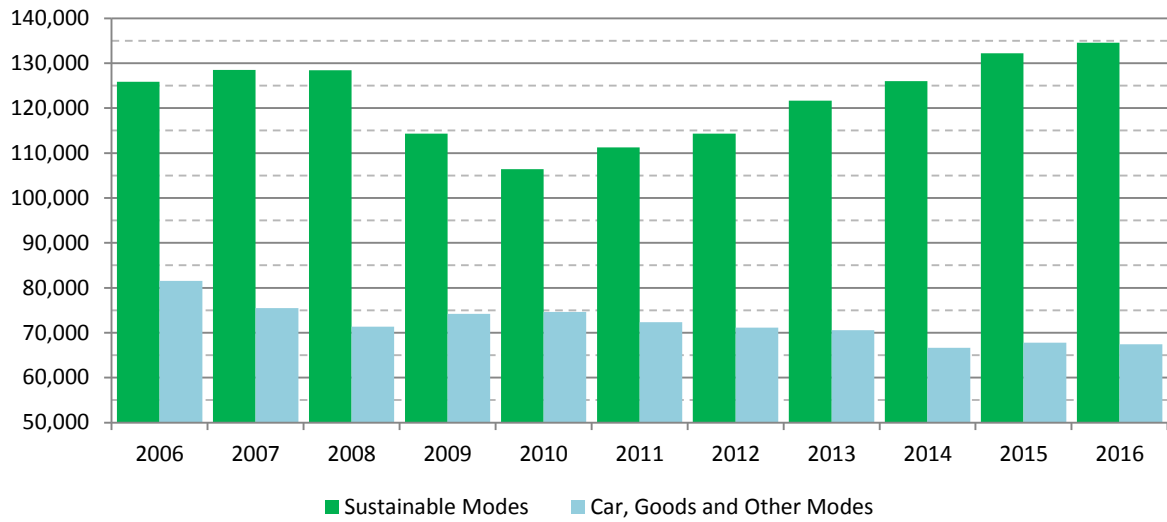


Figure 2.5 – Numbers of people crossing the Canal Cordon by sustainable modes of travel 2006-2016

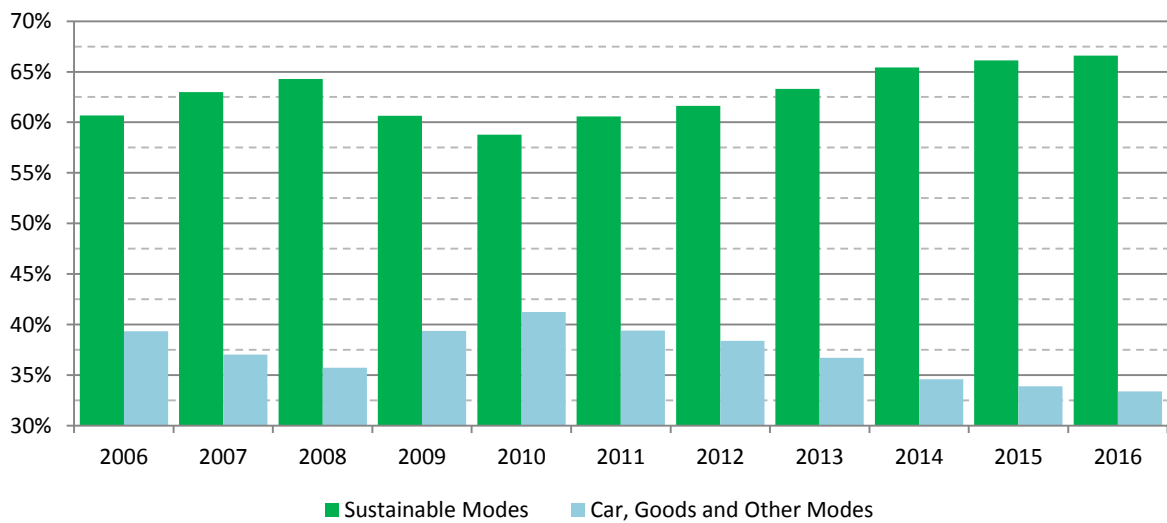


Figure 2.6 – Mode share of people crossing the Canal Cordon by sustainable modes 2006-2016

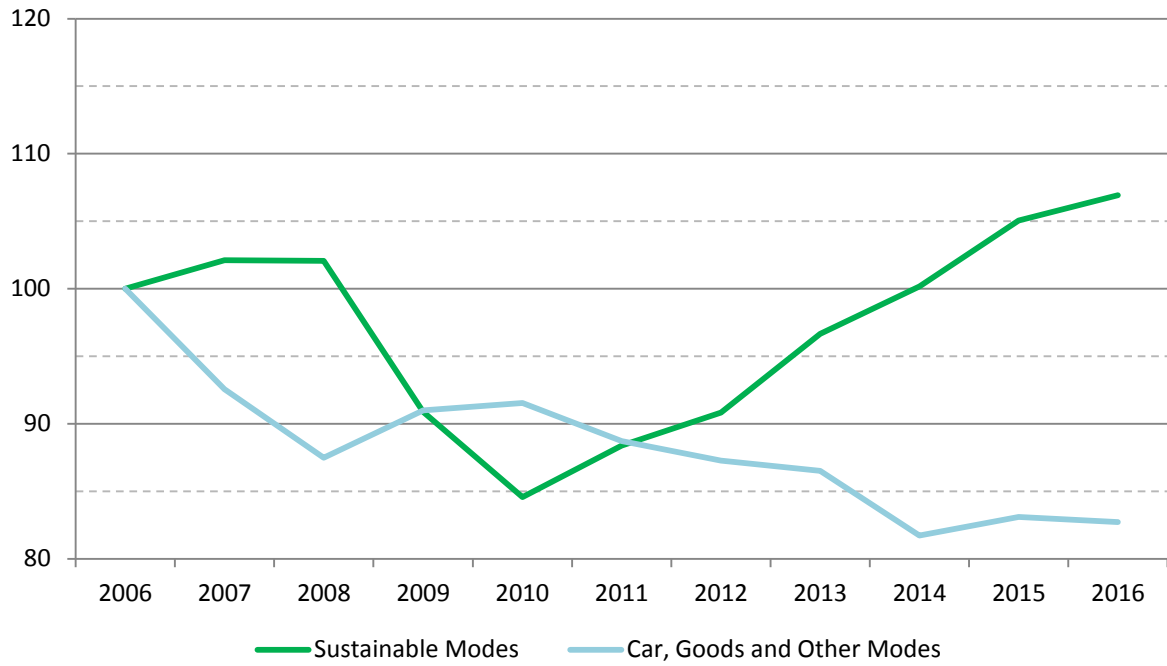


Figure 2.7 – Relative increase/decrease in use of sustainable and other modes 2006-2016

INDEX: 2006 = 100

4 Commentary on Canal Cordon Trends

4.1 Overall Trends

As shown in Table 2.3 and Figure 2.3, the total number of people crossing the canal cordon in the AM peak period (0700-1000) increased by 1% between 2015 and 2016. This is an increase of 2,058 person trips, bringing the total number of people crossing the canal (inbound) in the AM peak period to 202,001.

Over the longer period from 2006 to 2016, total person trips have decreased by 2.6% (5,378 persons), down from a peak of 207,379 in 2006. However the number of persons crossing the canal cordon in the AM peak period has increased year on year since 2011, a trend that continued in 2016.

4.2 Public Transport Usage

Between 2015 and 2016, there was a decrease of just over 1% in the number of public transport users crossing the cordon between 0700 and 1000. In 2016 almost 98,273 people used public transport to get into the City Centre on census day.

There were decreases in both the bus and LUAS modes whilst rail showed an increase. Continuing a trend of growth since 2014, Rail showed an increase of 6% relative to 2015. Bus has declined by almost 5% and LUAS by 2% in the past year.

Whilst the trend of the prior three years of increasing public transport passenger numbers did not continue in 2016, in the period 2010 to 2016, public transport numbers have grown by over 18% and mode share has grown by just under 3%. Despite the decline in passenger numbers in the last year, over the longer period 2006 to 2016, public transport mode share is only down 0.2%

In 2016 almost half (48.6%) of person trips into the City Centre in the AM peak period on census day were made on public transport.

4.3 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 2016 is 27.1%. This is a slight decrease on 2015 (1.7%) and down 3.2% from the peak bus mode share of 30.3% in 2008. In overall terms bus patronage decreased in 2016 by almost 2,900 person trips. However bus carries almost 55,000 people into the City Centre in the AM peak period. This represents 56% of all public transport trips into the City Centre in the peak period.

The mode share for rail across the canal cordon in 2016 was 15.5%. This is the highest it has been since 2008. However it is still some 2% 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 was reversed in 2015 and rail mode share increased again between 2015 and 2016 by almost 1%.

Car mode share (excluding taxis) declined in 2016, continuing a year on year decline since 2010. Overall since 2006 car usage has declined by almost 16%. Car use declined by almost 1% between

2015 and 2016, on census day 2016 almost 12,000 less cars entered the City during the AM peak period than on census day 2006.

Walking increased by almost 15% between 2015 and 2016. Walking levels are now at their highest since the cordon count began; the walk mode share is now 10.6%. Over 33,500 “active trips” (walking and cycling) cross the canal cordon during the AM peak period, more than 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 6%, up half a percentage point from 2015. Whilst overall cycle numbers are up 150% on 2006 levels, the cycle mode share has more than doubled in the same period and has increased year on year since 2010.

Over 2,700 people entered the City by taxi in 2016 - this represents an 8% decrease on 2015 levels. In 2016 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 10 years (by almost 40%). However the trend remained relatively flat between 2015 and 2016 (5% increase). Motor cycle mode share has been flat at 0.7% for the last four years.

The number of goods vehicles entering the City during the AM peak period 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%. Goods vehicle volumes in 2016 are unchanged in the year following 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 2016 the overall mode share for sustainable transport modes – walking, cycling and public transport was 67% (up one percentage point on 2016), 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.