



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

2006 to 2012

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1 Introduction

1.1 Background to data collection

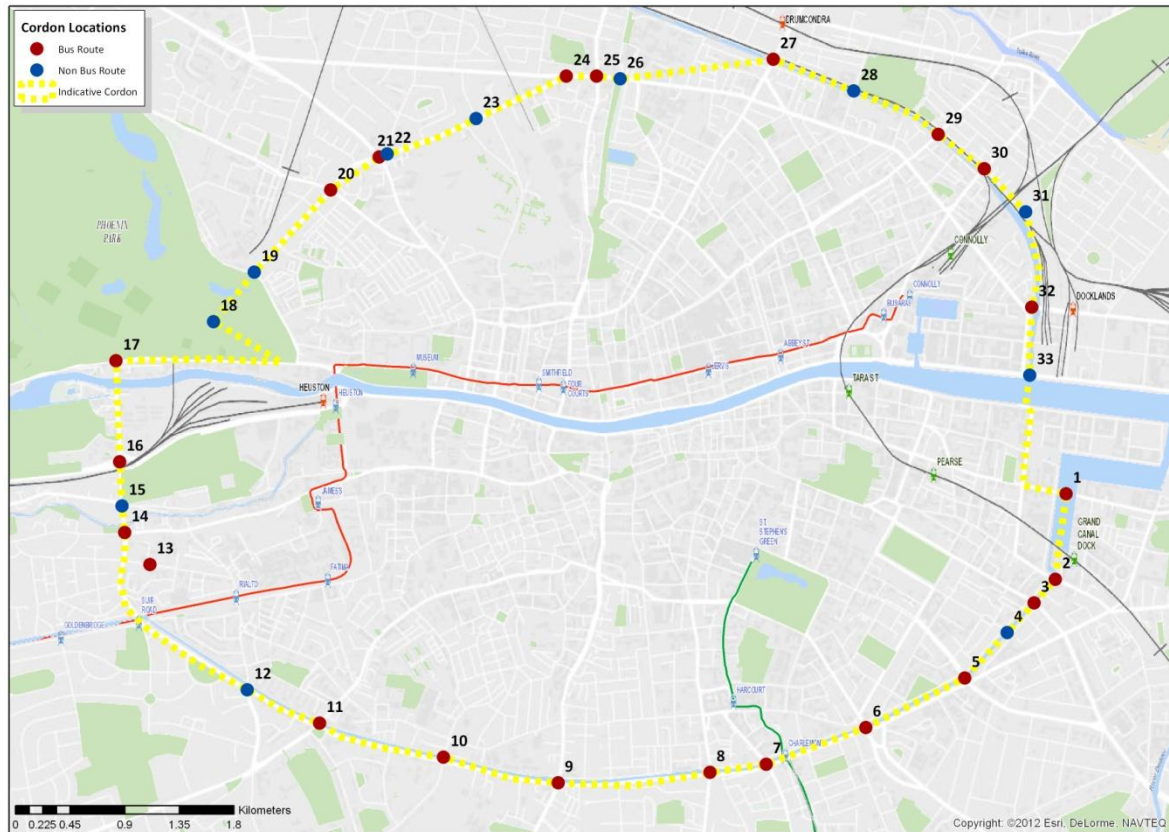
Between 1997 and 2009, the Dublin Transportation Office (DTO) collected data from a number of sources on people crossing the Canal Cordon into Dublin's City Centre in the morning peak between 7:00 and 10:00. The National Transport Authority subsumed the DTO in 2009, and has continued to collate this data on an annual basis. The purpose of collecting this data is to track trends in the modes of travel 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.

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 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 – including all 33 count locations



1.3 Data sources

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

- Dublin City Council has been undertaking surveys at the Canal Cordon on a single day in November each year since 1980. This survey counts pedestrians, cyclists, cars, taxis, buses, goods vehicles and motorcycles crossing the cordon points in the inbound direction in the three hour period 07:00 to 10:00. The survey, however does not count the numbers of people travelling across the cordon in buses, trains or LUAS trams, and hence cannot give a full picture of mode share in terms of the movement of people into the city centre. A copy of the latest Dublin City Council report on the Canal Cordon counts for 2012 is included in Appendix A.

- To complement the Dublin City Council Canal Cordon annual surveys, Dublin Bus have undertaken their own surveys annually on a single day in November (not necessarily on the same day as the Dublin City Council cordon counts). This survey counts the number of passenger on all buses (including privately operated bus services) 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).
- On 15th November 2012 Iarnrod Eireann carried out a national rail census of passenger boardings and alightings on all services passing through all stations in the national rail network in a single day. This is the first time that the rail census has been carried out at a national level. However, since 1997, Iarnrod Eireann have undertaken a similar passenger census for services operating in the Greater Dublin Area (GDA). Analysis of the census data for services operating within the GDA enables a calculation of the numbers of rail passengers crossing the three Canal Cordon points (in the inbound direction) between 07:00 and 10:00 on the census day.
- The Railway Procurement Agency have annually undertaken a full census of boarding's and alighting's at all LUAS tram stops (Red and Green lines and extensions). This census is undertaken in a single day in November, and has been undertaken every year since both LUAS lines became operational in 2004. This data enables calculation of the numbers of LUAS passengers crossing the two Canal Cordon points inbound between 07:00 and 10:00 on the census day.

By combining these four data sources, the NTA has been able to compile a comprehensive picture of the modes of travel used by people travelling across the Canal Cordon into the city on a typical morning peak period. There are a number of gaps in some of the sources of data in some years, and some changes in survey methodology have been introduced in recent years in the case of the Dublin City Council cordon counts. In addition, the introduction of LUAS 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 to 2012. For these seven years, the Authority has access to a consistent and continuous set of data that enables a direct comparison of mode share trends.

2 Data Analysis

2.1 Numbers of people crossing the canal cordon by mode

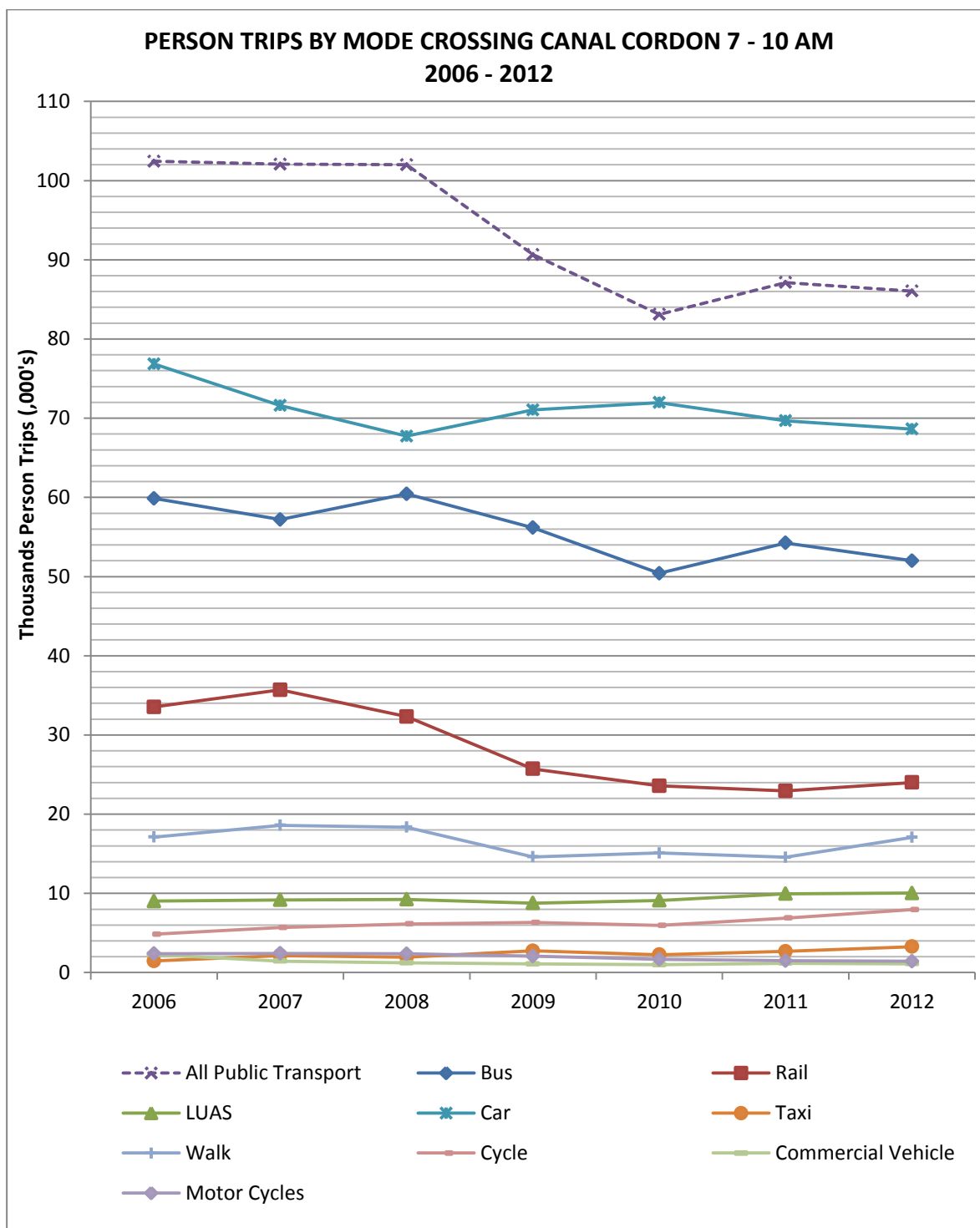
Table 2.1 gives the total numbers of people crossing the Canal Cordon inbound between 07:00 and 10:00 every year between 2006 and 2012 broken down by mode of travel.

Table 2.1 – Persons crossing the Canal Cordon by mode of travel

Mode	2006	2007	2008	2009	2010	2011	2012
Bus	59,874	57,201	60,438	56,168	50,420	54,251	52,007
Rail	33,534	35,692	32,324	25,723	23,580	22,932	23,999
LUAS	9,029	9,171	9,242	8,776	9,111	9,949	10,014
All Public Transport	102,437	102,064	102,004	90,667	83,111	87,132	86,047
Car	76,850	71,597	67,732	71,043	71,978	69,681	68,626
Taxi	1,453	2,154	1,930	2,739	2,260	2,674	3,271
Walk	17,114	18,594	18,360	14,618	15,092	14,551	17,070
Cycle	4,839	5,676	6,143	6,326	5,952	6,870	7,943
Goods	2,291	1,445	1,223	1,087	993	1,176	1,099
Motorcycles	2,395	2,429	2,375	2,060	1,656	1,485	1,425
Total Person Trips	207,379	203,959	199,767	188,540	181,042	183,569	185,481

The data is displayed in graphical format in Figure 2.1.

Figure 2.1 – Persons crossing the canal cordon by mode of travel 2006 to 2012



2.2 Percentage mode share of people crossing the Canal Cordon

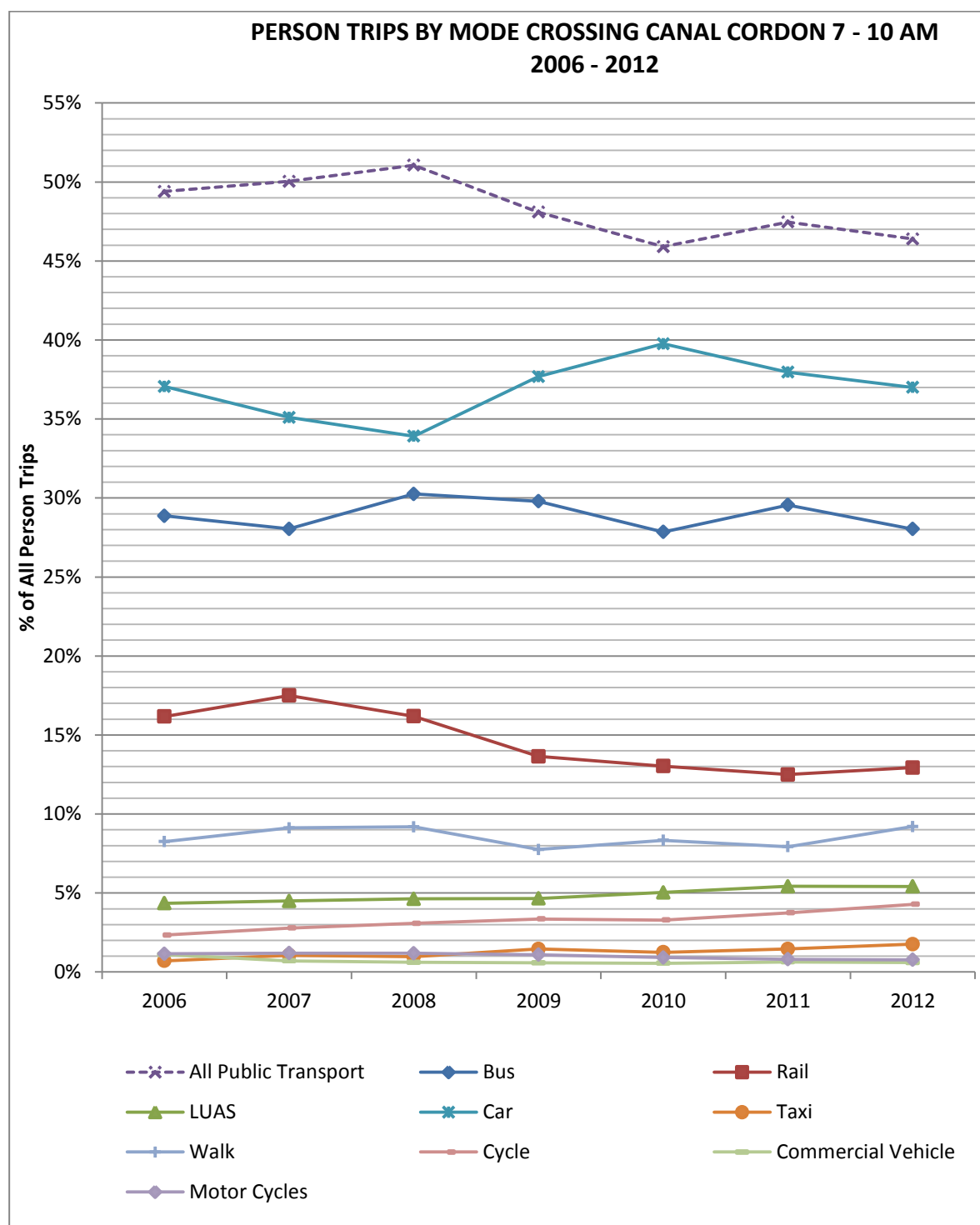
Table 2.2 gives the percentage mode share for all modes of travel used by people crossing the Canal Cordon inbound between 07:00 and 10:00 for the years 2006 to 2012.

Table 2.2 – Mode share of people crossing the canal cordon 2006 to 2012

Mode	2006	2007	2008	2009	2010	2011	2012
Bus	28.87%	28.05%	30.25%	29.79%	27.85%	29.55%	28.04%
Rail	16.17%	17.50%	16.18%	13.64%	13.02%	12.49%	12.94%
LUAS	4.35%	4.50%	4.63%	4.65%	5.03%	5.42%	5.41%
All Public Transport	49.40%	50.04%	51.06%	48.09%	45.91%	47.47%	46.39%
Car	37.06%	35.10%	33.91%	37.68%	39.76%	37.96%	37.00%
Taxi	0.70%	1.06%	0.97%	1.45%	1.25%	1.46%	1.76%
Walk	8.25%	9.12%	9.19%	7.75%	8.34%	7.93%	9.20%
Cycle	2.33%	2.78%	3.08%	3.36%	3.29%	3.74%	4.28%
Goods	1.10%	0.71%	0.61%	0.58%	0.55%	0.64%	0.59%
Motorcycles	1.15%	1.19%	1.19%	1.09%	0.91%	0.81%	0.77%
Total Person Trips	100%	100%	100%	100%	100%	100%	100%

The trend is graphed in Figure 2.2 below.

Figure 2.2 – Mode share of people crossing the canal cordon 2006 to 2012



3 Commentary on Canal Cordon Trends

From an analysis of the data presented in chapter 2 above, the following trends are apparent:

1. The total number of people entering the city centre over the Canal Cordon dropped by 12% between 2006 and 2010. That figure rose by 1.4% in 2011 and has risen slightly again in 2012 by just over 1%. Although the total number of people entering the city in the morning peak has increased for 2 consecutive years now, it is still some 10.5% below the 2006 level. This decrease (22,000 trips) is almost equivalent to all trips on Irish Rail & DART across the cordon in the morning peak in 2012. This reflects the general economic downturn and the resultant rise in unemployment.
2. The economic downturn is also reflected in the drop in commercial vehicle traffic entering Dublin City Centre – which have halved between 2006 and 2012. However, the majority of this reduction is attributable to the ban on heavy goods vehicles entering the City Centre introduced to coincide with the completion of the Dublin Port Tunnel in 2007.
3. Despite the general drop in the number of people crossing the Canal Cordon in the morning peak, the share of the total carried by public transport has only dipped 3% over the period 2006 to 2012 (49.4% to 46.4 %). While the economic downturn and the increases in public transport fares in recent years have contributed to the overall performance of public transport, a number of underlying trends and contributory factors are worth noting:
 - The drop in public transport mode share of 3% has been balanced by an equivalent rise in the mode share for walking and cycling, with the mode share for car remaining static over the 6 year period.
 - LUAS mode share grew from the year 2009, benefitting from the 15km of extensions that were built and opened as follows: LUAS Docklands 8 December 2009, LUAS Cherrywood 16 October 2010, and LUAS City West 2 July 2011. In 2012, LUAS for the first time ever carried over 10,000 passengers into the city in the morning peak.
 - Suburban rail and DART has been losing a significant share of travel into Dublin city centre, with a drop of 5% in mode share between 2007 and 2011. However, in 2012, this decline has been halted with a 0.5% increase in mode share on 2011.
 - Bus mode share is down slightly on 2011 (1.5%) after increasing by almost 2% between 2010 and 2011. Bus however still carried over 52,000 passengers into the city in 2012, representing over 60% of all public transport trips in the morning peak. It should be noted that route and

timetable changes have been implemented under network direct over the last few years. These changes can take some time to 'bed down' and may be reflected in the fall in bus mode share in 2012.

- Despite significant suburban rail loss of mode share, the fact that overall public transport mode share has shown only a small decrease reflects the improvements in the attractiveness of bus and LUAS over the full period 2006 - 2012.
4. The number of cyclists entering Dublin City has increased by a significant 64% over the period 2006 to 2012. This significant increase reflects a number of measures introduced in the past six years to promote cycling in the city – including the highly successful Dublinbikes bike rental scheme, the provision of cycle lanes, public awareness campaigns to promote cycling and the introduction of the 30kph city centre speed limit. However, the trend in Dublin is also part of general nationwide trend of increased use of cycling in recent years – with the recent Census figures showing a national increase of 10% in people travelling to work by bicycle between 2006 and 2011.
 5. Despite the general drop in the number of people crossing the Canal Cordon in the morning peak, the number of pedestrians entering the city has remained almost static over the past six years. Over the same period, the pedestrian mode share has increased by almost 1% (8.25% to 9.20%). The numbers of people walking decreased between 2009 and 2011, but this trend was significantly reversed in 2012. The 2012 mode share for pedestrians is the highest recorded at the canal since 2008 and represents an increase of over 2,500 walking trips over 2011.
 6. The number of motorcyclists entering the city across the Canal Cordon has reduced significantly (by 41%) in the last six years. One factor that may have contributed to this drop is the corresponding drop in the cost of second-hand cars in Ireland.
 7. In line with the general drop in the number of people crossing the Canal Cordon, the number of people accessing the city by car had decreased by almost 11% between 2006 and 2012. Over this time period, the mode share for car has remained static overall, but there have been year on year fluctuations in this trend. The number of people travelling by car reduced by 12% in the period 2006 to 2008, but rose again by 6% between 2008 and 2010. However, in 2011 the number of people travelling by car reduced again by 3% over the numbers in the previous year. In 2012 there has been a further reduction in the number of cars crossing the cordon by 1.5%.
 8. The number of people travelling in taxis across the Canal Cordon has more than doubled over the past seven years, and the taxi mode share (though small in overall terms) has more than doubled. This reflects the large increase in the availability of taxis in recent years.

Appendix A

Report on Dublin City Council's Canal Cordon Traffic Counts 2012

Report on Dublin City Council's Canal Cordon Counts **2012**

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February , 2013

2012 Cordon Counts

Since 1980, Dublin City Council 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. Counts are conducted at each location for each vehicle category as indicated in Table 1. Since 1997 the counts have been conducted over the period 07.00 to 10.00hrs.

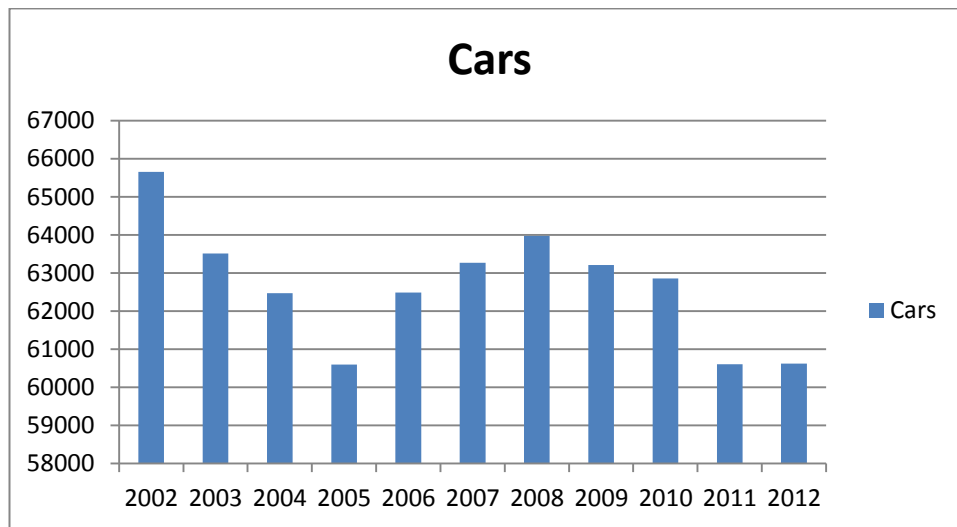
The main results of the cordon counts for November 2012 together with the data for each year since 1997 are set out in Table 1.

Table 1 Summary Results Canal Cordon Counts 1997 to 2012						
Inbound 07.00 to 10.00hrs						
Year	Cars*	Goods	Buses	P.Cycles	M.Cycles	Peds.
(Nov)	No.	No.	No.	No.	No.	No
1997	73,561	3,283	1,459	5,628	1,816	16,679
1998	71,536	3,090	1,350	4,579	1,845	15,565
1999	73,147	3,112	1,454	5,384	2,267	18,157
2000	67,935	3,000	1,521	4,464	2,558	15,808
2001	68,003	3,004	1,522	5,085	2,845	18,558
2002	65,657	2,828	1,576	4,714	2,920	16,609
2003	63,509	2,651	1,563	4,711	2,656	17,305
2004	62,475	3,057	1,537	3,941	2,249	15,241
2005	60,600	2,711	1,601	4,404	2,187	16,332
2006	62,489	2,291	1,680	4,839	2,395	17,114
2007	63,269	1,445	1,740	5,676	2,429	18,594
2008	63,976	1,223	1,814	6,143	2,375	18,360
2009	63,212	1,087	1,704	6,326	2,060	14,618
2010	62,856	993	1,688	5,952	1,656	15,092
2011	60,607	1,176	1,539	6,870	1,485	14,551
2012	60,620	1,099	1,503	7,943	1,425	17,070

* includes taxis

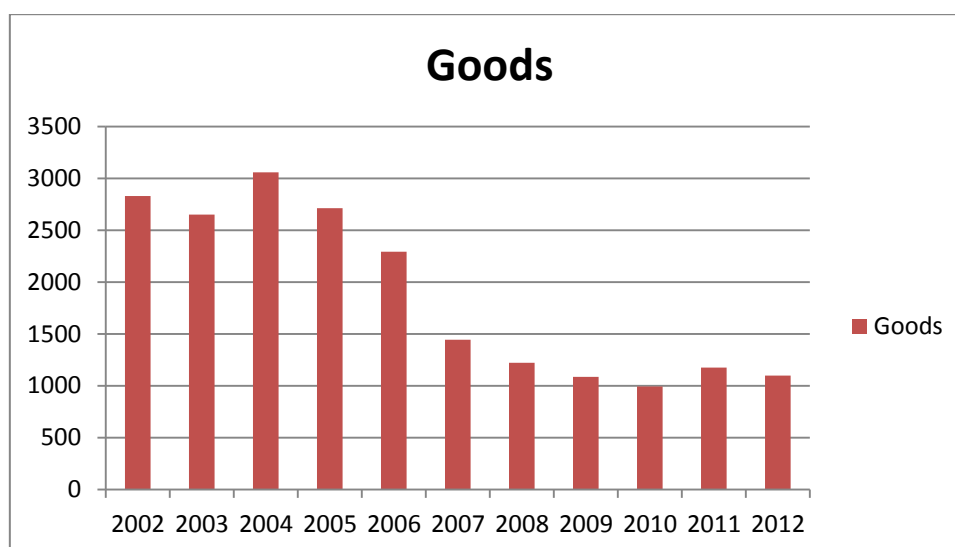
Cars

Over the 10 year period 2002 to 2012 the volume of cars and taxis crossing the canal cordon inbound during the morning peak period decreased by 7.7%. The volume decreased by 4.2% in the period 2007 to 2012 with a 0.02% decrease in the period 2011 to 2012



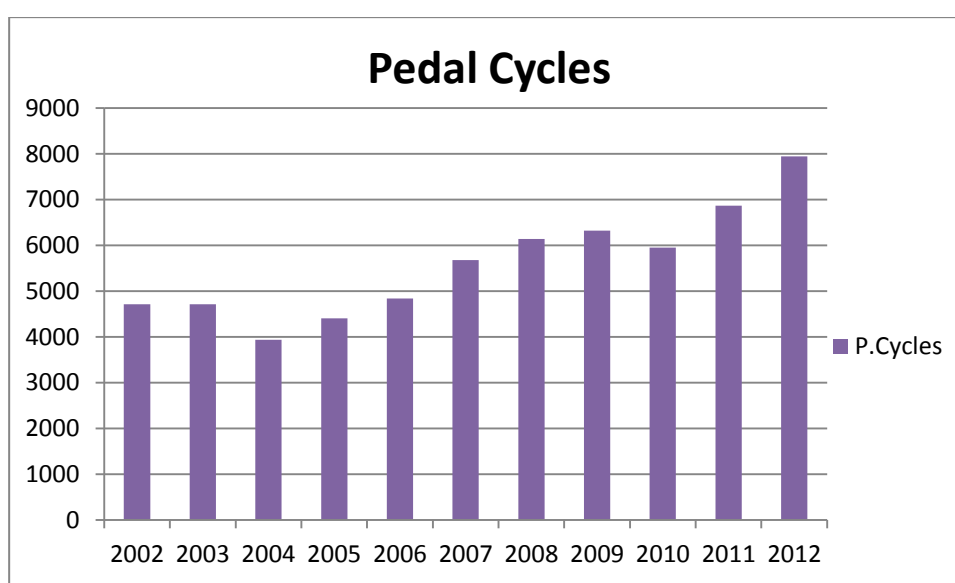
Goods Vehicles

The number of goods vehicles crossing the canal cordon during the morning peak decreased by 61.1% over the 10-year period 2002 to 2012. There was a decrease of 23.9% over the 5-year period 2007 to 2012 and a decrease of 6.5% between 2011 and 2012.



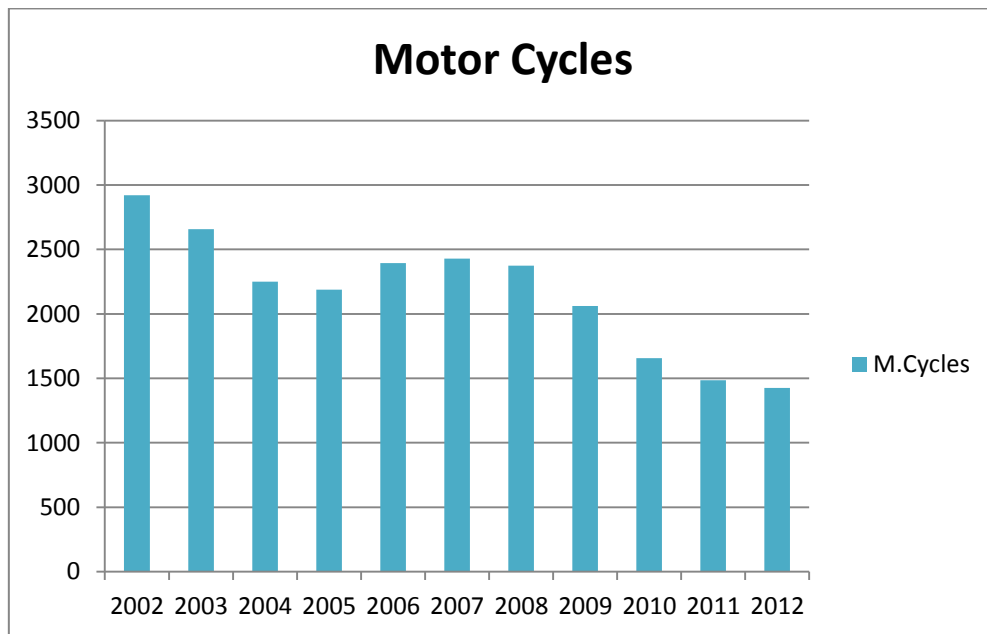
Cyclists

Over the 10 year period 2002 to 2012 the volume of pedal cyclists crossing the canal cordon during the morning peak period increased by 68.5%. There was a 39.9% increase in the 5-year period from 2007 to 2012 and a 15.6% increase from 2011 to 2012.



Motor Cyclists

Over the 10 year period 2002 to 2012 the volume of motor cyclists crossing the canal cordon during the morning peak period decreased by 51.2%. There was a 41.3.0% decrease in the period 2007 to 2012 and a 4.0% decrease from 2011 to 2012



Pedestrians

Over the 10 year period 2002 to 2012 the volume of pedestrians crossing the cordon during the morning peak period increased by 2.8%. There was a decrease of 8.2% in the period 2007 to 2012 and a 17.3% increase in the period 2011 to 2012.

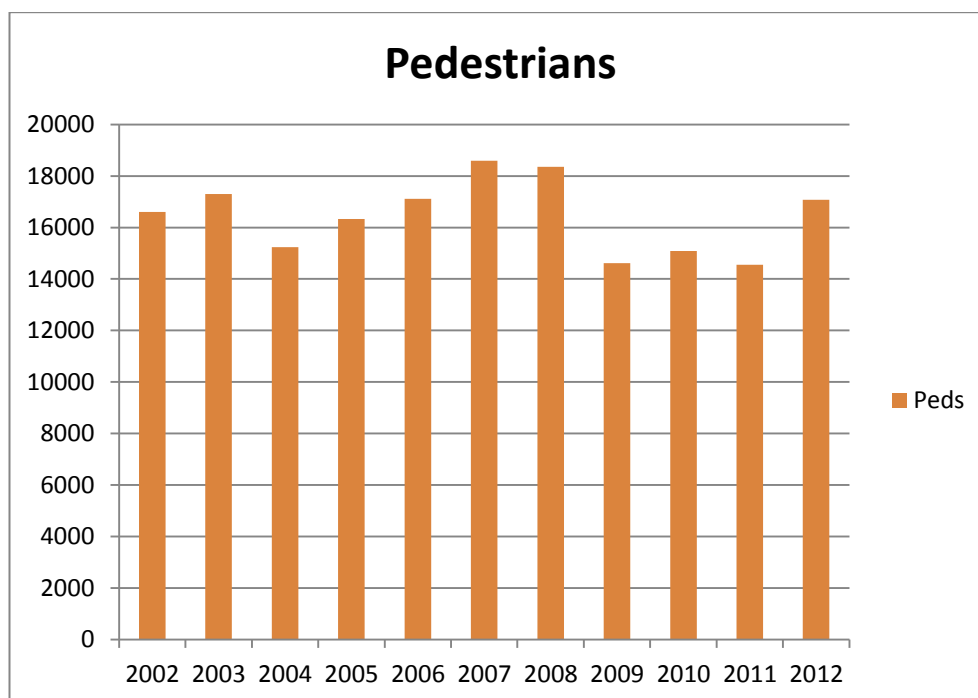


Table 2 summarises the changes in inbound traffic volumes of vehicles and pedestrians over 10 years, 5 years and one year as measured at the 33 locations on the canal cordon between 7am and 10am

Table 2 **Change in traffic volumes over 10 years, 5 years & 1 year**

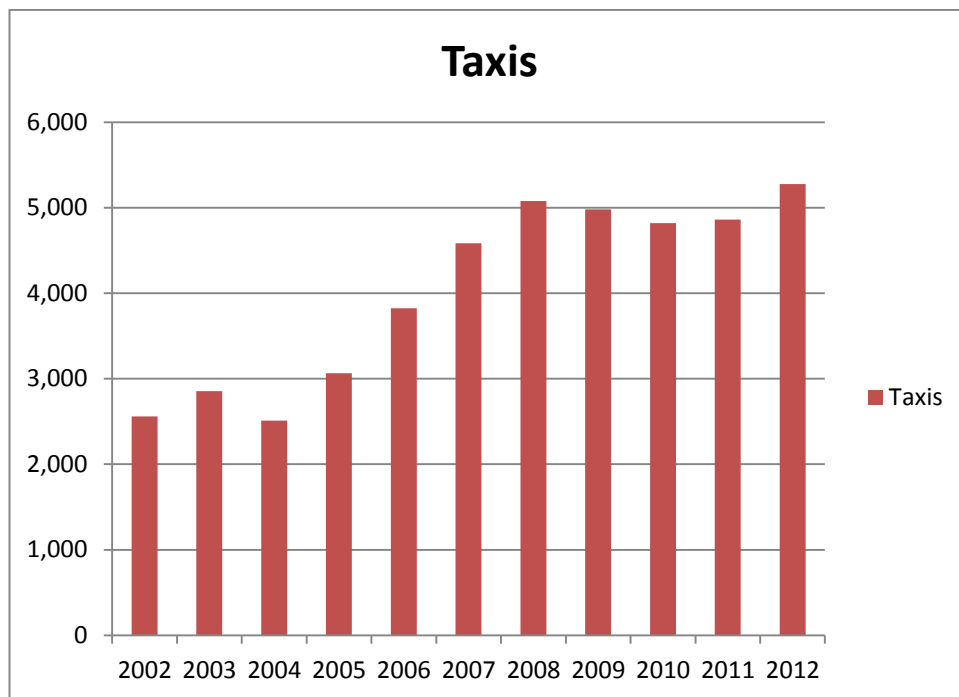
		2002 to 2012	2007 to 2012	2011 to 2012
Cars	No.	-5037	-2649	-13
	%	-7.7%	-4.2%	-0.02%
Goods	No.	-1729	-346	-77
	%	-61.1%	-23.9%	-6.5%
Buses	No.	-73	-237	-36
	%	-4.6%	-13.6%	-2.3%
P.Cycles	No.	+3229	+2267	+1073
	%	+68.5%	+39.9%	+15.6%
M.Cycles	No.	-1495	-1004	-60
	%	-51.2%	-41.3%	-4.0%
All Vehs	No.	-5105	-1969	+913
	%	-6.6%	+2.6%	+1.3%
Peds	No	+461	-1524	+2519
	%	+2.8%	-8.2%	+17.3%

Table 3 shows information that was collected for the first time in 2002 on the number of taxis and on the breakdown between Bus Atha Cliath (BAC) and other buses.

Table 3	Canal Cordon Counts 2002-2012 - Cars, Taxis & Buses					
	Cars	Taxis	Total	BAC	Other	Total
2002	63,097 96.1%	2,560 3.9%	65,657 100%	1,262 80.1%	314 19.9%	1,576 100%
2003	60,644 95.5%	2,865 4.5%	63,509 100%	1,262 80.7%	301 19.3%	1,563 100%
2004	59,966 96.0%	2,509 4.0%	62,475 100%	1,278 83.1%	259 16.9%	1,466 100%
2005	57,537 94.9%	3,063 5.1%	60,600 100%	1,337 83.5%	264 16.5%	1,601 100%
2006	58,664 93.9%	3,825 6.1%	62,489 100%	1,338 79.6%	342 20.4%	1,680 100%
2007	58,686 92.8%	4,583 7.2%	63,269 100%	1,330 76.4%	410 23.6%	1,740 100%
2008	58,897 92.1%	5,079 7.9%	63,976 100%	1,474 81.3%	340 18.7%	1,814 100%
2009	58,232 92.1%	4,980 7.9%	63,212 100%	1,366 80.2%	338 19.8%	1,704 100%
2010	58,047 92.3%	4,809 7.7%	62,856 100%	1,329 78.7%	359 21.3%	1688 100%
2011	55,745 92.0%	4,862 8.0%	60,607 100%	1179 76.6%	360 23.4%	1539 100%
2012	55,343 91.3%	5,277 8.7%	60,620 100%	1,133 75.4%	370 24.6%	1,503 100%

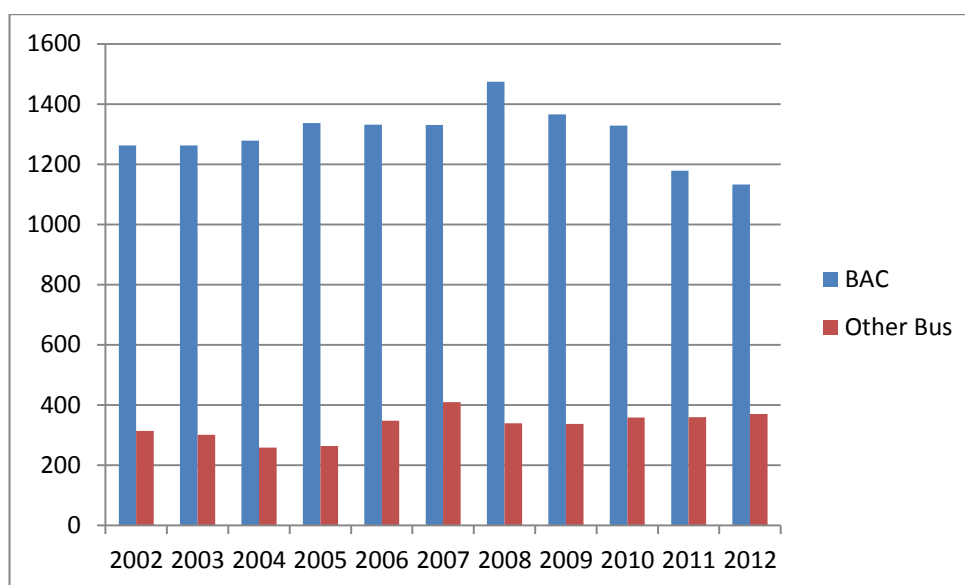
Taxis

Taxis made up 3.9% of all cars crossing the canal cordon in 2002. This increased to 7.2% in 2007 and to 8.7% in 2012. Over the 10 years from 2002 to 2012 the total number of taxis crossing the cordon increased by 106.1 %. From 2007 to 2012 the number of taxis increased by 15.1% and from 2011 to 2012 there was an increase of 8.5%.



Buses

In the period 2002 to 2012 the total number of all buses crossing the cordon has increased by 2.5%. Over this same time the number of Bus Atha Cliath buses has decreased by 10.2% while the number of private buses has increased by 17.8%.



Bus Atha Cliath (BAC) - Other Bus

Table 4 shows detailed count results from 2006 and 2012 for cars and taxis and all buses at each of the 33 count locations. The distinction between bus routes and non bus routes no longer applies as many bus routes have changed most routes now have some buses.

From 2006 to 2012 there was an overall decrease of 3% in the number of cars and taxis crossing the cordoned area from 7 am to 10 am.. The total number of buses crossing the cordoned area decreased by 11% over this same period of time.

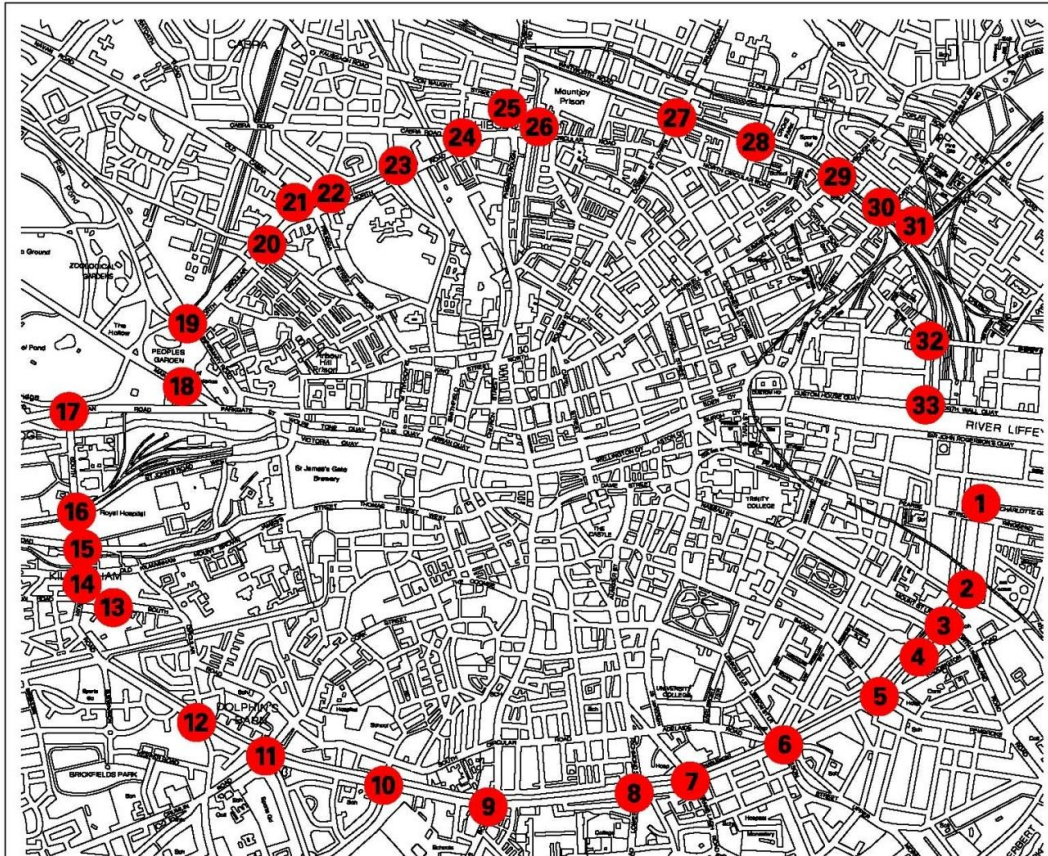
Table 4 Canal Cordon Counts 2012 (Inbound 07.00 to 10.00hrs) – 33 locations

	All Routes	Cars and Taxis			All Buses		
		2006	2012	06-12	2006	2012	06 - 11
1	Ringsend Rd (McMahon Bridge)	1738	2218	+28%	65	55	-15%
2	Grand Canal Street Bridge	1615	1455	-10%	2	2	0%
3	Mount Street Bridge	1601	1906	+19%	80	39	-51%
4	Huband Bridge	459	367	-20%	0	0	0%
5	Baggot Street Bridge	2161	1854	-14%	35	61	-74%
6	Leeson Street Bridge	3942	4348	+10%	234	158	-32%
7	Charlemont Street Bridge	1511	1287	-15%	15	7	-53%
8	Rathmines Road (Portobello Br.)	2076	1860	-10%	82	83	+1%
9	Harold's Cross Bridge	2972	2429	-18%	53	52	-2%
10	Sally's Bridge	2150	1594	-26%	12	15	+25%
11	Dolphins Barn Bridge	2572	2684	+4%	88	55	-34%
12	Herberton Bridge	2122	2015	-5%	3	26	+766%
13	SCR at St Patrick's Home	1491	1799	+21%	36	26	-28%
14	Old Kilmainham	1845	2207	+20%	52	34	-35%
15	Kilmainham Lane	432	803	+86%	0	0	0%
16	St. John's Road West	2876	2798	-3%	127	177	+39%
17	Conyngham Road	2206	2382	+8%	67	44	-34%
18	Phoenix Park (Main Road)	1317	974	-26%	0	0	0%
19	Phoenix Park (Back Road)	1442	1249	-13%	0	1	-
20	Blackhorse Avenue	2376	1658	-30%	22	17	-23%
21	Old Cabra Road	1410	1498	6%	62	49	-21%
22	Annamoe Road	711	587	-17%	0	0	0%
23	Charleville Road	699	629	-10%	0	0	0%
24	New Cabra Road	1369	1716	+25%	113	77	-32%
25	Phibsborough Road	2774	2602	-6%	75	66	-12%
26	Royal Canal Bank	263	35	-87%	0	0	0%
27	Drumcondra Road (Binn's Br.)	5079	5410	+7%	239	166	-30%
28	Russell Street Bridge	1313	1071	-18%	2	0	-100%
29	Clarke's Bridge	3958	3724	-6%	27	21	-15%
30	Newcomen Bridge	3014	3330	+10%	178	146	-11%
31	Ossary Road	405	275	-32%	1	0	-100%
32	Sheriff Street Bridge	1406	1034	-26%	0	42	-
33	North Wall Quay	1202	821	-32%	10	83	+730%
	Total	62489	60620	-3%	1680	1503	-11%

Table 5 outlines the changes in the number of persons travelling by car, taxi and on foot from 2007 to 2012 and the changes in occupancy rates for the different modes.

Between 2007 and 2012 the number of persons coming into the city during the morning peak by car has decreased by 5.7%. Over the same 5-year period the number of persons coming into the city during morning peak by taxi has increased by 26.9% while the number of pedestrians crossing the cordon has decreased by 13.5% .

Table 5. Number of Persons Crossing the Cordon (Inbound 07.00 – 10.00 hrs.)								
		2007	2008	2009	2010	2011	2012	% 07-12
2010 Number	Cars	58,686	58,897	58,232	58,047	55,745	55,344	-5.7%
	Taxis	4,583	5,079	4,980	4,809	4,862	5,276	+15.1%
	Pedestrians	18,594	18,360	14,618	15,092	14,551	17,070	-8.2%
Occupancy	Cars	1.22	1.15	1.22	1.24	1.25	1.24	+1.6%
	Taxis	1.47	1.38	1.55	1.47	1.55	1.62	+10.2%
Persons	Cars	71,597	67,732	71,043	71,978	69,681	68,626	-4.1%
	Taxis	6,737	7,009	7,719	7,069	7,536	8,547	+26.9%
	Pedestrians	18,594	18,360	14,618	15,092	14,551	17,070	-13.5%
	Total	96,928	93,101	93,380	94,139	91,768	94,243	-2.8%



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Canal Cordon Count Locations

- | | |
|-----------------------------------|---------------------------------|
| 1 Ringsend Rd (McMahon Bridge) | 17 Conyngham Road |
| 2 Grand Canal Street Bridge | 18 Phoenix Park (Main Road) |
| 3 Mount Street Bridge | 19 Phoenix Park (Back Road) |
| 4 Huband Bridge | 20 Blackhorse Avenue |
| 5 Baggot Street Bridge | 21 Old Cabra Road |
| 6 Lesson Street Bridge | 22 Annamoe Road |
| 7 Charlemont Street Bridge | 23 Charleville Road |
| 8 Rathmines Road (Portobello Br.) | 24 New Cabra Road |
| 9 Harold's Cross Bridge | 25 Phibsborough Road |
| 10 Sally's Bridge | 26 Royal Canal Bank |
| 11 Dolphins Barn Bridge | 27 Drumcondra Road (Binn's Br.) |
| 12 Herberton Bridge | 28 Russell Street Bridge |
| 13 SCR at St Patrick's Home | 29 Clarke's Bridge |
| 14 Old Kilmainham | 30 Newcomen Bridge |
| 15 Kilmainham Lane | 31 Ossory Road |
| 16 St. John's Road West | 32 Sheriff Street Lower |
| 33 North Wall Quay | |

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