



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

2006 to 2011

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1 Introduction

1.1 Background to data collection

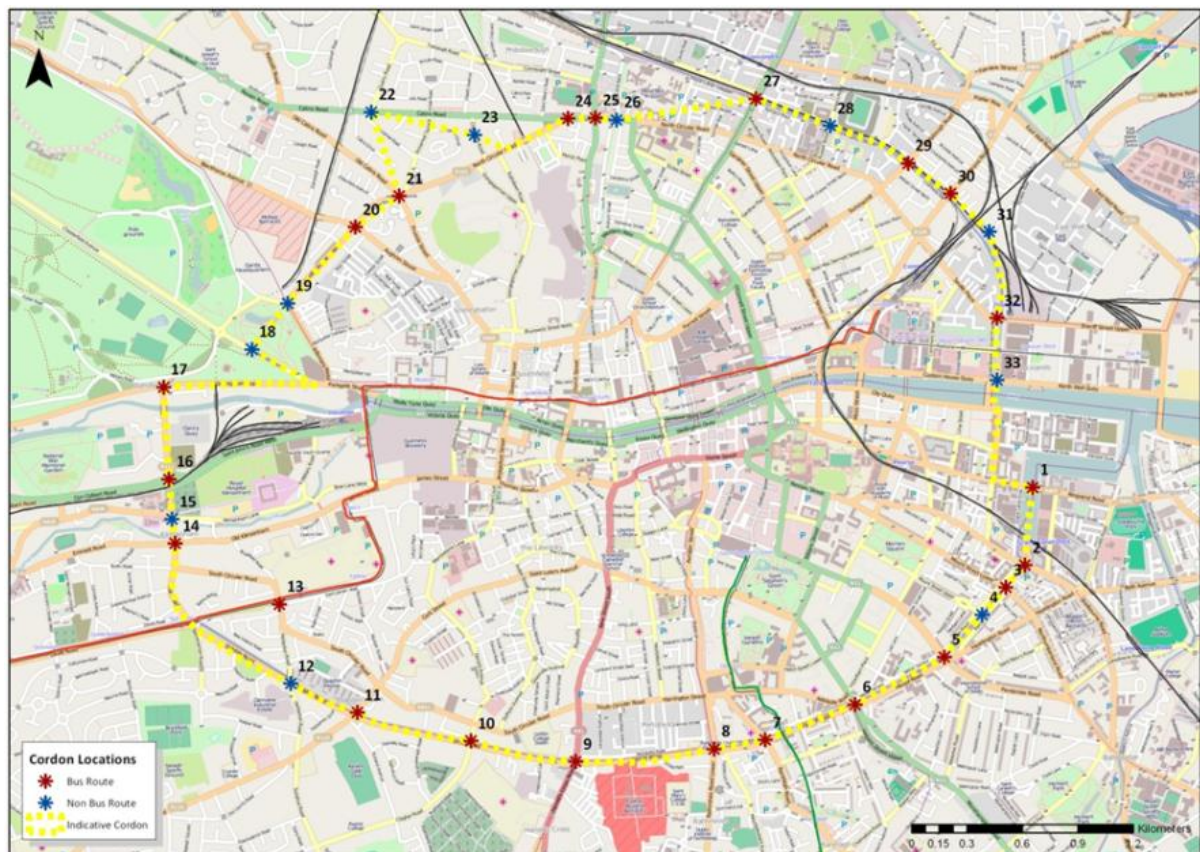
Between 1997 and 2009, the Dublin Transportation Office (DTO) collected data from a number of sources on people crossing the Canal Cordon into Dublin's City Centre in the morning peak between 7:00 and 10:00. The National Transport Authority subsumed the DTO in 2009, and has continued to collate this 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 2011 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).
- Iarnrod Eireann have undertaken a Rail census on a single day in November at all rail stations on the DART and suburban rail network within the Greater Dublin Area (GDA). The census has been undertaken in most years (there are a number of gaps) since 1997. This census counts passenger boardings and alightings of all trains passing through all GDA rail stations on the specific day and 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 boardings and alightings 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 2011. For these six 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

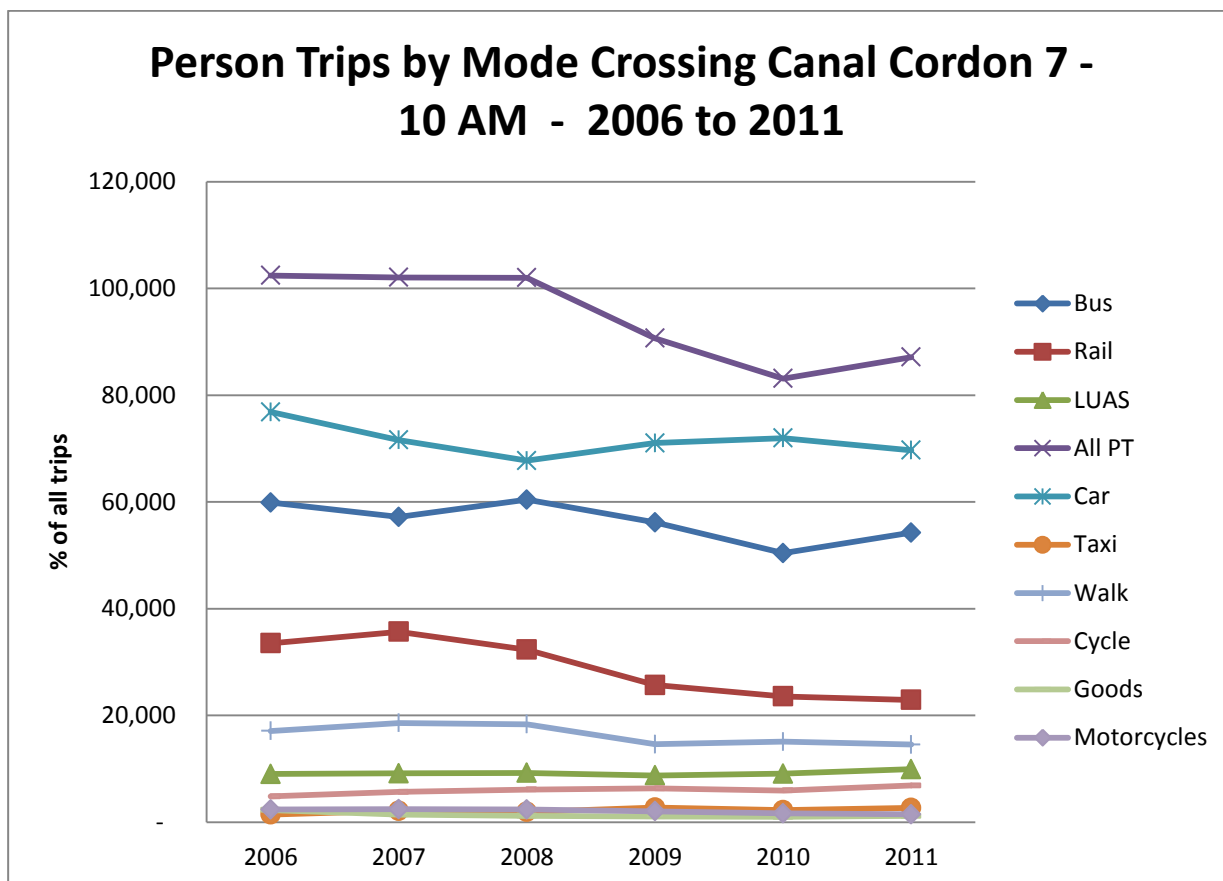
Table 2.1 gives the total number of people crossing the Canal Cordon inbound between 07:00 and 10:00 every year between 2006 and 2011 broken down by mode of travel.

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

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

The data is displayed in graphical format in Figure 2.1.

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



2.2 Percentage mode share of people crossing the Canal Cordon

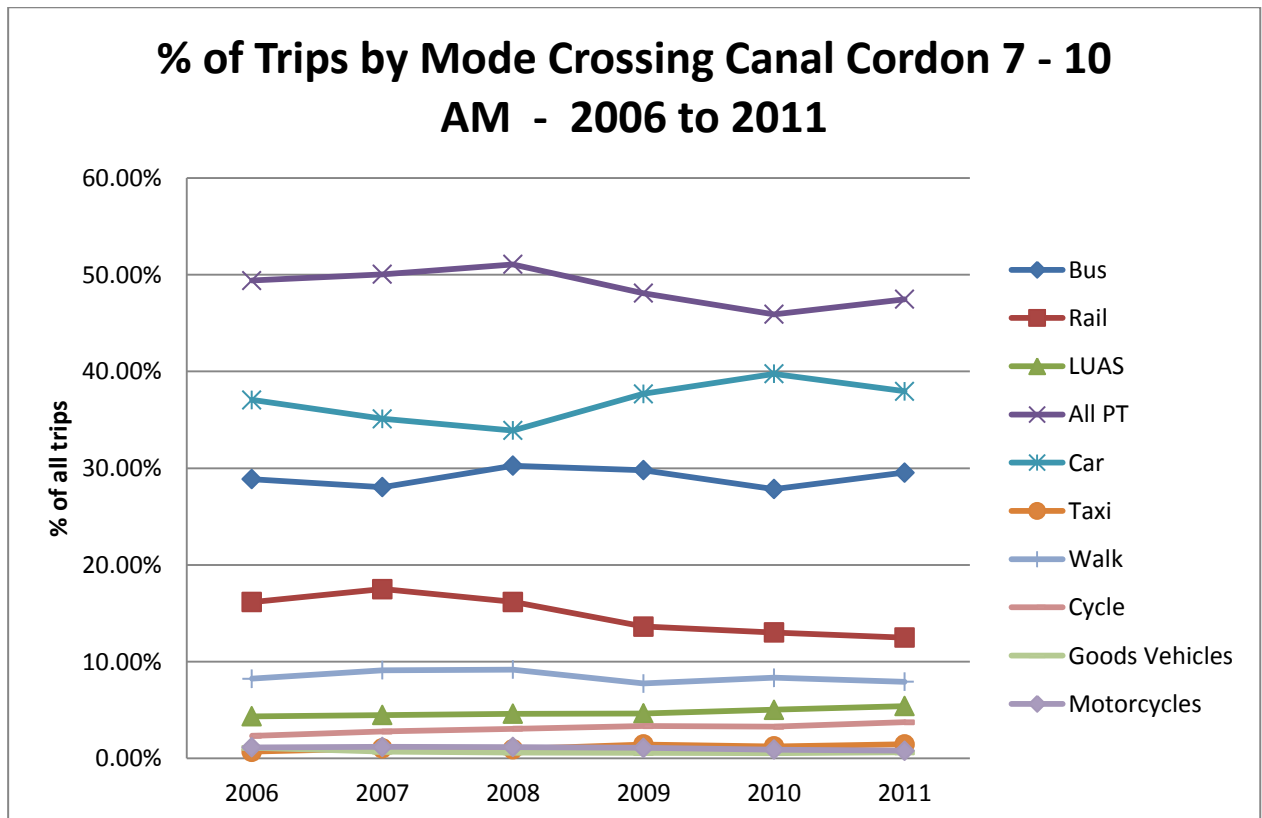
Table 2.2 gives the percentage mode share for all modes of travel used by people crossing the Canal Cordon inbound between 07:00 and 10:00 for the years 2006 to 2011.

Table 2.2 – Mode share of people crossing the canal cordon 2006 to 2011

	2006	2007	2008	2009	2010	2011
Bus	28.87%	28.05%	30.26%	29.79%	27.85%	29.55%
Rail	16.17%	17.50%	16.18%	13.64%	13.02%	12.49%
LUAS	4.35%	4.50%	4.63%	4.65%	5.03%	5.42%
All PT	49.40%	50.04%	51.07%	48.09%	45.91%	47.47%
Car	37.06%	35.10%	33.91%	37.68%	39.76%	37.96%
Taxi	0.70%	1.06%	0.97%	1.45%	1.25%	1.46%
Walk	8.25%	9.12%	9.19%	7.75%	8.34%	7.93%
Cycle	2.33%	2.78%	3.08%	3.36%	3.29%	3.74%
Goods Vehicles	1.10%	0.71%	0.61%	0.58%	0.55%	0.64%
Motorcycles	1.17%	1.18%	1.19%	1.10%	0.91%	0.81%
	100.00%	100.00%	100.02%	100.00%	100.00%	100.00%

The trend is graphed in Figure 2.2 below.

Figure 2.2 – Mode share of people crossing the canal cordon 2006 to 2011



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 has dropped by 12% between 2006 and 2010 (with a slight rise of 1.4% in 2011). 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 2011. 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 slightly over the period 2006 to 2011 (49.4% to 47.47%). This overall performance of public transport hides two contributing factors:
 - Road-based public transport – i.e. buses and trams have both increased mode share of total travel over the period 2006 – 2011, 28.87% to 29.55% and 4.35% to 5.42% respectively, but at the same time
 - Suburban rail has lost a significant share of travel into Dublin city centre (16.17% to 12.49%).

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 period.

4. The number of cyclists entering Dublin City has increased by a significant 42% over the period 2006 to 2011. 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.
5. The number of pedestrians crossing the Canal Cordon has decreased overall in the last six years, and the mode share for pedestrians has also decreased slightly (8.25% to 7.93%). This may reflect a transfer from walking to other modes such as cycling, LUAS and bus – but this would require further investigation to determine the definitive reason / reasons for this drop.
6. The number of motorcyclists entering the city across the Canal Cordon has reduced significantly (by 38%) 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. The number of people entering Dublin City Centre by car has fluctuated over the past six years. 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 has reduced again by 3% over the numbers in the previous year. Overall, the car mode share for people crossing the Canal Cordon has remained broadly the same over the past six years (37.06% to 37.96%).
8. The number of people travelling in taxis across the Canal Cordon has almost doubled over the past six 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.

4 Appendix A

Report on Dublin City Council's Canal Cordon Traffic Counts 2011

Item No 6

Report to the Chairperson and Members of the
Transport and Traffic Strategic Policy Committee

**Report on Dublin City Council's Canal Cordon Traffic Counts
2011**

**Niall Gormley
Senior Executive Engineer**

February 2012

2011 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 2011 together with the data for each year since 1997 are set out in Table 1.

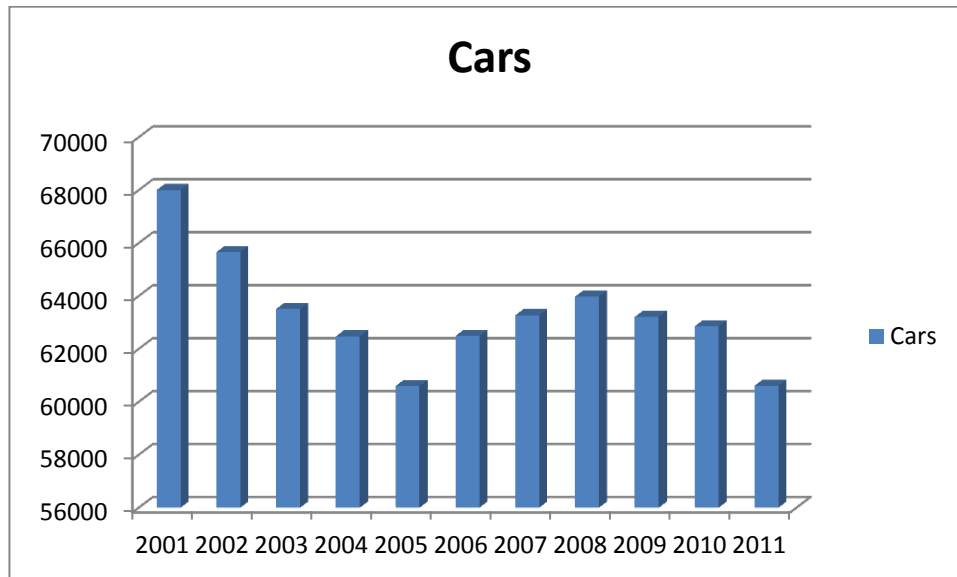
Table 1 Summary Results Canal Cordon Counts 1997 to 2011
Inbound 07.00 to 10.00hrs

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

* includes taxis

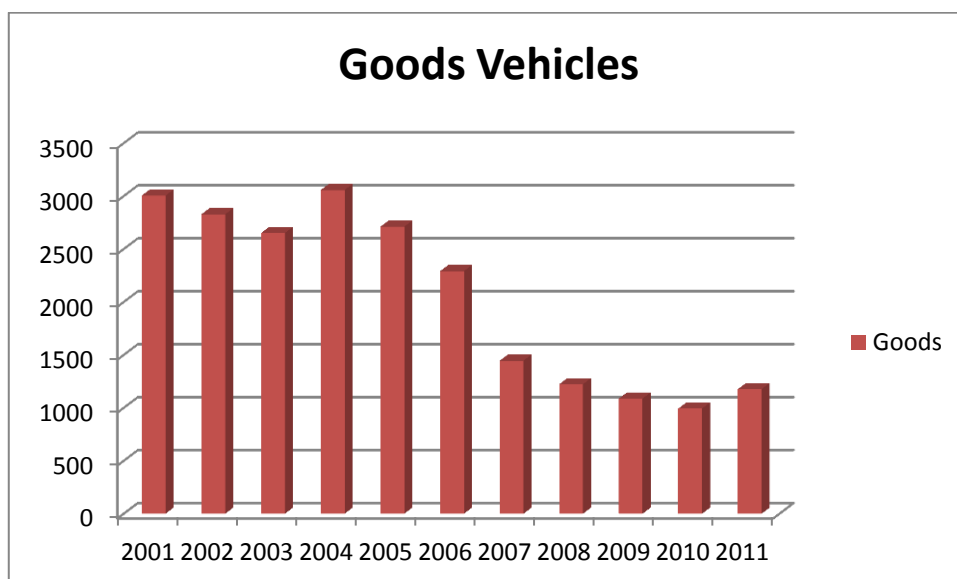
Cars

Over the 10 year period 2001 to 2011 the volume of cars and taxis crossing the canal cordon inbound during the morning peak period decreased by 10.9%. The volume decreased by 3.0% in the period 2006 to 2011 with a 3.6% decrease in the period 2010 to 2011



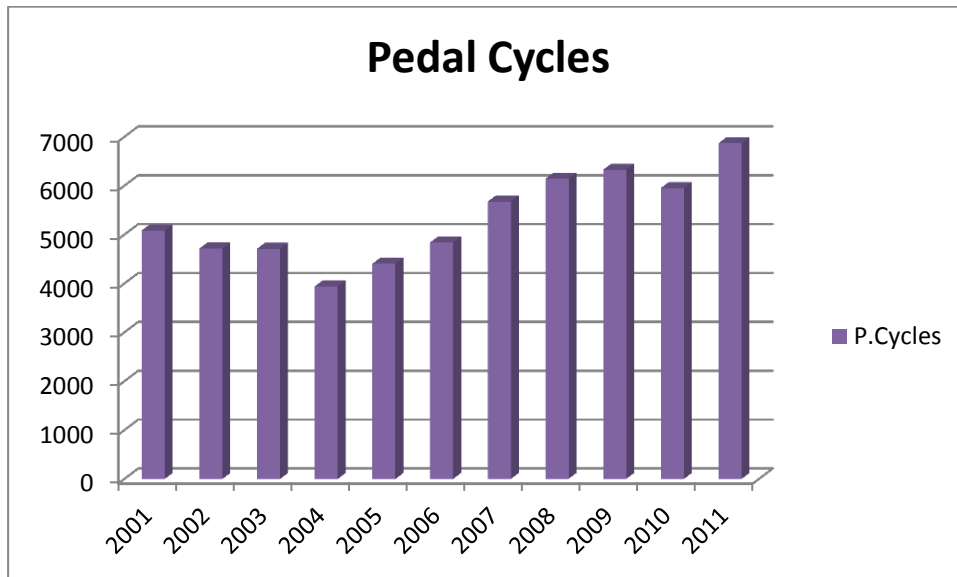
Goods Vehicles

The volume of goods vehicles crossing the canal cordon has decreased significantly over the 10-year period 2001 to 2011 with a recorded decrease of 60.9%. Over the 5-year period 2006 to 2011 there was a decrease of 48.7% with an increase of 18.4% between 2010 and 2011.



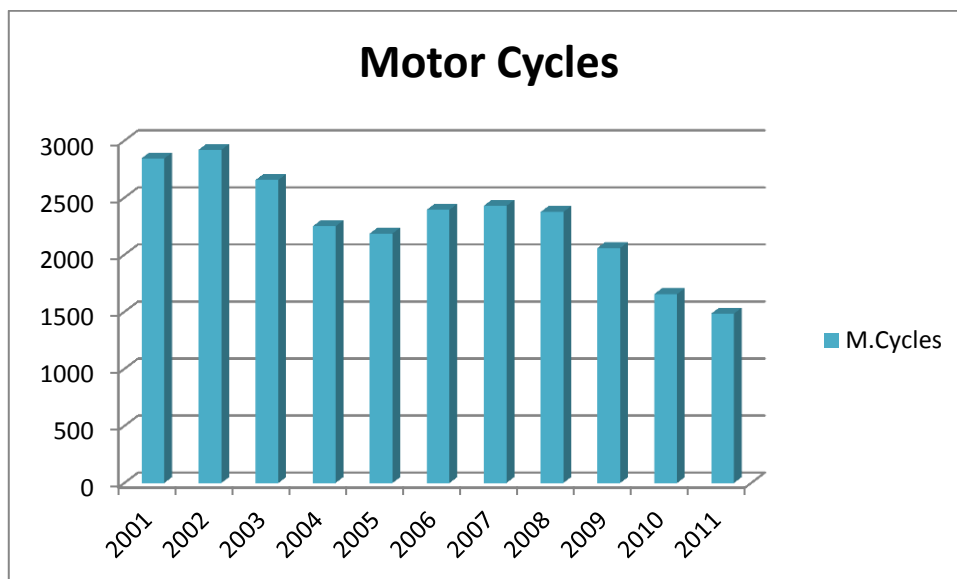
Cyclists

Over the 10 year period 2001 to 2011 the volume of pedal cyclists crossing the canal cordon during the morning peak period increased by 35.1%. There was a 41.9% increase in the period 2006 to 2011 and a 15.4% increase in the period 2010 to 2011.



Motor Cyclists

Over the 10 year period 2001 to 2011 the volume of motor cyclists crossing the canal cordon during the morning peak period decreased by 47.8%. There was a 38.0% decrease in the period 2006 to 2011 and a 10.3% decrease in the period 2010 to 2011.



Pedestrians

Over the 10 year period 2001 to 2011 the volume of pedestrians crossing the cordon during the morning peak period decreased by 21.6%. There was a decrease of 15.0% in the period 2006 to 2011 and a 3.6% decrease in the period 2010 to 2011.

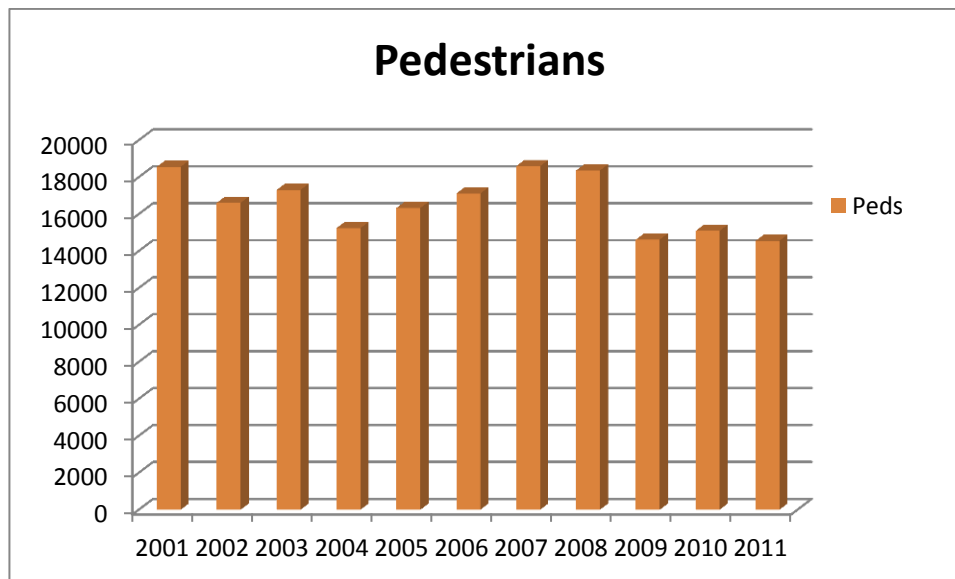


Table 2 summarises the changes in inbound traffic volumes of vehicles and pedestrians over 10 years, 5 years and one year as measured at the 33 locations on the canal cordon between 7am and 10am

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

		2001 to 2011	2006 to 2011	2010 to 2011
Cars	No.	-7396	-1882	-2259
	%	-10.9%	-3.0%	-3.6%
Goods	No.	-1828	-1115	+183
	%	-60.9%	-48.7%	+18.4%
Buses	No.	+17	-141	-149
	%	+1.1%	-8.4%	-8.8%
PCycles	No.	+1785	+2031	+918
	%	+35.1%	+41.9%	+15.4%
MCycles	No.	-1360	-910	-171
	%	-47.8%	-38.0%	-10.3%
All Vehs	No.	-8782	-2017	-1468
	%	-8.0%	+2.3%	-1.7%
Peds	No.	-4007	-2563	-541
	%	-21.6%	-15.0%	-3.6%

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 2002-2011 (Inbound 07.00 to 10.00hrs)						
Data on Cars, Taxis & Buses Crossing the Cordon						
	Cars	Taxis	Total	BAC	Other	Total
2002						
No	63,097	2,560	65,657	1,262	314	1,576
%	96.1%	3.9%	100%	80.1%	19.9%	100%
2003						
No	60,644	2,865	63,509	1,262	301	1,563
%	95.5%	4.5%	100%	80.7%	19.3%	100%
2004						
No	59,966	2,509	62,475	1,278	259	1,466
%	96.0%	4.0%	100%	83.1%	16.9%	100%
2005						
No	57,537	3,063	60,600	1,337	264	1,601
%	94.9%	5.1%	100%	83.5%	16.5%	100%
2006						
No	58,664	3,825	62,489	1,338	342	1,680
%	93.9%	6.1%	100%	79.6%	20.4%	100%
2007						
No	58,686	4,583	63,269	1,330	410	1,740
%	92.8%	7.2%	100%	76.4%	23.6%	100%
2008						
No	58,897	5,079	63,976	1,474	340	1,814
%	92.1%	7.9%	100%	81.3%	18.7%	100%
2009						
No	58,232	4,980	63,212	1,366	338	1,704
%	92.1%	7.9%	100%	80.2%	19.8%	100%
2010						
No	58,047	4,809	62,856	1329	359	1688
%	92.3%	7.7%	100%	78.7%	21.3%	100%
2011						
No	55,745	4,862	60,607	1179	360	1539
%	92.0%	8.0%	100%	76.6%	23.4%	100%

Taxis

Taxis made up 6.1% of all cars crossing the canal cordon in 2006 increasing to 8.0% in 2011. From 2006 to 2011 the total number of taxis increased by 27.1%. There was an increase of 0.9% from 2010 to 2011.

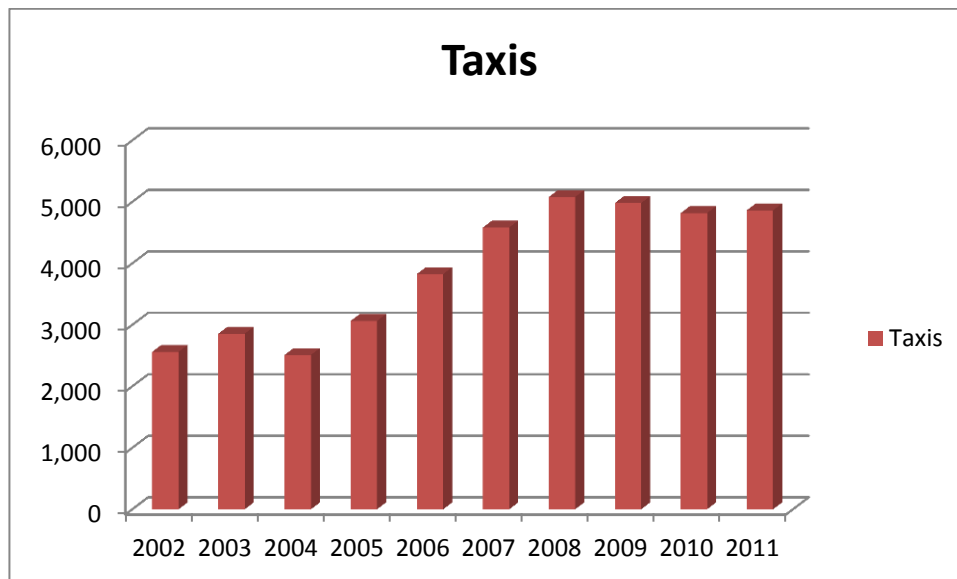


Table 4 outlines the changes in traffic volumes of private cars, taxis and buses for vehicles crossing the canal cordon between 7am and 10am for the years from 2006 to 2011 and from 2010 to 2011.

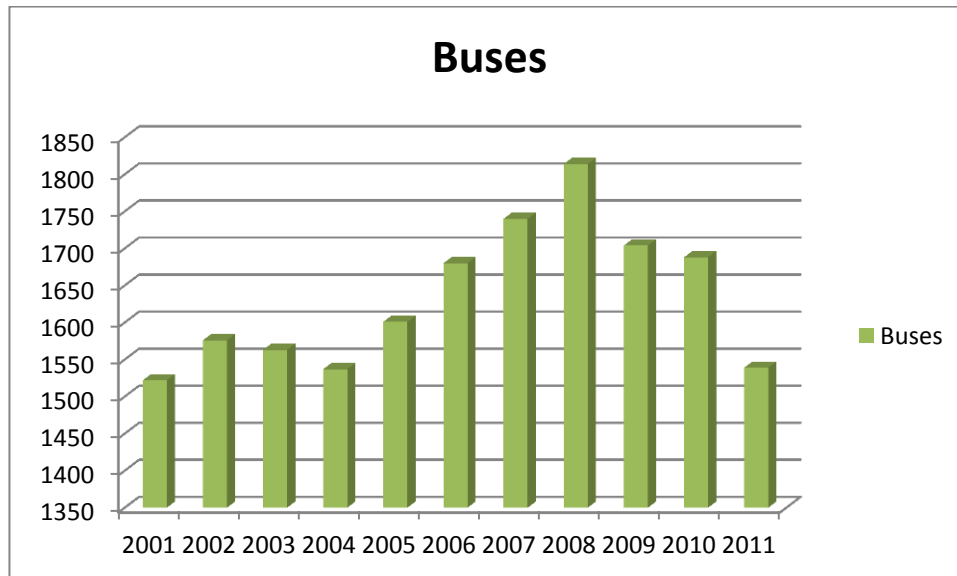
Table 4 Canal Cordon Counts (Inbound 07.00 to 10.00hrs)		
Change in traffic volumes over 5 years & 1 year		
	2006 to 2011	2010 to 2011
Cars*		
No.	-2929	-2301
%	-5.0%	-4.0%
Taxis		
No.	+1037	+44
%	+27.1%	+0.9%
BAC		
No.	-153	-149
%	-11.5%	-11.2%
Other Bus		
No.	+12	+1
%	+3.4%	+0.3%
<i>*Private cars only</i>		

Buses

In the period 2006 to 2011 the number of Bus Atha Cliath buses crossing the cordon has decreased by 11.5% with most of this decrease in the period 2010 to 2011.

The number of private buses in the period 2006 to 2011 has increased by 3.4%.

The total number of all buses has decreased by 8.4% during the same period.



Bus Atha Cliath (BAC) - Other Bus

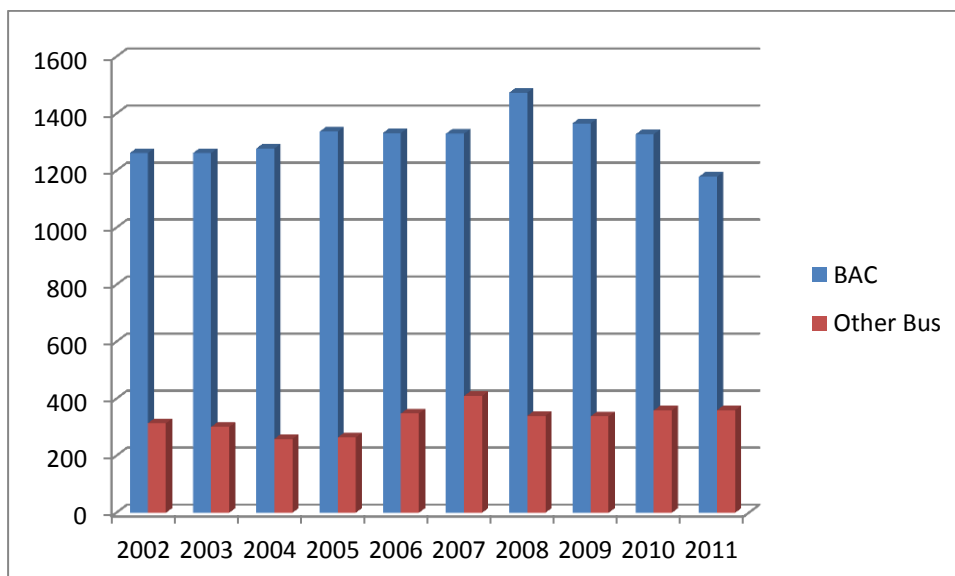


Table 5 shows detailed count results from 2006 and 2011 for cars and taxis and all buses at each of the 33 count locations.

On main bus routes from 2006 to 2011 there was an increase of 1.5% in the number of cars and taxis crossing the canal cordon between 7am and 10am. The number of buses decreased by 21%.

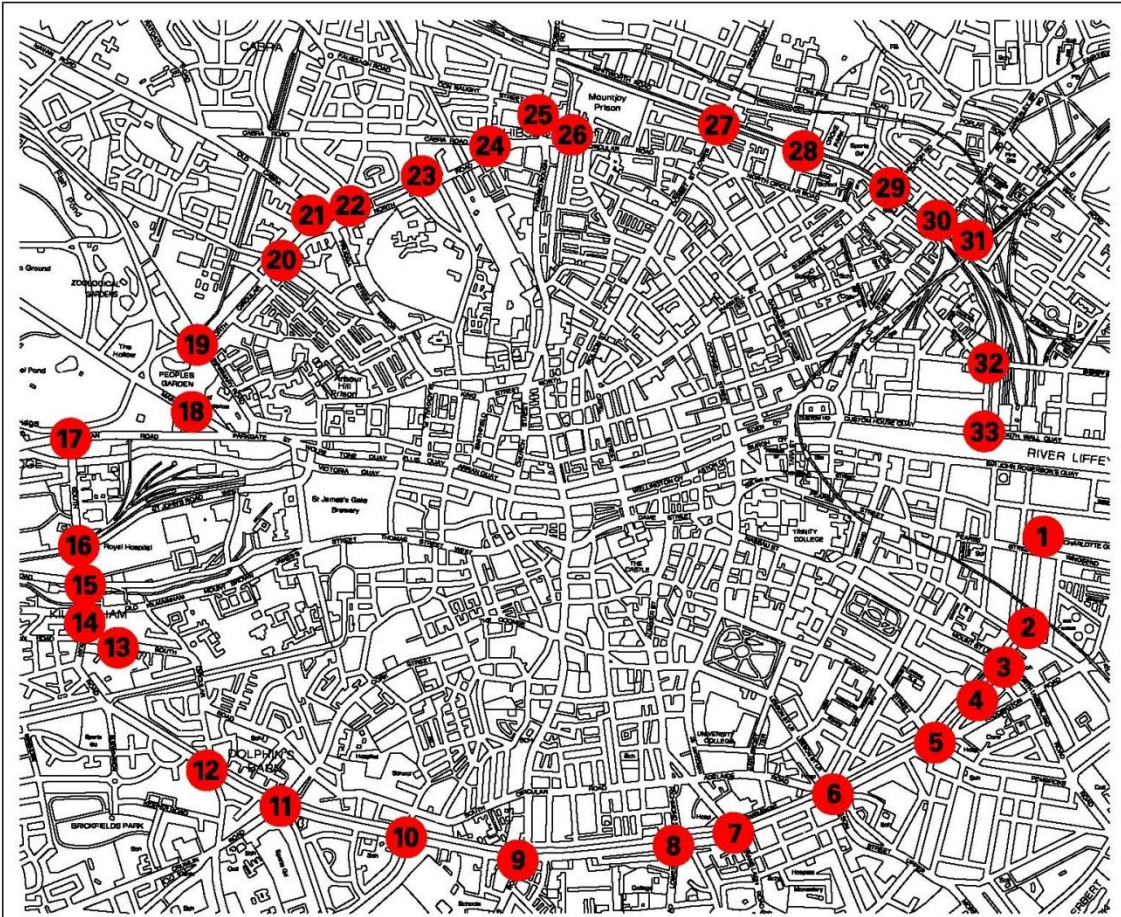
On non bus routes between 2006 and 2011 the number of cars and taxis crossing the cordon decreased by 24%.

Table 5 Canal Cordon Counts 2011 (Inbound 07.00 to 10.00hrs) – 33 locations							
		Cars and Taxis			All Buses		
	Main Bus Routes	2006	2011	06-11	2006	2011	06 - 11
1	Ringsend Rd (McMahon Bridge)	1738	2135	+23%	65	53	-18%
3	Mount Street Bridge	1601	2014	+26%	80	52	-35%
5	Baggot Street Bridge	2161	1889	-13%	35	59	-69%
6	Leeson Street Bridge	3942	3883	+1%	234	169	-28%
7	Charlemont Street Bridge	1511	1321	-13%	15	8	-46%
8	Rathmines Road (Portobello Br.)	2076	1840	-11%	82	105	+28%
9	Harold's Cross Bridge	2972	2725	-8%	53	56	+6%
10	Sally's Bridge	2150	1694	-21%	12	20	+67%
11	Dolphins Barn Bridge	2572	2847	+11%	88	58	-34%
13	SCR at St Patrick's Home	1491	1829	+23%	36	26	-28%
14	Old Kilmmainham	1845	2253	+22%	52	34	-35%
16	St. John's Road West	2876	2728	-5%	127	158	+24%
17	Conyngham Road	2206	2768	+25%	67	41	-39%
20	Blackhorse Avenue	2376	2104	-11%	22	17	-23%
21	Old Cabra Road	1410	1664	+18%	62	52	-16%
24	New Cabra Road	1369	1593	+16%	113	71	-37%
25	Phibsborough Road	2774	2947	+6%	75	67	-11%
27	Drumcondra Road (Binn's Br.)	5079	4970	-2%	239	185	-26%
29	Clarke's Bridge	3958	3656	-8%	27	23	-15%
30	Newcomen Bridge	3014	3421	+14%	178	158	-11%
2	Grand Canal Street Bridge	1615	1625	+1%	2	1	-50%
32	Sheriff Street Bridge	1406	991	-30%	0	33	
	Total	52142	52897	+1.5%	1664	1315	-21%
	Non Bus Routes						
4	Huband Bridge	459	366	-41%	0	0	
12	Herberton Bridge	2122	2023	+5%	3	21	
15	Kilmmainham Lane	432	867	+101%	0	0	
18	Phoenix Park (Main Road)	1317	513	-61%	0	0	
19	Phoenix Park (Back Road)	1442	743	-48%	0	4	
22	Annamoe Road	711	516	-27%	0	4	
23	Charleville Road	699	632	-10%	0	0	
26	Royal Canal Bank	263	19	-93%	0	0	
28	Russell Street Bridge	1313	1071	-18%	2	3	
31	Ossary Road	405	243	-40%	1	0	
33	North Wall Quay	1202	879	-27%	10	68	
	Total	10365	7872	-24%	3	100	

Table 6 outlines the changes in the number of persons travelling by car, taxi and on foot from 2006 to 2011 and the changes in occupancy rates for the different modes.

Between 2006 and 2011 the number of persons coming into the city during the morning peak by car has decreased by 9.3%. Over the same 5-year period the number of persons coming into the city during morning peak by taxi has increased by 42.8% while the number of pedestrians crossing the cordon has decreased by 15.0% .

		2006	2007	2008	2009	2010	2011	% 06-11
Number	Cars	58,664	58,686	58,897	58,232	58,047	55,745	-5.0%
	Taxis	3,825	4,583	5,079	4,980	4,809	4,862	+27.1%
	Pedestrians	17,114	18,594	18,360	14,618	15,092	14,551	-15.0%
Occupancy	Cars	1.31	1.22	1.15	1.22	1.24	1.25	-4.6%
	Taxis	1.38	1.47	1.38	1.55	1.47	1.55	+12.3%
Persons	Cars	76,850	71,597	67,732	71,043	71,978	69,681	-9.3%
	Taxis	5,278	6,737	7,009	7,719	7,069	7,536	+42.8%
	Pedestrians	17,114	18,594	18,360	14,618	15,092	14,551	-15.0%
	Total	99,242	96,928	93,101	93,380	94,139	91,768	-7.5%



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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 Rathmlins 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 | |