

Chapter 8



TRANSPORT AND ENVIRONMENT

INTRODUCTION

Transport

Public transport in the Republic of Ireland and Northern Ireland is operated by two respective public corporations. Córas Iompair Éireann (CIÉ) is the statutory body charged with the functioning of Dublin Bus, Bus Éireann and Iarnród Éireann. In Northern Ireland this is mirrored, to a certain degree, by the existence of the Northern Ireland Transport Holding Company. This public corporation oversees the activities of Metro (previously Citybus), Ulsterbus and NI Railways. In 1996, the brand name Translink was introduced to cover the integrated services of these three services.

The Republic of Ireland's network of national roads is provided by the National Road Authority (NRA). Historically, the NRA discharges its functions through the relevant local road authorities but can carry out functions directly if thought necessary. In Northern Ireland, the Roads Service is the sole road authority and is charged with the building and maintenance of roads.

The three main airports in the Republic of Ireland are Dublin Airport, Cork Airport and Shannon Airport. Along with these three airports are a host of smaller regional airports. In Northern Ireland, there are three main airports; Belfast International Airport, George Best Belfast City Airport and City of Derry Airport.

In the Republic of Ireland, the Department of Transport's Sustainable Travel and Transport Action Plan aims to encourage people to make informed choices about the way they travel and the consequences of those choices on their health and environment. It hopes, among other things, to create a shift to public transport and other forms of sustainable travel, reduce congestion, ease access to public transport and help to reduce greenhouse gas emissions. Such a new transport system would aim to increase Ireland's economic competitiveness and would integrate transport infrastructure with spatial planning. The Sustainable Travel and Transport Action Plan will be complementary to other initiatives such as the Rural Transport Programme and Transport 21.

In Northern Ireland, the Regional Transportation Strategy is being progressed through three transport plans. The Regional Strategic Transport Network Plan covers the infra-structural framework of the region connecting all the main centres of economic and social activity as well as improving roads to enhance sea and air ports and cross border links. The Belfast Metropolitan Transport Plan is the local transport plan for the Belfast Metropolitan Area. The Sub-Regional Transport Plan deals with the transport needs of the whole of Northern Ireland with the exception of the Belfast Metropolitan Area.

Environment

The Environmental Protection Agency (EPA) in the Republic of Ireland and the Northern Ireland Environment Agency (NIEA) in Northern Ireland are the respective government agencies charged with advising on and implementing Government environmental policies. Both agencies work towards various European and National strategies to improve the environment. In the Republic of Ireland, the EPA corporate strategy '2020 Vision' sets out long-term goals for Ireland's environment and identifies the steps that the EPA will take to achieve those goals. In Northern Ireland, the NIEA works closely with the Planning and Environmental Policy Group (PEPG) of the Department of Environment in developing environmental policy and legislation.

Table 8.1 (a) New car registrations - ten most popular makes, Republic of Ireland*Numbers*

1996		2006	
Make of car	Number	Make of car	Number
General Motors (Opel)	15,773	Toyota	24,704
Ford	15,103	Volkswagen	19,940
Toyota	11,913	Ford	19,504
Volkswagen/Audi ¹	11,880	Opel	13,497
Nissan	10,630	Nissan	13,073
Fiat/Lancia	7,712	Renault	9,022
Renault	5,437	Peugeot	7,716
Peugeot/Talbot	4,654	Hyundai	6,816
Austin/Rover	3,659	BMW	6,137
Mazda	3,439	Mercedes-Benz	5,159

Source Republic of Ireland: Vehicles Licensed for the First Time, CSO

¹In 1996, Volkswagen and Audi were sold / marketed under the same brand. They were separate brands in 2006.**Table 8.1 (b) Car registrations^{1,2} - ten most popular makes, Northern Ireland***Numbers*

1996		2006	
Make of car	Number	Make of car	Number
Vauxhall	13,829	Vauxhall	12,057
Ford	12,706	Ford	11,339
Peugeot	8,921	Volkswagen	10,160
Renault	8,905	Renault	8,706
Volkswagen	6,001	Toyota	7,253
Rover	5,483	Peugeot	6,748
Nissan	4,305	BMW	5,561
Toyota	3,719	Audi	3,815
Citroen	3,514	Citroen	3,721
Fiat	2,433	Mercedes	3,456

Source Northern Ireland: Driver and Vehicle Agency

¹Includes new and used cars registered for the first time in NI.²NI figures are for 31st December each year.

Reflecting the growth in prosperity in both areas between 1996 and 2006, 'luxury cars' including BMW and Mercedes-Benz, are included in the ten most popular makes in 2006.

Table 8.2 (a) All first time new vehicle registrations by taxation group in the Republic of Ireland

Year					<i>Numbers</i>	
	Private cars	Motor cycles	Goods vehicles	Other	Total	
1992	67,861	5,884	11,883	3,850	89,478	
1993	60,792	1,914	9,887	3,371	75,964	
1994	77,773	1,837	12,845	4,230	96,685	
1995	82,730	1,911	13,790	5,048	103,479	
1996	109,333	2,412	16,445	5,774	133,964	
1997	125,818	2,717	18,895	5,656	153,086	
1998	138,538	3,117	23,811	7,058	172,524	
1999	170,322	4,955	30,066	8,257	213,600	
2000	225,269	6,871	33,606	9,244	274,990	
2001	160,908	6,919	30,622	8,992	207,441	
2002	150,485	5,596	28,412	9,250	193,743	
2003	142,992	4,993	30,532	9,592	188,109	
2004	149,635	3,833	31,165	10,874	195,507	
2005	166,270	3,240	38,396	11,378	219,284	
2006	173,273	3,206	43,619	13,629	233,727	

Source Republic of Ireland: Vehicles Licensed for the First Time, CSO

Table 8.2 (b) All first time vehicle registrations by taxation group in Northern Ireland^{1,2}

Year					<i>Numbers</i>	
	Private cars	Motor cycles	Goods vehicles	Other	Total	
1992	64,746	2,000	8,998	1,931	77,675	
1993	69,214	1,898	9,561	2,307	82,980	
1994	76,529	1,957	9,998	2,924	91,408	
1995	81,410	2,399	10,670	2,467	96,946	
1996	87,614	2,927	11,088	2,251	103,880	
1997	93,870	3,565	12,523	2,338	112,296	
1998	100,947	4,447	14,234	1,674	121,302	
1999	99,490	5,415	15,173	1,699	121,777	
2000	95,018	6,099	16,635	2,017	119,769	
2001	98,789	5,678	18,352	2,050	124,869	
2002	93,866	5,699	16,214	1,865	117,644	
2003	97,374	6,888	16,043	2,093	122,398	
2004	96,058	4,706	15,558	1,907	118,229	
2005	98,471	4,728	16,444	2,065	121,708	
2006	102,229	4,363	17,971	2,235	126,798	

Source Northern Ireland: Driver and Vehicle Agency

¹NI figures are for 31st December each year.

²NI figures are for both new and used vehicles registered for the first time.

Table 8.3 Stock of cars in 2006 by year of registration¹*Numbers and percentages*

Year of registration	Republic of Ireland		Northern Ireland	
	Number of cars	% of cars	Number of cars	% of cars
1990 and earlier	22,062	1.2	8,108	1.0
1991	13,322	0.7	2,718	0.3
1992	21,214	1.2	4,360	0.5
1993	28,705	1.6	8,272	1.0
1994	43,761	2.5	14,595	1.8
1995	58,504	3.3	22,256	2.8
1996	86,154	4.8	30,509	3.8
1997	110,874	6.2	39,222	4.9
1998	124,638	7.0	48,612	6.1
1999	153,555	8.6	54,855	6.9
2000	207,222	11.6	60,110	7.5
2001	152,367	8.6	67,341	8.4
2002	147,234	8.3	73,952	9.2
2003	138,967	7.8	79,888	10.0
2004	146,320	8.2	87,181	10.9
2005	161,019	9.1	93,990	11.7
2006	162,943	9.2	104,428	13.0
Total	1,778,861	100	800,397	100

Sources Republic of Ireland: Irish Bulletin of Vehicle and Driver Statistics, Department of Transport
Northern Ireland: Driver and Vehicle Agency

¹Data include new cars registered for the first time in each area and second-hand cars registered for first time in each area that may have been previously registered in another country.

The increase in the number of new vehicles registered for the first time in the Republic of Ireland, in 2000, was partially a result of individuals desiring a '00' registration on their car number plate, along with a reflection of the buoyant economy at the time.

Table 8.4 (a) Driving test pass rates by gender in the Republic of Ireland¹

	<i>Numbers and rates</i>								
	1998	1999	2000	2001	2002	2003	2004	2005	2006
Male									
Pass	31,694	45,624	50,557	51,016	42,545	41,821	43,531	39,937	43,992
Fail	21,826	29,010	34,510	38,174	34,157	31,949	34,920	32,653	38,853
<i>% pass</i>	59.2	61.1	59.4	57.2	55.5	56.7	55.5	55.0	53.1
Female									
Pass	25,130	36,240	42,758	44,553	38,326	43,478	39,647	33,757	39,176
Fail	21,462	27,302	34,871	38,633	33,955	39,167	35,885	31,153	36,720
<i>% pass</i>	53.9	57.0	55.1	53.6	53.0	52.6	52.5	52.0	51.6
Total tests	100,112	138,176	162,696	172,376	148,983	156,415	153,983	137,500	158,741

Source Republic of Ireland: Irish Bulletin of Vehicle and Driver Statistics, Department of Transport

¹Data refer to all forms of driving test.

Table 8.4 (b) Driving test pass rates by gender in Northern Ireland^{1,2}

	<i>Numbers and rates</i>								
	1998	1999	2000	2001	2002	2003	2004	2005	2006
Male									
Pass	11,555	10,648	10,475	10,021	9,827	11,015	9,986	14,028	14,534
Fail	6,358	6,873	8,127	10,412	9,308	10,055	8,837	12,016	13,230
<i>% pass</i>	64.5	60.8	56.3	49.0	51.4	52.3	53.1	53.9	52.3
Female									
Pass	11,070	9,976	9,062	9,557	8,788	10,276	9,222	13,167	13,647
Fail	8,712	9,145	9,685	11,184	11,837	14,149	12,276	16,534	18,327
<i>% pass</i>	56.0	52.2	48.3	46.1	42.6	42.1	42.9	44.3	42.7
Total tests	37,695	36,642	37,349	41,174	39,760	45,495	40,321	55,745	59,738

Source Northern Ireland: Driver and Vehicle Agency

¹Northern Ireland figures refer to the financial year.

²Northern Ireland figures refer to car 'L' driving tests only.

Table 8.5 Bus transport

Units as indicated

Description	1998	1999	2000	2001	2002	2003	2004	2005	2006
Republic of Ireland									
Passenger journeys ('000)	218,800	222,900	218,500	230,300	236,000	241,800	240,100	238,300	238,400
Vehicle kilometres ('000)	117,500	119,800	127,700	134,900	137,200	143,200	143,900	151,100	151,500
Northern Ireland¹									
Passenger journeys ('000)	71,300	69,500	67,100	65,000	65,900	65,400	65,100	67,200	67,500
Vehicle kilometres ('000)	68,100	68,500	66,700	66,800	67,800	68,200	68,400	67,700	69,900

Sources Republic of Ireland: Bus Éireann and Dublin Bus
Northern Ireland: Translink

¹Northern Ireland figures refer to the financial year.

Efforts to modernise and renew both Dublin Bus and Bus Éireann have helped the total number of passenger journeys in the Republic of Ireland, in 2006, increase by 9 per cent compared to 1998 (peaking at 11 per cent in 2003).

The number of passenger journeys in Northern Ireland was 5 per cent lower in 2006 than in 1998. However, the biggest falls in passenger journeys occurred in the earlier years of the period, with some degree of reversal in the decline from 2001 onwards. In this period, Translink undertook a series of network reviews and also re-launched the Goldline and Metro (previously Citybus) services.

Bus users in the Republic of Ireland, on average, make shorter journeys than those in Northern Ireland, suggesting a relatively higher use of bus transport in rural areas of Northern Ireland.

Table 8.6 Rail transport

Units as indicated

Description	1998	1999	2000	2001	2002	2003	2004	2005	2006
Republic of Ireland									
Passenger journeys ('000)	32,146	32,765	31,721	34,206	35,370	35,558	34,550	37,845	43,150
Passenger receipts (€'000) ¹	101,203	106,468	105,721	119,439	121,947	136,851	141,091	150,875	167,753
Length of railway track (km)	1,945	1,965	1,965	1,965	1,965	1,834	1,834	1,912	1,912
Northern Ireland²									
Passenger journeys ('000)	5,800	5,900	5,900	6,200	6,300	6,900	6,900	7,700	8,600
Passenger receipts (£'000) ¹	12,786	13,366	14,126	14,987	15,394	16,759	17,194	18,637	22,646
Length of railway track (km)	340	340	340	340	340	340	340	340	340

Sources Republic of Ireland: Iarnrod Éireann
Northern Ireland: Translink

¹Receipts are in current prices, i.e. figures express the value of receipts in terms of the prices that existed in the year of measurement.

²Northern Ireland figures refer to the financial year.

The number of passenger journeys by rail was 34 per cent higher in the Republic of Ireland in 2006 than in 1998 and 48 per cent higher in Northern Ireland. These increases have occurred during a time when the length of railway track has remained relatively stable in both areas.

Table 8.7 Road accident deaths by road user type

	<i>Numbers</i>									
Road user type	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Republic of Ireland										
Pedestrians	130	114	92	85	89	86	64	70	74	73
Pedal cyclists	24	21	14	10	12	18	11	11	10	9
Motor cyclists	68	37	43	39	50	44	55	50	56	29
Car users	219	253	236	260	230	200	172	208	222	226
Other road users	31	28	28	21	30	28	33	35	34	28
Total	472	458	413	415	411	376	335	374	396	365
Northern Ireland										
Pedestrians	37	40	39	32	32	33	28	23	28	22
Pedal cyclists	4	7	1	4	2	3	2	2	4	1
Motor cyclists	16	11	9	7	11	19	22	22	15	14
Car users	79	93	91	119	91	93	88	94	81	84
Other road users	8	9	1	9	12	2	10	6	7	5
Total	144	160	141	171	148	150	150	147	135	126

Sources Republic of Ireland: Road Safety Authority
Northern Ireland: Police Service of Northern Ireland (PSNI)

Between 1997 and 2006 the Republic of Ireland recorded a 23 per cent decrease in road deaths. This was aided by the launch of the Government's first road safety strategy in 1998. The numbers of deaths did rise between 2003 and 2005 before declining once again.

The Northern Ireland Road Safety Strategy was introduced in 2002 and this has helped to develop a downtrend in road accident deaths for the years between 2002 and 2006. Figures show that deaths, in this period, fell from 150 down to 126, a decrease of 16 per cent.

While the data report a general decline in road accident deaths in both areas, a measurement of road usage over the same time period should also be employed to allow for proper interpretation of these figures.

Table 8.8 Road freight transport activity classified by group of goods and national/international journeys, 2006

Group of goods (NST/R Chapter) ³	Tonne-km ¹			Tonnes carried ²		
	National journeys ⁴	International journeys ⁵	Total	National journeys ⁴	International journeys ⁵	Total
	<i>Millions</i>					
Republic of Ireland						
Agricultural products and live animals	1,382	446	1,829	16.62	1.53	18.15
Foodstuffs and animal fodder	2,270	1,127	3,398	29.58	2.42	31.99
Solid mineral fuels	156	15	171	2.58	0.13	2.71
Petroleum products	917	18	935	11.24	0.18	11.41
Ores and metal waste	96	42	138	1.05	0.26	1.31
Metal products	346	82	429	2.99	0.45	3.44
Crude and manufactured minerals, building materials	5,175	227	5,402	192.08	3.23	195.31
Fertilisers	305	31	336	5.32	0.14	5.46
Chemicals	321	133	454	5.13	0.29	5.42
Machinery, transport equipment, manufactured articles and miscellaneous articles	2,002	650	2,652	23.81	1.60	25.42
Mixed loads	1,085	858	1,943	10.85	1.45	12.30
Total	14,056	3,631	17,687	301.24	11.67	312.91
Northern Ireland⁶						
Agricultural products and live animals	348	15	364	3.61	0.51	4.13
Foodstuffs and animal fodder	1,030	99	1,128	13.67	1.43	15.10
Solid mineral fuels	103	16	119	1.08	0.33	1.42
Petroleum products	146	42	188	3.31	0.61	3.93
Ores and metal waste	25	0	25	0.35	0.00	0.36
Metal products	99	14	113	1.14	0.28	1.42
Crude and manufactured minerals, building materials	997	185	1,181	31.96	6.68	38.64
Fertilisers	27	8	35	0.58	0.10	0.68
Chemicals	128	10	138	1.15	0.10	1.25
Machinery, transport equipment, manufactured articles and miscellaneous articles	657	112	769	11.56	1.37	12.93
Mixed loads	707	70	777	6.39	1.21	7.60
Total	4,267	570	4,837	74.82	12.62	87.43

Sources Republic of Ireland: Road Freight Transport Survey, CSO
Northern Ireland: Continuing Survey of Road Goods Transport, DfT

Footnotes See technical notes.

Table 8.9 Scheduled and chartered terminal air passenger traffic

Year	Passengers ¹		Numbers
	Scheduled	Chartered	All flights
Republic of Ireland			
1997	12,047,645	1,439,233	13,486,878
1998	13,254,479	1,712,963	14,967,442
1999	14,620,363	2,062,431	16,682,794
2000	15,598,556	2,510,107	18,108,663
2001	16,399,807	2,606,714	18,803,700
2002	16,891,154	2,916,634	19,807,788
2003	18,209,312	2,924,292	21,133,604
2004	19,992,600	2,819,213	22,811,813
2005	22,850,587	2,830,029	25,680,616
2006	26,574,295	2,575,697	29,149,992
Northern Ireland²			
1997	3,227,200	570,577	3,797,777
1998	3,325,000	665,404	3,990,404
1999	3,619,912	777,967	4,397,879
2000	3,773,100	830,850	4,603,950
2001	4,233,206	748,988	4,982,194
2002	4,937,546	702,395	5,639,941
2003	5,276,752	857,221	6,133,973
2004	5,820,516	907,394	6,727,910
2005	6,510,724	745,122	7,255,846
2006	6,734,589	727,991	7,462,580

Sources Republic of Ireland: Transport Section, CSO
Northern Ireland: CAA Statistics

¹Figures include both arrivals and departures.

²Northern Ireland airports include Belfast International, George Best Belfast City and City of Derry airports.

In the ten years from 1997 to 2006, both the Republic of Ireland and Northern Ireland have recorded large increases in the volume of air passenger traffic (increases of 116 per cent and 96 per cent respectively). A liberal European aviation market, along with an expanded European community, have helped this growth along with increased competition and reduced airfares.

Figure 8.1 Index of increase in air passenger traffic, 1997-2006 (1997=100)

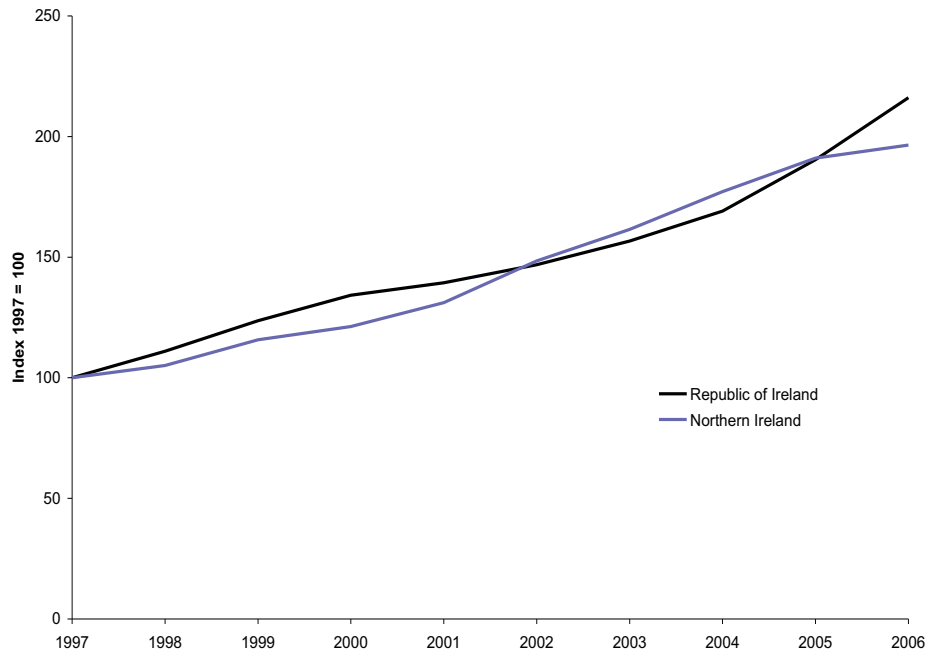


Table 8.10 Environmental pressures - transport

Units as indicated

Year	Number of cars	Total number of vehicles	Number of cars per thousand population	CO ₂ emissions from road transport kilotonnes
Republic of Ireland				
1992	858,498	1,126,473	242	5,357
1993	891,027	1,151,238	249	5,321
1994	939,022	1,202,273	262	5,560
1995	990,384	1,262,503	275	5,718
1996	1,057,383	1,338,616	292	6,722
1997	1,134,429	1,432,330	310	7,082
1998	1,196,901	1,510,853	323	8,441
1999	1,269,245	1,608,156	339	9,356
2000	1,319,250	1,682,221	348	10,107
2001	1,384,704	1,769,684	360	10,551
2002	1,447,908	1,850,046	370	10,833
2003	1,507,106	1,937,429	379	11,004
2004	1,582,833	2,036,307	391	11,612
2005	1,662,200	2,138,700	402	12,355
Northern Ireland				
1992	493,025	578,312	304	..
1993	500,194	586,325	306	..
1994	508,800	595,951	310	..
1995	522,960	611,562	317	3,511
1996	546,442	639,286	329	..
1997	583,237	683,569	349	..
1998	592,831	695,360	353	3,734
1999	615,567	720,645	367	3,877
2000	622,488	730,730	370	3,981
2001	650,323	767,305	385	4,043
2002	671,180	794,477	396	4,342
2003	712,835	852,742	419	4,545
2004	736,706	883,261	431	4,581
2005	763,664	917,399	443	4,632

Sources Republic of Ireland: Department of the Environment, Heritage and Local Government, Central Statistics Office, Environmental Protection Agency
Northern Ireland: Department for Regional Development, AEA Technology

Figure 8.2 Number of cars per 1,000 population, 1992-2005

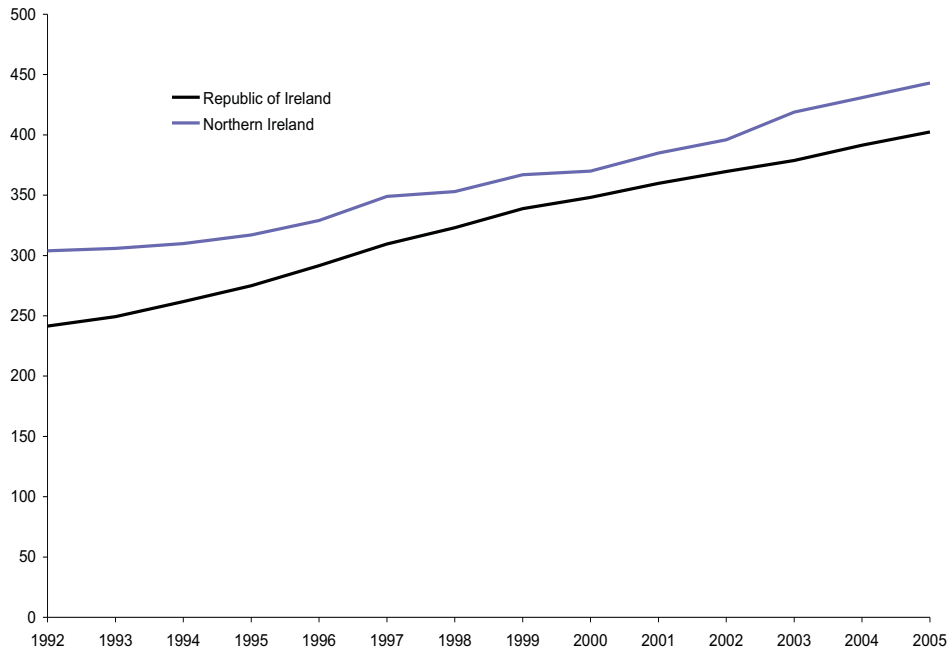


Table 8.11 Greenhouse gas emissions¹

Description	<i>Kilotonnes</i>							
	1998	1999	2000	2001	2002	2003	2004	2005
Republic of Ireland								
Carbon dioxide (CO ₂)	40,573	42,201	44,975	47,300	45,754	44,804	45,754	47,268
Methane (CH ₄)	684	669	645	633	636	664	636	632
Nitrous oxide (N ₂ O)	34	34	33	31	29	29	28	28
Total	41,291	42,904	45,653	47,964	46,419	45,497	46,418	47,928
Northern Ireland								
Carbon dioxide (CO ₂)	15,390	15,682	15,558	15,853	14,391	14,455	14,340	15,113
Methane (CH ₄)	135	130	127	124	123	120	119	117
Nitrous oxide (N ₂ O)	11	11	10	10	9	9	9	8
Total	15,536	15,823	15,695	15,987	14,523	14,584	14,468	15,238

Sources Republic of Ireland: Environmental Protection Agency
Northern Ireland: AEA Technology

¹'Greenhouse Gas (GHG) emissions' refers to the actual amount of each GHG emitted.

Both the Republic of Ireland and Northern Ireland witnessed a decline in carbon dioxide levels between 2001 and 2002. In the Republic of Ireland, this drop can be partially attributed to the closure of the NET fertilizer plant in 2002. In Northern Ireland, the drop in emissions can be partially explained by a reduction in emissions from coal-fired power generation as a result of the gas pipeline constructed across to Scotland, which went into commercial operation in early 2002.

Table 8.12 Greenhouse gas emissions, CO₂ equivalent¹

Description	<i>CO₂ equivalent kilotonnes</i>							
	1998	1999	2000	2001	2002	2003	2004	2005
Republic of Ireland								
Carbon dioxide (CO ₂)	40,573	42,201	44,975	47,300	45,754	44,804	45,754	47,268
Methane (CH ₄)	14,366	14,045	13,541	13,291	13,364	13,947	13,359	13,262
Nitrous oxide (N ₂ O)	10,487	10,543	10,074	9,553	9,077	8,914	8,750	8,694
Total	65,426	66,789	68,590	70,144	68,195	67,665	67,863	69,224
Northern Ireland								
Carbon dioxide (CO ₂)	15,390	15,682	15,558	15,853	14,391	14,455	14,340	15,113
Methane (CH ₄)	3,232	3,131	3,050	2,979	2,959	2,877	2,855	2,804
Nitrous oxide (N ₂ O)	3,397	3,419	3,189	3,228	2,771	2,722	2,646	2,519
Total	22,019	22,232	21,797	22,061	20,121	20,054	19,840	20,437

Sources Republic of Ireland: Environmental Protection Agency
Northern Ireland: AEA Technology

¹'Greenhouse gas emission, CO₂ equivalent' refers to the potential global warming effect of each GHG.

For example, methane is 21 times more potent a GHG than CO₂, whilst N₂O is 310 times more potent.

Figure 8.3 Index of greenhouse gas emissions, CO₂ equivalent, 1998-2005 (1998=100)

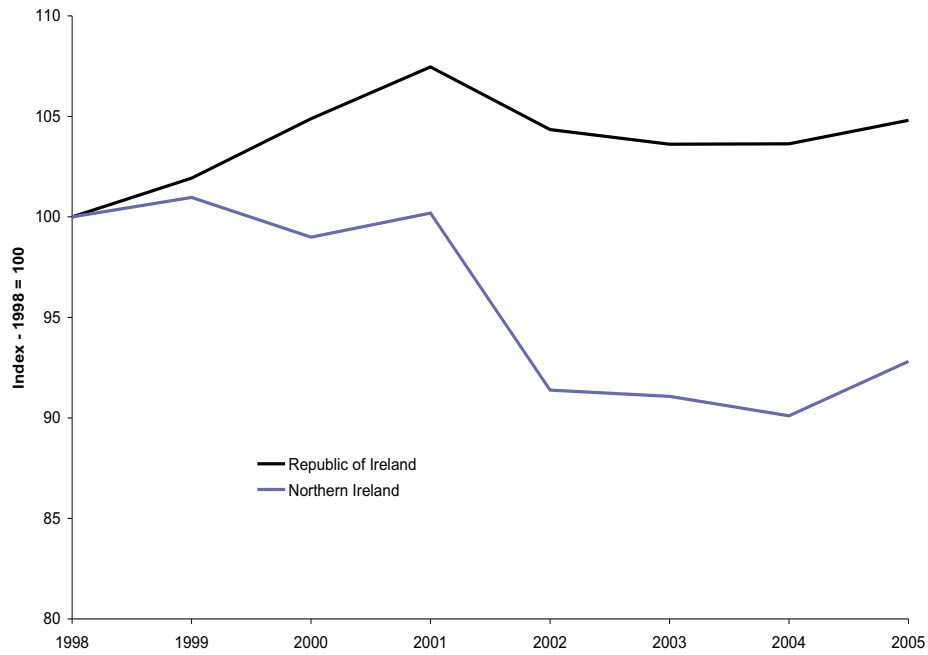


Table 8.13 (a) River quality in the Republic of Ireland

Description	Percentages				
	1991-94	1995-97	1998-2000	2001-03	2004-06
Unpolluted	71	67	70	69	71
Slightly polluted	17	18	17	18	18
Moderately polluted	11	14	12	12	10
Seriously polluted	1	1	1	1	1

Source Republic of Ireland: Environmental Protection Agency

Table 8.13 (b1) Chemical river quality in Northern Ireland¹

Description	Percentages							
	1995-97	1998-2000	1999-2001	2000-02	2001-03	2002-04	2003-05	2004-06
Very good	8	7	9	6	10	12	14	26
Good	36	52	49	49	48	46	49	49
Fairly good	32	26	25	29	24	27	23	18
Fair	14	11	13	12	11	8	9	4
Poor	9	4	5	3	7	6	4	3
Bad	1	0	0	0	0	1	1	1

Source Northern Ireland: Northern Ireland Environment Agency

Table 8.13 (b2) Biological river quality in Northern Ireland^{2,3}

Description	Percentages							
	1997	2000	2001	2002	2003	2004	2005	2006
Very good	30	24	20	21	16	13	15	16
Good	44	38	30	36	41	38	41	38
Fairly good	21	25	34	29	29	34	30	34
Fair	6	11	13	11	12	13	12	10
Poor	0	2	3	3	2	2	2	2
Bad	0	0	0	0	0	0	0	0

Source Northern Ireland: Northern Ireland Environment Agency

¹Chemical river quality is assessed over a rolling three-year sample.

²Biological river quality is assessed over a normal calendar year basis.

³Please see technical notes for an explanation of chemical and biological river quality.

River quality in the Republic of Ireland has remained relatively constant from 1991, with approximately 70 per cent of rivers being described as being unpolluted.

The chemical quality of rivers in Northern Ireland has improved over the period 1995-97 to 2004-06, with 75 per cent of rivers rated as good or very good in 2004-06. However, there has been a decline in the biological quality.

Table 8.14 Land areas afforested

	<i>Thousands</i>									
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Republic of Ireland										
Hectares public	391	394	395	397	397	397	397	398	398	398
Hectares private	217	227	239	253	268	283	292	302	312	320
Hectares total	609	621	634	650	665	680	689	699	709	717
% of total land area	9	9	9	9	10	10	10	10	10	10
Northern Ireland¹										
Hectares public	61	61	61	61	61	61	61	62	61	61
Hectares private	20	21	22	22	23	24	25	24	25	26
Hectares total	81	82	83	83	84	85	86	86	86	87
% of total land area	6	6	6	6	6	6	6	6	6	6

Sources Republic of Ireland: Forest Service
Northern Ireland: Forest Service, DARD

¹Figures for Northern Ireland are for the financial year.

Table 8.15 (a) Municipal waste in the Republic of Ireland

	<i>Tonnes and percentages</i>		
	2004	2005	2006
Total	2,703,603	2,779,097	3,100,310
Percentage recovered (incl use as fuel for energy)	33	34	36

Source Republic of Ireland: EPA National Waste Report 2006 Appendix A - Indicators

Table 8.15 (b) Municipal waste in Northern Ireland

	<i>Tonnes and percentages</i>		
	2004	2005	2006
Total	1,050,716	1,063,510	1,064,090
Percentage recycled/composted	18	23	26

Source Northern Ireland: Northern Ireland Environment Agency

Technical Notes

Tables 8.1 (a) and 8.1 (b)

In most European countries, including the Republic of Ireland, cars produced by General Motor are badged as Opels. In the United Kingdom, they are badged as Vauxhalls but the models are otherwise largely identical. ROI figures refer to new cars licensed for the first time. Northern Ireland figures refer to new and used cars registered for the first time in Northern Ireland.

Table 8.2 (b)

In Northern Ireland, goods vehicles include Light Goods Vehicles which have a gross weight of 3,500 kgs or less and Heavy Goods Vehicles which have a gross weight exceeding 3,500 kgs.

Table 8.3

In Northern Ireland, cars include all vehicles with a car body type.

Tables 8.4 (a) and 8.4 (b)

Figures from the Republic of Ireland refer to driving tests for all vehicle types. Figures for Northern Ireland refer to car 'L' driving tests.

Table 8.7

In both Northern Ireland and Republic of Ireland, a road accident death means the death occurred within 30 days from injuries received in an accident. Motorcyclists include riders and passengers of motorcycles. Car users include drivers and passengers of cars and taxis. Other road users include passengers of pedal cycles, drivers and passengers of Public Service Vehicles, goods vehicles, motorcycles. Car users include drivers and passengers of cars and taxis. Other road users include passengers of pedal cycles, drivers and passengers of Public Service Vehicles, goods vehicles, motor caravans, tractors and emergency vehicles.

Table 8.8

Footnotes

¹Tonne-Kilometre - For end-to-end journeys this is the result of multiplying the weight of goods carried by the distance they were carried.

²Tonnes Carried - This is the weight of goods (including empties) carried inclusive of packaging etc. but excluding the weight of demountable containers (if any) in which the goods are carried.

For split delivery/collection journeys tonnes carried is taken as the weight of goods at the start of the journey plus the weight of any other goods collected during the journey.

³NST/R is the Standard Goods Classification for Transport Statistics in the European Union.

⁴Northern Ireland national journeys include journeys within Northern Ireland and journeys from Northern Ireland to England, Scotland and Wales.

⁵NI journeys to the Republic of Ireland and ROI journeys to NI are included in International journeys.

⁶Figures for Northern Ireland refer to trips made by good vehicles registered in Northern Ireland.

Table 8.10

Republic of Ireland data include 'fuel tourism' from Northern Ireland, i.e. where drivers from Northern Ireland travel across the border to buy fuel because it is cheaper but consume it in Northern Ireland.

Tables 8.10, 8.11 and 8.12

Both the Republic of Ireland and Northern Ireland statistics are subject to Intergovernmental Panel on Climate Change (IPCC) guidelines.

Northern Ireland's greenhouse gas (GHG) inventory is calculated by AEA Technologies, along with the GHG inventories for the rest of the United Kingdom. A separate inventory has been produced for each of the devolved administrations (DA), for the years 1990, 1995, 1998 to 2005. The GHGs reported on are:

Carbon dioxide (CO₂), Methane (CH₄), Nitrous oxide (N₂O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), and Sulphur hexafluoride (SF₆).

In the compilation of GHG inventories for each of the DAs, where possible, the same methodology has been used to calculate emission estimates as for the UK inventory. However, for many emission sources the data available for DA emissions are less detailed than for the UK as a whole, and for some sources country-level data are not available at all.

Table 8.13 (b1)

Chemical quality is assessed using three determinands, biochemical oxygen demand (BOD), dissolved oxygen (DO) and ammonia. These have been selected as indicators of the extent to which waters are affected by waste water discharges and rural land use run-off containing organic, biodegradable material. The quality of rivers is affected by discharges from sewage treatment works and industries, and by diffuse drainage and discharges from agriculture.

There are six quality classes ranging from Very Good through Fair to Bad. Monitoring results for rolling 3-year sampling periods are used. Thus, for example, the General Quality Assessment (GQA) chemical classification for 2003 is based on a combination of the results obtained during 2001, 2002 and 2003.

Table 8.13 (b2)

Biological classification is based on comparison of the macroinvertebrate fauna found at a sampling site with what would be expected to be found in the absence of pollution. The closer the approximation between what is found and what would be expected to be found in the absence of pollution, the better the biological class of the river. There are six quality classes ranging from Very Good through Fair to Bad.

The biological quality of rivers is determined by the presence of over 1,500 species of aquatic macroinvertebrates (such as insect larvae, molluscs and shrimps). Each species varies in their ability to tolerate pollution and the different forms of pollution. Due to this, the identification of imbalances in the diversity and abundance of macroinvertebrates within river reaches offers a ready means of detecting intermittent pollution and the effects of substances such as pesticides and acids which may not be detected by chemical monitoring. Because of the relatively small range of chemical determinands routinely monitored, rivers can be classified as of good chemical quality while supporting an impoverished macroinvertebrate community. The effects of pollution can therefore be underestimated if reliance is placed on one classification system in isolation.

In the same way, the abundance and diversity of aquatic plants and algae can provide valuable information regarding nutrient enrichment in river waters and sediments. Taken together with GQA chemistry, the evaluation of macroinvertebrates and plants can give a much more holistic assessment of river water quality and improve the detection of intermittent or insidious pollution.

Table 8.15

Municipal waste figures for Northern Ireland are collected by quarterly data returns from each of the 26 district councils through WasteDataFlow (WDF). WDF is an online data collection portal through which district councils submit their quarterly returns.

2005/06 was the first year a complete set of annual data were collated by the WDF system. Prior to the WDF these statistics were collected by way of municipal waste surveys.