

Free Speed Survey 2012 (Urban and Rural)



Working To Save Lives

Údarás Um Shábháilteacht Ar Bhóithre
Road Safety Authority

Free Speed Survey 2012 (Urban and Rural)

Published by:

ROAD SAFETY AUTHORITY

Primrose Hill, Dublin Road
Ballina

Co. Mayo, IRELAND

Locall: 1890506080

Website: www.rsa.ie

CONTENTS

Executive Summary	4
A: Key Findings	5
B: Definitions	9
C: Speed Limits	11
D: Background to the Free Speed Survey	13
E: Methodology	15
1. Free Speed Survey 2012 - Cars	18
1.1 Overview	18
1.2 Overview of Free Speed by Road Type	19
1.3 Free Speed on Urban Roads	19
1.4 Free Speed on Rural Roads	21
2. Free Speed Survey 2012 – Articulated Vehicles	28
2.1 Overview	28
2.2 Overview of Free Speed by Road Type	28
2.3 Free Speed on Urban Roads	30
2.4 Free Speed on Rural Roads	31
3. Free Speed Survey 2012 – Rigid Vehicles	35
3.1 Overview	35
3.2 Overview of Free Speed by Road Type	35
3.3 Free Speed on Urban Roads	36
3.4 Free Speed on Rural Roads	37
4. Free Speed Survey 2012 – Single Deck Buses	42
5. Speed Variations	44
5.1 Overview	44
5.2 Relationship between speed and travel time	44
6. Detailed Tables	46 - 53
7. Appendices	54 - 61
Appendix 1: Sample free speed survey sheet	
Appendix 2: Free speeds (urban) survey locations	
Appendix 3: Free speeds (rural) survey locations	

Executive Summary

A nationwide observational free speed survey on Irish roads was conducted in 2012 by Road Safety Authority (RSA).

Although speed is a demonstrated road collision causal factor, in 2012, the percentage of car drivers exceeding speed limit on rural roads was 20%. Furthermore, the percentage of car drivers found breaking the speed limit by 10 km/h or more on urban roads was 27%.

The survey found that overall driver compliance with speed limits on urban roads is still poor. On average, 4 out of 7 motorists exceeded the posted speed limit in urban areas.

There was no significant change in the percentage of cars complying with speed limits on motorways, national primary and regional roads in 2012, with the percentage of free-speeding cars breaking the posted limit on motorways decreasing from 16% in 2011 to 15% in 2012, increasing from 33% to 34% on regional roads.

Average car free speed was 109km/h on motorways, 99km/h on dual carriageways, 90km/h on two-lane national primaries, 82km/h on two-lane national secondary roads, 76km/h on regional roads and 65km/h on local roads.

The proportion of cars exceeding the speed limit on urban arterial roads (in 50km/h zones) decreased from 77% in 2011 to 74% in 2012. There was three percentage points increased in the proportion of cars exceeding the 50km/h speed limit on urban national roads.

The proportion of articulated vehicles violating vehicle specific speed limits has decreased on motorways and dual carriageway but has increased on national primary and secondary roads in 2012.

The proportion of rigid trucks violating vehicle specific speed limits has increased on dual carriageway, national primary roads and regional roads, decreased on motorways and county roads in 2012.

***On average,
4 out of 7
motorists
exceed the
posted speed
in urban
areas***

***Average
articulated
vehicles free
speed was
84km/h on
motorways
in 2012***

A. Key Findings of the Free Speed Survey 2012

Rural Roads are the following:

- Motorways;
- Dual carriageways;
- National primary roads;
- National secondary roads;
- Regional roads;
- Local roads.

Urban Roads are the following:

- Urban national at the 50 km/h speed limit;
- Arterial in 50 km/h speed zones;
- Arterial in 60 km/h zones;
- Residential in 50 km/h zones.

1) CARS

Overview

- In 2012, a total of 12,557 cars were surveyed on the road network in Ireland. 41.5% (5,207) of cars surveyed were on travelling on urban roads. 58.5% of cars observed were travelling on rural roads;
- About 20% of all cars observed on rural roads were speeding (i.e. driving at a speed greater than posted speed limit);
- Almost 56% of all cars observed on urban roads were speeding.

Rural Roads

- On rural roads, the average free speed of cars was below the speed limit on all road types;
- 20% of the cars observed on rural roads were travelling at speed more than posted speed limit on rural roads;
- On rural roads the modal (more frequent) car speed range is between 110-120km/h on motorways, 90-100 km/h on dual carriageways, 90-100km/h on national primary, 80-90km/h on national secondary roads, 70-80 km/h on regional roads and 60-70 km/h local roads (see Section1.4).
- On dual carriageway, national primary and regional roads, the proportion of cars complying with speed limits has decreased marginally compared with 2011 survey results;

- Compliance was higher on national secondary where 93% of cars travelled at less than the speed limit;
- On dual carriageways, 58% of cars travelled at less than the speed limit;
- On national primary roads, 82% of cars travelled at less than the 100km/h speed limit;
- On regional roads, just over 3 out of 5 cars travelled at less than the speed limit. However, 4% of car drivers exceeded the limit of 80km/h by more than 20km/h;
- Compliance was also high on local roads with 84% of car drivers travelling at less than the speed limit.

Urban Roads

- 85% of car drivers surveyed exceeded the 50km/h limit on urban national roads, a marginal increase of three percentage points on 2011 figures;
- 53% of these drivers exceeded the speed limit by 10km/h or more on urban national roads;
- The average speed of cars on urban national roads was about 12 km/h above the 50 km/h posted speed limit. Furthermore, only 13% of drivers were observed travelling below the speed limit and 7% were travelling between 80 and 100 km/h.
- On arterial roads in urban areas, 24% of cars were travelling under the speed limit in 50km/h zones, 42% travelled between 50-60km/h;
- In urban residential areas with a 50km/h speed limit, the number of cars exceeding the speed limit increased marginally from 9% in 2011 to 10% in 2012;
- Most cars observed on urban residential roads, within a 50km/h speed limit were travelling at 50km/h or under. The average car travel speed on urban residential roads was 39.8 km/h with a standard deviation of 7.8 km/h;
- 36% of car drivers surveyed on urban arterial roads travelled under the speed limit when in 60 km/h zones.

2) ARTICULATED VEHICLES

Rural Roads

- In 2012, a total of 1,275 articulated vehicles were observed on the road network in Ireland. 82% of articulated trucks observed were on rural roads (i.e. motorways, dual carriageways national primary and national secondary roads, regional and local roads);
- The average free speed for articulated trucks was below the vehicle specific speed limits on all road types except national primary, dual carriageway and motorway. It should be remembered that speed limits of 80 km/h apply to such vehicles rather than the speed limit applicable to the road;
- 67% of all articulated trucks observed on rural roads were speeding (i.e. driving at a speed greater than 80km/h). Articulated vehicles are subject to an 80 km/h speed limit on rural roads;
- The most frequent articulated vehicle speed range on rural roads is between 80-90km/h on motorways, dual carriageways and national primary roads, 70-80km/h on national secondary and 60-70km/h on regional roads;
- There was a marginal increase from 65% in 2011 to 70% in 2012 in the number of articulated vehicles exceeding the speed limit on national primary roads;
- However, on regional roads, speeds for articulated vehicles decreased;
- On motorways, 78% of articulated vehicles were travelling between 80 and 90km/h, 12% travelled under 80km/h, while 24% travelled under the speed limit of 80km/h on dual carriageways;
- 10% of articulated drivers on dual carriageways were driving between 90 and 100 km/h.

Urban Roads

- On urban national roads, within a 50km/h speed limit, 78% of articulated vehicles exceeded 50km/h, nearly 41% of the articulated vehicles were travelling between 60 and 80km/h;

3) RIGID VEHICLES

- In 2012, a total of 2,500 rigid vehicles were observed on the road network in Ireland. 84% of rigid trucks observed were on rural roads (i.e. motorways, dual carriageways national primary and national secondary roads, regional and local roads);

Rural Roads

- 59% of all rigid trucks observed on rural roads were speeding (i.e. driving at a speed greater than 80km/h). Rigid vehicles are subject to an 80 km/h speed limit on rural roads;
- The 2012 survey saw an improvement in speed violations for rigid trucks on motorway, national secondary roads and local roads;
- For rigid trucks, the average free speed was below the vehicle specific speed limit for all roads except that on motorway and dual carriageway;
- On motorways, 67% of rigid vehicles were travelling between 80 and 90km/h, almost 3% travelled between 100-120km/h, while 27% travelled under 80km/h on dual carriageways;
- The most frequent rigid vehicle speed range seen on rural roads was between 80-90km/h on motorways, dual carriageways and national primary, 70-80km/h on national secondary and regional roads;

Urban Roads

- On urban national roads, within a 50km/h speed limit, 76% of rigid vehicles exceeded 50km/h and 35% of the rigid vehicles were travelling between 60 and 80km/h;

4) BUSES

- In 2012, a total of 576 single deck buses were surveyed on the road network in Ireland. 88% of buses observed were on rural roads (i.e. motorways, dual carriageways national primary and national secondary roads, regional and local roads);
- 70% of all single deck buses observed on rural roads were speeding (i.e. driving at a speed greater than 80km/h);
- On the motorway, dual carriageway and national primary roads the average free speed was higher than the 80 km/h permitted for such a vehicle.

B. Definitions

Free Speed

Free speed is the speed at which drivers choose to travel when unconstrained by road geometry (e.g. sharp bends), weather conditions (e.g. rain) or traffic conditions (e.g. congestion).

Free speeds only are measured in this survey and therefore the average speed computed from these surveys would considerably overestimate the speed on the road network, as constrained vehicles tend to travel at lower speeds.

85th Percentile

The 85th percentile speed is the speed at or below which 85% of the motorists drive on a given road unaffected by slower traffic or poor weather. This speed indicates the speed that most motorists on the road consider safe and reasonable under ideal conditions. It is a good guideline for the appropriate speed limit for that road.

Road Classifications in the Republic of Ireland

Roads are the dominant mode of transport in Ireland accounting for 96% of passenger traffic and 89% of freight transport.

National roads consist of National Primary and National Secondary roads and while they account for only 6% of the total road network, they carry over 45% of traffic. A national road (including a motorway) is denoted by the letter N or M (e.g. N7, M50).

- National Primary roads are major long distance through-roads linking the principal ports/airports, cities and large towns;
- National Secondary roads are medium distance through-roads connecting important towns and linking up to the national primary roads.

Non-national roads consist of regional roads and local roads which are important as our low density of population creates a high dependence on the local roads system. A non-national road is denoted by the letter L or R (e.g. L3421, R416).









- Regional roads provide the main links between national roads;
- Local roads include all other urban and rural roads. Regional and local roads account for 94% of the total road network and they carry over 55% of traffic;

- Arterial roads are high-capacity roadways controlled by traffic signals, with access via cross-streets and often adjoining driveways. For this study, they can be regarded as the stretch of roads before entering towns and villages. They are generally identified by either a 50 km/h or a 60 km/h speed limit.
- Residential roads are roads which go through business, shopping and residential areas of cities and towns. A default speed limit of 50 km/h applies to such roads and is sometimes referred to as a “build up speed limit”. As these are default speed limits on these roads, there are not always indicated by a speed limit sign.

C. Speed Limits

Speed Limits for Road Types

All public roads have speed limits. In most cases, a 'default' speed limit applies. This automatically applies to a particular type of road if there is no speed limit sign to show otherwise. The table below sets out the default speed limits for different roads under the Road Traffic Act 2004.

	Type of road		Speed limit
	Motorway, (Blue Signs - M numbers)		120km/h
	National roads (primary and secondary) (Green Signs - N numbers)		100km/h
	Non-national roads (regional and local) (White Signs - R or L numbers)		80km/h
	Roads in built-up areas, such as cities, towns and boroughs		50km/h

Local authorities can apply special speed limits to any of these roads, for example, at particular times such as:

- When children are entering or leaving schools;
- On different sides of a dual carriageway;
- At selected locations such as a tunnel, where the limit may be lowered if one lane is closed;
- Where there is a series of bends;
- At roadworks.

If the local authority sets a special speed limit, you will see one of the following signs.



30km/h



50km/h



60km/h



80km/h








100km/h



120km/h

Speed limits for vehicles

Some drivers must obey speed limits for their vehicles as well as speed limits for the roads on which they are travelling. The table below outlines the speed limits that apply to different vehicles.

Vehicle speed limit	Type of vehicle to which it applies	
80 kilometres an hour (80km/h)	<ul style="list-style-type: none"> A vehicle that can carry more than 8 passengers, apart from the driver, but does not carry any standing passengers 	
80 kilometres an hour (80km/h)	<ul style="list-style-type: none"> A goods vehicle with a design gross vehicle weight of more than 3,500 kilograms 	
80 kilometres an hour (80km/h)	<ul style="list-style-type: none"> Any vehicle towing a trailer, caravan, horsebox or other attachment 	
65 kilometres an hour (65km/h)	<ul style="list-style-type: none"> Any double-deck bus or double-deck coach 	
65 kilometres an hour (65km/h)	<ul style="list-style-type: none"> A single deck bus carrying standing passengers 	

D. Background to the Annual Speed Survey

Moving From Imperial to Metric

The conversion to a metric speed system (km/h) in January 2005 from the old imperial system (mph) resulted in a major change in speed limits in the state. As well as the change to kilometres, the specific speed limits and vehicle-specific speed limits were amended to reflect the changing road transport system.

The speed limit on motorways changed from 70mph to 120km/h (equivalent to 75 mph); on dual carriageways and national roads from 60 mph to 100 km/h (62 mph); on inter-urban regional and local roads from 60 mph to 80 km/h (50 mph). In terms of urban areas, the 30 mph speed limit was changed to 50 km/h (equivalent to 31 mph), and the 40 mph speed limit to 60 km/h (37 mph).

In addition to these road type specific speed limit changes, vehicle-specific speed limits were also changed to km/h. The speed limits applying to single-deck buses, towing vehicles and trucks (over 3,500 kg gross weights) were changed from 50 mph to 80 km/h, while the speed limit applicable to double deck buses went from 40 mph to 65 km/h.

Why Monitor Free Speed?

The speed surveys are designed to monitor changes in the free speeds of vehicles in both urban and rural areas. Free speeds are speeds at which drivers choose to travel when unconstrained by road geometry (e.g. sharp bends, intersections or hills), weather conditions (e.g. rain) or traffic conditions (e.g. congestion). This survey measures drivers' choice of speed and provides us with information on the effectiveness of speed enforcement measures. The survey provides valuable information for benchmarking the targets set for speeding in the Road Safety Strategy 2007-2012 (outlined on P.15).

This survey was taken a full 42 months after the date of the metric introduction and drivers would be expected to more familiar and more used to the new limits in 2008 than they were in 2005, 2006 and 2007.

The Road Safety Authority carried out national surveys in relation to seat belt wearing and traffic speeds in 2006, 2007, 2008, 2009 and 2011. The methodology developed for and used by the National Roads Authority in all previous surveys is applied to this survey. Survey results are used to monitor trends, determine the effectiveness of safety initiatives and to inform the on-going review of public policy in relation to road safety.

The findings of this survey have an added value in that it is the basis for benchmarking the targets set for speeding in the Road Safety Strategy 2007-2012.

SPECIFIC TARGET

Cars and Motorcycles

- *To increase compliance with speed limits on urban national roads (at 50 km/h sign) from 18% to 60% or better by 2012.*
- *To increase speed limit compliance on urban arterial roads from 14% to 60% or better in 50 km/h zones and from 11% to 60% or better in 60 km/h zones by 2012.*
- *To increase speed limit compliance on regional roads from 84% to 90% or better by 2012.*
- *To increase compliance on 2-lane national primary roads from 74% to 90% or better by 2012.*

Heavy Goods Vehicles and Buses

- *To increase articulated vehicles' compliance with speed limits on urban national roads (at 50 km/h sign) from 33% to 70% or better by 2012 and to increase rigid vehicles' compliance on the same roads from 23% to 70% or better.*
- *To increase speed limit compliance by articulated vehicles on 2-lane national roads from 13% to 60% or better by 2012 and to increase compliance of rigid vehicles from 24% to 60% or better over the same time period.*
- *To increase both rigid and articulated vehicles' compliance with speed limits on regional roads to 95% or better by 2012.*
- *To increase the percentage of single deck buses complying with speed limits on 2-lane national roads to 85% or better by 2012.*

E. Free Speed Survey - Methodology

Speed surveys are conducted annually at randomly selected sites on the Irish road network to provide an estimate of the speed that drivers choose to travel at. There are about 60 rural road sites and 36 urban road sites surveyed each year. The current sites have been surveyed since 1999. The target population is the entire Irish road network. It is divided into two subpopulations of special interest:

- Urban:
 - Urban national at the 50 km/h speed limit;
 - Arterial in 50 km/h speed zones;
 - Arterial in 60 km/h zones;
 - Residential in 50 km/h zones.

- Rural:
 - Motorways;
 - Dual carriageways;
 - National primary roads;
 - National secondary roads;
 - Regional roads;
 - Local roads.

The survey sites comprise of:

- Urban:
 - Urban Arterial Roads in 50/60 km/h zones (15 locations);
 - Urban National Roads at 50 km/h speed sign (10 locations: 5 Primary, 5 Secondary);
 - Urban Residential Roads in 50 km/h (11 locations).

- Rural:
 - Motorways (10 locations);
 - Dual Carriageway (10 locations);
 - National Primary (10 locations);
 - National Secondary (10 locations);
 - Regional Roads (10 locations);
 - Local Roads (10 locations).

The location details are given in the appendix.

The free speeds surveys were carried out in 2012. The locations chosen and methodology used were similar to those used in the equivalent 1999, 2002, 2003, 2005, 2006, 2007, 2008, 2009 and 2011 surveys. The speeds measured for this survey reflect free speeds.

The surveys were carried out at the designated locations during working hours (9.30am to 5.30pm), Monday to Friday. Only speeds of vehicles that were unconstrained - speeds derived from vehicles with a headway / gap of at least

200 metres on roads where it was possible to exceed the speed limit - were recorded.

On urban arterial roads, speeds were measured between 5.30am and 7.30am. However, in some locations in Dublin, few readings of vehicles were taken after 7.00am, as the traffic conditions could not be described as free-flowing. The speed measurements on residential roads were carried out in normal daylight hours (typically between 9.30am and 5.30pm).

The road classes surveyed were:

- Urban national roads at the 50 km/h speed limit;
- Arterial roads in 50 km/h speed zones;
- Arterial roads in 60 km/h zones;
- Residential roads in 50 km/h zones;
- Motorways;
- Dual carriageways;
- National single lane roads (primary and secondary);
- Regional roads;
- Local roads.

Free speeds were only measured for cars on arterial and residential roads (due to a relative shortage of single / double deck buses, rigid or articulated vehicles on these roads during surveying hours).

For urban national roads, the speeds of cars, single deck buses, double deck buses, rigid and articulated vehicles were recorded separately with measurements taken at the 50 km/h sign on inbound traffic only.

Due to low sample sizes, no figures are provided for double deck buses and caution should be taken in the interpretation of results provided for single deck buses, as they are based on very limited sample sizes.

All surveys were carried out in dry conditions and surveyors were instructed to choose vehicles in a random manner to avoid bias. Where a cluster of vehicles arrived together, only the speed of the first vehicle was taken.

The **same sites** were chosen as in previous surveys, where the sites were chosen according to the following criteria:

- Long, straight sections of roadway;
- Carriageway of at least seven metres (except for urban residential);
- Sites where speed is relatively unaffected by geometry, traffic, traffic lights, traffic calming measures, junctions, road works or parking;
- Sites where it is feasible to drive faster than the speed limit.

Speed was measured with radar metres. Effort was made for surveyors to be as inconspicuous as possible. For national roads, the speeds of cars, rigid and articulated vehicles were recorded separately.

The target sample size for surveys on urban national roads was: 140 cars, 90 rigid vehicles and 30 articulated vehicles [no quotas were allocated for either type of bus surveyed]. The target sample size for urban residential and urban arterial roads was 140 cars (no buses, rigid or articulated vehicles were surveyed for these roads). Surveyors were instructed to continue until the target for each vehicle class was reached or for a maximum of 2.5 hours, whichever occurred earlier.

1. Free Speed Survey 2012 - Cars

1.1 Overview

A total of 12,557 cars were surveyed on the road network in Ireland in 2012. 41.5% (5,207) of cars surveyed were on urban roads (i.e. urban national at the 50 km/h speed limit, arterial in 50 km/h speed zones, arterial in 60 km/h zones and residential in 50 km/h zones). 55.9% of all cars observed on urban roads were speeding (i.e. driving at a speed greater than posted speed limit).

Fifty-eighty and half percent of cars surveyed were on rural roads (i.e. motorway, dual carriageways national primary and national secondary roads, regional and local roads). About 20% of all cars observed on rural roads were speeding.

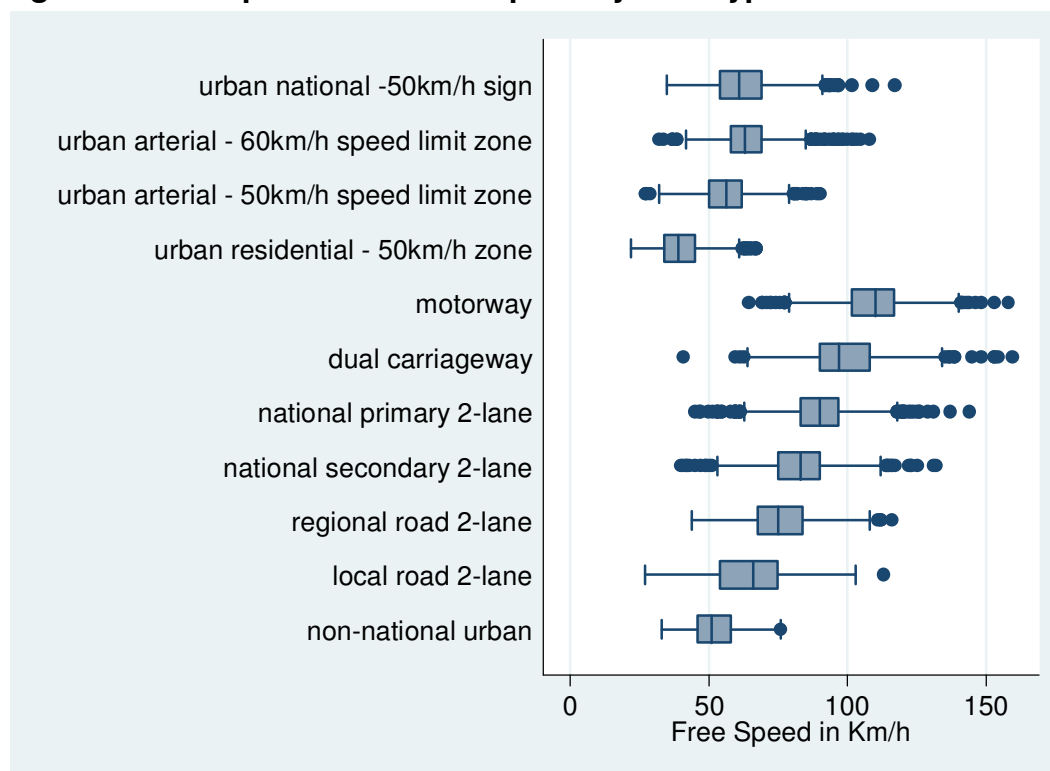
Table 1.1 gives a breakdown of the relative level of car driver violations by speed limit for all road types in 2012.

Table1.1: Relative level of car driver violations by speed limit in 2012

Road	Speed limit (Km/h)	Mean violation (Km/h)	Ratio violation/speed limit
Urban National (50km/h)	50	14.5	0.29
Urban Arterial (60km/h)	60	9.4	0.16
Urban Arterial (50km/h)	50	10.4	0.21
Urban Residential (50km/h)	50	5.0	0.10
Motorway (120km/h)	120	7.0	0.06
Dual Carriageway (100km/h)	100	11.9	0.12
National Primary (100km/h)	100	7.6	0.08
National Secondary (100km/h)	100	7.6	0.08
Regional Road (80km/h)	80	9.4	0.12
Local Road (80km/h)	80	7.2	0.09

35% of cars observed on all Irish roads were speeding

Figure 1.1: Box plot of cars free speed by road types in 2012



1.2 Overview of Free Speed by Road Type

The overall free speed distribution of cars on different road types is shown in Sections 1.3 and 1.4.

On urban roads, the proportion of cars exceeding the speed limit on arterial roads with a 50 km/h limit decreased from 77% in 2011 to 74% in 2012. In residential areas with a 50km/h speed limit, the proportion of cars speeding marginally increased from 9% in 2011 to 10% in 2012.

The number of cars exceeding the 50km/h speed limit in urban national areas also increased marginally from 82% in 2011 to 85% in 2012 (Figure 1.3a).

On rural roads the modal (more frequent) car speed range is between 110-120km/h on motorways, 90-100km/h on dual carriageways, 90-100km/h on national primary, 80-90km/h on national secondary roads, 70-80 km/h on regional and 60-70 km/h on local roads (see Section 1.4).

The survey also found that car drivers are more likely to exceed a low speed limit by a wider margin than a high speed limit (see Table 1.1).

1.3 Free Speed on Urban Roads

On urban national roads with a 50km/h speed limit, 85% of car drivers exceeded the speed limit; 53% of cars exceeded the speed limit on these roads by 10km/h or more. The average speed of cars on urban national roads

was about 12km/h above the 50 km/h posted speed limit. Moreover, only 13% of drivers were observed travelling below the speed limit and about 7% were travelling between 80 and 100 km/h.

Most cars observed on urban residential roads with a 50km/h speed limit were travelling at 50km/h or under. The average car travel speed on urban residential roads was 39.8km/h with a standard deviation of 7.9km/h.

On arterial roads in urban areas, 24% of cars were travelling under the speed limit in 50km/h zones, 42% travelled between 50-60km/h, while 36% travelled under the speed limit when in 60 km/h zones.

Figure 1.3a: Percentage of cars exceeding speed limit, 2008-2012

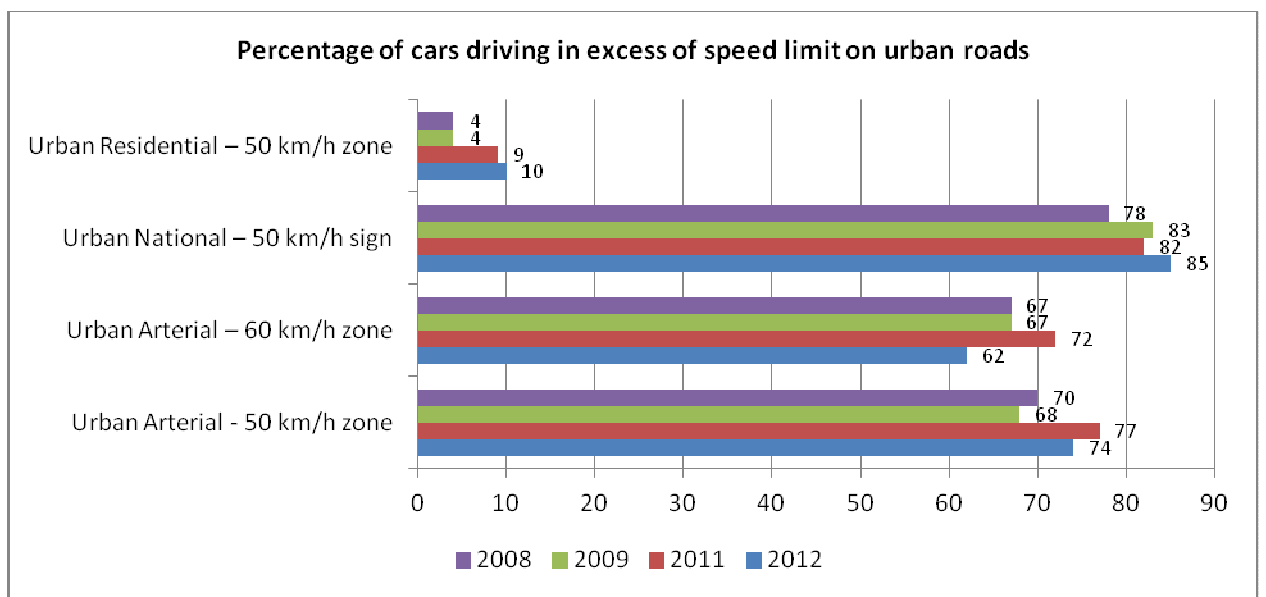
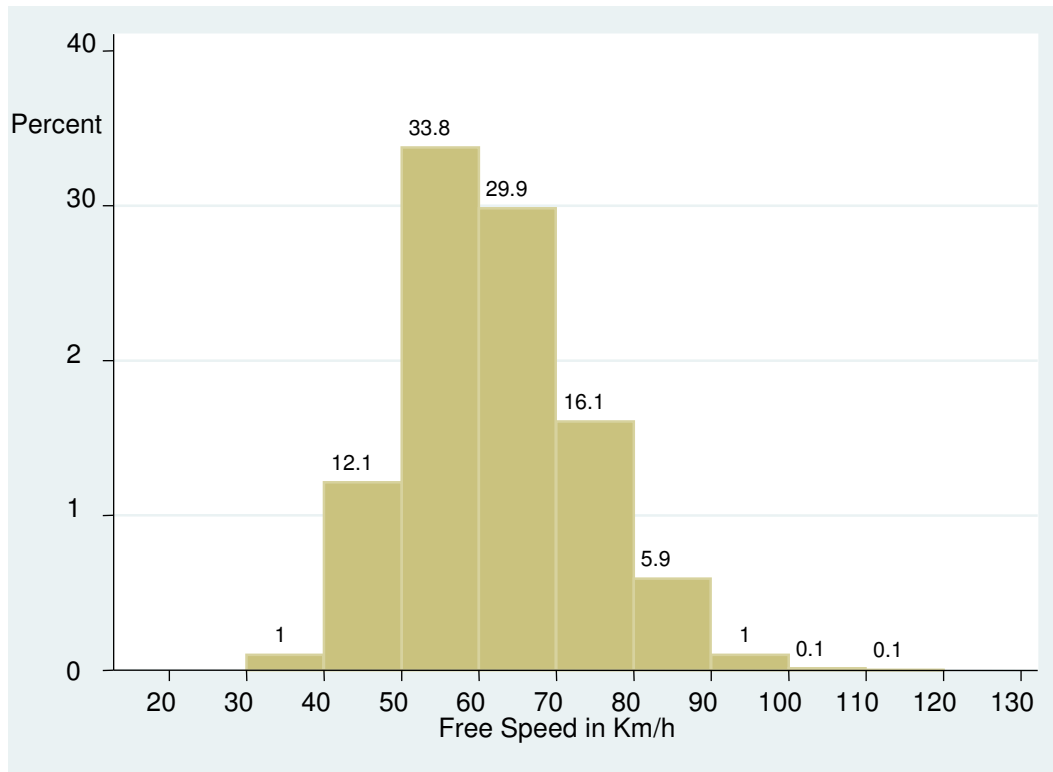


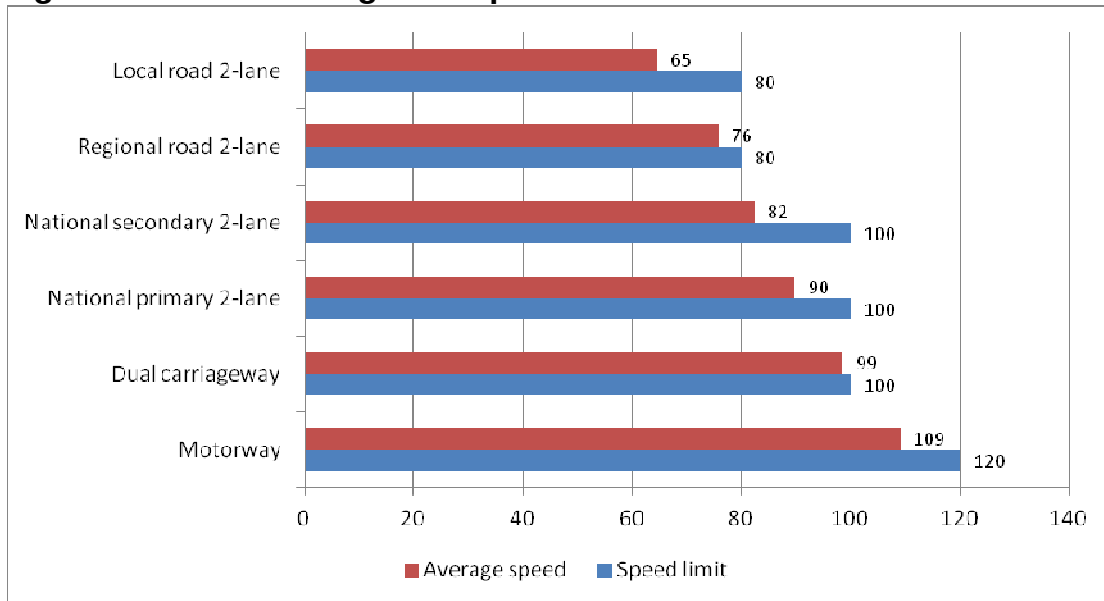
Figure 1.3b: Distribution of cars free speed on urban national roads in 2012



1.4 Free Speed on Rural Roads

On rural roads, the average free speed of cars was below the speed limit on all road types. The average car speed on rural roads was 88.7km/h with a standard deviation of 19.3km/h (see Figure 1.4a).

Figure 1.4a: Cars average free speed on rural roads in 2012

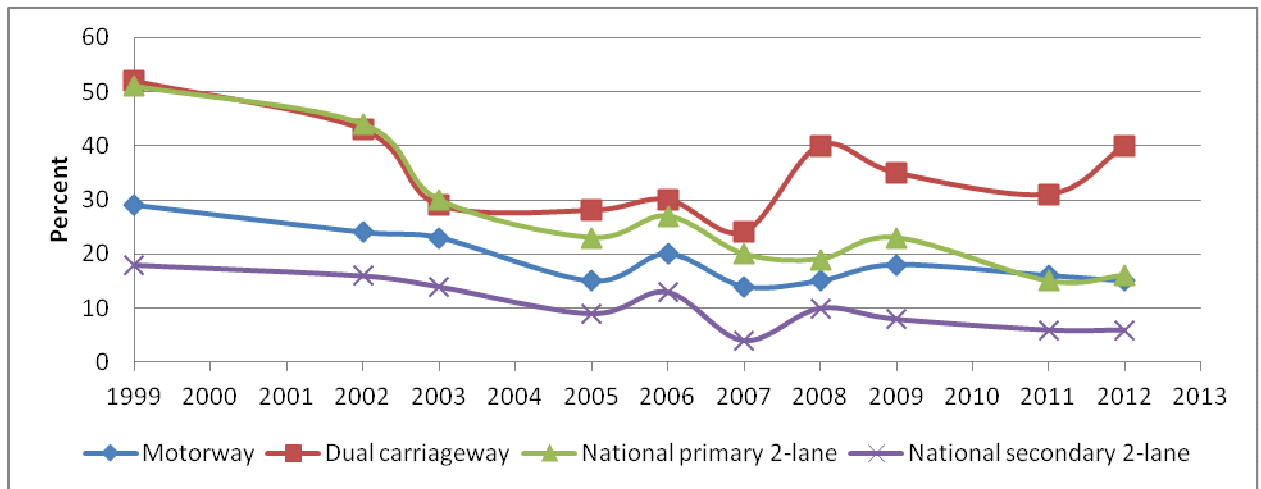


20% of cars observed on roads in rural areas were speeding

The 85th percentile value of car speed on motorway was 120km/h. 20% of cars were observed travelling at speeds more than the posted speed limit on rural roads.

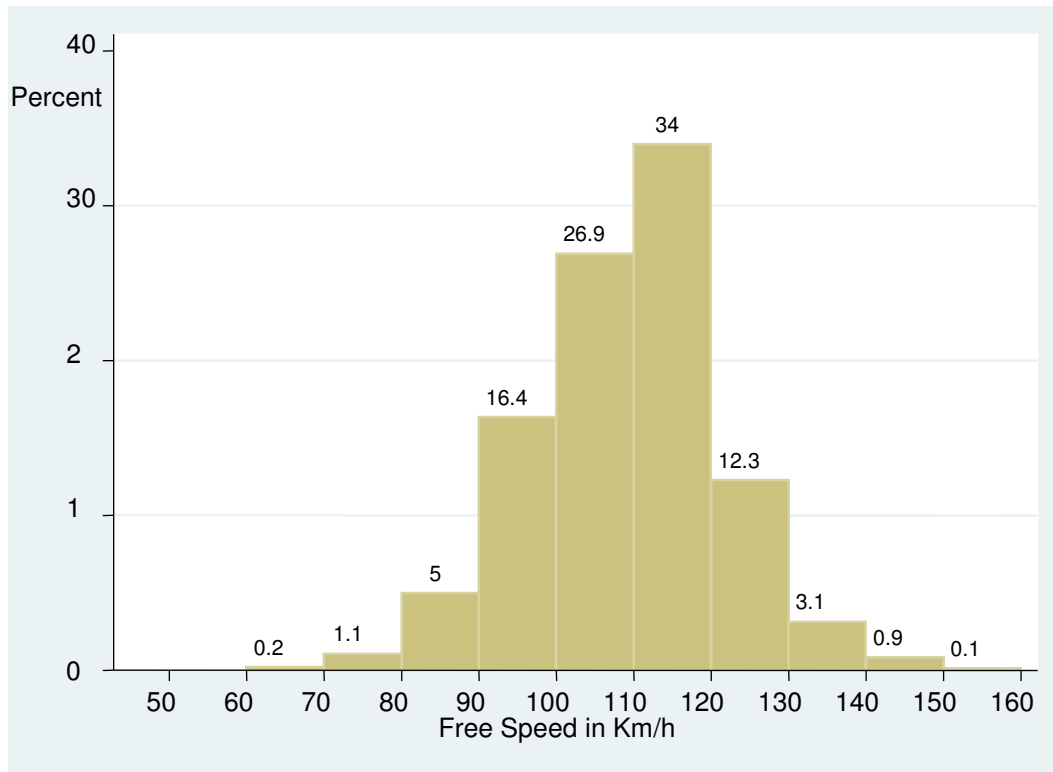
On motorways, dual carriageways, national primary and national secondary roads, the proportion of cars complying with speed limits has increased since 1999 (Figure 1.4b).

Figure 1.4b: Percentage of cars exceeding speed limit on rural roads, 1999-2012



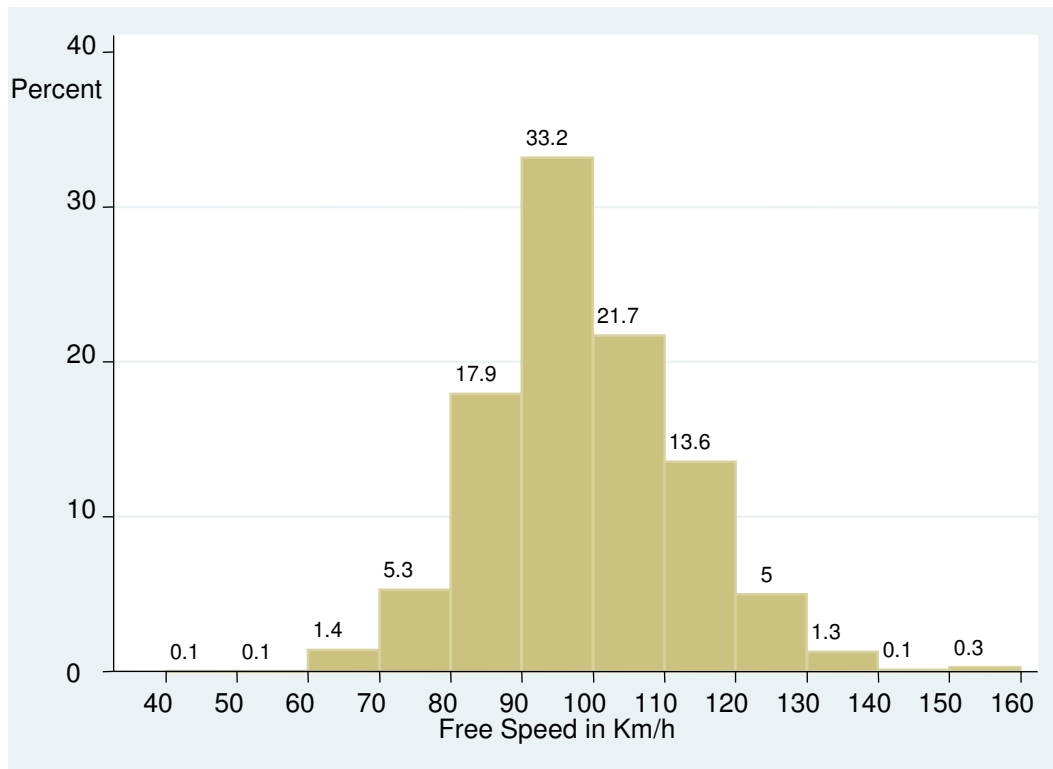
On motorways, 84% of cars travelled at speeds than less or equal the posted limit for that type of road (120km/h). However, about 4% of cars travelled at speeds above 130km/h (see Figure 1.4c).

Figure 1.4c: Distribution of cars free speed on motorways in 2012



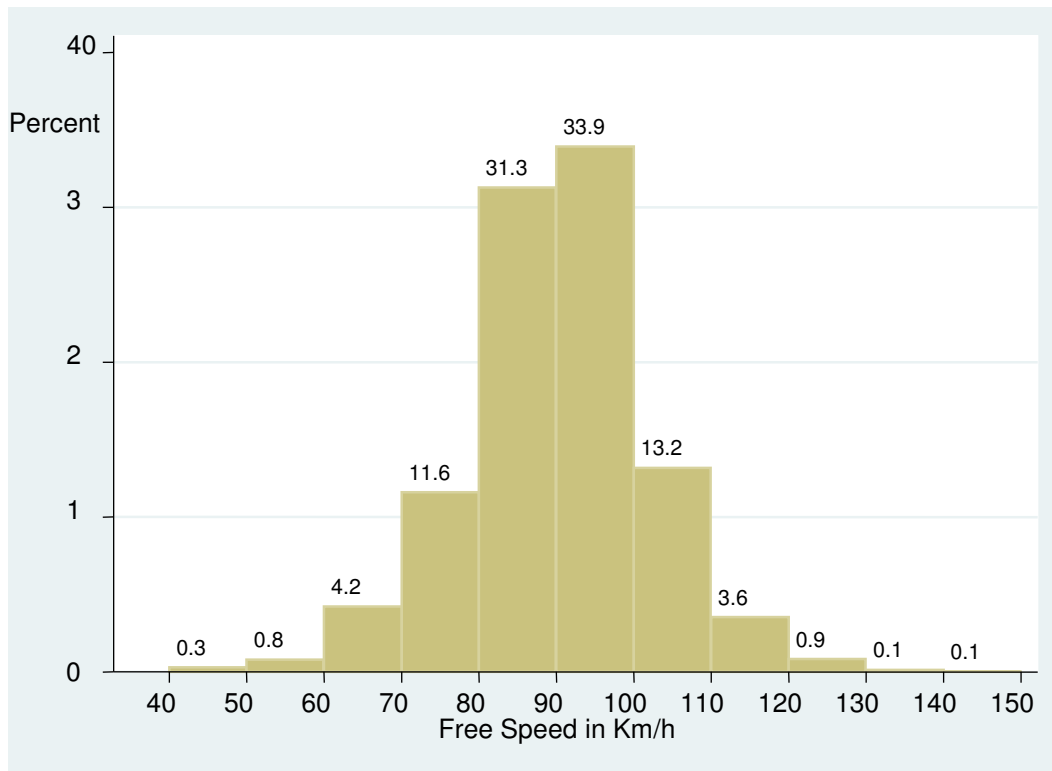
On dual carriageways where a speed limit of 100km/h applies, 58% of cars travelled below the speed limit. However, 6% of cars travelled at speeds between 120km/h and 140km/h (see Figure 1.4d).

Figure 1.4d: Distribution of cars free speed on dual carriageways in 2012



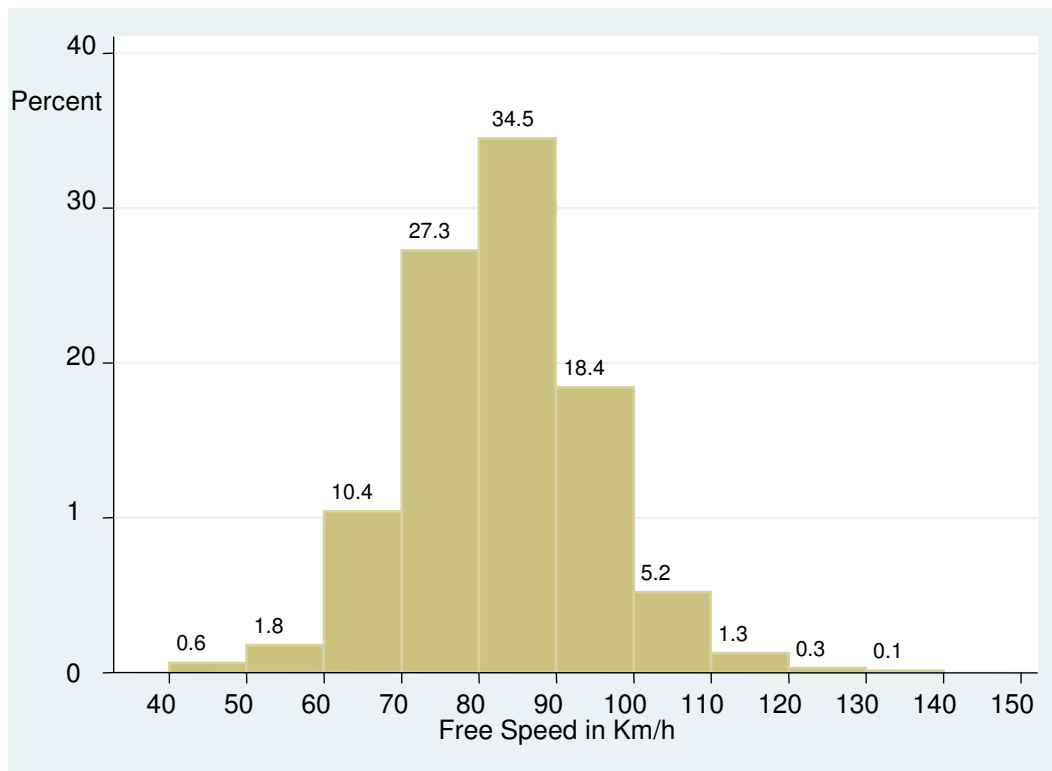
Compliance with the speed limit was higher on national primary roads where 82% of cars travelled below the speed limit (100 km/h).

Figure 1.4e: Distribution of cars free speed on national primary roads in 2012



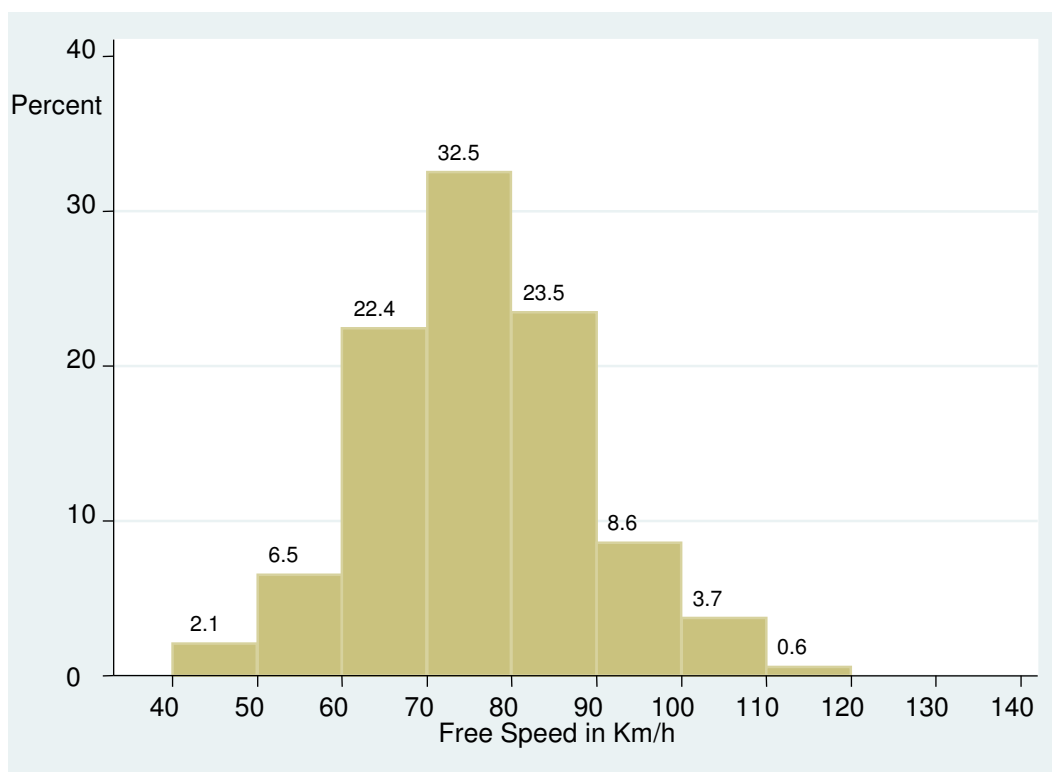
Compliance with the speed limit on national secondary roads where the same speed limit applies was even greater at 93% of cars travelling below the speed limit.

Figure 1.4f: Distribution of cars free speed on national secondary roads in 2012



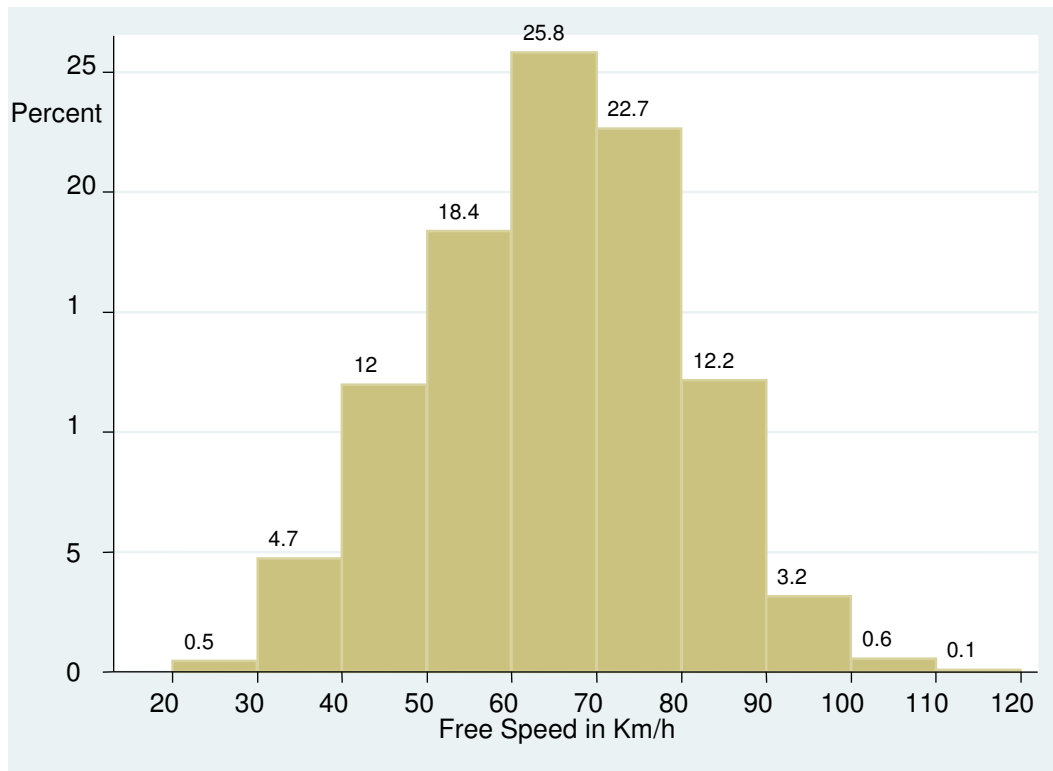
On regional roads, just over 3 out of 5 (63.5%) cars travelled at less than the speed limit of 80km/h with 4% of cars breaking the speed limit by more than 20km/h.

Figure 1.4g: Distribution of cars free speed on regional roads in 2012



On local roads where a speed limit of 80km/h also applies, almost 5 out of 6 (83.9%) cars travelled at less than the speed limit.

Figure 1.4h: Distribution of cars free speed on local roads in 2012



The distribution of cars free speed on regional roads was nearly identical to that found on local roads (see Figures 1.4g and 1.4h).

2 Free Speed Survey 2012 – Articulated Vehicles

2.1 Overview

In 2012, a total of 1,275 articulated vehicles were observed on the road network in Ireland. Surveys were spread over about 60 rural sites and 10 urban sites. 82% of articulated trucks observed were on rural roads (i.e. motorways, dual carriageways, national primary and national secondary roads, regional and local roads). 67% of all articulated trucks observed on rural roads were speeding (i.e. driving at a speed greater than 80km/h). The articulated vehicles are subject to an 80 km/h speed limit on rural roads.

67% of articulated drivers surveyed on rural roads were speeding

2.2 Overview of Free Speed by Road Type

In 2012, the proportion of articulated vehicles breaking the speed limit on motorways (80km/h for these type of vehicles), dual carriageways, regional roads and local roads improved on 2011 figures (Figure 2.2b). The most significant reduction was seen on regional roads where the number of articulated vehicles speeding decreased from 8% in 2011 to 2% in 2012. However on national primary and national secondary roads, the proportion of articulated vehicles breaking the speed limit increased marginally from 15% in 2011 to 16% in 2012 and from 31% in 2011 to 32% in 2012 respectively.

Figure 2.2a: Box plot of articulated vehicles free speed by road types in 2012

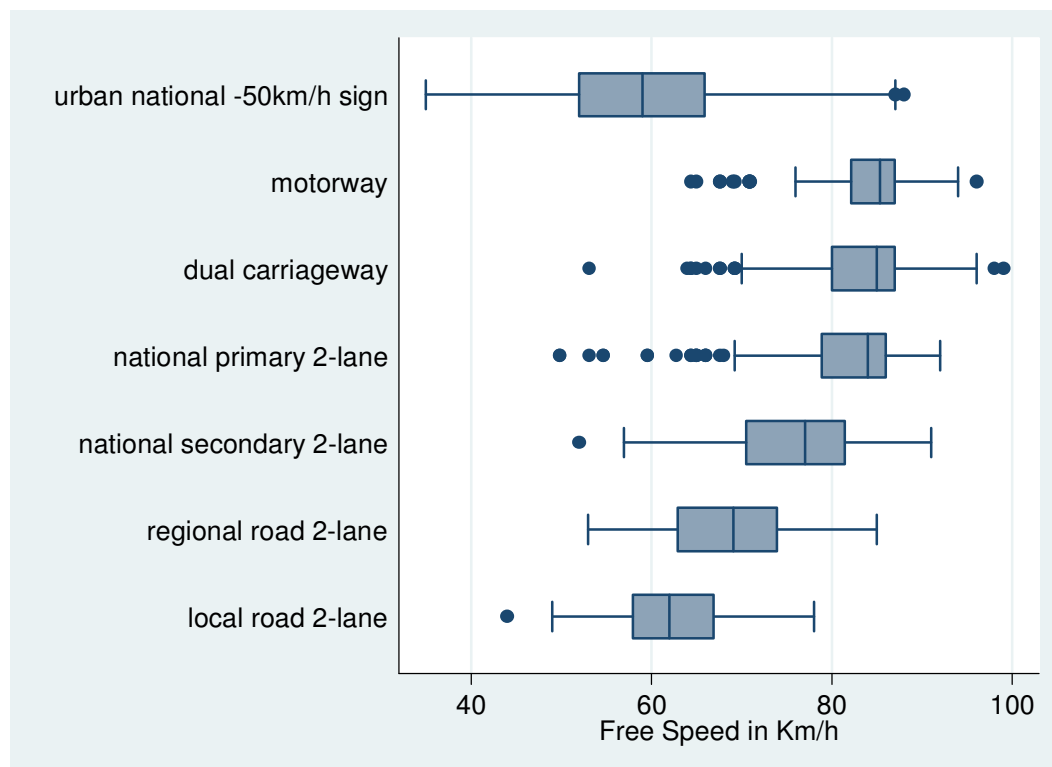
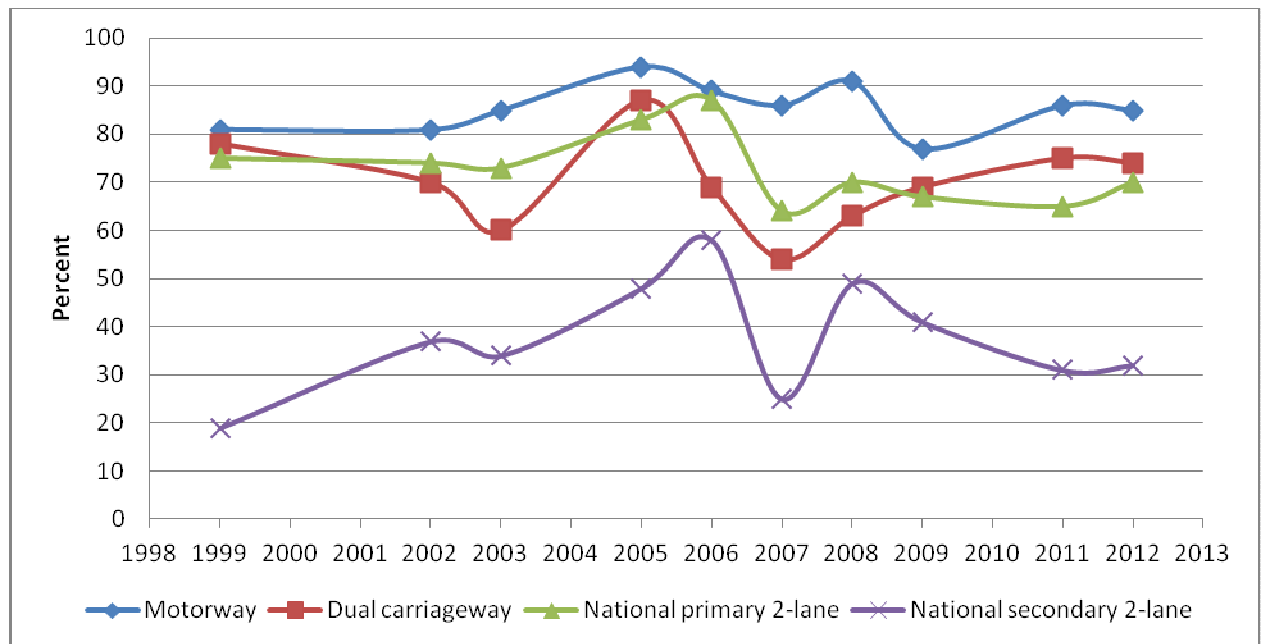


Figure 2.2b: Percentage of articulated vehicles exceeding vehicle specific speed limit, 1999-2012



The average free speed for articulated trucks was below the vehicle specific speed limits on all road types except motorways, dual carriageway and national primary roads. It should be remembered that speed limits of 80 km/h apply to such vehicles rather than the speed limit applicable to the road (Figure 2.2d).

Figure 2.2c: Percentage of articulated vehicles exceeding vehicle specific speed limit, 2008-2012

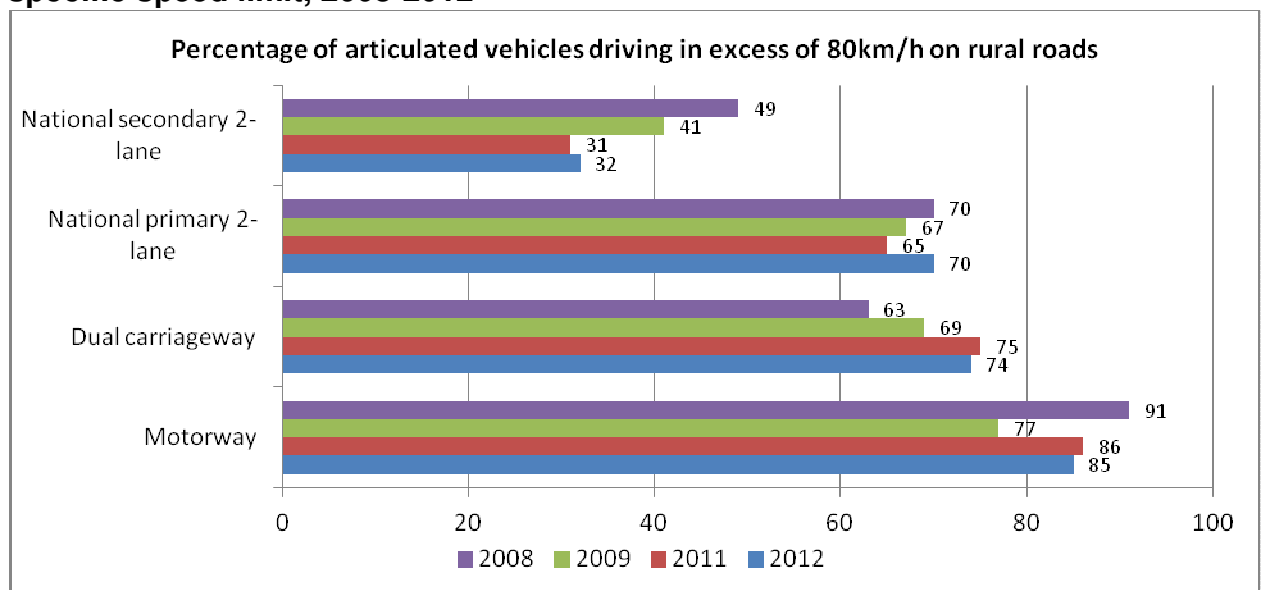
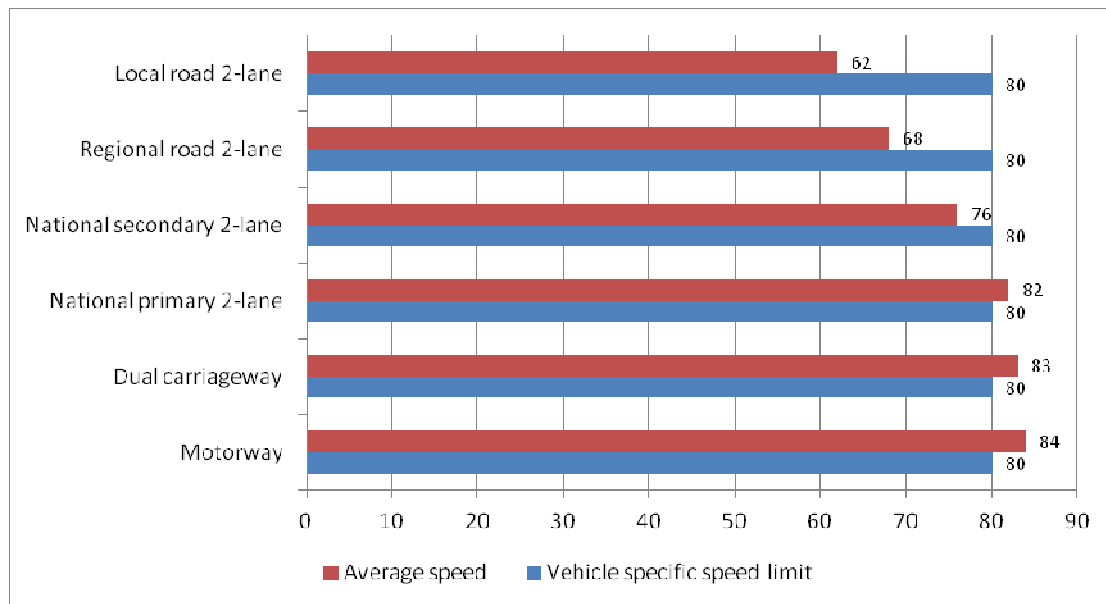


Figure 2.2d: Articulated vehicles average free speed on rural roads in 2012

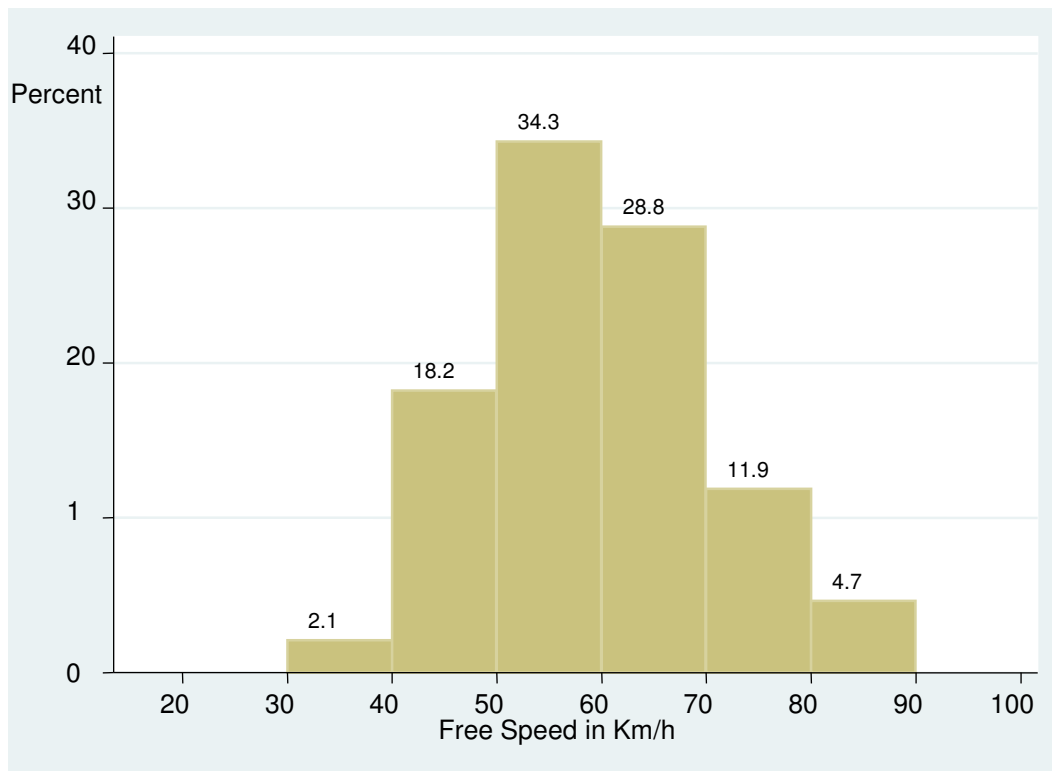


Section 2.3 and 2.4 show the percentage of articulated vehicles travelling at various speeds on different road types.

2.3 Free Speed on Urban Roads

On urban national roads, within a 50km/h speed limit, 64% of articulated vehicles exceeded 50km/h, 28% of the articulated vehicles were travelling between 60 and 80km/h (Figure 15).

Figure 2.3: Distribution of articulated vehicles free speed on urban national roads in 2012

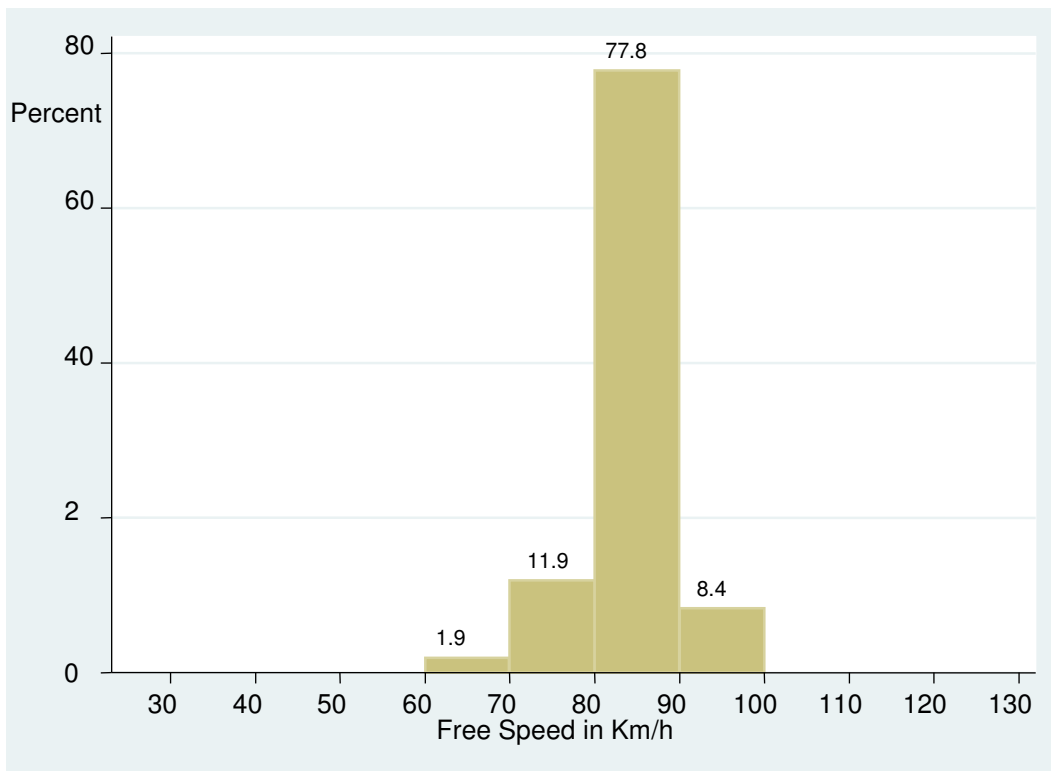


2.4 Free Speed on Rural Roads

On motorways, 78% of articulated vehicles were travelling between 80 and 90km/h, 11% travelled under 80km/h, while 21% travelled under 80km/h on dual carriageways (see Figures 2.4a and 2.4b).

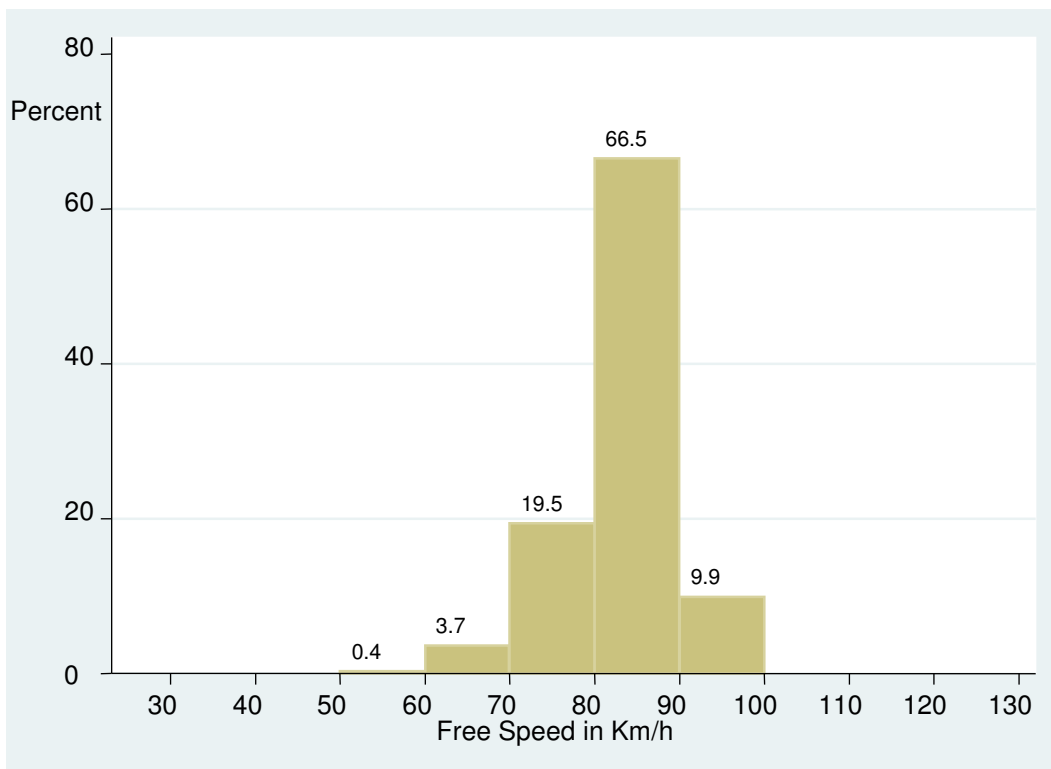
The most frequent articulated vehicle speed range on rural roads is between 80-90km/h on motorways, dual carriageways and national primary roads, 70-80km/h on national secondary and regional roads (see Figure 16 to 20).

Figure 2.4a: Distribution of articulated vehicles free speed on motorways in 2012



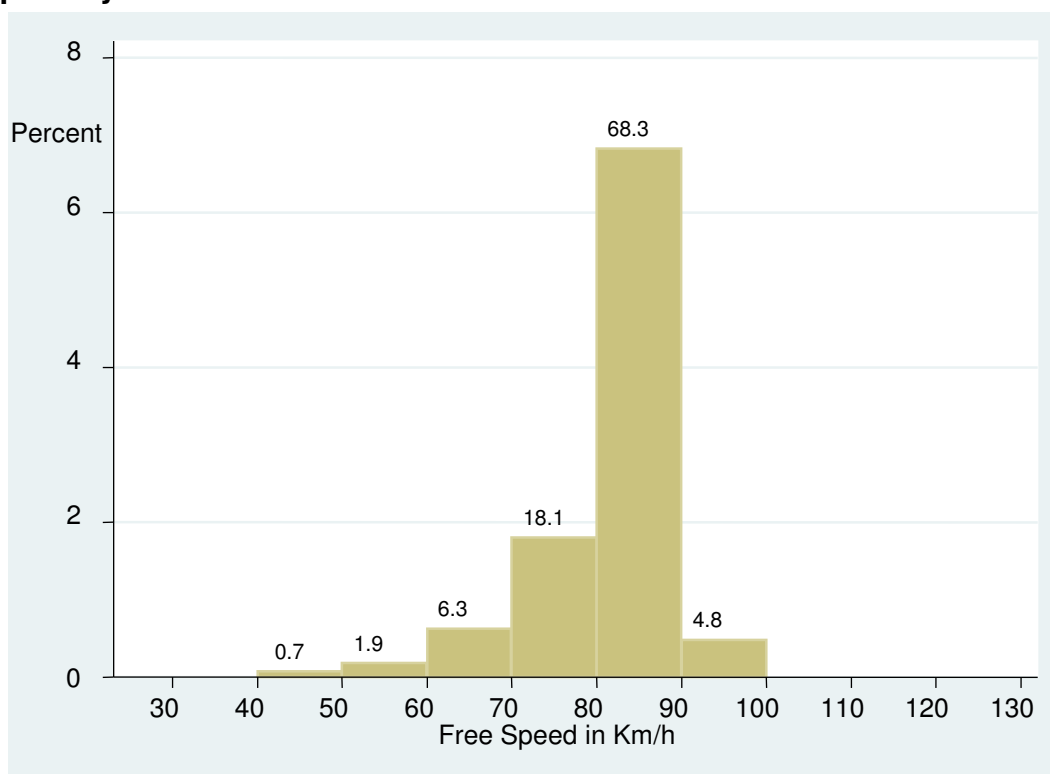
On dual carriageways, 21% of articulated vehicles travelled at less than the speed limit for these vehicles. 75% travelled above the speed limit with 9% of articulated vehicles travelling more than 10km/h above the speed limit.

Figure 2.4b: Distribution of articulated vehicles free speed on dual carriageways in 2012



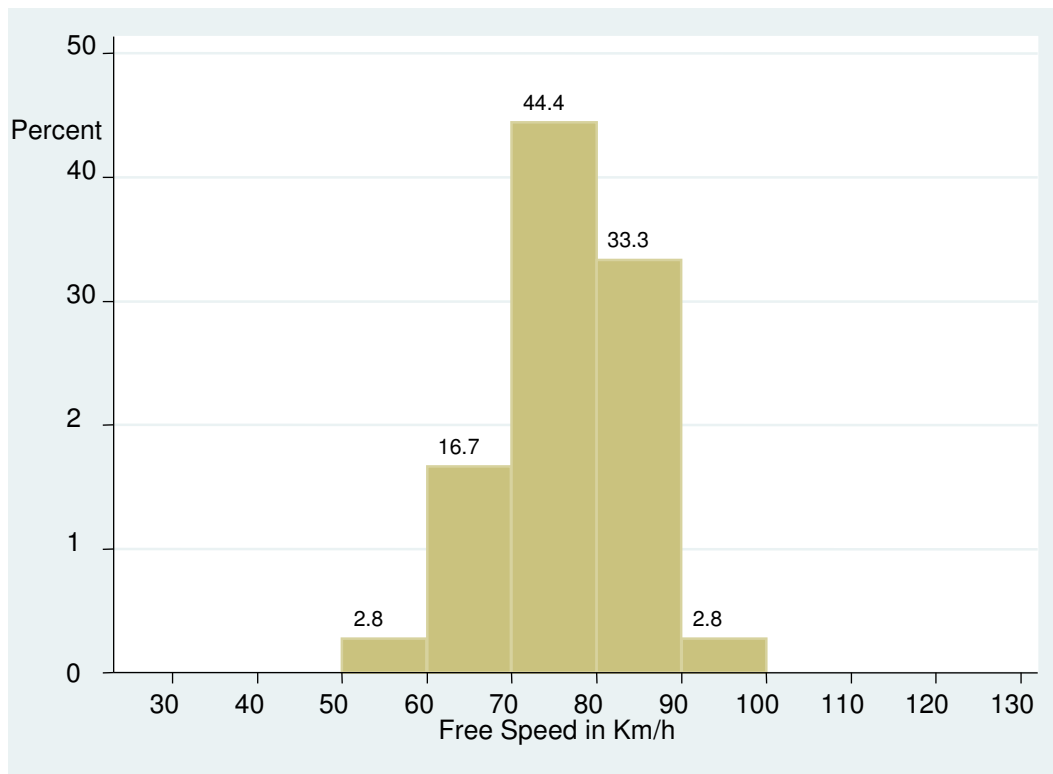
On national primary roads, 60% of articulated vehicles travelled between 80km/h and 90km/h. 7% of these vehicles exceeded the speed limit by between 10km/h and 20km/h.

Figure 2.4c: Distribution of articulated vehicles free speed on national primary roads in 2012



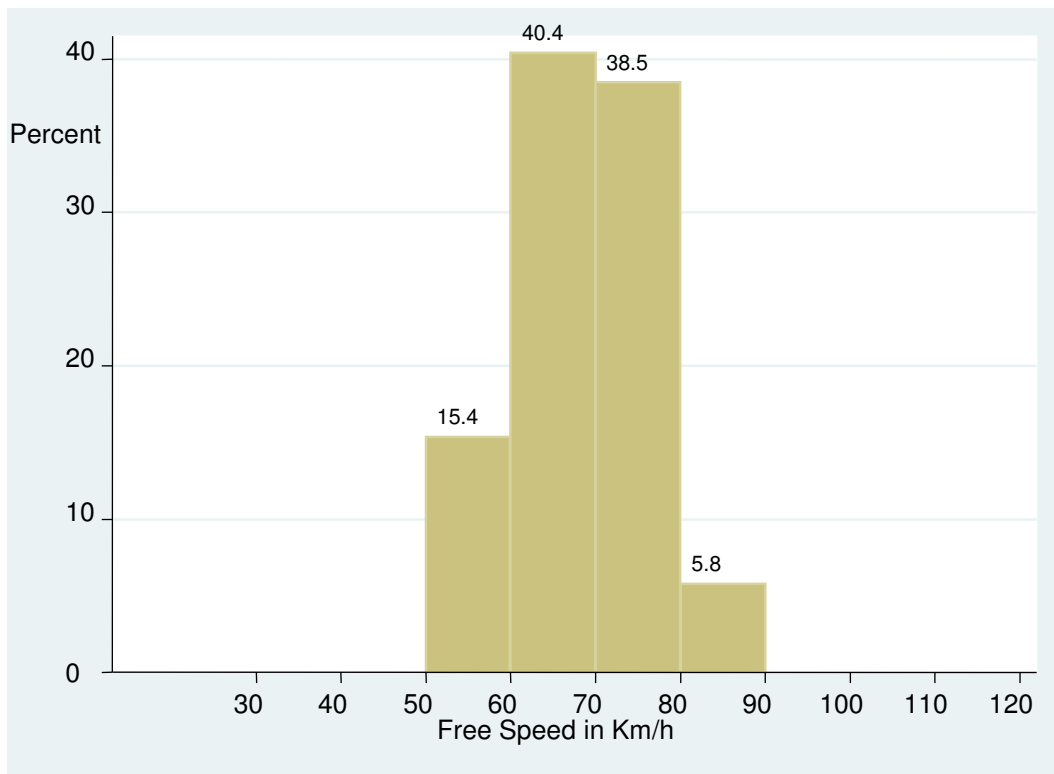
On national secondary roads, 30% of articulated vehicles travelled between 80km/h and 90km/h. 68% of these vehicles travelled under the vehicle specific speed limit.

Figure 2.4d: Distribution of articulated vehicles free speed on national secondary roads in 2012



On regional roads, the number of articulated vehicles travelling below the speed limit has increased with 98% of vehicles now adhering to the speed limit.

Figure 2.4e: Distribution of articulated vehicles free speed on regional roads in 2012



3 Free Speed Survey 2012 – Rigid Vehicles

3.1 Overview

In 2012, a total of 2,500 rigid vehicles were observed on the road network in Ireland. 84% of rigid trucks observed were on rural roads (i.e. motorways, dual carriageways national primary and national secondary roads, regional and local roads). 59% of all rigid trucks observed on rural roads were driving at a speed greater than the limit set for their vehicle type (80km/h).

3.2 Overview of Free Speed by Road Type

For the drivers of rigid trucks, there was a significant decrease in speed violation on motorway, national secondary and regional roads (Figures 3.2a & 3.2b). A speed limit of 80km/h applies to these vehicle types.

Figure 3.2a: Box plot of rigid vehicles free speed by road types in 2012

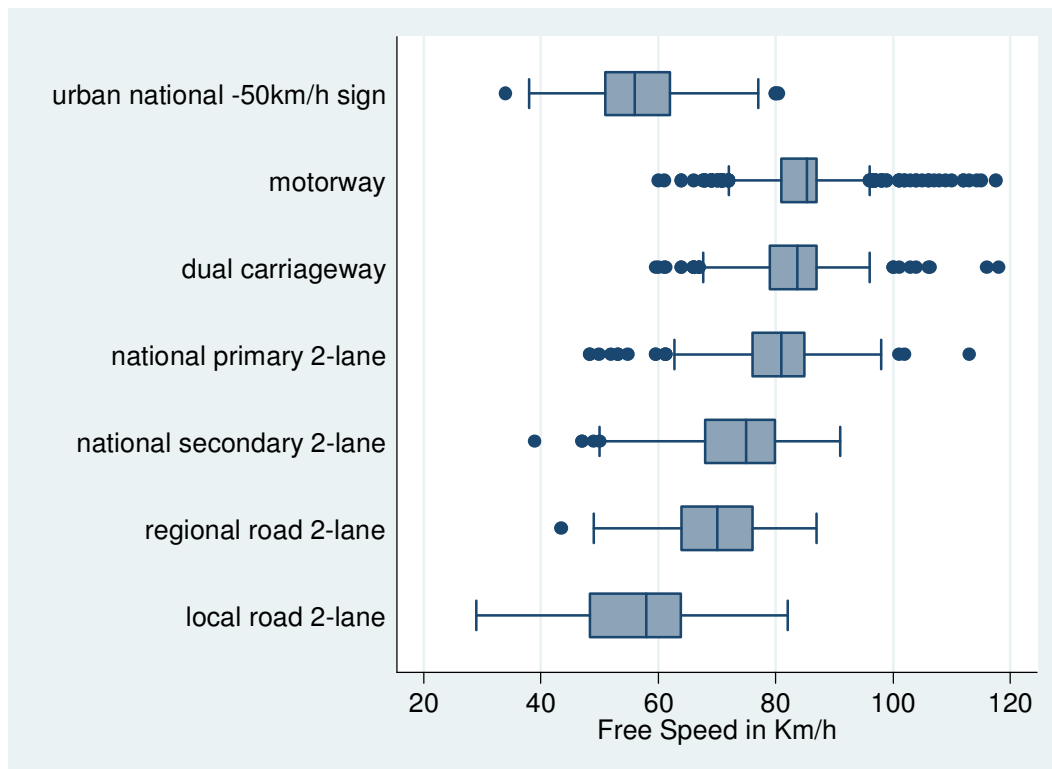


Figure 3.2b: Percentage of rigid vehicles exceeding vehicle specific speed limit, 1999-2012

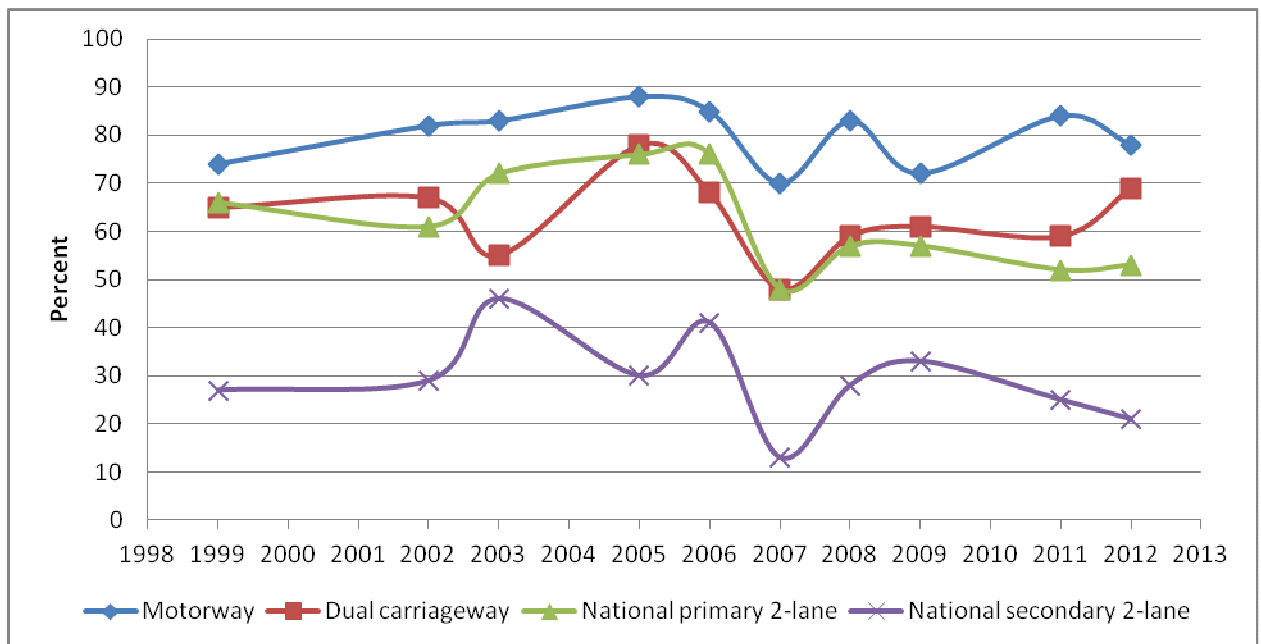
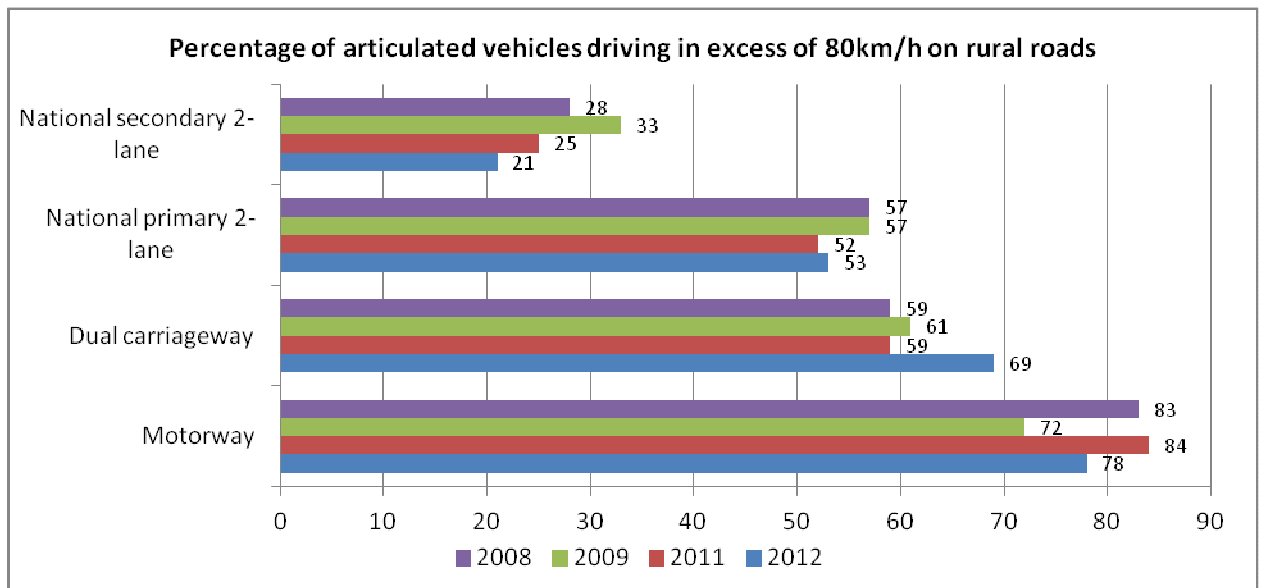


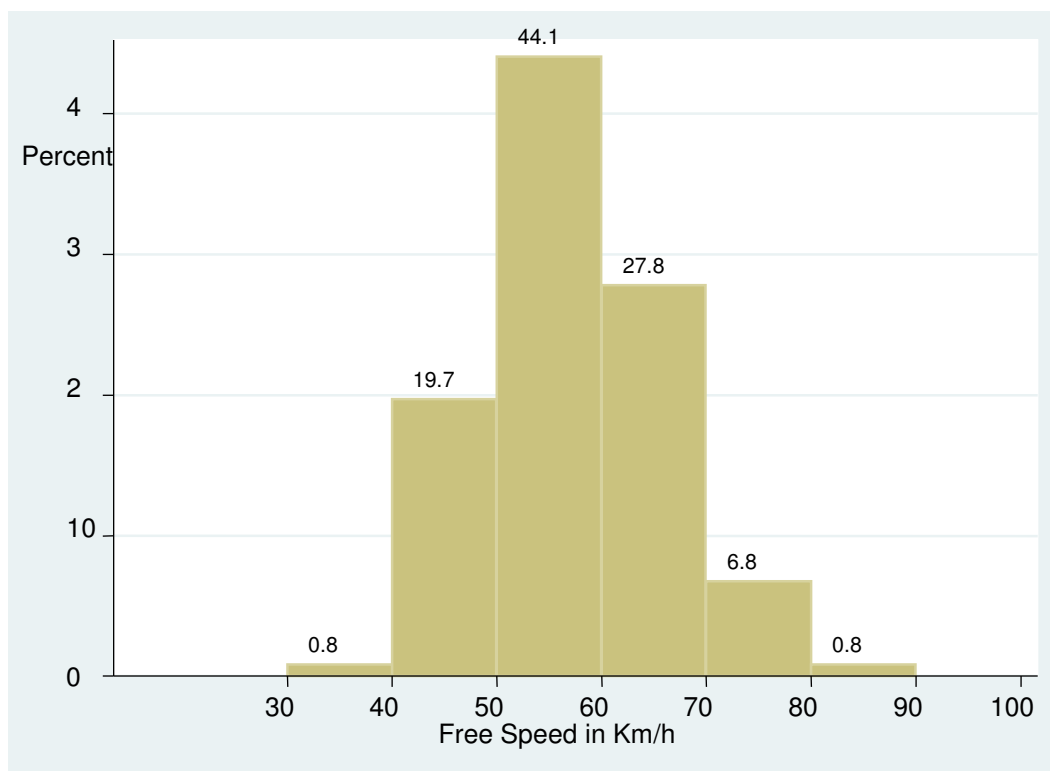
Figure 3.2c: Percentage of rigid vehicles exceeding vehicle specific speed limit, 2008-2012



3.3 Free Speed on Urban Roads

On urban national roads, within a 50km/h speed limit, 76% of rigid vehicles exceeded 50km/h. 35% of the rigid vehicles were travelling between 60 and 80km/h (Figure 3.3a).

Figure 3.3a: Distribution of rigid vehicles free speed on urban national roads in 2012



3.4 Free Speed on Rural Roads

The most frequent rigid vehicle speed range on rural roads is between 80-90km/h on motorways, 80-90km/h on dual carriageways and national primary roads, 70-80km/h on national secondary roads and 60-70km/h on regional roads.

On motorways, 72% of rigid vehicles travelled between 80km/h and 90km/h, a total of 11% of rigid vehicles travelled between 90km/h and 100km/h and 5% travelled between 100-120km/h.

For rigid trucks the average free speed was below the vehicle specific speed limit on national secondary, regional and local roads but was marginally above the vehicle specific speed limit on motorways and dual carriageways (Figure 3.4a).

Figure 3.4a: Rigid vehicles average free speed on rural roads

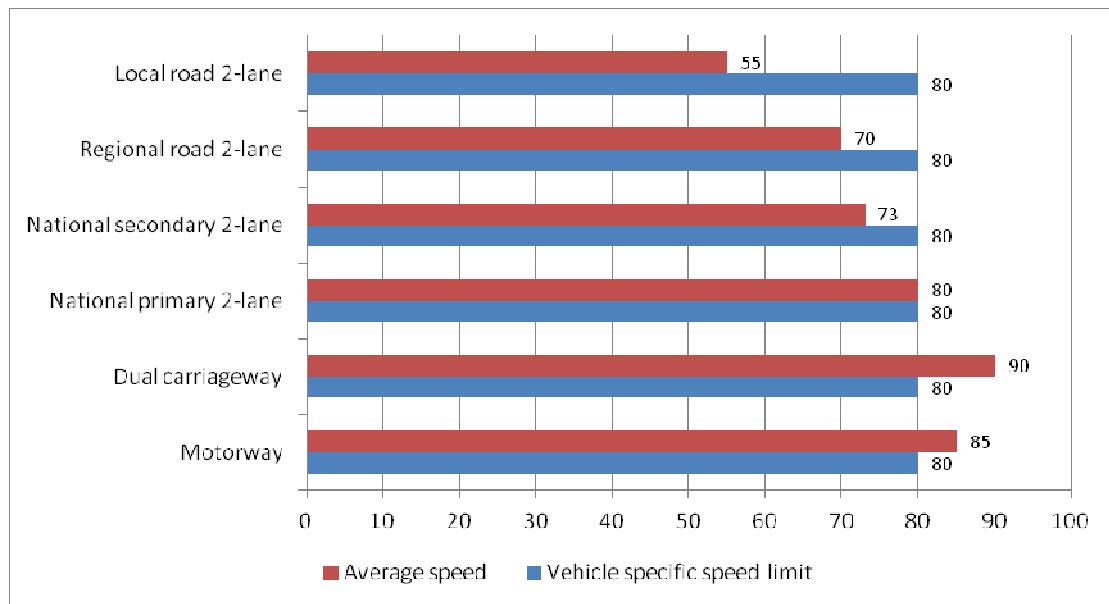
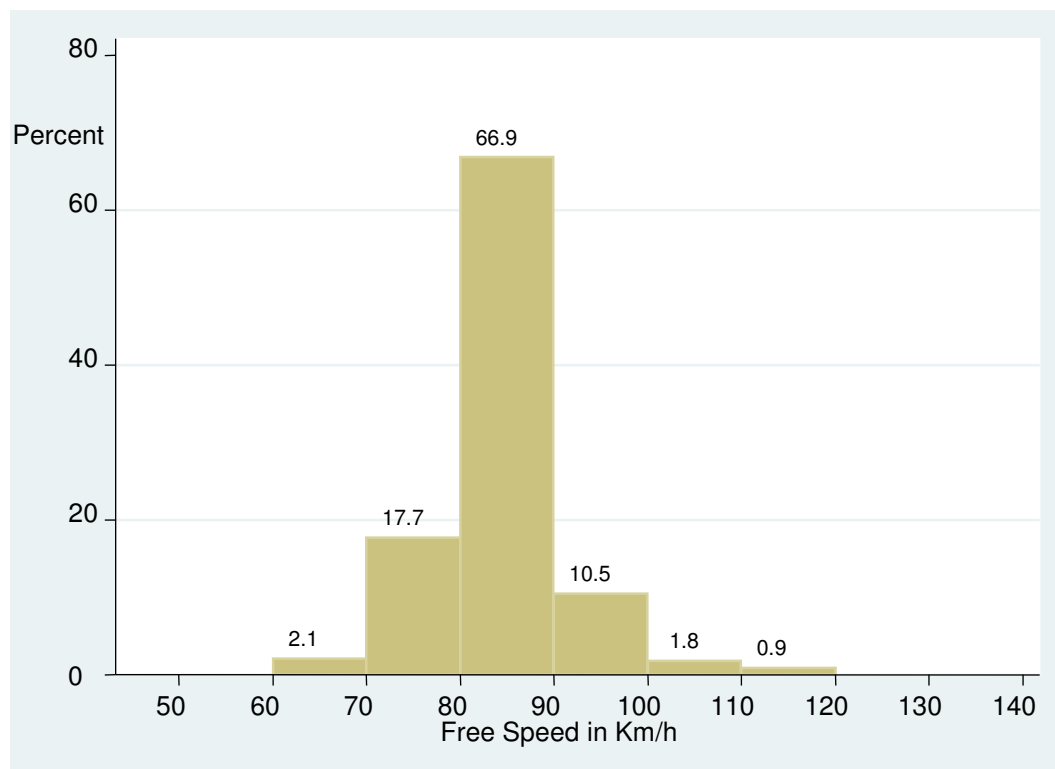
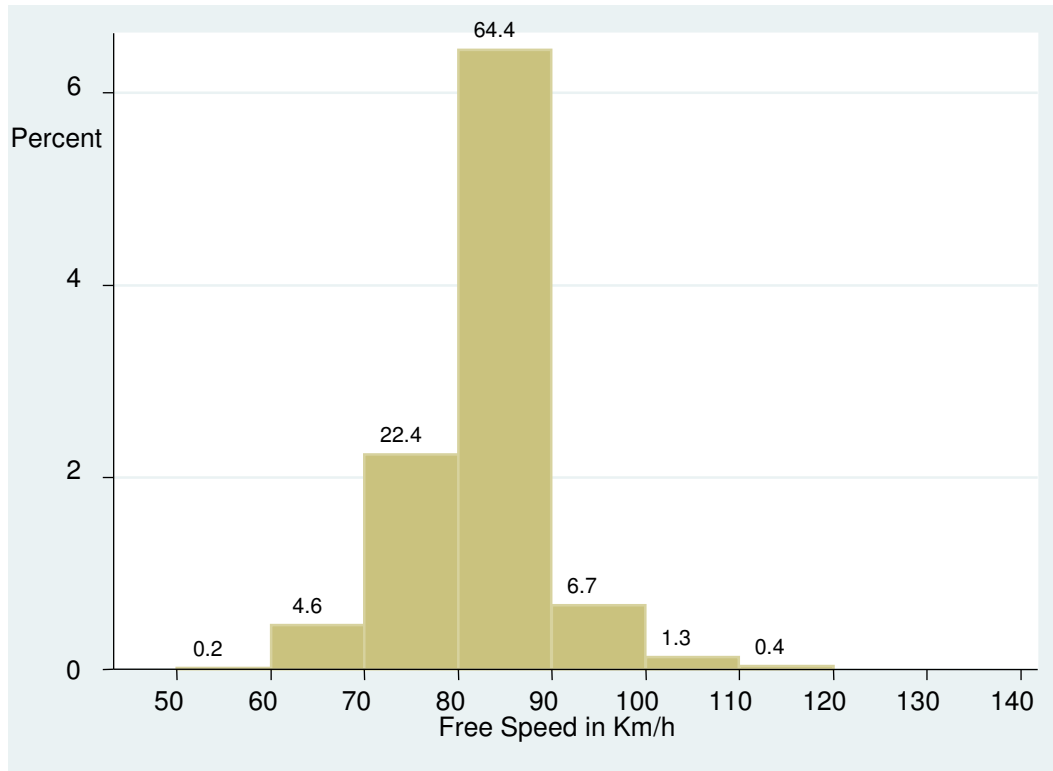


Figure 3.4b: Distribution of rigid vehicles free speed on motorways in 2012



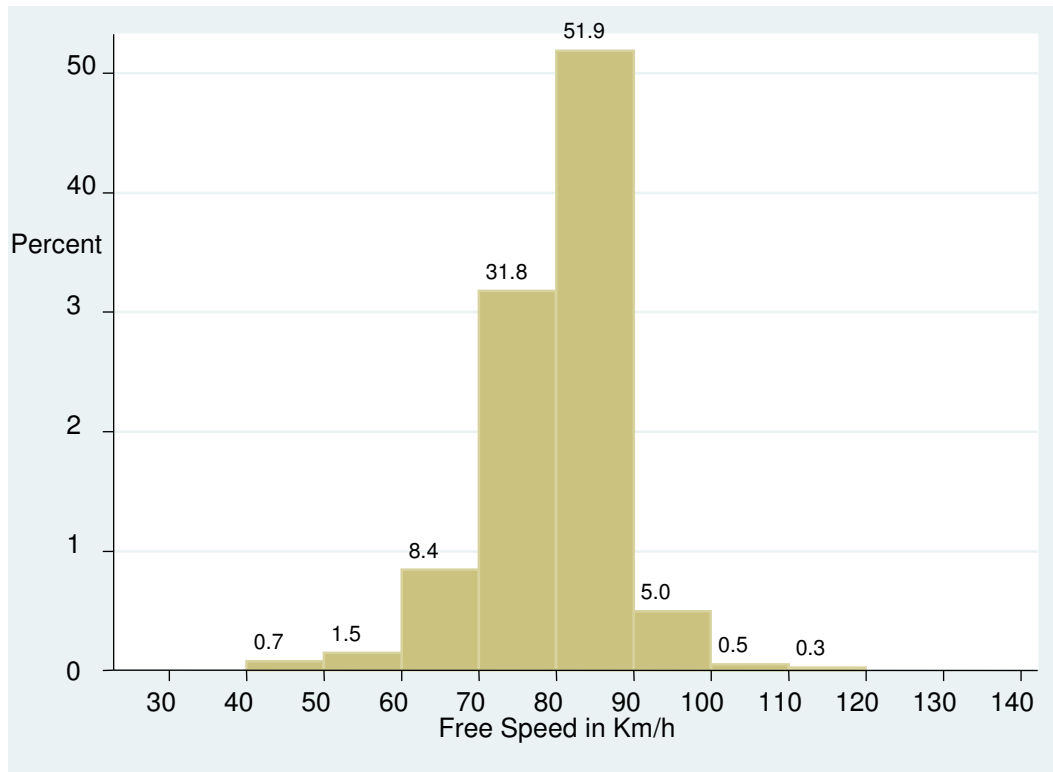
On dual carriageways, 27% of rigid vehicles travelled at speeds less than the speed limit for their vehicle type. 64% of rigid vehicles travelled between 80km/h and 90km/h.

Figure 3.4c: Distribution of rigid vehicles free speed on dual carriageways in 2012



On national primary roads, 42% of rigid vehicles travelled below the speed limit, 52% travelled between 80km/h and 90km/h and 5% of vehicles exceeded the speed limit by between 10km/h and 20km/h.

Figure 3.4d: Distribution of rigid vehicles free speed on national primary roads in 2012



On national secondary roads, 71% of vehicles travelled at speeds less than the speed limit. However, 3% of vehicles exceeded the speed limit by between 10km/h and 20km/h.

Figure 3.4e: Distribution of rigid vehicles free speed on national secondary roads in 2012

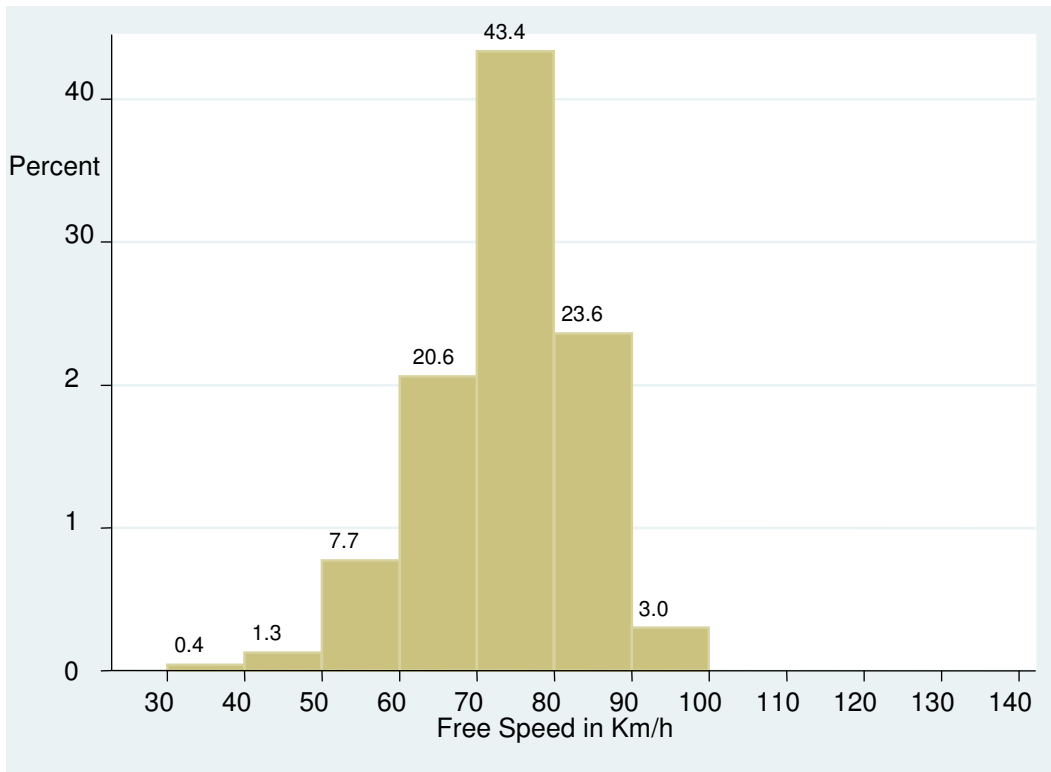
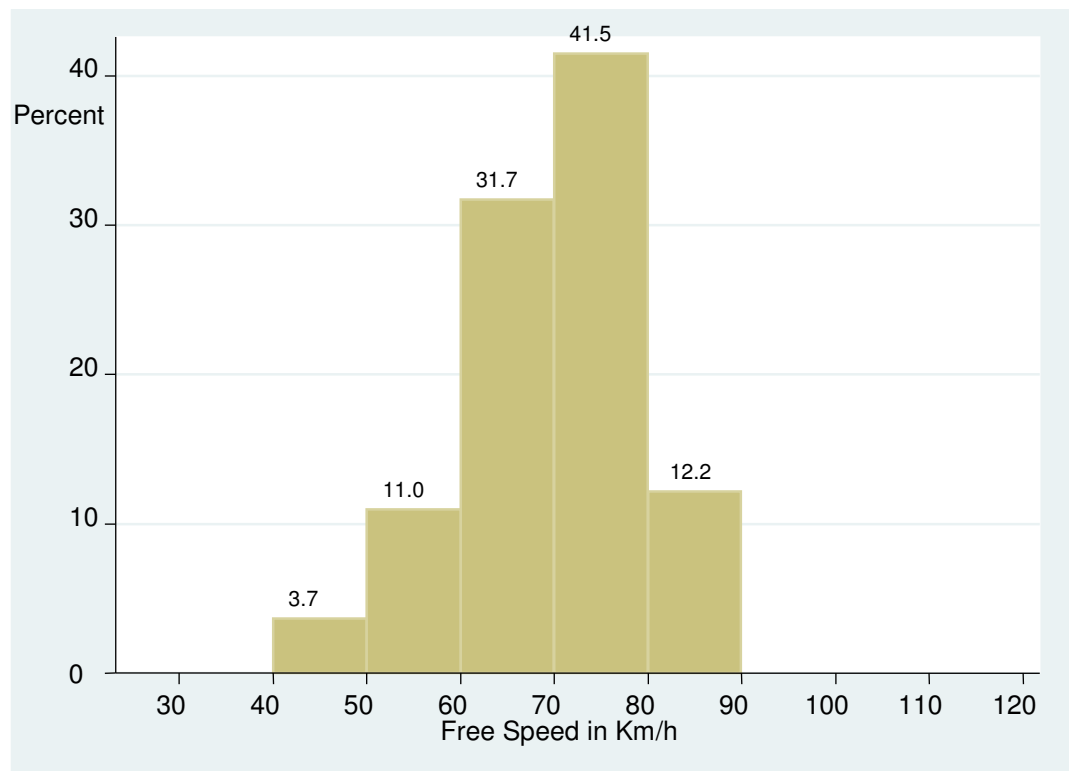


Figure 3.4f: Distribution of rigid vehicles free speed on regional roads in 2012

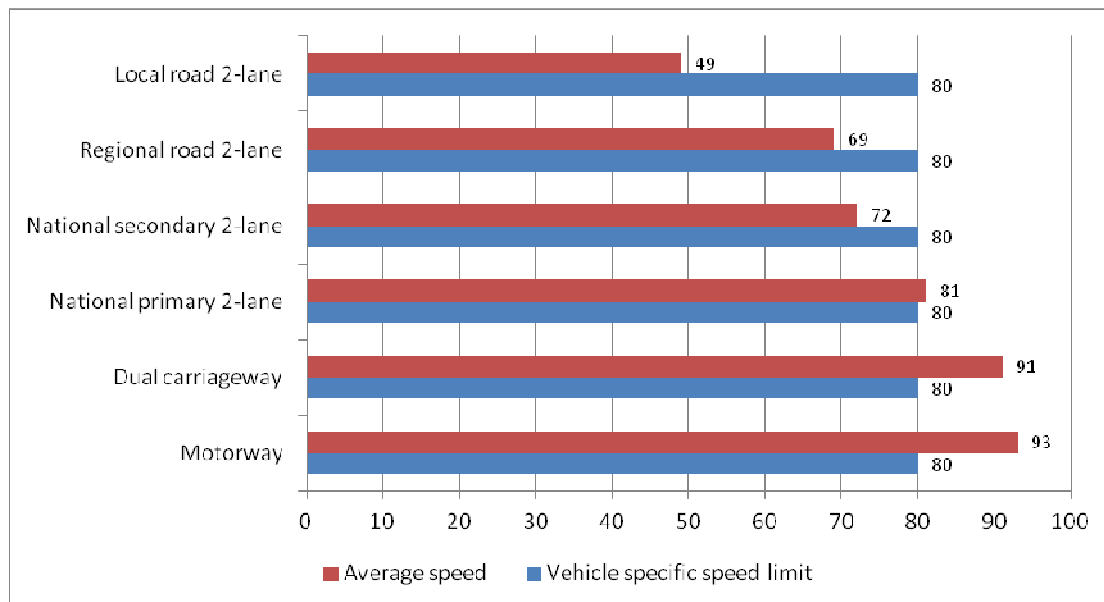


4 Free Speed Survey 2012– Single Deck Buses

In 2012, a total of 576 single deck buses were surveyed on the road network in Ireland. All the buses observed were on rural roads (i.e. motorways, dual carriageways, national primary and national secondary roads, regional and local roads). 70% of all single deck buses observed on rural roads were speeding (i.e. driving at a speed greater than 80km/h).

On the motorway, dual carriageway and national primary roads the average free speed was higher than the 80 km/h permitted for such a vehicle while on national secondary, regional and local roads the speeds were lower than the speed limit.

Figure 4.1: Single deck buses average free speed on rural roads



5 Detailed Tables

1. Cars Free Speed in 2012 by Road Type

Road type	Avg. Speed (km/h)	50th Percentile Speed (km/h)	85th *Percentile Free Speed (km/h)	Number in Sample	Number speeding	% speeding
urban national -50km/h sign	61.8	61	73	1,400	1,195	85
urban arterial - 60km/h speed limit zone	63.8	63	73	1,120	697	62
urban arterial - 50km/h speed limit zone	56.6	56	66	980	722	74
urban residential - 50km/h zone	39.8	39	48	1,427	141	10
motorway	109	110	120	1,400	210	15
dual carriageway	98.5	97	113	1,400	565	40
national primary 2-lane	89.7	90	101	1,400	226	16
national secondary 2-lane	82.4	83	94	1,400	86	6
regional road 2-lane	75.8	75	88	673	227	34
local road 2-lane	64.6	66	80	1,077	143	13
non-national urban	52	51	62	280	155	55

*85th percentile means 15% of the vehicles surveyed were travelling faster than this speed

2. Rigid Vehicles Free Speed in 2012 by Road Type

Road type	Avg. Speed (km/h)	50th Percentile Speed (km/h)	85th *Percentile Free Speed (km/h)	Number in Sample	Number speeding	% speeding
urban national -50km/h sign	56.8	56	65	370	281	76
urban arterial - 60km/h speed limit zone	-	-	-	-	-	-
urban arterial - 50km/h speed limit zone	-	-	-	-	-	-
urban residential - 50km/h zone	-	-	-	-	-	-
motorway	84.6	85	89	761	597	78
dual carriageway	89.6	84	88	540	374	69
national primary 2-lane	80.0	81	87	403	213	53
national secondary 2-lane	73.3	75	83	233	49	21
regional road 2-lane	69.6	70	78.9	82	8	10
local road 2-lane	55.1	58	66	88	1	1

non-national urban	43	42	50	23	3	13
--------------------	----	----	----	----	---	----

3. Articulated Vehicles Free Speed in 2012 by Road Type

Road type	Avg. Speed (km/h)	50th Percentile Speed (km/h)	85th *Percentile Free Speed (km/h)	Number in Sample	Number speeding	% speeding
urban national -50km/h sign	59	59	70	236	184	78
urban arterial - 60km/h speed limit zone	-	-	-	-	-	-
urban arterial - 50km/h speed limit zone	-	-	-	-	-	-
urban residential - 50km/h zone	-	-	-	-	-	-
motorway	84.4	85	89	311	263	85
dual carriageway	83.4	85	89	272	202	74
national primary 2-lane	81.6	84	88	271	190	70
national secondary 2-lane	76.2	77	84	108	35	32
regional road 2-lane	68.2	69	76	52	1	2
local road 2-lane	62.2	62	72	25	0	0
non-national urban	43.4	44	46	9	0	0

4. Single Decker Bus Free Speed in 2012 by Road Type

Road type	Avg. Speed (km/h)	50th Percentile Speed (km/h)	85th *Percentile Free Speed (km/h)	Number in Sample	Number speeding	% speeding
urban national -50km/h sign	63	61	68	62	55	89
urban arterial - 60km/h speed limit zone	-	-	-	-	-	-
urban arterial - 50km/h speed limit zone	-	-	-	-	-	-
urban residential - 50km/h zone	-	-	-	-	-	-
motorway	93.0	95	98	213	200	94
dual carriageway	90.5	92	97	124	109	88
national primary 2-lane	81.0	80	90	71	35	49
national secondary 2-lane	72.0	71	80	52	5	10
regional road 2-lane	68.8	70	81	39	6	15
local road 2-lane	49.1	42	69	8	0	0
non-national urban	43.6	48	51	7	2	29

5. Motorcycle Free Speed in 2012 by Road Type

Road type	Avg. Speed (km/h)	50th Percentile Speed (km/h)	85th *Percentile Free Speed (km/h)	Number in Sample	Number speeding	% speeding
urban national -50km/h sign	76.7	75	83	7	7	100
urban arterial - 60km/h speed limit zone	-	-	-	-	-	-
urban arterial - 50km/h speed limit zone	-	-	-	-	-	-
urban residential - 50km/h zone	-	-	-	-	-	-
motorway	109.5	113	119	41	6	15
dual carriageway	106.1	105	124	25	17	68
national primary 2-lane	96.0	93	125	12	5	42
national secondary 2-lane	95.5	96	115	2	1	50
regional road 2-lane	80.4	78.9	85	3	1	33
local road 2-lane	63.5	64	69	2	0	0

6. Distribution of car free speeds (%) by road type, 2012

Road type	<50	50-60	60-80	80-100	100-120	120-140	140+
urban national -50km/h sign	13.1	33.8	45.9	6.9	0.2	0.0	0.0
urban arterial - 60km/h speed limit zone	6.8	29.2	57.7	5.9	0.4	0.0	0.0
urban arterial - 50km/h speed limit zone	24.4	42.4	31.9	1.2	0.0	0.0	0.0
urban residential - 50km/h zone	88.4	10.1	1.5	0.0	0.0	0.0	0.0
motorway	-	-	1.3	21.4	60.9	15.4	1.0
dual carriageway	0.1	0.1	6.7	51.1	35.3	6.3	0.4
national primary 2-lane	0.3	0.8	15.9	65.2	16.8	1.0	0.1
national secondary 2-lane	0.6	1.8	37.7	52.9	6.5	0.4	0.0
regional road 2-lane	2.1	6.5	55.0	32.1	4.3	-	-
local road 2-lane	17.2	18.4	48.5	15.3	0.6	-	-
non-national urban	40.7	38.6	20.7	-	-	-	-

7. Distribution of rigid trucks free speeds (%) by road type, 2012

Road type	<50	50-60	60-80	80-100	100-120	120-140	140+
urban national -50km/h sign	20.5	44.1	34.6	0.8	0.0	-	-
urban arterial - 60km/h speed limit zone	-	-	-	-	-	-	-
urban arterial - 50km/h speed limit zone	-	-	-	-	-	-	-
urban residential - 50km/h zone	-	-	-	-	-	-	-
motorway	0.0	0.0	19.8	77.4	2.8	-	-
dual carriageway	0.0	0.2	27.0	71.1	1.7	-	-
national primary 2-lane	0.7	1.5	40.2	56.8	0.7	-	-
national secondary 2-lane	1.7	7.7	63.9	26.6	0.0	-	-
regional road 2-lane	3.7	11.0	73.2	12.2	0.0	-	-
local road 2-lane	29.5	30.7	38.6	1.1	0.0	-	-
non-national urban	82.6	17.4	0.0	0.0	0.0	-	-

8. Distribution of articulated vehicles free speeds (%) by road type, 2012

Road type	<50	50-60	60-80	80-100	100-120	120-140	140+
urban national -50km/h sign	20.3	34.3	40.7	4.7	-	-	-
urban arterial - 60km/h speed limit zone	-	-	-	-	-	-	-
urban arterial - 50km/h speed limit zone	-	-	-	-	-	-	-
urban residential - 50km/h zone	-	-	-	-	-	-	-
motorway	0.0	0.0	13.8	86.2	-	-	-
dual carriageway	0.0	0.4	23.2	76.5	-	-	-
national primary 2-lane	0.7	1.8	24.4	73.1	-	-	-
national secondary 2-lane	0.0	2.8	61.1	36.1	-	-	-
regional road 2-lane	0.0	15.4	78.8	5.8	-	-	-
local road 2-lane	8.0	28.0	64.0	0.0	-	-	-

9. Distribution of Single Decker buses free speeds (%) by road type, 2012

Road type	<50	50-60	60-80	80-100	100-120	120-140	140+
urban national -50km/h sign	11.3	45.2	41.9	1.6	0.0	-	-
urban arterial - 60km/h speed limit zone	-	-	-	-	-	-	-
urban arterial - 50km/h speed limit zone	-	-	-	-	-	-	-
urban residential - 50km/h zone	-	-	-	-	-	-	-
motorway	0.0	0.5	5.6	87.8	6.1	-	-
dual carriageway	0.0	0.0	11.3	84.7	4.0	-	-
national primary 2-lane	0.0	2.8	40.8	56.3	0.0	-	-
national secondary 2-lane	0.0	1.9	82.7	15.4	0.0	-	-
regional road 2-lane	5.1	15.4	61.5	17.9	0.0	-	-
local road 2-lane	62.5	0.0	25.0	12.5	0.0	-	-
non-national urban	100	0	0	0	0	-	-

10. Table1: Free speed (urban) percentage speeding, 1999-2012

Road Type and Vehicle Class	1999	2002	2003	2005	2006	2007	2008	2009	2011	2012
Urban Arterial - 50 km/h zone										
-Cars	99	99	86	91	86	40	70	68	77	74
Urban Arterial – 60 km/h zone										
-Cars	67	82	75	80	89	32	67	67	72	62
Urban National – 50 km/h sign										
-Articulated Vehicle	89	92	92	89	69	74	68	77	64	78
-Cars	94	97	98	89	82	86	78	83	82	85
-Motor Cycle	-	-	-	-	88	-	-	-	-	-
-Rigid Vehicles	85	85	96	80	77	72	64	73	65	76
-Single Decker Buses	-	-	-	79	74	80	-	-	-	89
Urban Residential – 50 km/h zone										
-Cars	68	61	36	20	45	23	4	4	9	10

11. Free speed (urban) average free speed, 1999-2012

Road Type and Vehicle Class	1999	2002	2003	2005	2006	2007	2008	2009	2011	2012
Urban Arterial - 50 km/h zone										
-Cars	73	69	58	62	60	49	57	56	58	57
Urban Arterial – 60 km/h zone										
-Cars	71	77	71	69	71	55	66	65	67	64
Urban National – 50 km/h sign										
-Articulated	60	61	63	61	65	66	55	58	55	59
-Cars	66	66	69	65	75	75	60	63	61	62
-Motor Cycle	-	-	-	-	78	-	-	-	-	-
-Rigid Vehicles	60	61	66	58	68	65	55	57	55	57
-Single Decker Buses	-	-	-	56	67	63	-	-	-	63
Urban Residential – 50 km/h zone										
-Cars	53	53	45	43	51	45	35	34	39	40

12. Free speed (urban) 85th* Percentile Speed, 1999-2012

Road Type and Vehicle Class	1999	2002	2003	2005	2006	2007	2008	2009	2011	2012
Urban Arterial - 50 km/h zone										
-Cars	85	79	68	69	68	56	70	68	68	66
Urban Arterial – 60 km/h zone										
-Cars	84	89	79	79	82	62	76	77	79	73
Urban National – 50 km/h sign										
-Articulated	71	71	74	72	80	82	65	68	64	70
-Cars	79	76	82	79	92	98	72	76	72	73
-Motor Cycle	-	-	-	-	91	90	-	-	-	-
-Rigid Vehicles	69	73	82	68	82	83	66	67	63	65
-Single Decker Buses	-	-	-	65	77	84	-	-	-	68
Urban Residential – 50 km/h zone										
-Cars	64	61	55	52	63	54	44	44	47	48

*85th percentile means 15% of the vehicles surveyed were travelling faster than this speed

13. Free speed (Rural) percentage speeding, 1999-2012

Road Type and Vehicle Class	1999	2002	2003	2005	2006	2007	2008	2009	2011	2012
Motorway NP*										
-Articulated	81	81	85	94	89	86	91	77	86	85
-Cars	29	24	23	15	20	14	15	18	16	15
-Rigid Vehicles	74	82	83	88	85	70	83	72	84	78
-Single Decker Buses	-	-	-	100	0	70	87	85	95	94
Dual Carriageway NP*										
-Articulated	78	70	60	87	69	54	63	69	75	74
-Cars	52	43	29	28	30	24	40	35	31	40
-Rigid Vehicles	65	67	55	78	68	48	59	61	59	69
-Single Decker Buses	-	-	-	77	63	77	59	82	76	88
2-Lane NP										
-Articulated	75	74	73	83	87	64	70	67	65	70
-Cars	51	44	30	23	27	20	19	23	15	16
-Rigid Vehicles	66	61	72	76	76	48	57	57	52	53
-Single Decker Buses	-	-	-	76	68	71	60	78	44	49
2-Lane NS										
-Articulated	19	37	34	48	58	25	49	41	31	32
-Cars	18	16	14	9	13	4	10	8	6	6
-Rigid Vehicles	27	29	46	30	41	13	28	33	25	21
-Single Decker Buses	-	-	-	38	20	16	19	26	15	10
Regional Road (2-Lane)										
-Articulated	-	39	17	45	9	30	21	26	8	2
-Cars	-	10	8	63	16	34	34	41	33	34
-Rigid Vehicles	-	42	22	45	22	22	14	21	6	10
-Single Decker Buses	-	-	-	9	0	16	0	-	0	15
County Road (2-Lane)										
-Articulated	-	-	-	-	-	10	5	2	0	0
-Cars	-	7	10	37	22	30	21	15	15	13

-Rigid Vehicles	-	-	-	-	-	17	10	3	3	1
-Single Decker Buses	-	-	-	-	-	-	5	-	0	0

14. Free speed (Rural) average free speed, 1999-2012

Road Type and Vehicle Class	1999	2002	2003	2005	2006	2007	2008	2009	2011	2012
Motorway NP*										
-Articulated	85	85	85	86	87	86	86	84	85	84
-Cars	108	106	106	109	110	108	107	108	109	109
-Rigid Vehicles	87	90	89	89	92	85	86	83	86	85
-Single Decker Buses	-	-	-	95	80	87	90	89	93	93
Dual Carriageway NP*										
-Articulated	85	84	82	85	79	79	82	83	83	83
-Cars	98	95	92	96	90	92	96	94	94	99
-Rigid Vehicles	84	84	82	84	81	80	81	82	81	90
-Single Decker Buses	-	-	-	85	82	86	82	87	85	91
2-Lane NP										
-Articulated	81	85	85	85	86	85	82	81	82	82
-Cars	98	97	93	94	95	89	91	92	90	90
-Rigid Vehicles	81	84	85	86	86	82	81	81	80	80
-Single Decker Buses	-	-	-	85	84	87	82	85	80	81
2-Lane NS										
-Articulated	73	77	77	76	81	70	78	76	76	76
-Cars	84	82	85	85	87	76	81	84	82	82
-Rigid Vehicles	73	74	79	74	77	67	74	75	74	73
-Single Decker Buses	-	-	-	75	73	66	71	74	72	72
Regional Road (2-Lane)										
-Articulated	-	76	71	76	68	67	71	73	68	68
-Cars	-	81	79	84	72	73	76	79	77	76

-Rigid Vehicles	-	76	72	77	72	66	70	72	67	70
-Single Decker Buses	-	-	-	65	60	57	58	-	59	69
County Road (2-Lane)										
-Articulated	-	-	-	-	-	70	70	60	64	62
-Cars	-	69	77	75	67	73	69	65	64	65
-Rigid Vehicles	-	-	-	-	-	67	67	58	58	55
-Single Decker Buses	-	-	-	-	-	-	72	-	58	49

15. Free speed (Rural) 85th Percentile Speed: 1999-2012

Road Type and Vehicle Class	1999	2002	2003	2005	2006	2007	2008	2009	2011	2012
Motorway NP*										
-Articulated	93	89	89	89	91	91	89	87	89	89
-Cars	121	118	116	119	123	120	120	122	121	120
-Rigid Vehicles	97	105	92	100	109	94	91	89	90	89
-Single Decker Buses	-	-	-	98	80	98	98	97	99	98
Dual Carriageway NP*										
-Articulated	92	90	89	89	89	87	89	89	89	89
-Cars	111	106	101	106	103	104	111	111	108	113
-Rigid Vehicles	93	93	89	90	93	87	89	89	87	88
-Single Decker Buses	-	-	-	94	91	96	90	96	93	97
2-Lane NP										
-Articulated	92	90	90	90	90	97	89	87	88	88
-Cars	113	108	103	103	104	103	103	103	100	101
-Rigid Vehicles	93	93	92	94	93	96	89	88	87	87
-Single Decker Buses	-	-	-	95	97	94	93	91	92	90
2-Lane NS										
-Articulated	82	87	85	85	88	82	97	85	85	84
-Cars	100	98	97	97	100	91	96	96	94	94
-Rigid Vehicles	87	87	89	82	89	77	85	85	84	83

-Single Decker Buses	-	-	-	81	86	82	82	85	82	80
Regional Road (2-Lane)										
-Articulated	-	87	82	86	80	93	83	84	76	76
-Cars	-	93	92	98	86	92	89	91	89	88
-Rigid Vehicles	-	90	82	88	84	86	80	83	75	79
-Single Decker Buses	-	-	-	70	60	81	76	-	68	81
County Road (2-Lane)										
-Articulated	-	-	-	-	-	79	77	71	76	72
-Cars	-	87	93	89	82	91	85	80	80	80
-Rigid Vehicles	-	-	-	-	-	81	80	73	70	66
-Single Decker Buses	-	-	-	-	-	54	80	-	70	69

*85th percentile means 15% of the vehicles surveyed were travelling faster than this speed

6 Appendices

Appendix 1: Sample free speed survey sheet

Free Speed Survey 2005						
Site Information						
Code:						
Location:						
Date:						
Target Sample Size:						
Actual Sample Size:						
Weather						
Start Time:						
Finish Time:						
Speed Limit:						
Surveyed by:						
Number	Type					Speed
	Car	Rigid	Artic	Single decker bus	Double decker bus	(mph)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Appendix 2: Free speeds (urban) survey locations

6.1.1 Table A5.1 *Urban national – 50 km/h sign*

IDCODE	ROUTE	LOCAL	DESCRIPTION
NPU01	N17	Sligo	At 50 km/h SL Curry – Southside
NPU02	N18	Galway	At 50 km/h SL north side of Gort town
NPU03	N8	Cork	At Fitzpatrick’s Hotel, between the junctions of N8/R635 & N8/R639
NPU04	N3	Meath	Kells, on the east approach from Navan before the junction of N3/R163
NPU05	N8	Laois	Durrow, at the north approach to Durrow, before the junction of N8/R434
NSU01	N78	Kildare	Athy, at the north-eastern approach from Kilcullen
NSU04	N71	Cork	West of Bandon, between the junctions of N71/R603 & N71/R602
NSU05	N69	Limerick	Tarbert on the N69, to the east of the junction of N69/N67
NSU07	N63	Galway	At 50 km/h SL eastside of Moylough

7

7.1.1 Table A5.2 *Urban arterial – 60 km/h speed limit zone*

IDCODE	ROUTE	LOCAL	DESCRIPTION
ART1	N/A	Dublin	Rock road north of St. Helens Road
ART4	N/A	Dublin	Chapelizod road at the sports grounds
ART6	N/A	Dublin	James Larkin road slightly off Watermill road
ART10	N/A	Dublin	Clonkeen road south of Beach Park Road
ART11	N/A	Dublin	Naas road midway between Club road and Turnpike road
ART13	N/A	Dublin	Finglas road after Ballybogan road and north of Slaney road
ART14	N/A	Dublin	N11 Belfield just south of Belfield flyover
ART15	N/A	Dublin	Malahide road slightly north of Greencastle road

7.1.2 Table A5.3 *Urban arterial – 50 km/h speed limit zone*

IDCODE	ROUTE	LOCAL	DESCRIPTION
ART2	N/A	Dublin	Morehampton road at Sachs Hotel
ART3	N/A	Dublin	Cabra road east of Annamoe road
ART5	N/A	Dublin	Templeogue road at Bushy Park
ART7	N/A	Dublin	N3 Navan road east of Kinvara avenue
ART8	N/A	Dublin	Dodder Park road north of Rathfarnham road
ART9	N/A	Dublin	Lower Kilmacud road near junction with Kilmacud road

8

8.1.1 Table A5.4 *Urban residential –50 km/h zone*

IDCODE	ROUTE	LOCAL	DESCRIPTION
RES01	N/A	Dublin	Brian Road Marino
RES02	N/A	Dublin	Broombridge Road
RES03	N/A	Dublin	Lorcan Avenue Santry, slightly to the west of Coolgariff road
RES04	N/A	Dublin	Brookwood Rise, between Gracefield and Rosemount Avenues
RES05	N/A	Dublin	Annamoe Road
RES06	N/A	Dublin	Glasilawn road, Griffith Avenue area
RES07	N/A	Dublin	Charlemont, at the missionary College
RES08	N/A	Dublin	Delwood road Blanchardstown, between Delwood walk and drive
RES11	N/A	Dublin	Abbey Park, just south of the Grange road

Appendix 3: Free speeds (rural) survey locations

8.1.2

8.1.3 Table A6.1 *Motorway*

IDCODE	ROUTE	LOCAL	DESCRIPTION
Myr01	M04	Kildare	Just south of Maynooth exit
Myr02	M07	Kildare	1 mile west of M9 interchange
Myr03	M01	Louth	Just south of R170 Ardee junction
Myr04	M04	Kildare	1 mile south of Maynooth exit
Myr05	M07	Kildare	1 mile north of Naas/Allenwood junction
Myr06	M11	Dublin	1 mile south of roundabout at Shankill
Myr07	M07	Laois	Portlaoise bypass
Myr08	M07	Laois	Portlaoise bypass
Myr09	M01	Dublin	Balbriggan bypass
Myr10	M01	Dublin	Balbriggan bypass

8.1.4 Table A6.2 *Dual carriageway*

IDCODE	ROUTE	LOCAL	DESCRIPTION
DCR01	N18	Clare	1 mile west of R463 Cratloe junction
DCR02	N03	Meath	Close to Trim junction, R154
DCR03	N03	Meath	Close to Trim junction, R154
DCR04	N03	Dublin	3 miles north of Clonsilla junction
DCR05	N11	Wicklow	South of Newtownmountkennedy junction
DCR06	N18	Clare	2.5 miles east of R462 junction
DCR07	N18	Clare	1 mile west of R462 Cratloe junction

DCR08	N11	Wicklow	South of Newtownmountkennedy junction
DCR09	N11	Wicklow	Arklow by-pass
DCR10	N25	Cork	Lower Glanmire road, Cork

9

9.1.1 Table A6.3 *National Primary (2-Lane)*

IDCODE	ROUTE	LOCAL	DESCRIPTION
NPR01	N25	Waterford	5 miles west of Dungarvan
NPR02	N08	Tipperary	Between Horse & Jockey and Turnpike junctions
NPR03	N02	Monaghan	2 miles north of Carrickmacross
NPR04	N03	Cavan	2 miles south of Baeilieboro junction
NPR05	N04	Sligo	6 miles north of Boyle
NPR06	N22	Cork	1 mile east of R590/N22 junction
NPR07	N04	Leitrim	Drumsna bypass
NPR08	N05	Longford	2 miles west of Longford
NPR09	N05	Mayo	Swinford bypass
NPR10	N06	Offaly	1.5 miles west of Horseleap

9.1.2

9.1.3 Table A6.4 *National Secondary (2-Lane)*

IDCODE	ROUTE	LOCAL	DESCRIPTION
NSR01	N60	Mayo	2 miles west of Claremorris
NSR02	N84	Mayo	Just north of Partry
NSR03	N67	Galway	Kinvara to Kilcolgan
NSR04	N78	Kilkenny	North of Castlecomer

NSR05	N58	Mayo	Bellavary to Foxford
NSR06	N56	Donegal	2.5 miles south of Dunfanghy
NSR07	N60	Mayo	4 miles south of Castlebar
NSR08	N62	Tipperary	5 miles north of Templemore
NSR09	N59	Mayo	6 miles west of Newport
NSR10	N72	Kerry	3 miles east of N72/N22 junction near 4-arm junction

9.1.4 Table A6.5 *Regional road (2-Lane)*

IDCODE	ROUTE	LOCAL	DESCRIPTION
NNR01	R352	Galway	From R353 to Powers Cross
NNR03	R178	Louth	Between Carrickmacross and Dundalk
NNR05	R515	Tipperary	Lattin, west of Tipperary town between Clashdrumsmith and Shronell
NNR06	R438	Offaly	1 mile north of Taylor's Cross
NNR07	R499	Tipperary	East of Dolla & Silvermines
NNR08	R403	Kildare	Allenwood side of Prosperous
NNR09	R629	Cork	South of Midleton.
NNR10	R742	Wexford	Wexford to Curraclloe

9.1.5 Table A6.6 *Local road (2-Lane)*

IDCODE	ROUTE	LOCAL	DESCRIPTION
NNL01	LP3210	Galway	2.4 miles from R358 at Mountbellew to Ballyforan
NNL02	LP111	Kildare	Timahoe to R402
NNL03	LP333	Kildare	South east of Naas R410 to north N7
NNL04	LP999	Wicklow	Between R760 and Sraghmore
NNL06	L41	Offaly	Tullamore - Ballinagar, 2km east of Tullamore

NNL08	L34	Cork	Ballynoe to R627 Ballyknock
NNL09	L35	Cork	North Midleton
NNL10	L7	Wexford	Enniscorthy Road to Ferns

Working To Save Lives

Údarás Um Shábháilteacht Ar Bhóithre
Road Safety Authority

Páirc Ghro Ghleann na Mualdha, Cnoc an tSabhaircín, Bóthar Bhalie Átha Clíath,
Béal an Átha, Co. Mhalgh Eo.
Moy Valley Business Park, Primrose Hill, Dublin Road, Ballina, Co. Mayo.

local: 1890 50 60 **fax:** (096) 25 252
email: info@rsa.ie **website:** www.rsa.ie