



Reported Road Casualties in Great Britain: 2012 Annual Report

A valuation of road accidents and casualties in Great Britain in 2012

This article provides the latest Department for Transport estimates of the values for prevention¹ of road accidents and casualties for use in the appraisal of transport schemes and gives an estimate of the total value of road accidents in Great Britain in 2012.

Since 1993, the valuation of both fatal and non-fatal casualties has been based on a consistent willingness to pay (WTP) approach. This approach encompasses all aspects of the valuation of casualties, including the human costs, which reflect pain, grief and suffering; the direct economic costs of lost output, and the medical costs associated with road accident injuries.

- The total value of prevention of reported road accidents in 2012 was estimated to be **£15.1 billion** - this includes an estimate of the cost of damage only accidents but does not allow for unreported injury accidents. This represents a decrease of £0.5 billion compared with the same estimate made in 2011. This is proportional to the 4 per cent decrease in the number of accidents reported in 2011 compared with 2012.
- A number of assumptions have been made to produce a broad illustrative figure which suggests that allowing for accidents not reported to the police could increase the total value of prevention of road accidents to around **£34.3 billion**.

It is important to highlight that the values in this report have been based on the road accident data 2012, and computed at 2012 prices and values.

¹ Prevention can be interpreted in two ways here: on the one hand it is the amount of money the Government should spend to likely prevent all road accidents. On the other hand it can be considered as the loss to society due to the current level of road accidents.

Casualties

The values for the prevention of fatal, serious and slight casualties include the following elements of cost:

- Loss of output due to injury. This is calculated as the present value of the expected loss of earnings, plus non-wage payments made by employers.
- Ambulance costs and the costs of hospital treatment.
- The human costs of casualties. These are based on willingness to pay to avoid pain, grief and suffering to the casualty, relatives and friends, as well as intrinsic loss of enjoyment of life in the case of fatalities.

Accidents

The average value of preventing a fatal accident is greater than the value of preventing a fatality. This applies for each level of severity. This is for two reasons, the first being that an injury accident is classified according to the most severe casualty but will on average involve more than one casualty. For example, in 2012 a fatal accident on average involved 1.07 fatalities, 0.29 serious casualties and 0.43 slight casualties. The second reason is that there are some costs which are part of the valuation of an injury accident but which are not specific to casualties. These are:

- Costs of damage to vehicles and property.
- Police costs and administrative costs of accident insurance.

Valuation of the benefits of prevention of accidents

[RAS60001](#) presents the average values of prevention of road accidents and casualties by severity based on 2012 prices and values. [RAS60002](#) presents the average value of prevention of injury accidents by road type.

[RAS60001](#): Average value of prevention¹ per reported casualty and per reported road accident²: GB 2012

Accident/casualty type	£ 2012	
	Cost per casualty	Cost per accident
Fatal	1,703,822	1,917,766
Serious	191,462	219,043
Slight	14,760	23,336
Average for all severities	50,698	72,739
Damage only	-	2,048

[RAS60002](#): Average value of prevention¹ of reported road accidents² by road type: GB 2012

£ 2012

Accident Type	Road Type			All Roads
	Built-up roads ³	Non Built-up roads ⁴	Motorways ⁵	
Fatal	1,914,229	1,920,372	1,924,341	1,917,766
Serious	218,109	220,524	229,358	219,043
Slight	22,773	24,559	27,857	23,336
All injury accidents	62,250	109,415	74,471	72,739
Damage only	1,935	2,830	2,720	2,048
All accidents	5,160	14,942	11,063	6,409

The total value of prevention of road accidents in GB in 2012

Estimates of the total value of prevention of road casualties and road accidents in Great Britain during 2012 are provided below. The estimates were derived using the values for prevention of casualties and accidents listed above, and are cost benefit values that represent the benefits which would be obtained by prevention of road accidents. The estimates do not represent actual costs incurred as the result of road accidents.

In 2012, the numbers of reported accidents were: 1,637 fatal (-10% from 2011), 20,901 serious (-0.4%) and 123,033 slight (-5%). In cost-benefit terms the value of prevention of these 145,571 injury accidents is estimated to have been £10,589m in 2012 prices and values. In addition, there were an estimated 2.2 million damage-only accidents valued at a further £4,533m. The total value of prevention of all reported road accidents in 2012 was therefore estimated to have been £15,122m.

This estimate relates to the total value to the community of the benefits of prevention of road accidents. The incidence of costs will, of course, vary between groups of road users and also between road users and other members of society. In other words some costs, such as lost output, will not be borne exclusively by casualties themselves, since the taxation and social security systems will ensure that the burden of lost output will be shared by the population at large. Whereas some elements of cost, e.g. property damage, represent direct costs that will be incurred as the result of road accidents, others like human costs represent the benefit of avoidance of risk of a road accident, rather than values of the consequences of an accident. The tables below give the total value of prevention of road accidents by severity and element of cost ([RAS60003](#)), and by severity and category of road ([RAS60004](#)), without attempting to allocate costs by responsibility or final incidence.

RAS60003: Total value of prevention¹ of reported accidents by severity² and cost element: GB 2012

£ million

Accident severity	Cost Elements						Total
	Casualty related costs			Accident related costs			
	Lost output	Medical and Ambulance	Human costs	Police costs	Insurance and admin	Damage to property	
Fatal	1,040	9	2,042	29	1	19	3,139
Serious	526	315	3,582	44	4	108	4,578
Slight	389	165	1,854	67	15	381	2,871
All injury accidents	1,955	490	7,478	139	19	508	10,589
Damage only accidents	0	0	0	77	124	4,332	4,533
All accidents	1,955	490	7,478	217	143	4,840	15,122

1 The number of reported road accidents were based on 2012 data

2 The costs were based on 2012 prices and values

RAS60004: Total value of prevention¹ of reported accidents² by severity and road type: GB 2012

£ million

Accident severity	Road Type			All roads
	Built-up roads ³	Non built-up roads ⁴	Motorways ⁵	
Fatal	1,431	1,555	153	3,139
Serious	3,244	1,214	120	4,578
Slight	2,181	573	116	2,871
All reported injury accidents	7,931	2,249	408	10,589
Damage only accidents	3,952	494	87	4,533
All accidents⁶	11,883	2,743	496	15,122

1 The costs were based on 2012 prices and values

2 The number of reported road accidents were based on 2012 data

3 Includes roads with speed limits of 40pmh or less, excluding motorways and A(M) roads

4 Includes roads with speed limits greater than 40mph, excluding motorways and A(M) roads

5 Includes motorways and A(M) roads

During 2012, 86 per cent of reported and damage only accidents occurred on built-up roads. Non built-up roads accounted for 12 per cent of accidents, and 2 per cent of accidents occurred on motorways. The lesser severity of accidents on built-up roads is shown in Table [RAS60004](#); the total value of prevention per accident on built-up roads is over 4 times the total value on non built-up roads, however there are **over 7 times** more accidents occurring on built-up roads (table [RAS60002](#) shows that the average value of prevention on built-up roads is **less than half** of that on non-built up roads).

Under Reporting

The cost estimates presented here are based on data provided by the police covering personal injury accidents that are reported to them under the STATS19 system. This means that any incident not reported to the police is not included in the costing. While very few, if any, fatal accidents do not become known to police, it has long been known that a considerable proportion of non-injury accidents are not reported.

Article 5 in this publication presents broad estimates of total road casualties, including

those not reported to police, using survey data. The current best estimate based on the data available is that there are around 710,000 non-fatal road casualties in Great Britain each year, 80,000 of which are seriously injured the remainder slightly injured (refer to article 5 for further details of how these figures have been produced and their limitations).

Therefore, based on these estimates, the numbers of serious and slightly injured casualties that are unreported each year are estimated to be around 57,000 and 459,000 respectively. Using these numbers to reach an estimate of accidents suggests around 52,000 serious and 308,000 slight accidents that do not appear in the police data. Taking these unreported accidents into consideration, assuming a similar average cost per accident for reported and unreported accidents would increase the total value of prevention of road accidents to around £34.3 billion. However, it is also known that within each severity category, the more serious accidents are more likely to be reported. Therefore the average cost of unreported accidents is likely to be a little lower, and the figure of £34.3 billion should be treated as an upper bound.

This should be considered as a broad illustrative figure, which relies on a number of assumptions. Although subject to a large degree of uncertainty, this provides an indication of the extent to which the current valuation understates the annual cost of road accidents.

Background notes

Detailed statistics on “Valuation of road accidents and casualties in Great Britain” can be found on Reported Road Casualties in Great Britain - 2012 Annual Report web page at: <https://www.gov.uk/government/statistical-data-sets/ras60-average-value-of-preventing-road-accidents>

Table numbers RAS60001 – RAS60004

1. Further information about the Reported Road Casualties Great Britain Annual Report can be found at: <https://www.gov.uk/government/publications/reported-road-casualties-great-britain-annual-report-2012>
2. Notes & Definitions used in STATS19 can be found at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48822/reported-road-casualties-gb-notes-definitions.pdf
3. The methodology used to value the cost of casualties was described in an article in Road Accidents Great Britain 1994 (Kate McMahon, Road Safety Division, Department for Transport). For a copy the article, please contact roadacc.stats@dft.gsi.gov.uk. A brief methodology note is also available at: <https://www.gov.uk/transport-statistics-notes-and-guidance-road-accident-and-safety>
4. More detailed information on the method used to derive the values of preventing road accidents and casualties, together with guidance on how to apply them can be found in Transport Analysis Guidance Unit 3.4.1, The Accident Sub-Objective, which is available at: <http://www.dft.gov.uk/webtag/documents/expert/unit3.4.1.php>
5. In the event that additional information is required, please contact a member of the Transport Appraisal and Strategic Modelling division by telephone on 020 7944 4517 or by e-mail at: TASM@dft.gsi.gov.uk