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The costs of road accidents

November 2012

Seven children are killed or seriously injured on Britain's roads every day¹ and the annual cost of these deaths and injuries is £547 million.² Road accidents can cause life-changing injuries including loss of limbs, spinal injuries and head injuries.



This article gives an overview of the financial and emotional costs of road accidents among children. As NHS treatment costs vary widely, all of the costs shown should be treated as a guide.

The scale of the problem

In 2011, 2,412 children aged 0-15 years were killed or seriously injured on Britain's roads – that's 7 every day. This includes 60 child fatalities. Among pedestrians who were killed or seriously injured in 2011, 27% were under 16 years old. The overall annual cost of road accident fatalities and serious injuries among children stands at £547 million.²

The number of children killed and seriously injured on the roads each year has been falling in recent years: the figure for 2011 is 21% lower than the average for 2005-09. For child fatalities alone, the 2011 figure is 53% lower than the 2005-09 average. However, the number of child fatalities increased by 9% between 2010 and 2011.

Research based on data from 2001 showed that children from disadvantaged families were 20 times more likely to be killed as pedestrians than children from the most affluent homes, and 27 times more likely to be killed as cyclists.³ The greater risk is attributed to living closer to dangerous roads, having fewer places to play and making fewer journeys by car.⁴

Table 1: Key costs for road accidents

| Item | Cost |
|--|---------------------------|
| Cost of a fatal casualty (all ages) - including lost output, medical and ambulance costs and human costs | £1.69 million |
| Total cost of 60 fatal casualties among 0-15 year olds in 2011 | £101 million ² |
| Cost of a serious casualty (all ages) - including lost output, medical and ambulance costs and human costs | £189,519 |
| Total cost of 2,352 serious casualties among 0-15 year olds in 2011 | £446 million ² |
| Combined total cost of fatal and serious casualties among 0-15 year olds in 2011 | £547 million ² |

The financial cost

In 2011, 2,412 children aged 0-15 years were killed or seriously injured on Britain's roads. This includes 60 deaths and 2,352 seriously injured casualties. Serious injuries caused by road accidents range from fractures to loss of limbs or sight, spinal injuries, head injuries and internal injuries. A further 17,062 children sustained slight injuries such as cuts, bruises and whiplash, which don't generally require hospital treatment.

Each year the Department for Transport (DfT) calculates the costs of road accident casualties, to identify the value of prevention. The costs produced apply to all age groups – there are no separate figures given for child casualties alone. We can, however, identify the overall cost of road accident casualties among children by multiplying the cost per casualty by the number of casualties aged 0-15 years, as shown in the table below.

Table 2: Costs for road accident casualties aged 0-15 years in 2011

| | Cost per casualty (of all ages) | Number of casualties aged 0-15 years in 2011 | Approximate total cost for casualties aged 0-15 years ² |
|-------------------------|---------------------------------|--|--|
| Fatal injuries | £1.69 million | 60 | £101 million |
| Serious injuries | £189,519 | 2,352 | £446 million |
| Slight injuries | £14,611 | 17,062 | £249 million |

The DfT's calculations take into account:

- ambulance and medical costs – covers costs incurred during the 18 months after the accident, including ambulance services, inpatient and outpatient hospital treatment, district nurse services and provision of medical appliances⁵
- direct economic costs of lost output – calculated as the value of expected loss of earnings and employer contributions
- human costs – based on people's 'willingness to pay' to avoid pain, suffering and grief.

Table 3: Cost breakdown for each person seriously injured in a road accident, 2011

| | | |
|--|--|--|
| | | |
|--|--|--|

| | Approx. cost per seriously injured casualty (all ages) ⁶ | Approx. cost for 2,352 seriously injured casualties aged 0-15 years ⁶ |
|-----------------------------|---|--|
| Medical and ambulance costs | £13,500 | £31.8 million |
| Lost output | £22,500 | £53 million |
| Human costs | £153,000 | £360.9 million |

It's important to note that the medical and ambulance costs shown for people with serious injuries sustained in road accidents do not take into account any care that is needed beyond the first 18 months following the accident. However, many serious injuries will require significant amounts of long-term care, including outpatient appointments, surgical procedures, district nurse services and the provision of medical equipment. As one example, our article on the [costs of head injuries](http://www.makingthelink.net/costs-head-injuries) (<http://www.makingthelink.net/costs-head-injuries>) shows that the lifetime medical costs for one child with a severe traumatic brain injury come to £268,000.

The emotional cost

The effect on the child

Serious injuries suffered in a road accident can have an impact on a child for the rest of their life – they can affect physical and cognitive abilities, as well as psychological wellbeing. The child may have to spend a significant amount of time in hospital and require long-term treatment as an outpatient. Their physical abilities after the accident may be altered, for example if they have sustained a spinal injury or lost limbs or sight. Head injuries can result in changes to cognitive abilities and personality. Our article on the [costs of head injuries](http://www.makingthelink.net/costs-head-injuries) (<http://www.makingthelink.net/costs-head-injuries>) explores the effects of these injuries in more detail.

Individuals can experience vivid, traumatic flashbacks of the accident. Post-traumatic stress, depression and anxiety are all common after a serious road accident, and children who suffer any of these conditions will need ongoing psychological care to achieve good mental health.

Children and young people who are left with facial or bodily disfigurement from a road accident may experience social and psychological problems that can have far-reaching effects. Coming to terms with their changed appearance and other people's reactions can be difficult; the child may have to learn how to cope with staring, insensitive comments, name-calling and bullying. They may develop social anxieties and low-self esteem which can have an impact on their education and future employment.

The effect on families

Road accidents can also be life-changing for the families of children and young people who sustain serious injuries. It might involve caring for their child during ongoing hospital treatment, which may require significant amounts of time away from home.

It can also mean attending regular outpatient appointments and providing practical long-term care at home. Some families will have to help their child to adapt to living with a changed appearance or different abilities. Depending on the child's injuries, the family may need to make changes to their home, car and lifestyle to accommodate their child's needs.

Families may have to provide a lot of emotional support for their child, for example if they suffer from flashbacks or other psychological issues after the accident, or to help them cope with the effect that the accident has had on their life and their aspirations. If their child sustained serious head injuries, this could mean adjusting to changes in their personality. Having a child seriously injured in a road accident can create a lifetime of guilt for parents and they may be at risk of post-traumatic stress themselves.

Losing a child in a road accident is devastating for families – for some, it can lead to family breakdown, job loss and depression. Some parents never recover from the trauma of a sudden and violent death of a child. Bereaved families need ongoing support to cope with their loss and to guide them through procedures such as inquests and court hearings.

The child's perspective: Danica's story

Danica had to have a leg amputated after being hit by a car when she was 10 years old. "I'd just got a hot chocolate with my cousin Bridie and aunty Paula, and we were walking to my aunty's work before heading home. Bridie and I were saying how we couldn't wait to get home because we were both so tired," explains Danica.

"Aunty Paula was walking in front. Suddenly there was a loud noise and she spun round. I remember the shocked look on her face. She grabbed Bridie's hand and pulled her away. I was at the back so I was the first to be hit. It was a big green jeep. It had sped towards us and mounted the pavement, hitting me in the stomach before smashing into Paula and Bridie. It reversed back, crushing my legs, before driving away. Aunty Paula died instantly. Bridie had been flung into a garden nearby and was badly hurt. I can't remember anything else after that."

After the accident, Danica spent two months in hospital. Her right leg was amputated and she was left with ongoing problems with her left foot, undergoing 13 operations on it in the space of 3 years. Danica continues to spend a lot of time on physiotherapy.

Danica's injuries meant that she missed a lot of school. When she was well enough to return to school, she struggled to cope with the steps and stairs in the building, so she received tuition at home instead. "I was moved down a year, but I've worked really hard and caught up again," says Danica. "The school put in lifts so I could go back and get around more easily."

The car accident has had an effect on Danica's self-confidence, but she continues to live her life to the full. "I still like to do the same things as all my friends, I haven't got as much confidence as I had before but I'm still bubbly and people say I'm fun to be around."

How could it be prevented?

Thanks to the work of government and local organisations, child deaths and serious injuries from road accidents have been falling steadily. But the number of child deaths on the roads increased in 2011; this could be an anomaly, or it could indicate a reversal in the downwards trend. Sustaining efforts to reduce the number of children killed or seriously injured is still vitally important. The table below shows how children of different ages are affected by road accidents as pedestrians and cyclists.

Table 4: Age breakdown for 0-15 year olds killed or seriously injured in road accidents as pedestrians and cyclists in 2011

| Age | Pedestrians | Pedal cyclists |
|--------------|--------------|----------------|
| 0-4 years | 229 (14%) | 9 (2%) |
| 5-7 years | 279 (17%) | 30 (8%) |
| 8-11 years | 497 (31%) | 120 (30%) |
| 12-15 years | 597 (37%) | 239 (60%) |
| Total | 1,602 | 398 |

Partnership working

Effective road accident prevention involves the work of many different professionals and integrates:

- education for parents, carers and children
- engineering eg pedestrian crossings and traffic calming measures
- enforcement eg legislation on car seats and seatbelts.

Road safety partnerships have helped to create better road safety outcomes through collaborative working. Our [Advocating Child Safety](http://www.makingthelink.net/tools/advocating-child-safety-resource) (<http://www.makingthelink.net/tools/advocating-child-safety-resource>) resource includes a section on [making the wider connections with road safety and transport professionals](http://www.makingthelink.net/node/458) (<http://www.makingthelink.net/node/458>).

There are strong social and regional variations in road accidents, so the issue requires a tailored local approach. The presentations from our March 2012 [Making the Link road safety masterclass](http://www.makingthelink.net/making-link-road-safety-seminar) (<http://www.makingthelink.net/making-link-road-safety-seminar>) include examples of effective road safety programmes and partnership approaches from around the country. You can also find information on road safety policy and practice in our [Crossing Over briefing](http://www.makingthelink.net/government-policy/road-safety) (<http://www.makingthelink.net/government-policy/road-safety>), published in April 2012.

CAPT resources

CAPT's practitioner support finder includes resources on:

- [road safety](http://www.capt.org.uk/resources/road-safety) (<http://www.capt.org.uk/resources/road-safety>)
- [in-car safety](http://www.capt.org.uk/resources/car-safety) (<http://www.capt.org.uk/resources/car-safety>)
- [cycle safety](http://www.capt.org.uk/resources/cycle-safety) (<http://www.capt.org.uk/resources/cycle-safety>).

The [How safe is your child in the car?](http://www.capt.org.uk/shop/how-safe-your-child-car) (<http://www.capt.org.uk/shop/how-safe-your-child-car>) leaflet provides an at-a-glance guide to children's car seats and car seat legislation in the UK, while [It's fun to go out but...](http://www.capt.org.uk/shop/its-fun-go-out) (<http://www.capt.org.uk/shop/its-fun-go-out>) is a picture-based guide to staying safe on the roads, for parents and carers with low literacy levels. There's also a [road safety quiz](http://capt.org.uk/get-involved/quizzes/road-safety-quiz) (<http://capt.org.uk/get-involved/quizzes/road-safety-quiz>) which you can use to test the knowledge of parents and carers you work with in a fun way.

CAPT has developed the [Mind The Road](http://www.mindtheroad.org.uk/) (<http://www.mindtheroad.org.uk/>) website to provide childminders with practical advice and activities on child road safety.

Road accidents in your area

What are the priority road safety issues in your area and which partners are you working with to tackle them? What programmes are you running to reduce the number of children suffering serious injuries in road accidents? Email us at info@makingthelink.net (<mailto:info@makingthelink.net>) and we can publish the information on this website.

Other articles in our costs of accidents series

- [the costs of burns](http://www.makingthelink.net/tools/costs-child-accidents/costs-burns) (<http://www.makingthelink.net/tools/costs-child-accidents/costs-burns>)
- [the costs of bath water scalds](http://www.makingthelink.net/costs-bath-water-scalds) (<http://www.makingthelink.net/costs-bath-water-scalds>)
- [the costs of hot drink scalds](http://www.makingthelink.net/tools/costs-child-accidents/costs-hot-drink-scalds) (<http://www.makingthelink.net/tools/costs-child-accidents/costs-hot-drink-scalds>)
- [the costs of head injuries](http://www.makingthelink.net/costs-head-injuries) (<http://www.makingthelink.net/costs-head-injuries>)

Related content

- [Road safety topic briefing](http://www.makingthelink.net/topic-briefings/road-safety) (<http://www.makingthelink.net/topic-briefings/road-safety>): explains the key issues relating to road safety for senior practitioners and policymakers working in child accident prevention.
- [Crossing Over road safety resource](http://www.makingthelink.net/tools/crossing-over-road-safety-resource) (<http://www.makingthelink.net/tools/crossing-over-road-safety-resource>): our briefing helps road safety practitioners to improve collaboration and develop effective local partnerships.

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Notes for this feature

1. Unless otherwise noted, all figures in this article are taken from [Reported Road Casualties Great Britain: annual report 2011](http://www.dft.gov.uk/statistics/releases/reported-road-casualties-great-britain-annual-report-2011) (<http://www.dft.gov.uk/statistics/releases/reported-road-casualties-great-britain-annual-report-2011/>), Department for Transport, 2012
2. Costs calculated by Making the Link using data from the above publication
3. Edwards et al, [Deaths from injury in children and employment status in family: analysis of trends in class specific death rates](http://www.bmi.com/content/333/7559/119) (<http://www.bmi.com/content/333/7559/119>), BMJ, 2006
4. For an overview of research on this topic, see [Social factors in road safety](http://www.rospea.com/roadsafety/policy/statements/social-factors.aspx) (<http://www.rospea.com/roadsafety/policy/statements/social-factors.aspx>), RoSPA, 2012
5. Kate McMahon, Valuation of road accidents in Road Accidents Great Britain 1994, Department for Transport, 1994

6. Costs calculated by Making the Link using data published in [Reported Road Casualties Great Britain: annual report 2011](http://www.dft.gov.uk/statistics/releases/reported-road-casualties-great-britain-annual-report-2011/) (<http://www.dft.gov.uk/statistics/releases/reported-road-casualties-great-britain-annual-report-2011/>), with input from the Transport Appraisal & Strategic Modelling team at the Department for Transport.

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