



Public Health
England

ROSPA
The Royal Society for the
Prevention of Accidents



Reducing unintentional injuries on the roads among children and young people under 25 years

About Public Health England

Public Health England's mission is to protect and improve the nation's health and to address inequalities through working with national and local government, the NHS, industry and the voluntary and community sector. PHE is an operationally autonomous executive agency of the Department of Health.

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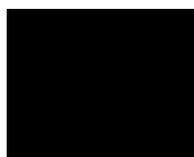
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Executive summary

Children and young people have the right to safe roads. Our analysis of data from 2008 to 2012 shows that over that period there were more than 320,000 road casualties and 2,300 road deaths among children and young people under the age of 25 years in England.

Local authorities across the country have been introducing a range of measures to reduce the number of casualties, and this is having a positive effect locally. This document builds on this work and sets out three key actions that can be taken by local authorities and their partners to further reduce the numbers of children and young people injured and killed. Drawing on what currently works in local areas, we describe a four-step model to help build robust injury prevention strategies. All this work is informed by the evidence base and a new analysis of data, which we are making available alongside this report. The report highlights the need for more information to understand fully the wider costs and benefits of injury prevention. This will help local areas prioritise investments and is an issue which PHE will work on with leading experts and organisations.

The document also identifies unintentional injuries as a major health inequality. Children who live in more deprived areas are at a much greater risk than children from the most affluent. There would be around 800 fewer serious or fatal injuries to child pedestrians annually, and 136 fewer serious or fatal injuries to child cyclists, if all children had a risk of injury as low as children in the least deprived areas.

The following three actions will have an important impact in reducing injuries and deaths.

1. Improve safety for children travelling to and from school

The largest numbers of child injuries occur between 8am to 9am and 3pm to 7pm. During these times there are around 16 deaths or serious injuries to children under 16 years every week.

Local authorities can work with schools to develop school travel plans that encourage active travel to and from school and address safety issues throughout the whole journey. School travel plans can be supported by road engineering measures to reduce vehicle speeds and activities to enforce traffic law.

The priority would be to encourage both safe and active travel before and after school.

2. Introduce 20mph limits in priority areas as part of a safe system approach to road safety

The safe system approach is a proactive way of addressing road safety issues. It acknowledges that human beings do make errors in traffic, but that road design is fundamental in preventing these errors from causing fatal or serious injury.

Introducing 20mph limits and zones in priority areas can reduce vehicle speeds and thereby prevent injuries and reduce their severity. Lower vehicle speeds can also help to reduce health inequalities due to traffic injury.

The introduction of 20mph speed limits should be supported with education and publicity, appropriate road engineering measures, and enforcement activities.

On roads where 20mph limits are not introduced, segregated infrastructure as part of a convenient walking and cycling network improves safety and encourages active travel.

The introduction of 20mph limits and the safe system approach can be embedded in strategic documents such as the local transport plan (LTP), joint strategic needs assessment (JSNA) or road safety plan.

3. Action to prevent traffic injury and improve health must be co-ordinated

There are many actions that are known to prevent traffic injuries. Often these can be ways of achieving other public policy goals or can improve other areas of public health. Actions to prevent traffic injury are therefore most effective when co-ordinated within local authorities with the efforts to encourage active travel and create liveable streets.

The evidence set out in this paper shows that strong local partnerships are better placed than a single agency to tackle the wide range of factors that cause these inequalities.

Local partnerships would consist of communities, fire and rescue, police, schools, health services and businesses. The planning and evaluation of road safety activities should consider the impact on other health issues.

In this report we highlight ways in which local partnerships' work to reduce injuries can address inequalities as part of a four-step plan.

Introduction

Children and young people have the right to safe roads. However, 2,316 children and young people under the age of 25 years died on the roads in England between 2008 and 2012.^a Local authorities are in a good position to take action with local partners to improve road safety. This document highlights the main risks to children and builds on the positive work many local authorities have developed.

The most obvious result of effective road safety initiatives is fewer injuries, but there can be wider public health benefits that are highlighted in this briefing. Active travel such as walking and cycling has a wide range of benefits to physical and mental health, but the fear of injury can put people off using these modes. Creating safer roads can therefore encourage active travel. There can be further public health benefits such as improving community cohesion or reducing noise and air pollution.

Injury itself can also have a wide and long-term impact on health that includes stress, physical disability, cognitive or social impairment, and lower educational attainment and employment prospects. There is a “ripple effect” from injuries and a significant psychological burden can be imposed on children, their families, and friends.¹

There are significant health inequalities to child injury, and children who live in more deprived areas are at greater risk of injury. The scale of these inequalities is highlighted in this document. Work to prevent injuries can contribute towards local public health activities that have been prompted by the Marmot Review.²

There are many reasons why local authorities can further build on the work that they are already doing to prevent traffic injuries. Injuries are preventable and action can save lives. Once effective action to prevent injury has begun, the results can be seen quickly. Local authorities also have statutory duties to promote road safety³ and to improve the health of the people who live in their areas.⁴

The cost of injuries is also significant. The Chief Medical Officer has recently highlighted the strong economic case for preventing childhood injuries.^{b 5} The average medical and ambulance cost to the NHS are estimated to be approximately £14,000 for every serious injury.⁶ Over the last five years, this has led to a direct cost to the NHS of around £120 million. This figure excludes other costs such as A&E attendances, long-term treatment, social care, social security costs and productivity losses.

^a Department for Transport, Reported Road Casualties Great Britain (STATS19).

^b In line with the *Annual Report of the Chief Medical Officer*, children and young people are defined in this briefing as under the age of 25 years.

Key findings from the five-year study

An analysis was conducted of the most recent five years of data available from police-reported road traffic injuries, and from emergency hospital admissions. A broad analysis was conducted before focusing on inequalities in injury, journeys to and from school, and the road environment. Headline findings are presented in this chapter, and the full analysis and data can be found at www.chimat.org.uk/youngpeople/injuries.

Between 2008 and 2012, across England, there were 2,316 deaths and 35,783 serious injuries recorded by the police among road users under the age of 25 years.

In total there were 322,613 casualties of all severities recorded by the police in STATS19.^c These are likely to be underestimates of the total number of injuries. Many more traffic injuries are sustained that are not reported to the police.⁷

There were 68,657 emergency admissions to hospital as a result of road traffic injuries.

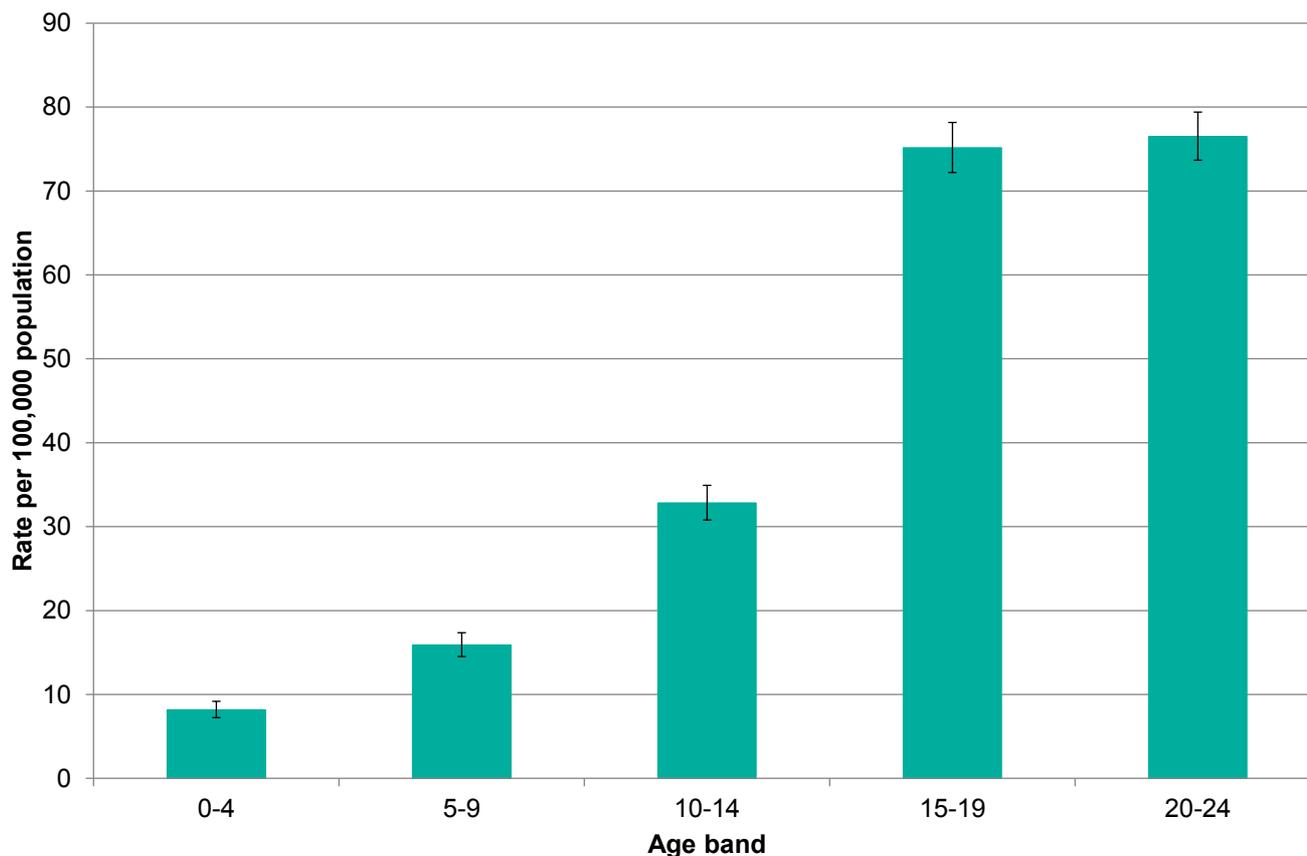
There are some groups who are at greater risk of injury. For example:

- males are at greater risk of being killed in traffic; more than three male children or young people die on the road for every female child or young person who dies
- the highest rates of both hospital admissions and police-reported serious and fatal casualties result immediately after young people can start legally using cars and motorcycles. Figure 1 shows this spike in the police-reported casualty data
- in 2012, one in every 1,250 young people aged between 15 and 24 years suffered a serious or fatal traffic injury
- half of all young car occupant deaths occur between 8pm and 4am

There are geographic differences in the number of traffic injuries between local authorities. This is influenced by factors such as whether a local authority is predominantly rural or urban, deprivation, and population density.

^c Police-reported traffic casualties are categorised in three severities. Fatal casualties sustain injuries which cause death less than 30 days after the collision. Injuries are categorised as severe when a casualty is detained in hospital as an “in-patient”, or any of the following injuries whether or not they are detained in hospital: fractures, concussion, internal injuries, crushings, burns (excluding friction burns), severe cuts, severe general shock requiring medical treatment and injuries causing death 30 or more days after the accident.

Figure 1. Rate of killed or seriously injured casualties per 100,000 population, by age band. England, 2008-12.



Note: The error bars shown are 95% confidence intervals.

Source: STATS19 and Office for National Statistics mid-year population estimates

Socioeconomic status

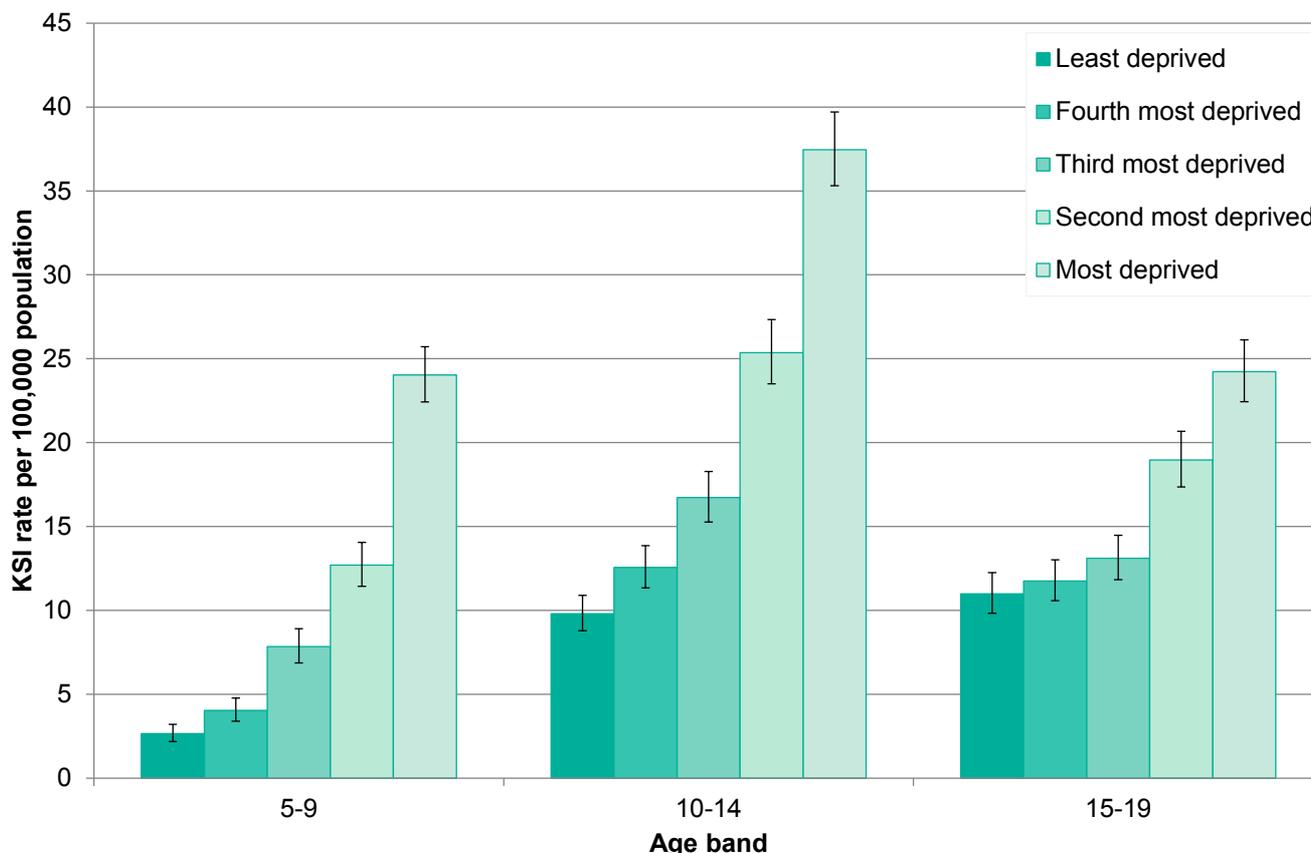
There are social inequalities in how traffic injuries are distributed through society and these are very significant among school age child pedestrians. These inequalities are shown in figure 2.

Among pedestrians in the 5 to 9 years age group, the rate of fatal and serious injuries to children living in the 20% most deprived areas is nine times higher than to children in the 20% least deprived (24 killed or seriously injured (KSI) per 100,000 and 2.6 per 100,000 respectively).

Among 10 to 14 year old pedestrians, there was a 3.7 time greater rate, with respectively 37 KSI per 100,000 compared with 10 KSI per 100,000.

There are also inequalities among school age cyclists. Among those aged 10 to 14 years there were 4 fatal or serious injuries per 100,000 people in the least deprived 20% of areas, compared with 10 KSI per 100,000 in the 20% most deprived.

Figure 2. Rate of killed or seriously injured pedestrian casualties per 100,000 population, by age band and Index of multiple deprivation 2010 quintile. England, 2008-12.



Note: The error bars shown are 95% confidence intervals.

Source: STATS19 and Office for National Statistics mid-year population estimates

Journeys to and from school

The analysis showed peak times of the day and week, as well as ages, when school age children 16 years or under are most likely to be injured on the road as pedestrians. These are shown in figure 3 and coincide with the times when children travel before and after school.

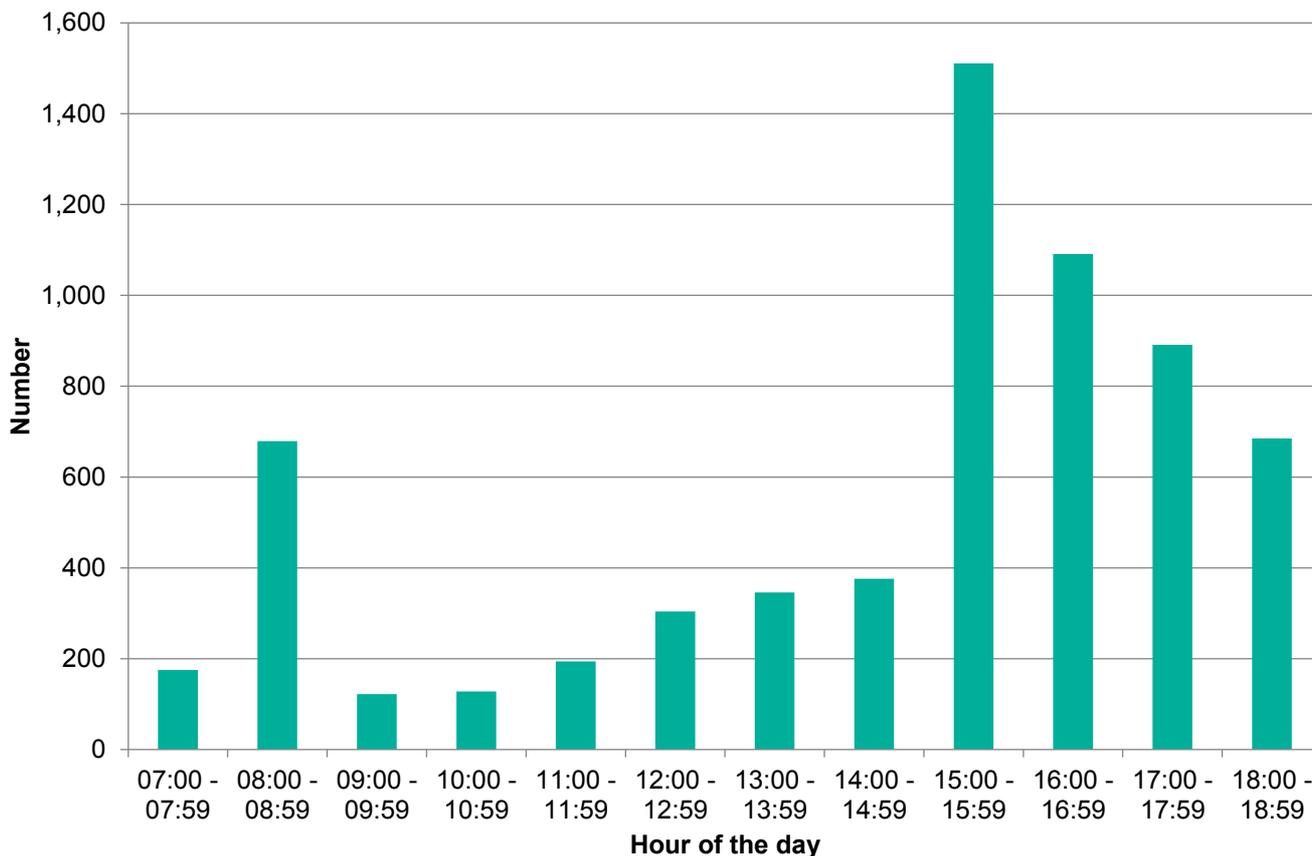
In the five years analysed, a total 4,178 children were killed or seriously injured between 8am to 9am and 3pm to 7pm. This equates to 16 every week.

Between 8am and 9am there were 679 police-reported fatal or serious injuries over the five years.

More injuries occur after school and over half of police-reported child pedestrian fatal or serious injuries under the age of 16 years occur between 3pm and 7pm.

Throughout the week, 90% of child pedestrian injuries during these hours were on 30mph roads. This is likely to be due to exposure, as 30mph is the default speed limit in the UK. The analysis focussed on the risk on 30mph roads.

Figure 3. Number of killed or seriously injured pedestrian casualties under 16 years, by hour of the day. England, 2008-12.



Source: STATS19

The move from primary school to secondary school increases the risk of injury. This is shown by large increases in the number of police-reported fatal or seriously injured casualties between the ages of 10 and 11 years. For boys, the number of casualties per 100,000 people increases from 19 to 33. For girls, the equivalent change is from 12 to 21.

Road environment

The vast proportion of police-reported pedestrian, cyclist and motorcyclist fatal and serious injuries occur on 30mph roads. This is where the focus should be in order to have an influence on the environments where the largest numbers of injuries occur.

One third of police-reported young car occupant fatal and serious injuries occur on 30mph roads, and one third on 60mph roads.

One third of young car occupant fatal and serious injuries occur on 60mph roads that are commonly found in rural areas. Half of all young car occupant deaths occur on these roads.

Costs: the economic case for prevention

The average medical and ambulance cost to the NHS are estimated to be approximately £14,000 for every serious injury. This figure excludes other costs from long-term treatment, which can result in much larger values.

Injury has a wide and long-term impact on health that includes stress, physical disability, cognitive or social impairment, and lower educational attainment and employment prospects.⁸

As well as wider healthcare costs, there are social care costs, social security costs and productivity losses. Taking these into account, the cost of all severe traumatic brain injuries in one year is between £640 million and £2.24 billion.⁸

Safe roads can also have wider financial benefits where they encourage active travel. The World Health Organization's (WHO) Health Economic Assessment Tool (HEAT) for Walking and Cycling can help local authorities place a financial value on the benefits of active travel.⁹

The Chief Medical Officer's report highlighted the absence of sufficient data to understand fully the wider costs and benefits of existing approaches, and therefore the real costs of inaction.⁸ Several studies have highlighted that interventions such as 20mph zones have greater benefits than costs in areas where there are high numbers of casualties, when counting for the costs of injuries alone.^{10,11}

Key prevention opportunities

This section supports the three key actions in the executive summary.

1. Improve safety for children travelling to and from school
2. Introduce 20mph limits in priority areas as part of a safe system approach to road safety
3. Action to prevent traffic injury and improve health must be co-ordinated

Underlying these actions are major health inequalities in child traffic injuries. Children who live in the most deprived areas are at greater risk of being killed or injured on the roads. There would be around 800 fewer serious or fatal injuries to child pedestrians annually, and 136 fewer serious or fatal injuries to child cyclists, if all children had a risk of injury as low as children in the least deprived areas.

There are many reasons for these steep inequalities in traffic injury rates, such as the quality and safety of the built environment and differences in road use.¹²⁻¹⁴ Within a local authority, highways, planning, leisure services and parks, education, housing, children and young people's services and the safeguarding children board, and public health departments are all in a good position to contribute, as well as key external partners.

Links can be made with child death overview panels, which collate and analyse information about child deaths in order to inform wider area strategies. It is important that local communities, schools, and businesses are involved.

Local area partnerships can map out how social inequalities lead to traffic injuries, and what actions each partner can take in order to affect the wider social and built environment and prevent injuries. Health and wellbeing boards have a strong influence in bringing these partners together, building consensus, organising their efforts, identifying funding, and sustaining the partnership over time.

It is important to recognise that the increased risk of injury is a gradient and so child pedestrians from the second, third and fourth most deprived 20% of areas are also at greater risk than the least deprived. Actions to prevent injury should be universal, but also be proportionate to the risk in each group.

1. Improve safety for children travelling to and from school

Children should be protected to cycle or walk to school safely. The largest hourly numbers of serious and fatal school age child pedestrian injuries occur in the afternoon and early evening following school. It is necessary for children to make these journeys, but it is also the time of day when there are more cars on the road. The volume of motor traffic is a cause of injury¹⁵⁻¹⁸ and discourages healthier forms of travel such as walking and cycling.¹⁹

Over the last 40 years, the number of children walking or cycling to school has decreased.²⁰ This issue should therefore be approached carefully, so as not to deter walking and cycling.

Local authorities have duties for home-to-school transport planning, such as producing an annual sustainable modes of transport strategy that must assess the needs, facilities, and services of travel to, from, and within their area.²¹ There is the potential to create a safer road environment on routes to and from school and in areas that are used by children. In creating a safer road environment, the safety of pedestrians and cyclists should be considered first because of their vulnerability to injury.

The safe travel of children in the first years of secondary school is a priority, as the pedestrian casualty rates for both boys and girls increase significantly following this transition. Local authorities can build on their current work with schools and parents around school travel to improve children's safety during this transition. Head teachers will want to think about what further action they could take.

Local authorities can work with schools and head teachers to develop school travel plans based on the specific needs of the school, community, and pupils. School travel plans are a way to encourage walking and cycling on journeys to and from school. They can be integrated with other approaches such as school route audits, engineering measures to physically alter the road environment, Bikeability cycle training, and enforcement activities.

There are opportunities to address road safety issues from key stage 1 of the national curriculum and in personal, social and health education (PHSE). Often pedestrian and cyclist education has wider aims than injury prevention, such as encouraging more children to cycle and promoting physical activity to improve health. Education activities can improve safety knowledge, but should not be seen as the sole means of reducing the number of child pedestrian and cyclist injuries.^{22,23}

The safe travel of children can be linked with other agendas, such as child safeguarding and spatial planning. Planning policies that create attractive environments with a greater mix of land use can make walking and cycling more feasible.

2. Introduce 20mph limits in priority areas as part of a safe system approach to road safety

Local authorities have powers to introduce 20mph speed limits.²⁴ These lower speeds reduce the number of crashes²⁵⁻²⁷ and make a fatal injury unlikely in a collision between a car and a pedestrian or cyclist.^{28,29}

There is strong public support for 20mph limits, and 72% of respondents in the British social attitudes survey are in favour or strongly in favour of 20mph speed limits in residential streets.³⁰

Some local authorities have used widespread 20mph limits, such as in Bristol and Portsmouth, which have reduced vehicle speeds.^{31,32} Greater reductions in both speed and the number of casualties can be achieved in specific areas where physical traffic calming measures support the 20mph limits,³³ often referred to as 20mph zones. A reduction in speeds through introducing 20mph zones can prevent widening health inequalities from traffic injuries.^{34,35}

The introduction of 20mph limits should be supported by other activities such as providing publicity and information, and community engagement. The police are also critical partners to agree an appropriate level of general enforcement and also what targeted enforcement should take place.

20mph limits are part of a wider safe system approach to road safety, which can be embedded into strategic documents such as the local transport plan, joint strategic needs assessment or road safety plan. The safe system is a proactive approach to road safety that improves the safety of the whole road network. Adopting this approach can make zero traffic deaths an attainable vision for a local authority.

WHO identifies several components of a safe system:

- people are vulnerable to injury in a crash. The greater the speed of a collision, the more likely the injury is to be fatal. The collision speeds that make fatal injuries unlikely are also known
- fatal road injuries are not inevitable. Roads can be designed in such a way that human error is less likely to result in a fatality
- the recognition that people do make errors when using the roads, and that these errors can result in a crash. These errors can be reduced but are not entirely preventable
- the responsibility for this level of safety across the whole road network is shared between the road designers as well as the road users³⁶

On higher speed roads of 30mph and over, a collision would have a more significant risk of fatal injury. A suitably segregated infrastructure, as part of a convenient walking and cycling network, can prevent road user error from resulting in fatal injuries.

3. Action to prevent traffic injury and improve health must be co-ordinated

Action on these key prevention opportunities can prevent traffic injuries, but they can also have wider public health benefits, especially where they encourage people to walk or cycle. This is because physical inactivity increases the risk of heart diseases and stroke, diabetes, breast and colon cancer, falls in older age, and depression, dementia, and anxiety.³⁷ The promotion of 'active people, active places and active communities' recognises the importance of taking a cross-sectoral approach.³⁸ There are wider benefits to communities when walking and cycling increases, such as improving community cohesion or reducing noise and air pollution.³⁹⁻⁴¹

Walking and cycling are often the most convenient ways for people to be physically active during the day, but the fear of injury can put people off doing so. Creating safer roads can therefore encourage active travel.

Actions to prevent traffic injury should be co-ordinated within local authorities with the efforts to encourage active travel and create liveable streets. The planning and evaluation of road safety activities will consider the positive impact on other health issues, as well as any unintended negative consequences, such as reductions in the number of people walking and cycling due to an increased fear of traffic injury. Joint working between public health and transport teams within local authorities will facilitate this. Public health specialists who understand transport planning can help make that link.

Improving safety for young and novice drivers and riders

There are significant safety issues for young drivers and riders. Although these are largely national policy issues around driver licensing, minimum training and restrictions, partnerships can take action locally to improve driver and rider safety.

When young people first start to ride motorcycles or scooters, or drive unsupervised, we have seen from the data that they are at a much greater risk of being seriously or fatally injured.

Young people can first get a moped licence at the age of 16, and there is a sharp increase in the rate of fatal and serious injuries at this point. The rate increases at the age of 17 when young people can access larger motorbikes.

The number of serious or fatal young car occupant injuries increases from the age of 17 and 18. A significant proportion of these fatalities occur in the evening and early morning, and on 60mph roads commonly found in more rural areas. Inexperience is a major cause of young driver crashes and the risk drops sharply after the first six months.^{42,43}

Reducing exposure to dangerous scenarios is the most promising approach to reducing younger driver and rider injuries.⁴⁴ In many countries young drivers gain appropriate experience after passing their test through graduated driver licensing programmes, which are effective at preventing injuries.⁴⁵

Police enforcement of existing traffic laws, especially around known risk factors such as speeding, can be an effective countermeasure to prevent traffic injuries.⁴⁶

While driver training plays a necessary role in learning to drive, young driver education schemes need to be evaluated. There is the risk of harm from interventions such as pre-driver education, which can lead to young people passing the driving test earlier and can increase the number of crashes.^{47,48}

Young people also need to be able to travel freely for work, study and leisure. Travel independence of young people can be supported by local authorities through the provision of safe cycling and walking facilities, and public transport.

Four-step plan for local authorities and road safety partnerships

There are several steps that can be taken to prevent traffic injury. These steps can be co-ordinated by existing bodies such as health and wellbeing boards, local safeguarding children's boards or by specific unintentional injury prevention groups. This approach will also serve as a simple tool to help local authorities review existing plans.

Step one: where are we now?

- identify all the relevant local partners both inside and outside of the local authority
- look at the components of the current strategies and activities that either directly or indirectly impact on road safety, along with any local evaluation, monitoring, or audit data and investment
- review local casualty data to identify areas of highest need and where there are links with other needs (for example, the need to increase physical activity)

Step two: where do we want to get to?

- agree on underpinning values and reasons for tackling traffic injury
- identify national policy drivers such as the Department for Transport (DfT) strategic framework for road safety or the public health outcomes framework
- agree on an overall vision or mission statement, and set aims and objectives
- identify how transport and public health departments can work together with wider stakeholders

Step three: how are we going to get there?

- review evidence for effective action using sources such as WHO and NICE guidance and how this evidence can be communicated to all partners
- set out a programme of activities based on evidence of effectiveness. Where effective action is already taking place locally then coverage can be widened
- establish the capacity available to deliver the strategy and make sure that the activities are budgeted for in the long term
- identify any training needs for staff
- develop and put in place evaluation and monitoring arrangements

Step four: how will we know when we have got there?

- set performance indicators
- monitor and evaluate the impact of the activities, including wider consequences, such as changes in the number of people walking and cycling

Key data to use

Public Health England has several resources that can give local authorities a snapshot of local priorities and benchmark this against other areas. The Child and Maternal Health Intelligence Network (www.chimat.org.uk) can provide data and evidence on the health of children and young people. The PHE Data and knowledge gateway (datagateway.phe.org.uk) contains information on a wide range of public health issues, including health inequalities and unintentional injury.

There are several data sources that can be used when looking at traffic injuries. When assessing the need for road safety interventions, it is important to look at the local variations in injury rates.

Police-reported STATS19 is the most commonly used data source to measure the numbers of traffic casualties. It is the data source that is used in the DfT road safety indicators as well as the public health outcomes framework.

Hospital Episode Statistics (HES) data can be used to identify the number of hospital admissions from traffic injuries. It is also used in the public health outcomes framework.

The national travel survey collected by the DfT gives information on the use of different modes of travel nationally.

There are a wide range of other data sources that local authorities have access to, for instance from monitoring traffic speeds and volumes and the use of public transport. School travel plans are also monitored to establish their effectiveness.

In any needs assessment or intervention, the views of children and local residents will help local authorities to identify the best approaches to preventing injury. The work elected members undertake with local residents (for example, ward surgeries) can also provide an important level of qualitative information.

Resources

Public Health England

Public Health Outcomes Framework data tool

www.phoutcomes.info

Local authority public health teams wishing to access aggregated H.E.S. analysis are encouraged to use their local PHE Knowledge and Intelligence Team via

PHE.enquiries@gov.uk

Healthy people, healthy places briefing: Obesity and the environment: increasing physical activity and active travel

www.gov.uk/government/publications/obesity-and-the-environment-briefing-increasing-physical-activity-and-active-travel

Child Accident Prevention Trust

Making the Link

www.makingthelink.net

Department for Transport

Setting local speed limits (2013)

www.gov.uk/government/publications/setting-local-speed-limits

Road Safety Observatory (2013)

www.roadsafetyobservatory.com/

Road Collisions Data (2013)

road-collisions.dft.gov.uk/

Reported Road Casualties GB (2013)

www.gov.uk/government/publications/reported-road-casualties-great-britain-annual-report-2012

Strategic framework for road safety (2011)

www.gov.uk/government/publications/strategic-framework-for-road-safety

National Institute for Health and Care Excellence (NICE)

PH41: Walking and cycling: local measures to promote walking and cycling as forms of travel or recreation (2012)

guidance.nice.org.uk/ph41

PH31: Preventing unintentional road injuries among under-15s: road design (2010)
guidance.nice.org.uk/ph31

PH29: Strategies to prevent unintentional injuries among under-15s (2010)
guidance.nice.org.uk/ph29

Royal Society for the Prevention of Accidents

Road Safety and Public Health (2014)

www.rospa.com/roadsafety/info/rospa-road-safety-and-public-health.pdf

Delivering accident prevention at local level in the new public health system (2013)

www.rospa.com/about/currentcampaigns/publichealth/delivering-accident-prevention.aspx

Sustrans

Campaign for Safer Streets: Sustrans policy briefing (2014)

www.sustrans.org/sites/default/files/file_content_type/campaign_for_safer_streets_policy_briefing_0.pdf

World Health Organization

Injuries and inequities: guidance for addressing inequities in unintentional injuries (2014)

www.euro.who.int/en/publications/abstracts/injuries-and-inequities.-guidance-for-addressing-inequities-in-unintentional-injuries

Pedestrian safety: a road safety manual for decision-makers and practitioners (2013)

www.who.int/entity/roadsafety/projects/manuals/pedestrian/en/index.html

Speed management: a road safety manual for decision-makers and practitioners (2008)

www.who.int/entity/roadsafety/projects/manuals/speed_manual/en/index.html

Youth and road safety (2007)

www.who.int/entity/roadsafety/projects/manuals/pedestrian/en/index.html

World report on traffic injury prevention (2004)

www.who.int/violence_injury_prevention/publications/road_traffic/world_report/en/

Preventing road traffic injury: a public health perspective for Europe (2004)

www.euro.who.int/__data/assets/pdf_file/0003/87564/E82659.pdf

Methodology

A study of the last five years of available traffic injury data in England was conducted to inform this briefing. Both police-reported STATS19 data and HES admission data were analysed.

STATS19 data was available between 2008 and 2012 inclusive. HES data is collected over financial years, so the data used covered 2008-09 to 2012-13. Only injuries to children and young people up to and including the age of 24 years were used within the analysis.

Details on the HES codes included and further information about the methodology of the analysis and the results can be found at www.chimat.org.uk/youngpeople/injuries.

References

- ¹ World Health Organization. European Report on Child Injury Prevention. 2008. www.who.int/violence_injury_prevention/child/injury/world_report/European_report.pdf Accessed June 2014
- ² Marmot M, Allen J, Goldblatt P et al. Fair Society, Healthy Lives (The Marmot Review): Strategic review of health inequalities in England post 2010. 2010
- ³ Road Traffic Act 1988. Section 39.
- ⁴ Health and Social Care Act 2012. Section 12.
- ⁵ Davies SC. Annual report of the Chief Medical Officer 2012. Our children deserve better: prevention pays. 2013.
- ⁶ Department for Transport. Reported Road Casualties in Great Britain: 2011 Annual Report – A valuation of road accidents and casualties in Great Britain in 2011. London, Department for Transport. 2012.
- ⁷ Tranter M. Comparing police data on road accidents with other sources. In Reported Road Casualties Great Britain: 2008 Annual Report. Department for Transport. 2009.
- ⁸ Strelitz J. Chapter 3 The economic case for a shift to prevention. In Lemer C et al. Annual Report of the Chief Medical Officer 2012 Our Children Deserve Better: Prevention Pays. October 2013.
- ⁹ WHO. Health Economic Assessment Tool (HEAT) for Walking and Cycling. www.heatwalkingcycling.org Accessed in June 2014.
- ¹⁰ Peters J and Anderson R. The cost-effectiveness of mandatory 20 mph zones for the prevention of injuries. *J Public Health*. 2013;35:40-48.
- ¹¹ Steinbach R, Cairns J, Grundy C, Edwards P. Cost benefit analysis of 20 mph zones in London. *Inj Prev*. 2013;19:211-3.
- ¹² Lowe C, Whitfield G, Sutton L, et al. Road user safety and disadvantage. Department for Transport. Road Safety Research Report No. 123. 2011.
- ¹³ Christie N, Ward H, Kimberlee R, et al. Road traffic injury risk in disadvantaged communities: evaluation of the neighbourhood road safety initiative. Department for Transport. Road Safety Web Publication No. 19. 2010. assets.dft.gov.uk/publications/road-injury-risk-in-disadvantaged-areas/rswp19.pdf Accessed in June 2014.
- ¹⁴ Bly P, Jones K, Christie N. Child pedestrian exposure and accidents – further analyses of data from a European comparative study. Department for Transport. Road Safety Research Report No. 56. 2005.
- ¹⁵ Roberts I, Arnold E. Policy at the crossroads: climate change and injury control. *Inj Prev*. 2007;13:222-223.
- ¹⁶ Roberts I, Norton R, Jackson R, et al. Effect of environmental factors on risk of injury of child pedestrians by motor vehicles: a case-control study. *BMJ*. 1995;310:91–94.
- ¹⁷ Stevenson M, Jamrozik K Spittle J. A case-control study of traffic risk factors and child pedestrian injury. *Int J Epidemiol*. 1995;24:957-964.

- ¹⁸ Morency P. Neighbourhood social inequalities in road traffic injuries: the influence of traffic volume and road design. *Am J Public Health*. 2012;102:1112-1119.
- ¹⁹ Jacobsen P, Racioppi F, Rutter H. Who owns the roads? How motorised traffic discourages walking and bicycling *Inj Prev*. 2009;15:369-373.
- ²⁰ Sustrans. Campaign for Safer Streets: Sustrans policy briefing 2014
- ²¹ Education Act 1996. Section 508A
- ²² Duperrex OJM, Roberts I, Bunn F. Safety Education of pedestrians for injury prevention. Cochrane Database of Systematic Reviews 2002, Issue 2. Art. No.:CD001531. DOI:0.1002/14651858.CD1531.
- ²³ Richmond S, Zhang YJ, Stover A, et al. Prevention of bicycle-related injuries in children and youth: a systematic review of bicycle skills training interventions. *Inj Prev*. doi:10.1136/injuryprev-2013-040933
- ²⁴ Department for Transport. Setting Local Speed Limits. 2013. www.gov.uk/government/publications/setting-local-speed-limits. Accessed in June 2014.
- ²⁵ Kloeden C, McLean A, Moore V, et al. Travelling speed and the risk of crash involvement. 1997.
- ²⁶ Taylor M, Lynam D, Baruya A. The effects of drivers' speed on the frequency of road accidents. TRL. Report 421. 2000.
- ²⁷ Elvik R, Christensen P, Amundsen A. Speed and road accidents: an evaluation of the Power Model. TOI. TOI report 740/2004. 2004.
- ²⁸ Rosén E, Stigson H, Sander U. Literature review of pedestrian fatality risk as a function of car impact speed. *Accid Anal Prev*. 2011;43:25-33.
- ²⁹ Rosén E, Sander U. Pedestrian fatality risk as a function of car impact speed. *Accid Anal Prev*. 2009;41:536-542.
- ³⁰ British Social Attitudes Survey 2012: public attitudes towards transport. Department for Transport. 2013. www.gov.uk/government/uploads/system/uploads/attachment_data/file/209890/bsa-2012.pdf. Accessed in June 2014.
- ³¹ 20mph speed limit pilot areas: monitoring report. Bristol City Council. 2012.
- ³² Interim evaluation of the implementation of 20mph speed limits in Portsmouth. Final Report. Department for Transport. 2010.
- ³³ Grundy C, Steinbach R, Edwards P, et al. Effect of 20 mph traffic speed zones on road injuries in London, 1986-2006: controlled interrupted time series analysis. *BMJ*. 2009;339:b4469.
- ³⁴ Jones S, Lyons R, John A, et al. Traffic calming policy can reduce inequalities in child pedestrian injuries: database study. *Inj Prev*. 2005;11:152-6.
- ³⁵ Steinbach R, Grundy C, Edwards P, et al. The impact of 20 mph traffic speed zones on inequalities in road casualties in London. *J Epidemiol Community Health* 2010;doi:10.1136/jech.2010.112193
- ³⁶ Pedestrian safety: a road safety manual for decision-makers and practitioners. WHO. 2013.
- ³⁷ WHO. Global Strategy on Diet, Physical Activity and Health. Switzerland. 2004 apps.who.int/iris/bitstream/10665/43035/1/9241592222_eng.pdf?ua=1 Accessed June 2014

- ³⁸ Cabinet Office. Moving More, Living More. 2014. www.gov.uk/government/uploads/system/uploads/attachment_data/file/279657/moving_living_more_inspired_2012.pdf Accessed in June 2014.
- ³⁹ Department of Health. Start Active, Stay Active: A report on physical activity for health from the four home countries' Chief Medical Officers. 2011. www.gov.uk/government/uploads/system/uploads/attachment_data/file/216370/dh_128210.pdf Accessed in June 2014.
- ⁴⁰ RoSPA. Road Safety and Public Health. 2014. www.rospa.com/roadsafety/info/rospa-road-safety-and-public-health.pdf Accessed in June 2014.
- ⁴¹ Public Health England. Healthy people, healthy places briefing: Obesity and the environment: increasing physical activity and active travel. 2013.
- ⁴² Maycock G, Lockwood C, Lester J. The accident liability of car drivers. TRRL Report RR315. 1991.
- ⁴³ Maycock G. Novice driver accidents and the driving test. TRL. Report TRL527. 2002.
- ⁴⁴ Helman S, Grayson G, Parkes A. How can we produce safer new drivers? A review of the effects of experience, training and limiting exposure on the collision risk of new drivers. TRL. Insight Report INS005. 2010.
- ⁴⁵ Russell KF, Vandermeer B, Hartling L. Graduated driver licensing for reducing motor vehicle crashes among young drivers. Cochrane Database of Systematic Reviews 2011, Issue 10. Art. No.: CD003300. DOI: 10.1002/14651858.CD003300.pub3.
- ⁴⁶ Elvik R, Vaa T. The handbook of road safety measures. Emerald. 2009.
- ⁴⁷ Roberts I, Kwan I. School-based driver education for the prevention of traffic crashes. Cochrane Database of Systematic Reviews. 2001, Issue 3. Art. No.: CD003201. DOI: 10.1002/14651858.CD003201.
- ⁴⁸ Kinnear N, Lloyd L, Helman S, et al. Novice Drivers: Evidence Review and Evaluation. TRL. Published Project Report PPR673. 2013.