Public Health England

Protecting and improving the nation's health

Reducing unintentional injuries on the roads among children and young people under 25 years
Report for East Riding of Yorkshire

About this report

Reducing unintentional injuries in childhood remains a priority within PHE's aim to promote best evidence, continue to make the economic case for prevention and work towards a healthier fairer society. PHE has published a national report to inform this work: 'Reducing unintentional injuries on the roads among children and young people under 25 years' (PHE, 2018)

This report presents local data alongside evidence for use by local authorities. It begins with general information about the benefits for children, young people, families and local services of reducing accidents on the roads. The report then provides an overview of relevant local data which can be used to prioritise activity to reduce injuries. Reading the national report listed above first will help you when interpreting the data for your local area given in this report, as well as giving further detail on road safety opportunities and the economic case for prevention.

Using this report

Health and social needs are inherently complex; it is unlikely that there will be a single factor which is responsible for the particular situation in your local area. For this reason, it is important that no single item of information is treated in isolation. Instead the data and evidence should be used as pieces of a jigsaw which when linked together give you a picture of the needs of your local community.

As with all health data and intelligence, it is important to 'sense check' the findings with colleagues and compare it with your own local knowledge. Is the picture given by the data what you would expect? There can sometimes be anomalies in data which have been submitted for central collection or one-off events or changes, for example a new housing development in a local area, which give rise to unexpected results. The data may not be wrong but you should be sure that you understand the reasons why something is not as you might expect.

Contact your local PHE knowledge and intelligence service (see next steps section) if you need further advice.

This report is intended for you to cut and paste text, tables and charts and include them in your own local documents. Please acknowledge Public Health England as the source and state the date on which you accessed the report. If cutting and pasting sections that quote from or reference other sources, please make sure you also reference the original source.

Making the case for reducing road traffic injury

Children and young people have the right to safe roads. Fewer children and young people are being killed or seriously injured in road traffic collisions: since this analysis was previously carried out for the period 2008-2012 rates have fallen in England by 16%. This includes a 26% decrease among car occupants, 19% decrease among pedestrians, 8% decrease in cyclists, but a 1% increase in motorcyclists. Over the most recent five year period a total of 32,607 children and young people were killed or seriously injured, around 5,500 fewer than the previous analysis, suggesting an average of 1,100 fewer per year. Deaths have also significantly decreased since the last report, with a decrease of over 600 deaths across all road users over the five year period. This includes a 35% decrease among car occupants, 21% in pedestrians and cyclists, and 10% in motorcyclists.

While this reduction is welcomed, we cannot be complacent. In Great Britain in 2016 69 children died in road traffic accidents, up from 54 the year before, and this is the highest number since 2009. Using five year England trend data from 2012 to 2016, on average every day more than 17 children and young people suffer a serious or fatal injury on our roads.

Local authorities are in a good position to take action with local partners to improve road safety. 'Reducing unintentional injuries on the roads among children and young people under 25 years' 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 and deaths, but there can be wider public health benefits. Active travel, such as walking and cycling, improves physical and mental health, but the fear of injury can put people off using these modes of transport. 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.

The cost of injuries is also significant. The Chief Medical Officer (1) highlighted the strong economic case for preventing childhood injuries. The average medical and ambulance cost to the NHS are estimated to be approximately £14,000 for every serious injury. (2)

Three actions which will have an important impact in reducing injuries and deaths

Improve safety for children travelling to and from school

In England the largest numbers of child traffic 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.

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 people 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 and zones should be supported with education and publicity, appropriate road engineering measures, and enforcement activities.

On roads where 20mph limits are not introduced, segregating cycle lanes and pavements from roads 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.

Co-ordinate action to prevent traffic injury and improve health

Many interventions are known to prevent traffic injuries. These can often also achieve other public policy goals or improve other areas of public health. Preventing traffic injury is therefore most effective when co-ordinated within local authorities encouraging active travel and creating functional and safe streets.

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.

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

The national picture

Between 2012 and 2016, across England there were 1,712 deaths and 30,895 serious injuries recorded by the police among road users under the age of 25 years.

In total there were 260,602 casualties of all severities recorded by the police and published by the Department for Transport in their road safety data (STATS19). These figures are likely to be underestimates of the total number because not all accidents are reported to the police (3).

Between 2012/13 and 2016/17 there were 54,783 emergency admissions to hospital as a result of road traffic injuries.
Some groups are at greater risk of injury:

- boys - more than three boys or young men die on the road for every girl or young woman who dies
- recently qualified young drivers - the highest rates of both hospital admissions and police-reported serious and fatal casualties occur immediately after young people can legally start driving cars and motorcycles.
- young people aged between 15 and 24 - in 2016, one in every 1,349 young people in this age group suffered a serious or fatal traffic injury
- those travelling after dark - half of all young car occupant deaths occur between 8pm and 4am

The number of traffic injuries varies between local authorities. This is influenced by factors such as whether a local authority is predominantly rural or urban, levels of deprivation, and population density.

Data for East Riding of Yorkshire

The following tables show local data for children and young people aged 0 to 24 years unless otherwise stated. Counts are shown in brackets where appropriate. Counts for some local authority level indicators may be low and this should be recognised when interpreting charts in this report.

All hospital admissions data is based on where a child or young person lives rather than where an accident occurs (local authority of residence).

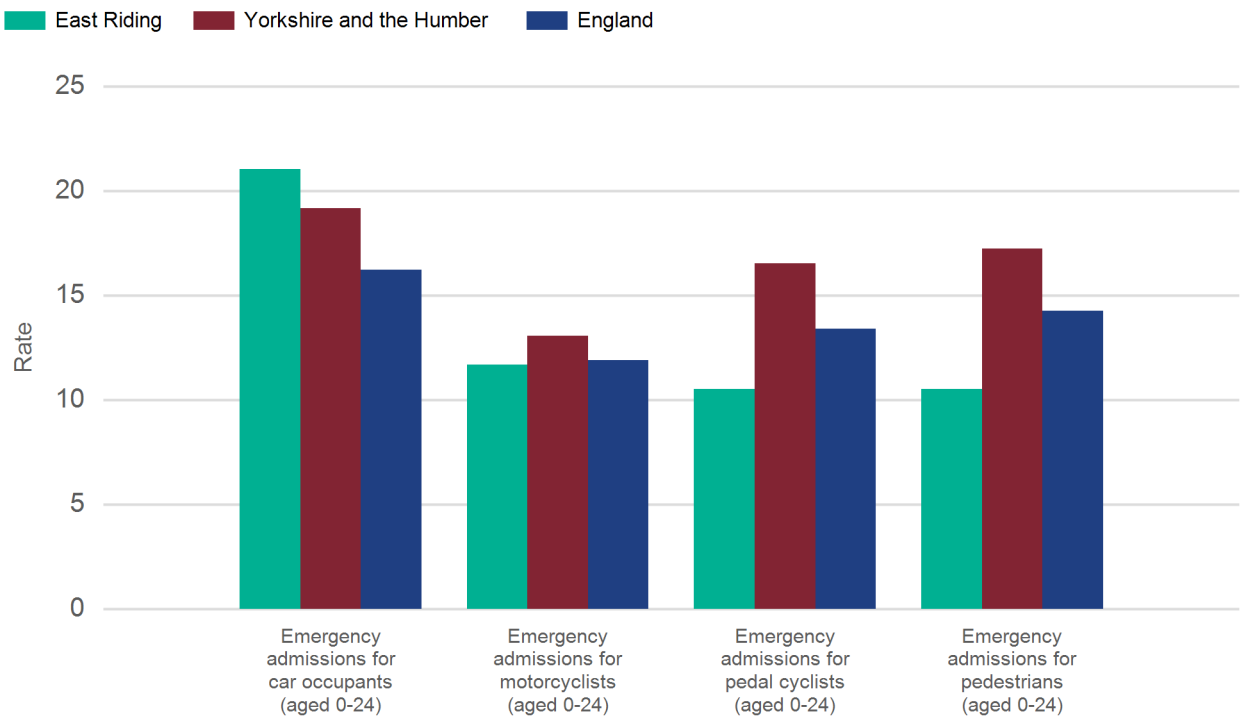
Department for Transport STATS19 data is based on the local authority of the location of the accident. Deprivation data is based on the lower super output area (LSOA) of the accident.

All populations are based on the Office for National Statistics mid-year estimates for the number of children and young people living there (resident).

Table 1: Emergency hospital admissions by road user type (rate per 100,000 resident population in 2012/13-2016/17)

	Emergency admissions for car occupants (aged 0-24)	Emergency admissions for motorcyclists (aged 0-24)	Emergency admissions for pedal cyclists (aged 0-24)	Emergency admissions for pedestrians (aged 0-24)
East Riding	21.1 (90)	11.7 (50)	10.5 (45)	10.5 (45)
Yorkshire and the Humber	19.2 (1,605)	13.1 (1,095)	16.5 (1,385)	17.3 (1,445)
England	16.2 (13,519)	11.9 (9,912)	13.4 (11,150)	14.3 (11,860)

Figure 1: Emergency hospital admissions by road user type (rate per 100,000 resident population in 2012/13-2016/17)

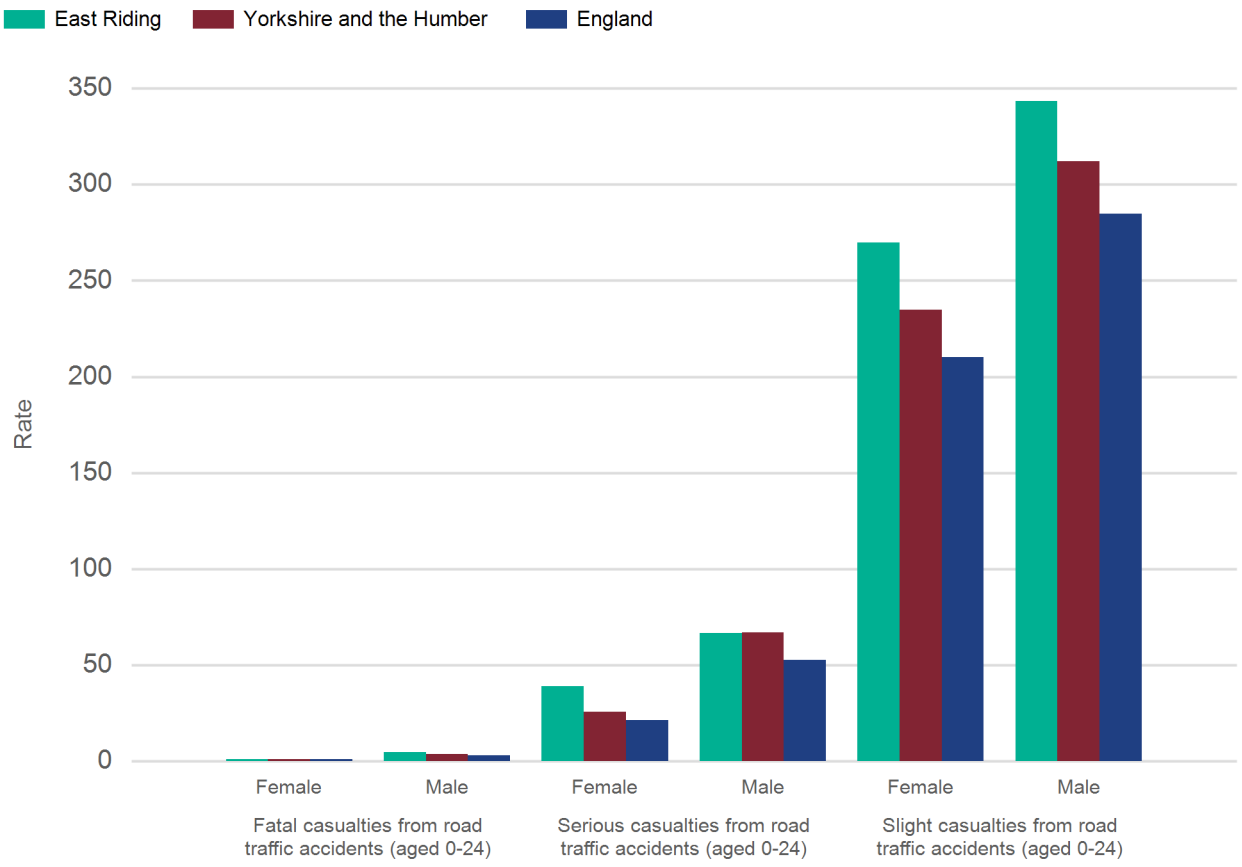


Source for table 1 and figure 1: Hospital Episode Statistics, NHS Digital
Note: '-1' indicates the value has been suppressed. Blank cells indicate no data for that area.

Table 2: Injuries recorded by the police by sex and casualty severity (rate per 100,000 resident population in 2012-2016)

	Fatal casualties from road traffic accidents (aged 0-24)		Serious casualties from road traffic accidents (aged 0-24)		Slight casualties from road traffic accidents (aged 0-24)	
	Female	Male	Female	Male	Female	Male
East Riding	1.0 (2)	4.5 (10)	39.0 (80)	66.6 (148)	269.9 (554)	343.3 (763)
Yorkshire and the Humber	1.0 (42)	3.6 (155)	25.7 (1,054)	66.8 (2,857)	234.9 (9,628)	312.1 (13,349)
England	0.9 (346)	2.9 (1,222)	21.4 (8,687)	52.6 (22,413)	210.2 (85,159)	284.7 (121,421)

Figure 2: Injuries recorded by the police by sex and casualty severity (rate per 100,000 resident population in 2012-2016)



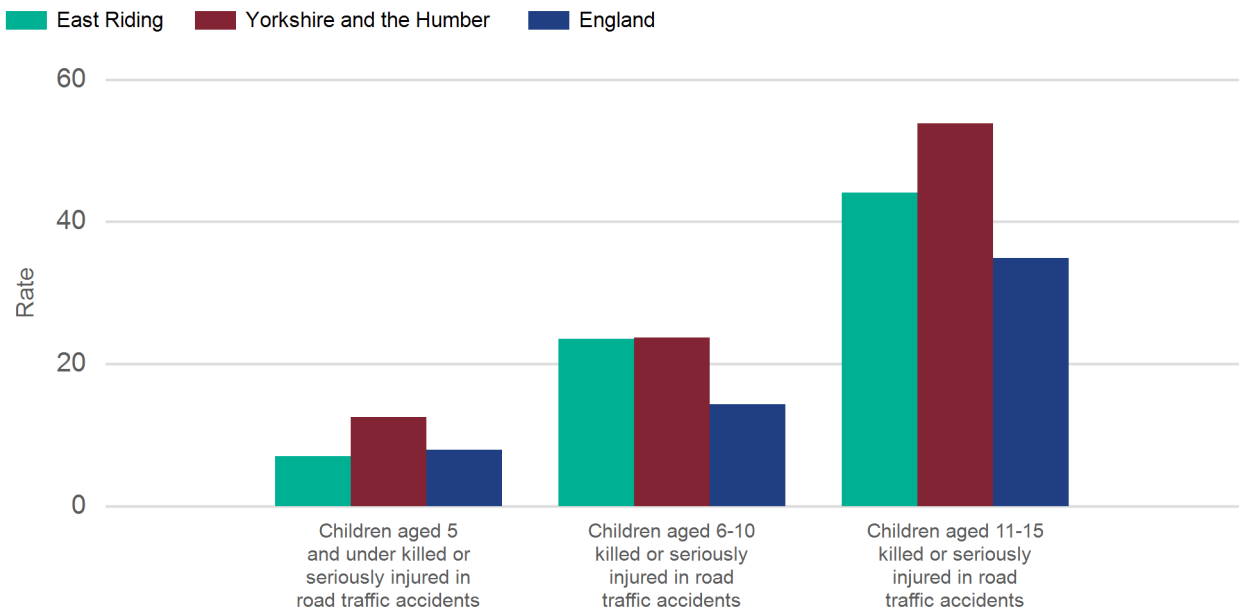
Source for table 2 and figure 2: STATS19, Department for Transport

Fatal and serious injuries are often reported together as the killed or seriously injured (KSI) rate. A serious injury is defined by the Department for Transport as any injury requiring a hospital in-patient admission, or an injury more serious than a strain, bruise or cut regardless of whether or not a hospital stay is required. A detailed definition is available from www.gov.uk/government/uploads/system/uploads/attachment_data/file/254717/reported-road-casualties-gb-notes-definitions.pdf

Table 3: Killed or seriously injured children by age (rate per 100,000 resident population in 2012-16)

	Children aged 5 and under killed or seriously injured in road traffic accidents	Children aged 6-10 killed or seriously injured in road traffic accidents	Children aged 11-15 killed or seriously injured in road traffic accidents
East Riding	7.0 (4)	23.5 (13)	44.1 (24)
Yorkshire and the Humber	12.5 (147)	23.7 (242)	53.8 (506)
England	7.9 (958)	14.3 (1,496)	34.9 (3,335)

Figure 3: Killed or seriously injured children by age (rate per 100,000 resident population in 2012-16)

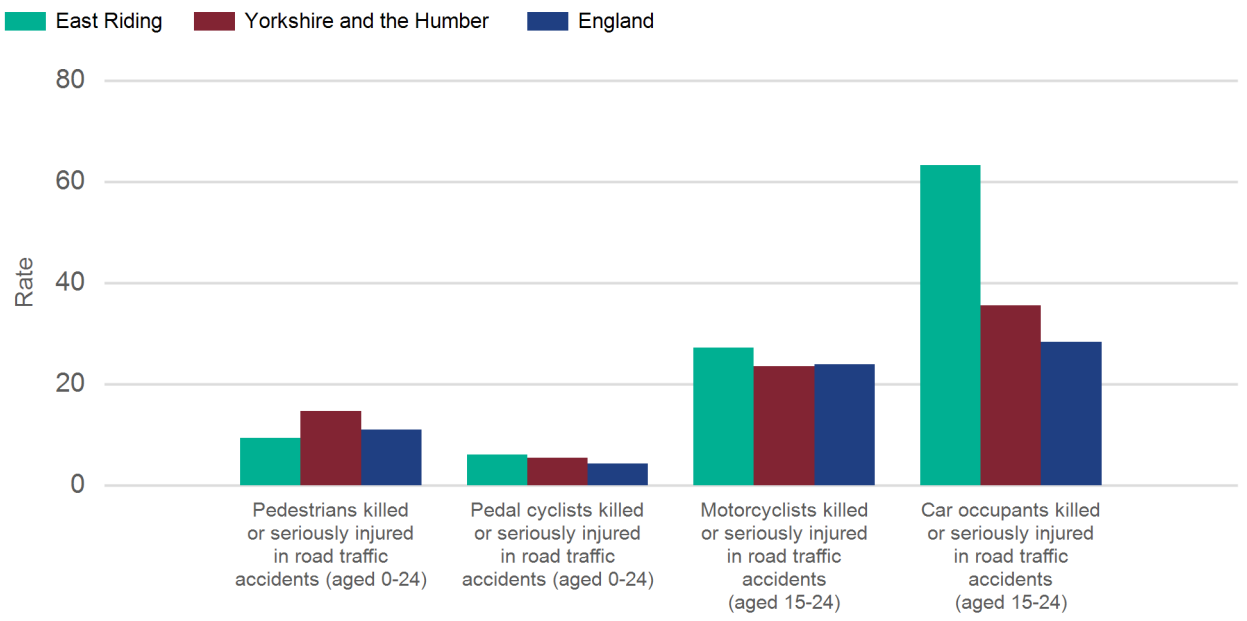


Source for table 3 and figure 3: STATS19, Department for Transport

Table 4: Killed or seriously injured children and young people by type of road user (rate per 100,000 resident population in 2012-2016)

	Pedestrians killed or seriously injured in road traffic accidents (aged 0-24)	Pedal cyclists killed or seriously injured in road traffic accidents (aged 0-24)	Motorcyclists killed or seriously injured in road traffic accidents (aged 15-24)	Car occupants killed or seriously injured in road traffic accidents (aged 15-24)
East Riding	9.4 (40)	6.1 (26)	27.2 (46)	63.2 (107)
Yorkshire and the Humber	14.7 (1,228)	5.4 (454)	23.5 (831)	35.6 (1,255)
England	11.0 (9,192)	4.3 (3,618)	23.9 (8,042)	28.4 (9,547)

Figure 4: Killed or seriously injured children and young people by type of road user (rate per 100,000 resident population in 2012-2016)



Source for table 4 and figure 4: STATS19, Department for Transport

Deprivation

Unintentional injuries disproportionately affect children living in socioeconomic disadvantage so local areas may wish to give consideration to how their strategies to reduce accidents could address this. Simple categorisations of unintentional injuries using causes of death or A&E attendance do not fully explain why a child died or an injury occurred at that time as these approaches do not account for the complexity of interacting risks within the environment where the child lives (4). Relative poverty has a wide range of effects on health, and there is a persistent inverse association between socioeconomic status and childhood mortality and morbidity. This pattern can also be seen in road traffic accidents.

The 2015 Index of Multiple Deprivation (IMD) is a commonly accepted measure of deprivation. Top tier local authorities are ranked out of the 152 top tier local authorities in England, with a rank of 1 indicating the most deprived. East Riding of Yorkshire, with a score of 15.8, is in the third less deprived decile.

Road traffic accidents in under 25's in general do not have a clear relationship with deprivation of the accident location (www.gov.uk/government/publications/reducing-unintentional-injuries-among-children-and-young-people, data and information pack), however accident rates for certain types of road user do show an association. Pedestrians are more likely to be killed or seriously injured in the most deprived areas of the country with rates lowering in the less deprived areas, while with car occupants the opposite is true.

The following tables show the correlation between deprivation and road traffic injuries in East Riding of Yorkshire. Local authority deprivation quintiles are used for this, meaning that East Riding of Yorkshire is divided into five based on the relative deprivation of the small areas in the local authority. For example the least deprived quintile is made up of the small areas in the least deprived fifth of East Riding of Yorkshire. This data allows you to explore which quintiles of deprivation in your area have the highest rates of serious injuries.

It is possible to investigate the data in more detail in PHE's Fingertips tool, including looking at whether the rates for your local area are significantly different to the picture elsewhere in the country. You will find this information in the 'unintentional injuries' domain and using the tab for 'inequalities'. Click your area name next to 'inequalities for' in order to see information for your area based on deprivation. Record level information on all casualties can be accessed from the Department for Transport.

Table 5: Killed or seriously injured children and young people by deprivation quintile (rate per 100,000 resident population aged 0-24 in 2012-2016)

Deprivation quintile	

Deprivation quintile for the location of the accident
Source for table 5: STATS19, Department for Transport

Table 6: Car occupants killed or seriously injured by deprivation quintile (rate per 100,000 resident population aged 15-24 in 2012-2016)

Deprivation quintile	

Deprivation quintile for the location of the accident
Source for table 6: STATS19, Department for Transport

Table 7: Motorcyclists killed or seriously injured by deprivation quintile (rate per 100,000 resident population aged 15-24 in 2012-2016)

Deprivation quintile	

Deprivation quintile for the location of the accident
Source for table 7: STATS19, Department for Transport, Office for National Statistics

Table 8: Pedestrians killed or seriously injured by deprivation quintile (rate per 100,000 aged 0-24 in 2012-2016)

Deprivation quintile	

Deprivation quintile for the location of the accident
Source for table 8: STATS19, Department for Transport

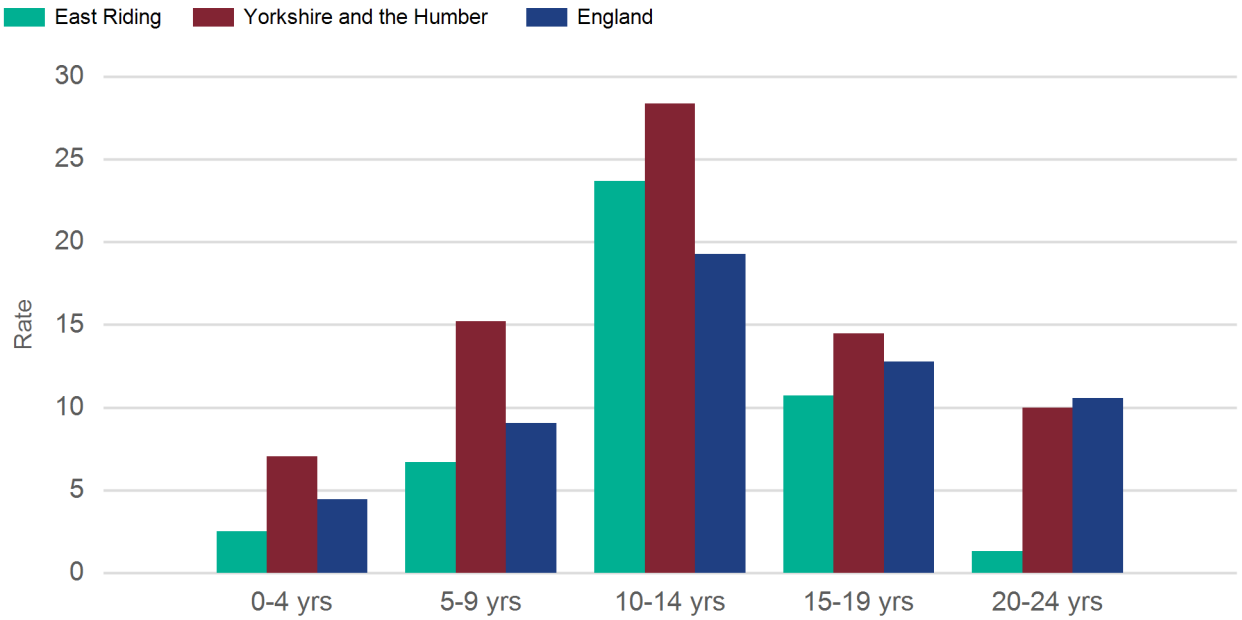
Age

As children grow older, their travel habits change. This is reflected in the patterns seen in the data.

Table 9: Pedestrians killed or seriously injured by age group (rate per 100,000 resident population in 2012-2016)

	Pedestrians killed or seriously injured in road traffic accidents (aged 0-24)				
Age group	0-4 yrs	5-9 yrs	10-14 yrs	15-19 yrs	20-24 yrs
East Riding	2.5 (2)	6.7 (6)	23.7 (21)	10.7 (10)	1.3 (1)
Yorkshire and the Humber	7.0 (116)	15.2 (254)	28.4 (433)	14.5 (233)	10.0 (192)
England	4.5 (759)	9.1 (1,550)	19.3 (2,982)	12.8 (2,021)	10.6 (1,880)

Figure 9: Pedestrians killed or seriously injured by age group (rate per 100,000 resident population in 2012-2016)



Source for table 9 and figure 9: STATS19, Department for Transport

Improving safety for children travelling to and from school is important. The largest numbers of child injuries occur between 8am to 9am and 3pm to 7pm, the times when children are generally travelling between home and school. During these times nationally there are around 16 deaths or serious injuries to children under 16 years every week.

Nationally, the number of children being killed or seriously injured when out walking, increases between 10 and 14 years old, an age when many children begin to travel to school by themselves.

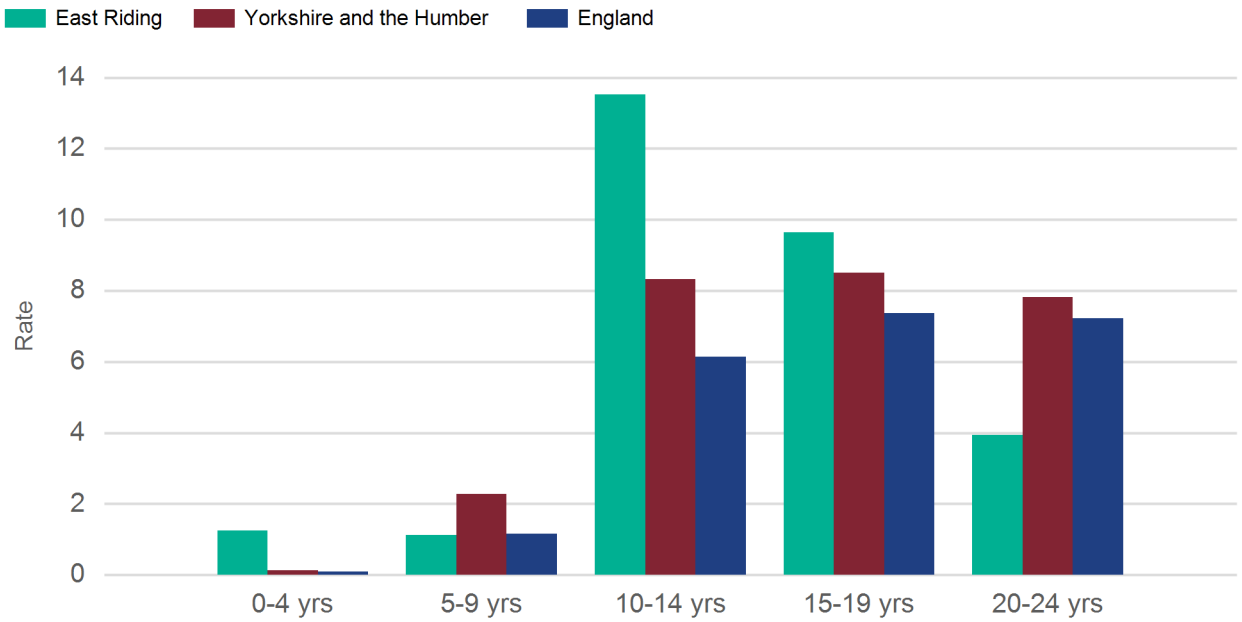
Local authorities can work with schools to develop school travel plans that encourage active travel to and from school and address safety issues throughout the whole journey (5). School travel plans can be supported by road engineering measures to reduce vehicle speeds and activities to enforce traffic law.

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

Table 10: Pedal cyclists killed or seriously injured by age group (rate per 100,000 resident population in 2012-2016)

	Pedal cyclists killed or seriously injured in road traffic accidents (aged 0-24)				
Age group	0-4 yrs	5-9 yrs	10-14 yrs	15-19 yrs	20-24 yrs
East Riding	1.3 (1)	1.1 (1)	13.5 (12)	9.6 (9)	3.9 (3)
Yorkshire and the Humber	0.1 (2)	2.3 (38)	8.3 (127)	8.5 (137)	7.8 (150)
England	0.1 (16)	1.2 (199)	6.1 (951)	7.4 (1,167)	7.2 (1,285)

Figure 10: Pedal cyclists killed or seriously injured by age group (rate per 100,000 resident population in 2012-2016)

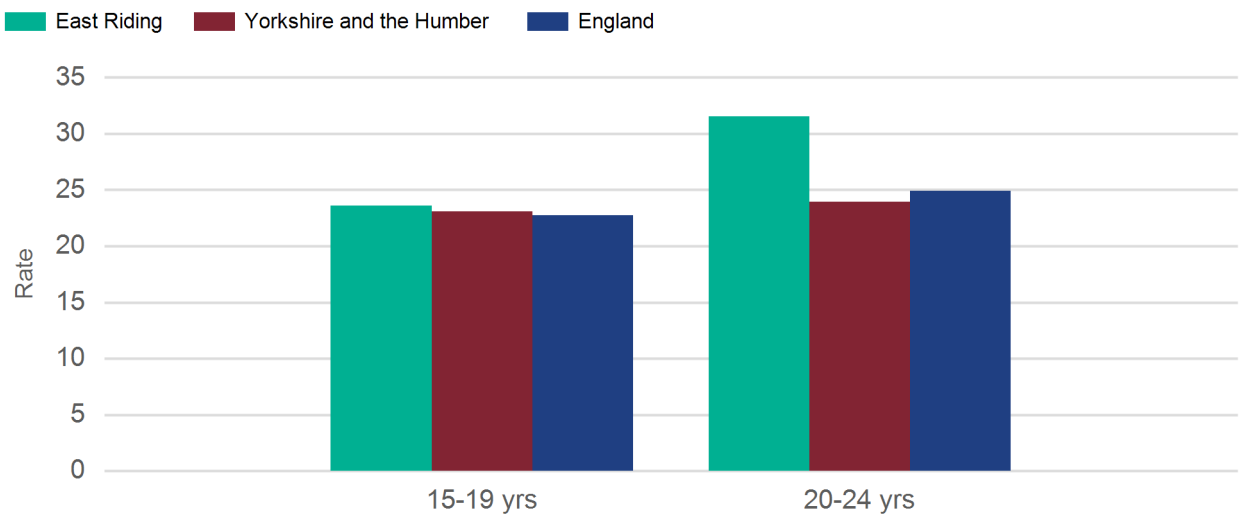


Source for table 10 and figure 10: STATS19, Department for Transport

Table 11: Motorcyclists killed or seriously injured by age group (rate per 100,000 resident population aged 15-24 in 2012-2016)

	Motorcyclists killed or seriously injured in road traffic accidents (aged 15-24)	
Age group	15-19 yrs	20-24 yrs
East Riding	23.6 (22)	31.6 (24)
Yorkshire and the Humber	23.1 (372)	23.9 (459)
England	22.8 (3,607)	24.9 (4,435)

Figure 11: Motorcyclists killed or seriously injured by age group (rate per 100,000 resident population aged 15-24 in 2012-2016)

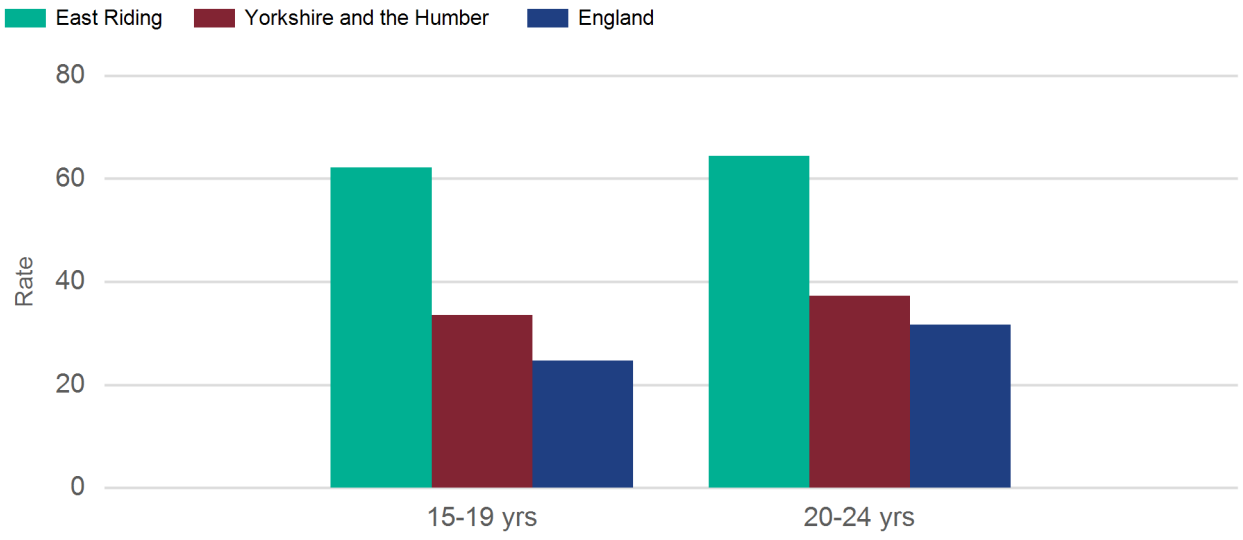


Source for table 11 and figure 11: STATS19, Department for Transport

Table 12: Car occupants killed or seriously injured by age group (rate per 100,000 resident population aged 15-24 in 2012-2016)

	Car occupants killed or seriously injured in road traffic accidents (aged 15-24)	
Age group	15-19 yrs	20-24 yrs
East Riding	62.2 (58)	64.4 (49)
Yorkshire and the Humber	33.5 (540)	37.3 (715)
England	24.6 (3,903)	31.7 (5,644)

Figure 12: Car occupants killed or seriously injured by age group (rate per 100,000 resident population aged 15-24 in 2012-2016)



Source for table 12 and figure 12: STATS19, Department for Transport

Speed limits and their effect

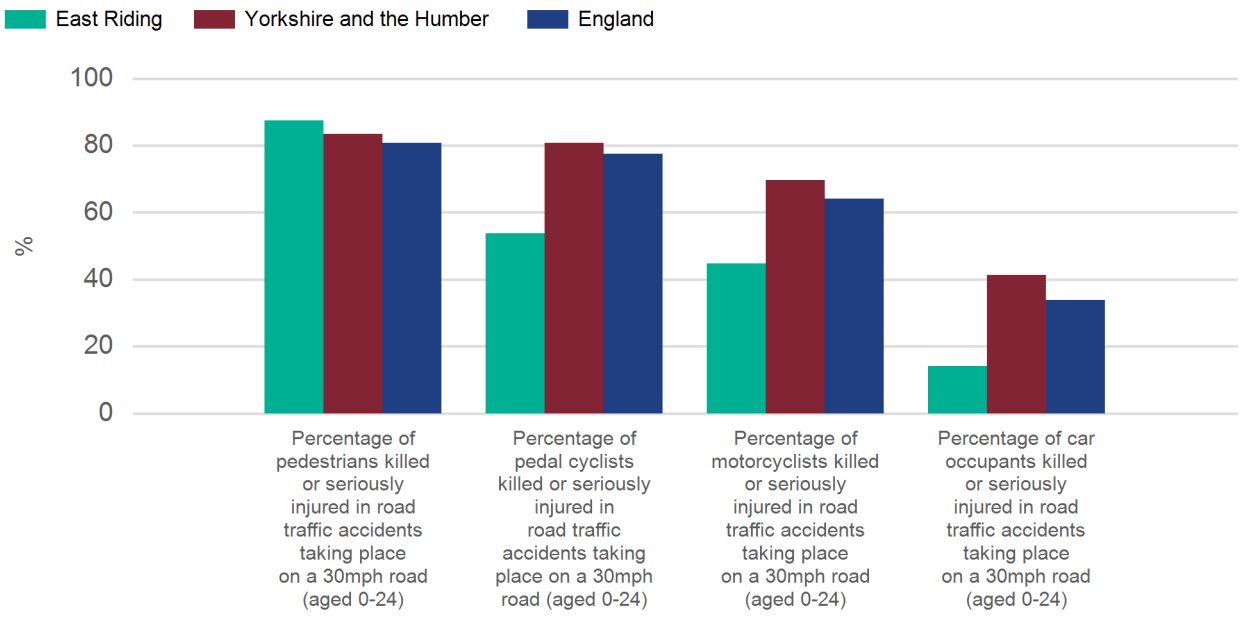
The vast majority of fatal and serious accidents to children and young people in road traffic accidents happen on 30mph roads. This is particularly true of pedestrians with over 80% nationally occurring on these roads. The introduction of 20mph zones reduces the number of accidents, and reduces the likelihood of serious or fatal injuries occurring. (6, 7, 8). A significant proportion of car occupant fatalities in young people take place in the evening and early morning, and on 60mph roads commonly found in more rural areas.

Table and Chart 13 show the proportion of children and young people killed or seriously injured on 30mph roads. This can be used as an indication that even a relatively low speed road can be extremely dangerous, particularly for pedestrians and pedal cyclists.

Table 13: Children and young people killed or seriously injured in 30mph zone by road user (percentage of all injuries in 2012-2016)

	Percentage of pedestrians killed or seriously injured in road traffic accidents taking place on a 30mph road (aged 0-24)	Percentage of pedal cyclists killed or seriously injured in road traffic accidents taking place on a 30mph road (aged 0-24)	Percentage of motorcyclists killed or seriously injured in road traffic accidents taking place on a 30mph road (aged 0-24)	Percentage of car occupants killed or seriously injured in road traffic accidents taking place on a 30mph road (aged 0-24)
East Riding	87.5 (35)	53.8 (14)	44.7 (21)	14.2 (17)
Yorkshire and the Humber	83.4 (1,023)	80.8 (367)	69.6 (594)	41.4 (598)
England	80.7 (7,412)	77.6 (2,800)	64.2 (5,229)	33.9 (3,683)

Figure 13: Children and young people killed or seriously injured in 30mph zone by road user (percentage of all injuries in 2012-2016)



Source for table 13 and figure 13: STATS19, Department for Transport

Next steps

The data and information in this report should have given you an indication of the patterns of injury in your local area, as well as background information about injuries and your population. Combined with local knowledge and data, we hope this helps you to set priorities for interventions in your area which reduce the number of children, young people and families affected by injury. The list below sets out some other resources and sources of information you may want to look at to help you to do this and to move on to the next stage of planning for services which meet the needs of your population.

- The National Child and Maternal Health Intelligence Network is hosted and facilitated by PHE and provides wide-ranging, authoritative data, evidence and practice in relation to child and maternal health which you can use to improve the quality of care and outcomes for communities, patients and their families. Find out more about our work, including our data and tools.
- Find out more about the general population in your area, including child poverty, by looking at the child and maternal health section on PHE's Fingertips tool.
- Subscribe to PHE ebulletins to keep you up to date with the latest resources and research relating to child and maternal health. Register your email address then change your preferences and select 'Child and maternal health current awareness ebulletin'. The ebulletin is sent out every two weeks.
- You may have access to local data and intelligence, for example from police and planning services, which could be compared with other sources.
- You should consider the views of local children and families when commissioning services. Your local Healthwatch will have more information on ensuring the voice of service users is included in the commissioning and delivery of health and care services.
- You may wish to review the wider literature on this topic to inform your plans. The following list offers some suggestions of resources which you might find useful:

Public Health England
Public Health Outcomes Framework data tool
Available from: www.phoutcomes.info
Healthy people, healthy places briefing: Obesity and the environment: increasing physical activity and active travel
Available from: www.gov.uk/government/publications/obesity-and-the-environment-briefing-increasing-physical-activity-and-active-travel

Child Accident Prevention Trust (CAPT)
Making the Link
Available from: www.makingthelink.net

Department for Transport (DfT)
Setting local speed limits (2013)
Available from: www.gov.uk/government/publications/setting-local-speed-limits
Road Safety Observatory
Available from: www.roadsafetyobservatory.com
Reported Road Casualties GB (2016)
Available from: www.gov.uk/government/statistics/reported-road-casualties-great-britain-annual-report-2016
Strategic framework for road safety (2011)
Available from: www.gov.uk/government/publications/strategic-framework-for-road-safety

National Institute for Health and Care Excellence (NICE)
PH29: Strategies to prevent unintentional injuries among under-15s (2010)
Available from: http://guidance.nice.org.uk/ph29
PH31: Preventing unintentional road injuries among under-15s: road design (2010)
Available from: http://guidance.nice.org.uk/ph31
PH41: Walking and cycling: local measures to promote walking and cycling as forms of travel or recreation (2012)

Available from: http://guidance.nice.org.uk/ph41

Royal Society for the Prevention of Accidents (RoSPA)
Road Safety and Public Health (2014)
Available from: www.rospa.com/rospaweb/docs/advice-services/road-safety/practitioners/rospa-road-safety-and-public-health.pdf
Delivering accident prevention at local level in the new public health system (2013)
Available from: www.rospa.com/public-health/delivering-accident-prevention/

Sustrans
Campaign for Safer Streets: Sustrans policy briefing (2014)
Available from:
www.sustrans.org.uk/sites/default/files/file_content_type/campaign_for_safer_streets_policy_briefing_0.pdf

World Health Organization (WHO)
Injuries and inequities: guidance for addressing inequities in unintentional injuries (2014)
Available from: 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)
Available from: www.who.int/entity/roadsafety/projects/manuals/pedestrian/en/
Preventing road traffic injury: a public health perspective for Europe (2004)
Available from: www.euro.who.int/__data/assets/pdf_file/0003/87564/E82659.pdf
Speed management: a road safety manual for decision-makers and practitioners (2008)
Available from: www.who.int/entity/roadsafety/projects/manuals/speed_manual/en/
World report on traffic injury prevention (2004)
Available from: www.who.int/violence_injury_prevention/publications/road_traffic/world_report/en/

Contact your local PHE knowledge and intelligence service for further advice and support:

North East	LKISNorthEast@phe.gov.uk
North West	LKISNorthWest@phe.gov.uk
Yorkshire and the Humber	LKISYorkshireandHumber@phe.gov.uk
East Midlands	LKISEastMidlands@phe.gov.uk
East of England	LKISEast@phe.gov.uk
West Midlands	LKISWestMidlands@phe.gov.uk
London	LKISLondon@phe.gov.uk
South East	LKISSouthEast@phe.gov.uk
South West	LKISSouthWest@phe.gov.uk

References

1 Davies SC. Annual Report of the Chief Medical Officer 2012 Our Children Deserve Better: Prevention Pays. (2013)

2 Department for Transport. Reported Road Casualties in Great Britain: 2011 Annual Report - A valuation of road accidents and casualties in Great Britain in 2011. Available from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/9275/rrcgb2011-02.pdf

3 Tranter, M. Comparing police data on road accidents with other sources. Reported Road Casualties in Great Britain: 2008 Annual Report. Available from http://webarchive.nationalarchives.gov.uk/20110503185928/http://www.dft.gov.uk/pgr/statistics/datatablespublications/accidents/casualtiesgbar/rrcgb2008

4 Sidebotham P, et al (2014). Understanding why children die in high income countries. Available from https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(14)60581-X/abstract

5 Education Act 1996. Section 508A

6 Kloeden C, McLean A, Moore V, et al. Travelling speed and the risk of crash involvement. (1997). Available from https://infrastructure.gov.au/roads/safety/publications/1997/Speed_Risk_1.aspx

7 Taylor M, Lynam D, Baruya A. The effects of drivers' speed on the frequency of road accidents. TRL. Report 421. (2000). Available from https://trl.co.uk/reports/TRL421

8 Elvik R, Christensen P, Amundsen A. Speed and road accidents: an evaluation of the Power Model. TOI. TOI report 740/2004 (2004). Available from https://www.toi.no/publications/speed-and-road-accidents-an-evaluation-of-the-power-model-article17882-29.html

Originally published on Public Health England's Fingertips site: November 2018
Accessed: April 2021