

Synthesis title:

# Teenage Pedestrians

Category: Pedestrians



## Other Relevant Topics:

- ▶ Child pedestrians (Pedestrians)
- ▶ Adult pedestrians (Pedestrians)
- ▶ Safe Route Planning (Pedestrians)

## Keywords:

Teenage/r,  
Pedestrians,  
Education,  
Risk Taking,  
Advertising

# About the Road Safety Observatory

**The Road Safety Observatory aims to provide free and easy access to independent road safety research and information for anyone working in road safety and for members of the public. It provides summaries and reviews of research on a wide range of road safety issues, along with links to original road safety research reports.**

The Road Safety Observatory was created as consultations with relevant parties uncovered a strong demand for easier access to road safety research and information in a format that can be understood by both the public and professionals. This is important for identifying the casualty reduction benefits of different interventions, covering engineering programmes on infrastructure and vehicles, educational material, enforcement and the development of new policy measures.

The Road Safety Observatory was designed and developed by an Independent Programme Board consisting of key road safety organisations, including:

- ▶ Department for Transport
- ▶ The Royal Society for the Prevention of Accidents (RoSPA)
- ▶ Road Safety GB
- ▶ Parliamentary Advisory Council for Transport Safety (PACTS)
- ▶ RoadSafe
- ▶ RAC Foundation

By bringing together many of the key road safety governmental and non-governmental organisations, the Observatory hopes to provide one coherent view of key road safety evidence.

The Observatory originally existed as a standalone website, but is now an information hub on the RoSPA website which we hope makes it easy for anyone to access comprehensive reviews of road safety topics.

All of the research reviews produced for the original Road Safety Observatory were submitted to an Evidence Review Panel (which was independent of the programme Board), which reviewed and approved all the research material before it was published to ensure that the Key Facts, Summaries and Research Findings truly reflected the messages in underlying research, including where there may have been contradictions. The Panel also ensured that the papers were free from bias and independent of Government policies or the policies of the individual organisations on the Programme Board.

The Programme Board is not liable for the content of these reviews. The reviews are intended to be free from bias and independent of Government policies and the policies of the individual organisations on the Programme Board. Therefore, they may not always represent the views of all the individual organisations that comprise the Programme Board.

Please be aware that the Road Safety Observatory is not currently being updated; the research and information you will read throughout this paper has not been updated since 2017. If you have any enquiries about the Road Safety Observatory or road safety in general, please contact [help@rospa.com](mailto:help@rospa.com) or call **0121 248 2000**.

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## How do I use this paper?

This paper consists of an extensive evidence review of key research and information around a key road safety topic. The paper is split into sections to make it easy to find the level of detail you require. The sections are as follows:

<b>Key Facts</b>	A small number of bullet points providing the key facts about the topic, extracted from the findings of the full research review.
<b>Summary</b>	A short discussion of the key aspects of the topic to be aware of, research findings from the review, and how any pertinent issues can be tackled.
<b>Methodology</b>	A description of how the review was put together, including the dates during which the research was compiled, the search terms used to find relevant research papers, and the selection criteria used.
<b>Key Statistics</b>	A range of the most important figures surrounding the topic.
<b>Research Findings</b>	A large number of summaries of key research findings, split into relevant subtopics.
<b>References</b>	A list of all the research reports on which the review has been based. It includes the title, author(s), date, methodology, objectives and key findings of each report, plus a hyperlink to the report itself on its external website.

**The programme board would like to extend its warm thanks and appreciation to the many people who contributed to the development of the project, including the individuals and organisations who participated in the initial consultations in 2010.**

## **Key facts**

- There were 4,069 teenage (12-19 years old) pedestrian casualties in 2016. Of these, 841 were Killed or Seriously Injured casualties (with 505 KSI casualties in those aged 12-15, and 336 KSI casualties in those aged 16-19).

(RRCGB, DfT, 2017)

- In 2016, there were 383 teenage (12-16 years old) KSI pedestrian casualties in Road Traffic Incidents (RTIs) that occurred during term time and in the hours in which children may be expected to be making a journey to or from school.

(D. Lloyd *et al*, 2015)

- The pedestrian casualty rate for boys is consistently higher than for girls across all age groups.
- As children get older, the proportion of Road Traffic Incidents (RTIs) occurring on a Friday or Saturday rises steadily from 29 per cent at age 12 to 38 per cent at age 15.

(Carole Millar Research, 1998a)

- The risk factors for RTI involvement between 13-17 years old are varied. Some are intrinsic to the young person (such as gender and behavioural profile), some are related to family background (single parenthood, number of siblings and level of parental monitoring), and some are related to the external environment (stressful life events).

(A. Emond *et al*, 2011)

- Young people are less able to assess risk; test their boundaries; overestimate their abilities; have high levels of sensation seeking behaviour; and are influenced by their peers.

(YOURS, 2012)

## **Summary**

Teenage pedestrians are defined for the purpose of this synthesis as pedestrians aged between 12-19 years old. However, additional research relating to the transition of children from primary to secondary school is also discussed.

In 2016, there were 4,069 teenage pedestrian casualties (RRCGB, DfT, 2017)

In 2014, 383 teenage (12-16 years old) pedestrian casualties in Road Traffic Incidents (RTIs) that occurred during term time and in the hours in which children may be expected to be making a journey to or from school. Research has suggested that the number of casualties peaks during the transition between primary and secondary school as children are exposed to unfamiliar routes and are given additional freedom.

Older teenagers are involved in more road traffic incidents (RTIs) on Friday and Saturday nights. Gender, behaviour profiles, family background and levels of deprivation are also risk factors for teenagers, with boys, teenagers with a single parent and those with behavioural difficulties more likely to be involved in RTIs. Girls affected by stressful life events also tend to be more at risk.

Teenagers often understand that they are in a high risk group in terms of pedestrian RTIs but do not think that they individually are at risk. As a group, they often believe that road safety education is for younger children. This leads to a gap between what teenagers think they know about road safety and how they behave.

Teenagers can be hard to reach; to address this there are a handful of resources available to teachers for providing targeted road safety education. These resources are often integrated into Personal, Social and Health Education (PSHE) lessons. However, teachers may prioritise other topics such as sex, drugs and healthy eating.

Targeted advertising on television is recognised by teenagers but it is unclear whether this actually leads to a change in behaviour and how this affects teenage casualties. Online gaming is thought by some to help engage hard to reach teenagers but is not definitively proven to change behaviour or lead to reductions in teenage casualties. However, it is believed that a combination of education, engineering and enforcement interventions are most effective at reducing teenage casualties.

The importance of teaching children practical road safety skills at a young age is highlighted as this may translate into more responsible teenagers. Involving teenagers in the development of road safety education may also be beneficial as it helps teenagers think about their own behaviour.

## **Methodology**

A detailed description of the methodology used to produce this review is provided in the Methodology section of the Observatory website <http://www.roadsafetyobservatory.com/Introduction/Methods>.

This synthesis was compiled during July 2012. In December 2017, statistics from Reported Road Casualties Great Britain were updated to [Reported Road Casualties Great Britain 2016](#).

Teenage pedestrians are defined for the purpose of this synthesis as pedestrians aged between 12-19 years old. Additional research related to the transition of children from primary to secondary school is also discussed.

The steps taken to produce this synthesis are outlined below:

- **Identification of relevant research** – searches were carried out on pre-defined research (and data) repositories. The search terms and words used included, but were not limited to:
  - ‘Teenager’;
  - ‘Teen’;
  - ‘Youth’;
  - ‘Adolescent’;
  - ‘Pedestrian’;
  - ‘Road safety’;
  - ‘Safety’;
  - ‘Injury’; and,
  - ‘Casualty’.

A total of 122 pieces of relevant research were identified, these included:

- 9 focussed specifically on teenager pedestrians.
  - 75 focussed on children aged 0-15 years old (i.e. included some relevant information on teenagers).
  - 36 specifically focussed on children.
  - 2 providing general pedestrian information.
- **Initial review of research** – primarily involved sorting the research, based on key criteria, to ensure that the most relevant and effective items were included in this synthesis. Key criteria included:
    - Relevance – whether the research has adequate focus on teenager pedestrians.
    - Age of research – whether the research has been published within the last 15 years (exceptions made for older but highly topical pieces).
    - Interventions – whether the research proves (or disproves) effective interventions to improve teenager pedestrian road safety.
  - **Detailed review of research** – key facts, figures and findings were extracted from included research to highlight the relevant topic issues.

- **Compilation of synthesis** – the output of the detailed review was analysed for commonality and a synthesis written in the agreed format. Note that the entire process from identifying research to compiling the synthesis was conducted in a time bound manner.
- **Review** – the draft synthesis was subjected to extensive review by a subject matter expert, proof reader and an independent Evidence Review Panel.

Please note that the terms Great Britain and UK have been reproduced in this synthesis as they have been used in the associated references.

## **Key Statistics**

This section collates key statistics relating to teenager pedestrians.

### **Teenage pedestrian casualties in the UK**

- There were 5,393 teenage (12-19 years old) pedestrian casualties in 2011. Of these, 1,054 were Killed or Seriously Injured casualties (with 597 KSI casualties in those aged 12-15, and 457 KSI casualties in those aged 16-19).
- There were 272 teenage (12-16 years old) KSI pedestrian casualties in Road Traffic Incidents (RTIs) that occurred during term time and in the hours in which children may be expected to be making a journey to or from school.

(P.Kilbey *et al*, 2012)

### **Nature of Road Traffic Incidents**

- The pedestrian casualty rate for boys is consistently higher than for girls across all age groups.
- According to Scottish research findings the casualty rate for boys peaks at age 11 and for girls at age 12. It then declines by age for both sexes, although more markedly for boys.
- As children get older, the proportion of RTIs occurring on a Friday or Saturday rises steadily from 29 per cent at age 12 to 38 per cent at age 15.
- Teenagers are more likely than younger children to become a casualty in the evening. By the age of 15 years old, the time between 7.00pm and 11.00pm accounts for almost the same proportion of casualties as the afternoon.
- Teenagers are more likely than younger children to be involved in a RTI at a further distance from school or home and to become a casualty on busier and faster roads.
- The underlying causal behaviours and circumstances of RTIs are quite different for boys and girls. The most common factor contributing to the road traffic incident was running and this was much more evident amongst male than female casualties.

(Carole Millar Research, 1998)

- Although boys constitute the majority of road traffic incident casualties at all ages, road traffic incident statistics show that the difference between boys and girls is narrowest during their early teenage years.

(The Scottish Government, 1998)

## **Research findings**

Summaries of key findings from several research reports are given below. Further details of the studies reviewed, including methodology and findings, are given in the References section. The majority of research found was related to educational interventions. Although engineering and enforcement interventions relate to teenagers these interventions are not discussed in detail here.

### **Social factors affecting risk**

- In urban environments, for disadvantaged and significant numbers of ethnic respondents to a DfT survey, the issues of violence and crime currently outweighs issues relating to road safety.

(M. Ratcliff and S. Bouchier-Hayers, nd)

- The risk factors for RTI involvement between 13-17 years old are varied. Some are intrinsic to the young person (such as gender and behavioural profile), some are related to family background (single parenthood, number of siblings and level of parental monitoring), and some are related to the external environment (stressful life events).
- Young people involved in RTIs in the road environment between 13-17 years old were more likely to be male, and to come from a family led by a single parent.
- The young people who had RTIs at 13 or 16 years old were twice as likely to have had a previous road traffic injury before the age of 11 years old and had distinct profiles:
  - Associations with conduct difficulties in childhood;
  - Absent fathers; and,
  - Family dissatisfaction with the neighbourhood lived in.
- Stressful life events were significantly associated with RTIs between 13-17 years old for girls, but not for boys.

(A. Emond *et al*, 2011)

- The move to secondary school is seen as a major life change with an expected increased independence.

(C.V. Platt *et al*, 2003)

### **Attitude to road safety risk**

- There is a drift towards greater risk-taking among 15 year olds, reflecting the perceived shift in peer behaviour. Teenagers often see their peers involving themselves in risky behaviours and believe that they can also act in this way without consequence.

(A. Tolmie *et al*, 2006)

- Young people are less able to assess risk; test their boundaries; overestimate their abilities; have high levels of sensation seeking behaviour; and are influenced by their peers.

(YOURS, 2012)

- Qualitative research found an apparent difference between young teenagers' knowledge and their actual behaviour.
- It identified that most teens engaged in 'risky' behaviour, such as crossing between parked cars or queuing traffic. However, it was also noted that risk taking was highest among younger male teens.
- Some reasons given for risky behaviour included "in a rush", or "using crossings not cool".
- Young teenagers did not think that they, as individuals, were particularly at risk of pedestrian road traffic incidents, but they immediately identified 'teenagers', collectively, as a high risk group.

(The Scottish Government, 1998b)

### **Attitude to road safety**

- Adolescents regard road safety as an issue that only concerns primary school children.

(A.Tolmie *et al*, 2006)

- Secondary school staff considered areas such as sex and relationship education, drugs and alcohol education and healthy eating to be of greater importance than road safety education.

(MVA Consultancy, 2009)

- In general, young teenagers are not interested in road safety education, seeing it as something 'for kids' and as 'boring' and 'repetitive'.

(The Scottish Government, 1998b)

- Not one teenage respondent to a DfT survey spontaneously mentioned road safety as a concern.

(M. Ratcliff and S. Bouchier-Hayers, nd)

### **Environmental factors affecting risk**

- Difference in complexity of road environment around secondary schools results in a steep increase in risk of injury for only a moderate increase in risky behaviour.
- A busier traffic environment, greater independence to travel alone or as part of a group (rather than with parents), partially undeveloped road safety skills, mistaken perceptions of competence, inattention to feedback and peer pressure to behave more carelessly are all implicated in increased risk for 12-15 year olds.
- There is little evidence that teens deliberately seek danger, but misperceptions and poorer processing on available social and traffic related information result in increased carelessness in potentially hazardous environments.

(A. Tolmie *et al*, 2006)

## Education in schools

Educating teenagers can form part of school lessons but it is advertising on television that has been assessed in most research reports. The extent to which education in school or advertising on television actually changes teenage behaviour, or reduces teenage pedestrian casualties, remains unclear.

- *Making Choices* educational resources were distributed to parents during the transition process between primary and secondary school. The *Making Choices* resources included leaflets, activities and journey planners to be used before, during (school holidays) and after the transition. The educational resources recognised the maturity and changing lifestyle of the children.
- The *Making Choices* activities were also used in primary and secondary schools by teachers. Most primary teachers had integrated the activities within Geography and Personal, Social and Health Education (PSHE) to complement the existing transfer process. In nearly all secondary schools, the teachers used the materials in timetabled PSHE lessons.
- Children that were exposed to *Making Choices* tended to show a greater level of personal safety responsibility than the control group.

(C.V. Platt *et al*, 2003)

- Young people can be hard to reach and more user involvement in programme design could be beneficial.

(E. Towner *et al*, 2005)

- Particular attention should be given to encouraging a proactive/ experiential learning and teaching style in order to engage pupils in Safe Routes To School (SRTS).

(K. Fyfe *et al*, 2003)

## Targeted advertising

- Teens (especially, though not exclusively, 15 years old and over) tend to live moment to moment; they are not future focussed. That which impacts on them today may well be forgotten tomorrow unless something about personal consequences is driven home. This is only effective if there is a strong point of empathy that leads up to depiction of consequences.
- '*Camera Phone*' is a very successful piece of road safety advertising when viewed in the context of other relevant communications. A scene filmed on a camera phone depicts the protagonist being run over and consequent harrowing screams. It feels real, elicits enormous empathy with its depiction of teenage life and delivers a genuine and visceral shock which stays with respondents, especially under 15 year olds.

- Graphic illustration of catastrophe should not be shied away from when depicting the impact and consequences of RTIs. Significant numbers from 8-11 year olds and the vast majority of those over 11 years old can cope with it.
- There is anecdotal evidence from opinion formers and RSOs suggests that really hard-hitting style and tonality coupled with graphic content can affect behavior, at least in the short-term.

(M. Ratcliff and S. Bouchier-Hayers for DfT, nd)

- 60 per cent of early teens consider themselves the most at risk from RTIs compared to other age groups. The awareness of being at risk was significantly higher among those that had seen the DfT advertising.
- Adverts on MTV reach the target audience with two thirds (63 per cent) of those who were aware of the MTV /Think! had seen the adverts on MTV.

(Childwise for DfT, May 2007)

- The *Distractions* advertising campaign began in August 2005 and ran until January 2007. Teenagers' awareness of the *Distractions* campaign peaked six months after it began.

(Childwise for DfT, September 2007)

### **Importance of learning practical road safety skills at an early age**

- Methods of intervention to reduce risk to teenage pedestrians include:
  - Parental crossing behaviour; parental influence is more effective with younger children and skills must be learned early;
  - Pedestrian crossing skills being learnt at an early age;
  - Encouraging reflection (thinking before acting is likely to result in more cautious behaviour than spontaneous action); and,
- Support for the parents as role models of safe pedestrian behaviour is likely to be a productive intervention, but it must be stressed that it is what parents do, rather than what they say, that appears to matter.
- Distorted impressions of riskiness of peer behaviour (they take more risks than me) is evident but needs further investigation.

(A. Tolmie, 2006)

- Parents consider that it is important that road safety teaching should enable children to assess situations rather than stick to rules and codes.

(C.V. Platt *et al*, 2003)

## Behaviour

- Encouraging adolescents to reflect more on their road-crossing behaviour might be productive, for two reasons. First of all, intended (i.e. deliberate) behaviour tended to be more cautious than spontaneous behaviour. Secondly, greater reflection is likely to promote increased attention to the adequacy or lack of existing skills.

(A. Tolmie, 2006)

- To improve road safety, all of society needs to contribute to making programmes practical, sustainable, and adapted to local needs and cultural and social contexts.
- Building strong partnerships with key organisations, remaining focused on goals, and maintaining good communication with stakeholders is essential.

(YOURS, 2012)

## ***How effective?***

- *Making Choices* resources (including leaflets, activities and journey planners) are educational resources that recognise the maturity and changing lifestyle of the children. Children that were exposed to *Making Choices* tended to show a greater level of personal safety responsibility than a control group.

(C.V. Platt *et al*, 2003)

- If road safety campaigns are to target the teenage age group, they should focus on real-life approaches, stressing both the short and long term impact of suffering a pedestrian road traffic incident. Young people felt 'shock tactics' were the only way of impacting on their behaviour.

(The Scottish Government, 1998b)

- Game-based learning (The Code of Everand) was deployed and promoted on a large-scale and was able to reach and engage a sizable audience representing a hard-to-reach demographic. An estimated total of 62,000 UK children aged between 9 and 15 played the game.
- Although only 20 per cent of players were girls, the game reached a broad range of areas and ethnicities.
- Self reported attitudes of children towards the game showed a broadly positive attitude towards serious gaming in a road safety context.
- Quantitative evidence showed that children who played the game self reported safer behaviour than a national sample.
- The game worked in reaching a large number of children in the target age group, and received predominantly positive feedback. However, due to a number of factors (such as self reporting, indirect nature of the game) it is difficult to conclude that the game had a concrete impact on road safety behaviours across the player base.

(I. Dunwell *et al*, 2011)

- Pedestrian skills training programmes have been shown to improve children's skills (such as timing and finding safe places to cross), provided that they are specifically targeted at relevant road safety skills.
- Practical roadside experience is an essential ingredient of pedestrian skills training.
- There is now good or reasonable evidence that the implementation of 20 mph zones and area-wide urban safety measures are effective in reducing accidents and injuries (in particular child pedestrian injuries), and effecting behavioural changes (slower speeds).

(E. Towner *et al*, 2005)

## **Gaps in research**

- There was a general lack of academic research focussed purely at teenager pedestrians on the websites and databases consulted during compilation of this synthesis.
- It should be noted that many of the education based interventions discussed in this synthesis have not been subject to rigorous peer reviewed assessment.

## References

### Department for Transport research and statistics

<b>Title:</b> Avon Longitudinal Study of Parents and Children: Longitudinal Analysis of Risk of Injury in the Road Environment in Childhood and Adolescence (Road Safety Web Publication No. 23)
<b>Author / organisation:</b> A. Emond, R. Doerner, J. Mytton and E. Towner, Centre for Child and Adolescent Health, Bristol, prepared for Department for Transport (DfT). <b>Date:</b> November 2011 <b>Format:</b> Pdf <b>Link:</b> <a href="http://assets.dft.gov.uk/publications/avon-longitudinal-study-16-year-olds/avon-longitudinal-risk-injuries-children-adolescence.pdf">http://assets.dft.gov.uk/publications/avon-longitudinal-study-16-year-olds/avon-longitudinal-risk-injuries-children-adolescence.pdf</a> <b>Free / priced:</b> Free
<b>Objectives:</b> To explore the relationship between reported road traffic RTIs in adolescence and a range of background personal and family risk factors in early life, and to investigate the characteristics of children who had repeat road traffic incidents.
<b>Methodology:</b> ALSPAC is a longitudinal birth cohort study based in the South West of England, which started in 1991. At several points during childhood, parents and children completed questionnaires regarding their involvement in road traffic RTIs in the previous 12 months, and their journeys by car, bus, train and cycle, as well as about preventive practices in the road environment.
<b>Key findings:</b> <ul style="list-style-type: none"><li>• The risk factors for RTI involvement between 13 and 17 years old are mainly:<ul style="list-style-type: none"><li>○ Intrinsic to the young person (males, attitude to sensation-seeking); and,</li><li>○ Related to family background (single parenthood, higher number of siblings and lower level of parental monitoring) and some or related to the external environment (stressful life events in girls).</li></ul></li><li>• The young people who had RTIs at 13 or 16 years were twice as likely to have had a previous road traffic injury before the age of 11 and had distinct profiles:<ul style="list-style-type: none"><li>○ Associations with conduct difficulties in childhood;</li><li>○ Absent fathers; and,</li><li>○ Family dissatisfaction with the neighbourhood lived in.</li></ul></li></ul>
<b>Themes:</b> Adolescent, Road traffic incidents, Personal and family, Risk factors
<b>Comments:</b> Robust study highlighting social factors related to risk.

<b>Title: Reported road casualties Great Britain: 2011 annual report</b>
<b>Author / organisation:</b> P. Kilbey, D. Wilson, O. Beg, G. Goodman and A. Bhagat, prepared for Department for Transport.
<b>Date:</b> September 2012
<b>Format:</b> Pdf and Excel tables
<b>Link:</b> <a href="https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/9280/rrcgb2011-complete.pdf">https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/9280/rrcgb2011-complete.pdf</a>
<b>Free / priced:</b> Free
<b>Objectives:</b> This report reviews the main trends in the number of reported RTI casualties in Great Britain in 2011.
<b>Methodology:</b> The report findings are based upon STATS19 data collected by the police.
<b>Key findings</b> <ul style="list-style-type: none"> <li>• There were 5,393 teenage (12-19 years old) pedestrian casualties in 2011. Of these, 1,054 were Killed or Seriously Injured casualties (with 597 KSI casualties in those aged 12-15, and 457 KSI casualties in those aged 16-19).</li> <li>• There were 272 teenage (12-16 years old) KSI pedestrian casualties in Road Traffic Incidents (RTIs) that occurred during term time and in the hours in which children may be expected to be making a journey to or from school.</li> <li>• Child pedestrian fatalities rose by 27 per cent to 33 in 2011, but remained below the 2009 figure of 37; the 2011 figure was 42 per cent below the 2005-09 average.</li> </ul>
<b>Themes:</b> Road, road traffic incident, statistics, child (0-15 years)
<b>Comments:</b> The findings in this report are based on STATS19 data and provide reliable statistics.

<b>Title: Code of Everand: Final Evaluation Report</b>
<b>Author / organisation:</b> I. Dunwell, S. Christmas and S. de Freitas, Serious Games Institute (SGI) and Simon Christmas Ltd prepared for Department for Transport
<b>Date:</b> September 2011
<b>Format:</b> Pdf
<b>Link:</b> <a href="http://assets.dft.gov.uk/publications/think-research/code-of-everand-2011.pdf">http://assets.dft.gov.uk/publications/think-research/code-of-everand-2011.pdf</a>
<b>Free / priced:</b> Free
<b>Objectives:</b> The main aim of the study was to evaluate the impact of The Code of Everand (CoE), a multiplayer online game for 9-13 year olds. The game was commissioned and developed in 2009 as part of the DfT's THINK! Campaign to improve road safety. CoE introduced a fantasy land called Everand, criss-crossed by spirit channels inhabited by dangerous creatures. The world integrates a model for learning by asserting the need to look left

and right in advance of crossing a channel. The game also aims to encourage children to plan safe routes and avoid more dangerous channels. The objectives of the study were to:

- Baseline attitudes amongst the target audience (9-13 year olds);
- Establish the various ways in which we expect the game to effect attitudes and behaviours around pedestrian road safety practice;
- Capture and measure the effects of the game (at various levels of participation) on these various indicators; and,
- Produce recommendations on altering or adding features to the game to improve its efficacy.

**Methodology:** The report details the findings of a mixed-method approach which combined a range of data sources to gain both qualitative and quantitative insight into the reach and efficacy of the game. This included collecting and analysing:

- Data from the game engine including data on the players and their in-game behaviours;
- Response and behaviour data from a sample of children who were introduced to the game; and,
- Data from a survey of 1,038 CoE players and 1,108 children who did not play the game.

**Key Findings:**

The principal finding of the work is that game based learning, deployed and promoted on a large scale, was able to reach and engage a sizable audience representing a hard to reach demographic.

- An estimated total of 62,000 UK children in the 9-15 year old age bracket played the game.
- Although only 20 per cent of players were girls, the game reached a broad range of areas and ethnicities.
- While the game reached a large number of children, half of all players only spent 30 minutes or less in the game which is a limited amount of time to convey important information/skills to children.
- Self reported attitudes of children towards the game showed a broadly positive attitude towards serious gaming in a road safety context.
- Quantitative evidence showed that respondent children who played the game self reported safer behaviour than the national sample.
- The game worked in reaching a large number of children in the target age group, and received predominantly positive feedback. However, due to a number of factors (such as self reporting, indirect nature of the game) it is difficult to conclude that the game had a concrete impact of road safety behaviours across the player base.

**Themes:** Road safety, Computer gaming, Evaluation

**Comments:** Rather inconclusive regarding the real effect of the game. Players may be competent within the game but might not necessarily transfer these skills into the real world.

<p><b>Title: Building on Success: Improving the Delivery of Road Safety Education, Training and Publicity</b> (Road Safety Research Report No. 99)</p>
<p><b>Author / organisation:</b> MVA Consultancy prepared for the Department of Transport.  <b>Date:</b> February 2009  <b>Format:</b> Pdf  <b>Link:</b> <a href="http://assets.dft.gov.uk/publications/improving-the-delivery-of-road-safety-education/report-99.pdf">http://assets.dft.gov.uk/publications/improving-the-delivery-of-road-safety-education/report-99.pdf</a>  <b>Free / priced:</b> Free</p>
<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>• To identify ways to improve the quality and delivery of Road Safety Education, Training and Publicity, especially in schools, and raise the status of road safety education</li> <li>• to identify how Road Safety Officers and educators can work together better to maximise the delivery of high-quality road safety education</li> </ul>
<p><b>Methodology:</b></p> <p>Twelve month study with five components:</p> <ul style="list-style-type: none"> <li>• Comprehensive literature review to identify gaps in understanding;</li> <li>• Questionnaire survey of RSOs to explore the attitudes of Road Safety Managers and those working at operational level;</li> <li>• Questionnaire survey of teachers to (amongst other things) identify how road safety education can be made more appealing to educators ;</li> <li>• In-depth case-study interviews with RSOs, other stakeholders and policy-makers from local and central government; and</li> <li>• Stakeholder workshops to bring together road safety professionals and other key stakeholders to discuss the findings from the research and explore future ways of working to improve the delivery of RSETP .</li> </ul>
<p><b>Key Findings:</b></p> <ul style="list-style-type: none"> <li>• Immediate gains may be achieved in increasing the amount of training currently provided by RSOs to their partners in delivery (such as fire officers who are now required to take a more active role in road safety education).</li> <li>• Casualty data and statistics are playing a key role in determining how Road Safety Teams decide how their resources should be targeted</li> <li>• There is little awareness among educators of many of the existing schemes and tools that are available for schools to use in promoting road safety</li> <li>• Greater access to ICT, drama productions, interactive IT software, lively and interactive presentations by outside agencies, hard-hitting videos and better quality and more up-to-date facilities were considered useful in making road safety education more accessible and user-friendly for both teachers and pupils</li> <li>• There appears to be a lack of material aimed at older school-aged pupils.</li> <li>• Secondary school staff considered areas such as sex and relationships</li> </ul>

<p>education, drugs and alcohol education and healthy eating to be of greater importance than road safety education.</p> <ul style="list-style-type: none"> <li>• The most frequently cited barrier to more effective road safety education was insufficient funding.</li> </ul>
<b>Themes:</b> Road Safety Education, Training, Publicity
<b>Comments:</b> Robust

<b>Title:</b> Teenage Road Safety Advertising Tracking, Project Abraham 7 – 6003, Report Of Results – Wave 11
<p><b>Author / organisation:</b> Childwise prepared for the Department for Transport</p> <p><b>Date:</b> November 2008</p> <p><b>Format:</b> Pdf</p> <p><b>Link:</b> <a href="http://webarchive.nationalarchives.gov.uk/+http://think.dft.gov.uk/pdf/332982/3329861/0811-teenage-tracking.pdf">http://webarchive.nationalarchives.gov.uk/+http://think.dft.gov.uk/pdf/332982/3329861/0811-teenage-tracking.pdf</a></p> <p><b>Free / priced:</b> Free</p>
<p><b>Objectives:</b> This study sought to measure the impact of the 2008 DfT <i>Ghost</i> and <i>Invisible</i> television and <i>Camera Phone</i> advertising campaigns, and the <i>Flatline</i> washroom posters and floor vinyls positioned in cinemas campaign in terms of:</p> <ul style="list-style-type: none"> <li>• Awareness and understanding; and,</li> <li>• Ongoing attitudinal statements relating to road traffic incident perception, and behaviour.</li> </ul>
<p><b>Methodology:</b></p> <p>200 face-to-face interviews held with each of the age groups in the target audience of 12-16 year olds, either door to door or in the street (not in school). Interviews were conducted at around 100 sampling points across England and Wales, and provided a total sample of 1,000 responses. Parental consent was obtained as appropriate.</p> <p>Respondents were shown a series of telepics of the various campaigns, exposure to the campaigns was assessed, and various questions regarding safety and risk were asked.</p>
<p><b>Key Findings:</b></p> <ul style="list-style-type: none"> <li>• 30 per cent of respondents mentioned 'Accidents on the road' when asked what they felt were the main dangers affecting children their age.</li> <li>• 75 per cent of 12-16 year olds had watched one of the listed children's channels in the last month, with a third viewing Nickelodeon, on which the <i>Ghost</i> and <i>Invisible</i> advertising featured.</li> <li>• More than 80 per cent had seen a listed music channel (especially older children and girls). MTV channels and TMF (featuring the advertising) were seen by two thirds of 12-16 year olds.</li> <li>• 80 per cent children recognised the Think! logo when shown it on a card amongst other prominent logos, with the main association being to think before crossing the road.</li> <li>• Fresh advertising helps the THINK! campaign to maintain top of mind status.</li> <li>• Almost all children thought that a pedestrian road traffic incident involving someone of their age would be at least partly the pedestrian's fault, with the proportion attributing the road traffic incident to the driver</li> </ul>

<p>around four in ten.</p> <ul style="list-style-type: none"> <li>• Older children continue to display worse road safety behaviour than the younger children, and boys have displayed worse road safety behaviour than girls.</li> <li>• 60 per cent consider themselves, as early teens, the most at risk from RTIs compared with other age groups.</li> <li>• <i>Flatline</i> considered most targeted to 12-16 year olds and older.</li> <li>• <i>Ghost</i> easiest to understand.</li> <li>• <i>Invisible</i> felt aimed at younger children.</li> <li>• Message absorption from <i>Ghost</i> and <i>Invisible</i> adverts is improving, but there appears to be some loss of awareness already.</li> </ul>
<p><b>Themes:</b> Teenage road safety, Advertising, Evaluation</p>
<p><b>Comments:</b> Robust, cannot tell us whether the advertising has made a real impact, i.e. reduction in RTIs but gives an indication which types of advert work well.</p>

<p><b>Title:</b> Teenage Road Safety Advertising Tracking Project Abraham 6 – 5696, Report Of Results – Wave 10</p>
<p><b>Author / organisation:</b> Childwise prepared for the Department for Transport</p>
<p><b>Date:</b> September 2007</p>
<p><b>Format:</b> Pdf</p>
<p><b>Link:</b> <a href="http://webarchive.nationalarchives.gov.uk/+http://think.dft.gov.uk/pdf/332982/332986/200709.pdf">http://webarchive.nationalarchives.gov.uk/+http://think.dft.gov.uk/pdf/332982/332986/200709.pdf</a></p>
<p><b>Free / priced:</b> Free</p>
<p><b>Objectives:</b> The MTV / THINK! Ad Star Search Competition culminated at the end of July 2007, with teens choosing <i>Ghost</i> to be the winning advert of the three (the other two being <i>True Stories</i> and <i>Invisible</i>). This advert was then shown on MTV channels for a full week at the start of August. Research was timed to commence directly after this week long advertising burst, to measure awareness and opinion of the winning advert, the runner up adverts and the competition in general.</p> <p>This study sought to measure the impact of the advertising in terms of:</p> <ul style="list-style-type: none"> <li>• Awareness and outtake; and,</li> <li>• Ongoing attitudinal statements relating to road traffic incident perception, and behaviour.</li> </ul>
<p><b>Methodology:</b></p> <p>The target audience for the campaigns are 12-16 year olds, who were interviewed face-to-face by ChildWise interviewers either door to door or in the street (not in school). Interviews were conducted at around 100 sampling points across England and Wales. Parental consent was obtained as appropriate. Respondents were shown a series of telepics of the various campaigns.</p>
<p><b>Key Findings:</b></p> <ul style="list-style-type: none"> <li>• The road safety opinions and awareness of the target group 12-16 year olds is marginally poorer than that of the previous sample (11-16 year olds). However, most measures are still positive amongst this group.</li> <li>• Claimed road safety behaviour amongst the target group is worse than for 11-16 year olds, but claimed good behaviour is still high.</li> </ul>

- Despite its shorter campaign run, limited media channel coverage, and the overall dominance of *Distractions*, the MTV / THINK! campaign has still managed to make its mark.
- The idea behind the MTV / THINK! competition was popular with the target audience.

**Themes:** Teenage road safety, Advertising, Evaluation

**Comments:** Robust, cannot tell us whether the advertising has made a real impact, i.e. reduction in RTIs but gives an indication which types of advert work well.

**Title: Teenage Road Safety Advertising Tracking Project Abraham 5 – 5622, Report Of Results – Wave 9**

**Author / organisation:** Childwise prepared for the Department for Transport

**Date:** May 2007

**Format:** Pdf

**Link:**

<http://webarchive.nationalarchives.gov.uk/+http://think.dft.gov.uk/pdf/332982/332986/200705.pdf>

**Free / priced:** Free

**Objectives:**

This study sought to measure the impact of the advertising (*Distractions* and MTV/ THINK!) in terms of:

- Awareness and outtake; and,
- Ongoing attitudinal statements relating to road traffic incident perception, and behaviour.

**Methodology:** Face-to-face interviews were carried out by Childwise, among pupils in school years 7-11 (ages 11-16 years old). 200 interviews were conducted either door to door or in the street (not in school) at 100 sampling points across the country for each school year giving a target sample of 1,000 children for each wave of research. Respondents were shown a series of telepics of the *Distractions* campaign both on television and posters, and telepics of the new MTV / THINK! campaign advertising and website.

**Key Findings:**

- 75 per cent of children had seen a listed music channel (especially older children) and MTV is viewed by four in ten 11-16 year olds.
- Those children who had seen *Distractions* were not significantly more likely to mention RTIs as a main danger affecting children their age.
- RTIs on the road remain the main perceived cause of death among children of their age group (when prompted) with younger children more likely to say this. Those who had seen *Distractions* on any media were no more likely to mention this than those who hadn't.
- Almost all children thought that a RTI involving someone their age would be at least partly the fault of the pedestrian but the proportion attributing fault to the driver continues to increase. Those who were aware of *Distractions* on any media were more likely to mention pedestrian faults in general and less likely to mention driver faults.
- Older children continue to display worse road safety behaviour than younger children and girls have shown better road safety behaviour

<p>than boys across most waves.</p> <ul style="list-style-type: none"> <li>• 60 per cent of early teens, consider themselves the most at risk from RTIs compared to other age groups. The awareness of being at risk was significantly higher among those that had seen the DfT advertising.</li> <li>• 75 per cent of children recognised the Think! Logo with the main association with the logo being to think before crossing the road.</li> <li>• 12 per cent of the target audience were aware of the MTV/Think! recruitment/reminder adverts when prompted with a show card.</li> <li>• 63 per cent of those who were aware of the MTV /Think! had seen the adverts on MTV with a small proportion aware of the posters (6 per cent ) the MTV website (4 per cent) or the adverts via YouTube (3 per cent).</li> <li>• Claimed road safety behaviour appears to be improving over time.</li> <li>• The idea behind the MTV / THINK! competition is popular with the target audience.</li> </ul>
<p><b>Themes:</b> Teenage road safety, Advertising, Evaluation</p>
<p><b>Comments:</b> Robust, cannot tell us whether the advertising has made a real impact, i.e. reduction in RTIs but gives an indication which types of advert work well.</p>

<p><b>Title:</b> The Role of Skills, Attitudes and Perceived Behavioural Control in the Pedestrian Decision-making of Adolescents Aged 11–15 Years (Road Safety Research Report No. 68)</p>
<p><b>Author / organisation:</b> A. Tolmie, J.A. Thomson , R.O' Connor, H.C. Foot, E. Karagiannidou, M. Banks, C. O' Donnell and P. Sarvary, Department of Psychology, University of Strathclyde prepared for the Department for Transport.</p> <p><b>Date:</b> October 2006</p> <p><b>Format:</b> Pdf</p> <p><b>Link:</b> <a href="http://dera.ioe.ac.uk/9710/1/pedestriandecisionmaking.pdf">http://dera.ioe.ac.uk/9710/1/pedestriandecisionmaking.pdf</a></p> <p><b>Free / priced:</b> Free</p>
<p><b>Objectives:</b></p> <p>Attempted to unravel which factors (road crossing skills, the change in road environment exposed to around primary and secondary schools, the gap between perceived and actual skills, and a bias towards risk-taking) contributed most to increases in unsafe pedestrian behaviour between the ages of 11-15 years old.</p> <ul style="list-style-type: none"> <li>• Study 1 - Focused on whether young adolescents have limited skills for dealing with complex traffic environments; and whether they underestimate the difficulty of road-crossing decisions, and ignore signs that their performance is less adequate than they believe.</li> <li>• Study 2 - Was designed to investigate the source of young adolescents' misperceptions of difficulty with crossing behaviour, and the relative impact of these and other attitudes or perceptions on decision-making.</li> </ul>

**Methodology:**

Study 1 - Used computer simulated problems to compare performance/skills of 11 year olds at primary school with 12-15 year olds at secondary school on route planning, visual timing, use of crossings and perception of drivers' intentions.

Study 2 - A sample of 12-15 year old pupils, drawn from secondary schools in the same area as Study 1 were assessed through computer-based testing on perceptions of difficulty of the tasks in Study 1, their attitudes and perceptions to specific behaviours, influence of parents and peers, their own experiences in terms of road traffic incident history, and socio-economic and exposure profiles.

**Key Findings:**

- Consistent trend among young adolescents towards a careless approach to the task of crossing the road, driven by a perceived lack of caution in the behaviour of their peers.
- Few adolescents showed markedly positive attitudes to hazardous behaviour, but they were pulled towards riskier attitudes, intentions and actions – and increased carelessness – by the perceived presence of an element of risk in peer behaviour and attempts to be like them.
- Performance on the simulated problems themselves showed that secondary pupils possessed only slightly better skills than primary school children, and that they were notably poorer than adults.
- Difference in complexity of road environment around secondary schools results in a steep increase in risk of injury for only a moderate increase in risky behaviour.
- A busier traffic environment, greater independence to travel alone or as part of a group (rather than with parents), partially undeveloped skills, mistaken perceptions of competence, inattention to feedback and peer pressure to behave more carelessly all implicated in increased risk for 12-15 year olds.
- Methods of intervention to reduce risk:
  - Parental crossing behaviour, is more effective with younger children and skills must be learned early;
  - Pedestrian crossing skills learnt at an early age;
  - Encouraging reflection (thinking before acting likely to result in more cautious behaviour than spontaneous action); and,
  - Distorted impressions of riskiness of peer behaviour (they take more risks than me) is evident but needs further investigation.
- Little evidence that teens deliberately seek danger, but misperceptions and poorer processing on available social and traffic related information result in increased carelessness in potentially hazardous environments.

**Themes:** Adolescent road safety, Attitudes, Perception, Risk

**Comments:** Robust, although based on stimulated problems rather than problems encountered in the real world.

**Title: Road safety education for children transferring from primary to secondary school** (Road Safety Research Report No. 35)

**Author / organisation:** C.V. Platt, A.B. Clayton, S.M. Pringle, G. Butler and M.A. Colgan prepared for the Department for Transport.

**Date:** May 2003

**Format:** Pdf

**Link:**

<http://webarchive.nationalarchives.gov.uk/20100203035346/http://www.dft.gov.uk/pgr/roadsafety/research/rsrr/theme1/roadsafetyeducationforchildr.pdf>

**Free / priced:** Free

**Objectives:** To develop and evaluate a road safety training/awareness resource/programme to ensure that children have developed the skills required to match the independence they are given when they move to secondary school.

**Methodology:** Reviewed existing road safety resources (and those for transition from primary to secondary in particular), undertook initial surveys (725 parents of transition age pupils) and focus groups with school transition age children and their parents (14 parents and 120 year 6 and 7 children) on their perceived role of parental and school's role regarding road safety education, and developed a draft educational programme *Making Choices*. Evaluated the effect of the programme using a pre-test post test design with a control and experimental group. Testing used to assess children's awareness of road safety issues, their decision-making responses and their change in travel patterns

**Key Findings:**

- Although many resources existed for the transition age group, very few placed any emphasis upon or highlighted the transfer from primary to secondary school.
- Parents' safety concerns related to children's' and other drivers' actions, traffic levels and non-safety dangers (e.g. strangers).
- The move to secondary school seen as a major life change with expected increased independence.
- Parents considered it important that road safety teaching should enable children to assess situations rather than stick to rules and codes.
- *Making Choices* resource developed: comprised 5 resources (including leaflets, activities, journey planners).
- The experimental group tended to show a greater level of personal responsibility and a greater awareness of personal safety issues, not only in road situations, but, for example, when using public transport than the control group.
- Most primary teachers had integrated the activities within Geography and Personal, Social and Health Education (PSHE) to complement the existing transfer process. Few teachers stated that they would like to see anything added to the materials.
- In nearly all secondary schools, the teachers used the materials in timetabled PSHE lessons. Again, there was little demand for additional material.
- Concerns were raised amongst primary teachers about the curriculum time required and the need for long term planning.

**Themes:** Transition from primary to secondary school, Road safety curriculum resource, Evaluation

**Comments:** Highlights the fact there is little road safety education for children moving from primary school to secondary school.

**Title: Attitudes to Road Safety and Think! Road Safety Campaigns**

**Author / organisation:** M. Ratcliff and S. Bouchier-Hayers, MURMUR prepared for the Department for Transport.

**Date:** [no date]

**Format:** Pdf

**Link:**<http://webarchive.nationalarchives.gov.uk/+http://think.dft.gov.uk/pdf/332982/332986/2007-02b.ppt>

**Free / priced:** Free

**Objectives:**

- To review existing road safety communications aimed at children and teenagers and investigate possible methods/routes for improving communication.
- To explore the need for a separate marketing approach for 10-11 year olds during the transition from primary to secondary school.
- To ensure the key messages in current and future campaigns appeal and resonate.
- To explore the possibility of linking cycling and pedestrian safety into a single campaign that would be flexible enough to work with both children and teens and within that males and females.

**Methodology:** The methodology was based on interviews and immersion studies as detailed below:

- Interviews with a number of road safety experts (Police, Road Safety Officers and Royal society for Prevention of Accidents).
- 30 x group interviews were undertaken amongst a variety of children of different ages across the country.

**Key Findings:**

- *Camera Phone* is a very successful piece of road safety advertising, a scene filmed on a camera phone depicts the protagonist being run over and consequent harrowing screams. It elicits enormous empathy with its depiction of teenage life and delivers a genuine and visceral shock which stays with respondents, especially under 15s.
- Teens tend to live moment to moment, they are not future focussed '*Don't Die Before You've Lived*' is too future focussed for teenagers to truly engage; it's far more resonant among parents.
- Graphic illustration of catastrophe should not be shied away from when depicting the impact and consequences of RTIs. Significant numbers from 8-11 year olds and the vast majority of those over 11 can cope with it.

**Themes:** Teen road safety, Education Campaign, Evaluation, Impact

**Comments:** Highlights a number of pieces of research.

## Other Works

<b>Title:</b> Youth and Road Safety Action Kit
<b>Author / organisation:</b> Youth for Road Safety (YOURS)
<b>Date:</b> 2012
<b>Format:</b> Pdf
<b>Link:</b> <a href="http://www.youthforroadsafety.org/uploads/tekstblok_bijlagen/printable_yours_youth_and_road_safety_action_kit_1.pdf">http://www.youthforroadsafety.org/uploads/tekstblok_bijlagen/printable_yours_youth_and_road_safety_action_kit_1.pdf</a>
<b>Free / priced:</b> Free
<b>Objectives:</b> To introduce young individuals and organisations to road safety, particularly youth issues, and providing the knowledge needed to implement road safety projects.
<b>Methodology:</b> Collation of facts, best practice, and case studies from around the globe to provide a practical resource for use by young individuals and organisations active in road safety.
<b>Key Findings:</b> <ul style="list-style-type: none"><li>• Three- part resource which sets out the Global position with regard road safety among under 25 year olds, provides practical guidance on the planning and implementation of road safety programmes, and briefings on fundraising, developing partnerships and community participation.</li><li>• Designed as a simple guide for increasing youth involvement in road safety.</li><li>• Provides summary information and useful links.</li><li>• Stresses that to improve road safety, all need to contribute to making programmes practical, sustainable, and adapted to local needs and cultural and social contexts.</li><li>• Emphasis on how young people can be involved in making change at all levels. Building strong partnerships with key organisations, remaining focused on your goal, and maintaining good communication with stakeholders are essential.</li></ul>
<b>Themes:</b> Young People, Involvement, Partnership, Action
<b>Comments:</b> Practical action kit for implementation of programmes with emphasis on involving teenagers in the decision making process.

<b>Title:</b> Safely to School: A Study of Safer Routes to School in the Classroom
<b>Author / organisation:</b> K. Fyfe, K. Lowden, J. Hall, V. Wilson and T. Graham, ODS Ltd and The SCRE Centre prepared for the The Scottish Government.
<b>Date:</b> 2003
<b>Format:</b> Website
<b>Link:</b> <a href="http://www.scotland.gov.uk/Publications/2003/12/18670/30726">http://www.scotland.gov.uk/Publications/2003/12/18670/30726</a>
<b>Free / priced:</b> Free
<b>Objectives:</b> The aim of the study was to investigate: <ul style="list-style-type: none"><li>• Attitudes and experiences of local authorities and the activities they have undertaken to implement road safety for children and young people;</li><li>• The practices in road safety at school level;</li></ul>

<ul style="list-style-type: none"> <li>• Attitudes of other stakeholders (such as children and young people, parents, community etc.); and</li> <li>• Potential for further development of the Cycling, Walking and Safer Streets Fund.</li> </ul>
<p><b>Methodology:</b> The research comprised a combination of quantitative and qualitative approaches, ranging from a postal survey of local authorities to in-depth interviews at school level. Information was collected in three phases:</p> <ul style="list-style-type: none"> <li>• Phase 1 – A review of previous research on implementation of road safety initiatives with children and young people.</li> <li>• Phase 2 – A survey of 32 local authorities in Scotland to identify the engineering and curriculum activities that had been undertaken as part of Safer Routes to School (SRTS).</li> <li>• Phase 3 – Exploration of good practice for SRTS in six schools representing a range of different sizes, local authorities and environments.</li> </ul>
<p><b>Key Findings:</b></p> <ul style="list-style-type: none"> <li>• Headteachers should ensure that SRTS targets feature in their school development plans.</li> <li>• Particular attention should be given to encouraging a proactive/ experiential learning and teaching style in order to engage pupils in SRTS.</li> <li>• Most informants recognised that children and young people should be involved in the development of SRTS initiatives and in the peer education of younger children.</li> <li>• Evidence should be collected to show which approaches are effective and, if possible, to assess their impact on local RTI statistics.</li> </ul>
<p><b>Themes:</b> Road safety, Interventions</p>
<p><b>Comments:</b> Robust, highlights good practice.</p>

<p><b>Title:</b> What Works In Preventing Unintentional Injuries In Children And Young Adolescents? An updated systematic review</p>
<p><b>Author / organisation:</b> E. Towner, T. Dowswell, C. Mackereth and S. Jarvis, Community Child Health, Department of Child Health, University of Newcastle upon Tyne prepared for the NHS Health Development Agency.</p>
<p><b>Date:</b> June 2005</p>
<p><b>Format:</b> Pdf</p>
<p><b>Link:</b> <a href="http://www.nice.org.uk/niceMedia/documents/prevent_injuries.pdf">http://www.nice.org.uk/niceMedia/documents/prevent_injuries.pdf</a></p>
<p><b>Free / priced:</b> Free</p>
<p><b>Objectives:</b> An attempt to answer the question: ‘How effective are health promotion interventions in preventing unintentional injuries in childhood and young adolescence?’</p> <p>To examine the role of education, environmental modification and legislation and combinations of these approaches in injury prevention in the road, home and leisure environments.</p>
<p><b>Methodology:</b></p> <p>A systematic review of studies published between 1975 and 2000, summarised in table form with accompanying commentary and a guide to effectiveness. While research relating to a variety of hazards and injuries was</p>

looked at, the majority (61 per cent) concerned the prevention of injuries in the road environment. The target population was children aged 0-14 years old.

**Key Findings:**

- There is now good or reasonable evidence that the implementation of 20 mph zones and area-wide urban safety measures are effective in reducing injuries and effecting behavioural changes (slower speeds), and cost-effective. There is reasonable evidence that education measures aimed at the child or parent are effective in changing behaviour and reducing pedestrian injuries in the road environment.
- The presence of school crossing patrols may reduce the number of RTIs involving child pedestrians.
- Pedestrian skills training programmes have been shown to improve children's skills (such as timing and finding safe places to cross), provided that they are specifically targeted.
- Practical roadside experience is an essential ingredient of pedestrian skills training.
- More evidence needed that pedestrian skills training reduced child injuries.
- Traffic clubs using age-paced materials designed to promote parental teaching have been shown to be more effective than school based traffic clubs in effecting behaviour change.
- Road safety programmes combining educational and environmental measures in an integrated package show some potential but more rigorous research is required.
- Young people are hard to reach and more user involvement in programme design could be beneficial.

**Themes:** Child road safety, Behavioural change.

**Comments:** Review of research conducted.

**Title: The Older Child Pedestrian Casualty** (Development Department Research Programme Research Findings No. 54)

**Author / organisation:** Carole Millar Research prepared for The Scottish Government.

**Date:** December 1998a

**Format:** Website

**Link:** <http://www.scotland.gov.uk/Publications/1998/12/d08727d2-fb5e-4ae5-88d7-b57e89e11ec4>

**Free / priced:** Free

**Objectives:** The Scottish Office commissioned research to explore the patterns of casualties amongst older child pedestrians in Scotland with a view to informing road safety campaigns.

**Methodology:** The study was undertaken primarily through the use of STATS19 data. Records examined were from the period of 1994-1996. They included 3,290 casualty records of 5-11 year olds and 1926 records of 12-15 year olds. More detailed textual data was available for 277 RTIs which provide more information on the incident.

**Key Findings:**

- The pedestrian casualty rate for boys is consistently higher than for

<p>girls across all age groups.</p> <ul style="list-style-type: none"> <li>• The casualty rate for boys peaks at age 11 and for girls at age 12. It then declines by age for both sexes, although more markedly for boys.</li> <li>• As children get older, the proportion of RTIs occurring on a Friday or Saturday rises steadily from 29 per cent at age 12 to 38 per cent at age 15.</li> <li>• Teenagers are more likely than younger children to become a casualty in the evening. By the age of 15 years old, the time between 7.00pm and 11.00pm accounts for almost the same proportion of casualties as the afternoon.</li> <li>• Teenagers are more likely than younger children to be involved in a RTI at a further distance from school or home and to become a casualty on busier and faster roads.</li> <li>• The underlying causal behaviours and circumstances of RTIs are quite different for boys and girls. The most common factor contributing to the road traffic incident was running and this was much more evident amongst male than female casualties.</li> </ul>
<p><b>Themes:</b> Teenager, Road safety, Statistics</p>
<p><b>Comments:</b> Robust, highlights important information about the increased exposure of teenagers to environments where RTIs are more likely.</p>

<p><b>Title: The young teenager and road safety: A qualitative study – Research findings</b> (Development Department Research Programme Research Findings No. 61)</p>
<p><b>Author / organisation:</b> The Scottish Government  <b>Date:</b> December 1998b  <b>Format:</b> Web page  <b>Link:</b> <a href="http://www.scotland.gov.uk/Publications/1998/12/d55a30e1-4015-45e2-a2ca-059737b38db8">http://www.scotland.gov.uk/Publications/1998/12/d55a30e1-4015-45e2-a2ca-059737b38db8</a>  <b>Free / priced:</b> Free</p>
<p><b>Objectives:</b> To carry out a qualitative study to examine young teenagers' perceptions of road safety education and how they use the roads as pedestrians. More specifically, it explored attitudes towards a split-screen road safety advertisement designed for television and cinema and targeted at the 12-15 years old age group.</p>
<p><b>Methodology:</b> A total of 10 focus groups were conducted, involving 63 young people between the ages of 12-15 years old in Scotland. The groups were segmented on the basis of age, sex and the level of affluence of the area in which the school was situated.</p>
<p><b>Key Findings:</b></p> <ul style="list-style-type: none"> <li>• The research found an apparent difference between young teenagers' knowledge and their actual behaviour (road safety messages absorbed but not acted upon)</li> <li>• Most teens engaged in 'risky' behaviour (crossing between parked cars or queuing traffic) but risk taking was highest among younger male teens.</li> <li>• Although boys constitute the majority of RTI casualties at all ages, road traffic incident statistics show that the difference between boys and</li> </ul>

girls is narrowest during their early teenage years.

- Some reasons given for risky behaviour: 'in a rush', or 'using crossings not cool'.
- Young teenagers did not think that they, as individuals, were particularly at risk of pedestrian road traffic incidents, but they immediately identified 'teenagers', collectively, as a high risk group.
- The research revealed a possible association between alcohol consumption and increased risk taking among young teenagers. This, combined with the fact that teenagers spend more time 'hanging around' than when they were younger may account for some of the Friday night peak in teenage road casualty statistics.
- In general, young teenagers are not interested in road safety education, seeing it as something 'for kids' and as 'boring' and 'repetitive'. If road safety campaigns are to target this age group, they should focus on real-life approaches, stressing both the short and long term impact of suffering a pedestrian RTI. Young people felt 'shock tactics' were the only way of impacting on their behaviour.
- The split-screen format of the current advertisement confused many of the teenagers, especially the younger ones, and this confusion undermined the road safety message.

**Themes:** Teenager, Behaviour, Risk-taking

**Comments:** Robust research that shows the importance of getting advertising right.

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