

Developing a new practical pedestrian training resource



**Foundation for Road
Safety Research**

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Authors: Anne James and Robyn Watkins-Pitchford
(London Borough of Barnet)



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The AA Foundation for Road Safety Research

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and

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Chapter 1 Introduction

In 1999, 221 children aged 15 and under died on Britain's roads and over five thousand more were seriously injured. Nearly two thirds of these were pedestrians (Department of the Environment, Transport and the Regions (DETR) 2000).

In order to try to equip children with the skills and knowledge that they need to be safe pedestrians, the British Institute for Traffic Education Research (BITER) developed a teaching resource under a previous AA Foundation for Road Safety Research project (Clayton *et al.*, 1995). The resource, entitled *On The Move*, was designed to facilitate the inclusion of effective child centred road safety education into the curriculum and to improve a child's level of competence in understanding and interpreting the road environment. The resource then enabled the teacher to help children develop those skills.

The London Borough of Barnet was commissioned by the AA Foundation for Road Safety Research to build further on the concept, by creating links with the original resource to enable teachers, Road Safety Officers (RSOs) and other volunteers to use the *On The Move* resource to support practical pedestrian skills training on the road.

1.1 Aims of the project

The primary aim of the project was to develop a practical pedestrian training pack based around the original *On The Move* materials, including 'prompt cards' for use with Year 4 children (aged eight to nine), prior to their independent use of public roads.

Secondly, the project aimed to trial and evaluate the pack with a view to it being marketable nationally.

In order to meet these aims, the following needed to be achieved:

- investigate the new material as an optional addition to the original *On The Move* resource;
- devise a structured approach to adult involvement in using the pack;
- trial the activities contained within the pack with a variety of schools within Barnet Council area in a flexible manner taking into account individual group requirements;
- develop the work in other areas, in particular, focusing on journeys in inner city and rural environments;
- assemble a pack that can be marketed nationally.

1.2 Report format

This report describes the development and evaluation of the materials and is ordered as follows:

- background to the project and review of literature to identify factors which may affect the research design (Chapter 2)
- familiarisation and review of *On The Move* (Chapter 3)
- developing the new materials (Chapter 4)
- evaluation of the new resource (Chapter 5).

Conclusions are drawn in Chapter 6. Chapter 7 goes on to recommend how the work is taken forward.

Chapter 2 Background and literature review

2.1 Barnet's experience

Road Safety Officers (RSOs) in Barnet, in common with those in many other authorities, had been running practical pedestrian training mainly with children in key stage 1 (five to seven years of age). Various resources were being used to support this work including *Kerbcraft* (see Thomson, 1997) that specifically target children of this age group. From an operational point of view the staff time involved in running a practical pedestrian training course is extensive. It can be very difficult for schools to justify the teacher time and organise the time of the parent/carer volunteers to support the work. Evaluation of the initiative indicated that children aged five to seven did not comprehend many of the skills being introduced. Further road safety considerations were that children should not be encouraged to use roads unaccompanied until they reach nine years of age and that, at that age, their parents needed to be encouraged to feel that the children were capable of using roads and that they are able to make some journeys unaccompanied.

Therefore, practical pedestrian work in Barnet was refocused to target children aged eight to nine years. The availability of appropriate training material for this age group was investigated, but no integrated practical training and classroom resource was found. The most appropriate classroom resource was *On The Move*. This resource is child-centred and helps individuals investigate and develop skills. However it does not include practical pedestrian training material. The available practical pedestrian training resources had very limited supporting classroom material.

This research project bridges that gap and links a practical pedestrian initiative with the classroom resource, *On The Move*.

2.2 Age targeting

For the purpose of this research the practical pedestrian skills work was targeted at children aged eight/nine years. As well as the practical reasons given above, this age group was chosen for the following reasons:

- **Maturation development:** McWhirter (1997) considered a number of factors identified in previous research into age appropriateness. These factors particularly concern the cognitive aspects of maturational development and indicate that children of this age have generally developed sufficiently to be able to interpret the road environment and make judgements about where and when it is safe to cross.
- **Social factors:** These are concerned with the changing lifestyles and increasing freedom experienced at this period of a child's life. Children of this age are generally allowed by their parents/carers to cross local, familiar, quiet roads without adult supervision. They are gradually becoming more independent and may well, by the end of Primary school (if not before as in many cases), be expected to travel quite extensively as an independent individual. As noted by the Royal Society for the Prevention of Accidents (RoSPA) in 1999:

'As children start school, their exposure to traffic risk increases. And as they grow older, their horizons widen and they take increasing responsibility for themselves. Older children are likely to face greater exposure to road danger and accident data indicates that they are involved in more accidents. They are also likely to be exposed to busier roads than younger children.'

- **Parental considerations:** Working with this age group may also encourage parents/carers to feel more confident about allowing children aged nine plus to walk to school rather than be transported by car. This supports the Government's 1998 traffic reduction targets. The joint initiative between the Transport 2000 Trust, the Department for Education and Employment, the Department of the Environment, Transport and the

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Regions and the Department of Health (DoH) produced *A Safer Journey to School* (Newson, 1999). This document identified the need for practical pedestrian training to support the modal shift from cars to walking.

2.3 Combining theory with practice

Traditionally work has been focused at ensuring that children have some specific knowledge for creating a road crossing strategy. This has usually been distilled into a set of simple rules such as the *Green Cross Code*. Unfortunately this approach does not take into account the variety of situations that occur in real life and consequently restricts the young road user to a few simple scenarios. In addition the *Green Cross Code* in its simplest form does not encourage the pupil to use analytical skills for assessment of risk or for determining safer routes. The original research into the development of the *Green Cross Code* by Sargent *et al.* (1974), identified that the simple rules required significant interpretation on the part of the user. The research also identified the need for the child to be able to interpret speed and distance accurately.

Other studies have identified that training needs to be much more realistic and involve real decision making situations. The DETR commissioned a series of six inter-related projects investigating the development of children's pedestrian behaviour and understanding. In their preliminary findings Whitebread and Neilson (1996) noted that:

'This improvement may be achieved by recognising the nature of the children's learning, and the nature of the cognitive limitations which lead them to making errors of judgement in the road traffic context. Traditionally, training has been rather narrowly knowledge-based and relied upon teaching children a set procedure. This omits crucial elements in the cognitive processing and the actual behaviour of skilled pedestrians. Thus, while children can learn a set of procedures such as the British Green Cross Code, children's limited understanding and cognitive skills prevent them from applying this knowledge effectively in the many and varied road traffic situations which they encounter. Although, for example, the vast majority of primary school children know that the first thing they must do, when crossing a road, is to find a safe place [to cross the road].'

Demetre and Graffin (1994) also inferred that it is not until children are about 10 years old that they are able to reliably find actual safe crossing places in real situations.

Guidelines for practical pedestrian training schemes were published by RoSPA in 1999. These identified the concepts and skills that are appropriate for each age group of children as:

Pre-school children:

- *Develop looking and listening skills.*
- *Encourage parents to establish safe practice and set good examples.*
- *Understand the importance of not going out alone.*
- *Know how to behave safely when out and about.*
- *Understand the need to hold an adult's hand when near a road.*

Five – seven year old children (in addition to the above):

- *Understand sources of dangers in the road environment.*
- *Be able to identify safer and unsafe places to cross a road.*
- *Develop perceptions of speed and distance.*
- *Know how to use safe crossing places (with adult supervision).*
- *Understand how to cross between parked vehicles.*

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Eight – eleven year old children (in addition to the above):

- *Further develop decision making and assessment skills.*
- *Be able to cross the road safely, unaccompanied.*
- *Be able to identify safer routes.*
- *Begin to understand the additional risks associated with their transition to secondary school.*

The RoSPA guidelines also suggest that best practice schemes should be tailored for the age range, abilities and environments of the children for whom they are being provided and should support the advice contained in the Highway Code.

2.4 Demographic factors

There is a range of factors affecting the ability of parents/carers to be available to assist as volunteers and this will effect the viability of training. The relevant socio-economic factors of the environment include:

- single parent or low income families may not have time to give to the project;
- higher earning families may have both parents working and therefore be unable to volunteer;
- in areas where there is a high percentage of ethnic minority groups language may be an issue;
- prospective volunteers may have low confidence and self esteem; many do not consider that they have the necessary skills, knowledge or training to undertake the role of a trainer;
- varied and flexible working patterns that do not lend themselves to regular time commitments.

The DoH's key document *Our Healthier Nation* (1999) identified a strong correlation between socio-economic status and accident level; the lower groups being more at risk than the higher groups. Road accidents also follow this general trend. The London Borough of Barnet has a varied demography with extremes of both very wealthy and very deprived areas.

The ethnic make-up of a school can have a variety of effects on the number of volunteers available to support the project. Language barriers may lead to difficulties in attracting and training volunteers. However, when volunteers are recruited they may then be able to cascade information about the initiative through to others in their community.

2.5 Potential problems

2.5.1 Attitudes of schools and parents

Attitudes of schools, teaching staff and parents alike can affect the success of a practical training initiative. Schools where there is an 'open-door' policy with parents and who encourage participation may find recruiting parent volunteers easier than those with less developed relationships.

Some parents may need to be reassured that they have a valid role to play within the programme and that their participation would be valued. Some may be deterred by the initial training session.

2.5.2 Time constraints

Experience in Barnet has shown that there is real difficulty in recruiting enough volunteers. It has been found that the greater the commitment required of an individual (including time for their own training), the harder it is to recruit helpers.

Thomson (1997) recommended that separate courses should be held for each skill being taught and that each course should last about half a day.

By this reckoning, a course consisting of five one-hour sessions would require five half-day adult training sessions. It was felt that, although this level of training would yield expert and confident volunteers, it may be very difficult to recruit sufficient numbers willing to make such a commitment, and so a shortened volunteer training course was devised (see section 4.1).

Chapter 3 The original *On The Move* resource

3.1 An overview

The *On The Move* resource was developed by BITER on behalf of the AA Foundation for Road Safety Research. The accompanying research report (Clayton *et al.*, 1995) says:

'The resource is realistic in that it presents real situations to pupils and provides activity-based tasks. It challenges children to think seriously about appropriate strategies to adopt when using the road.'

The classroom-based resource consists of five elements:

- **The Big Book**

An A2-sized book (600mm x 400mm) including photographs and text which give information and can be used for 'decision making' discussions. It was designed to be used as a resource book to which both the teacher and the pupils can refer.

- **Stimulus sheets**

24 sheets that form part of the teacher's notes. These are not intended to be pupil worksheets but to be used by the teacher to develop activities for use within the curriculum.

- **Interactive poster**

This is constructed from a series of photographs that can be used to form a changing display that can be used to support different issues in the class.

- **Street sounds tape**

Includes a series of sounds which are designed to prompt children to write or draw what they thought about when they heard them. This then can be used to form part of class discussion work.

- **Teacher's notes/worksheets**

These provide a background to the project; information and statistics to be used to support classroom activities as well as activities that can be expanded for use in the classroom.

As *On The Move* was intended as a classroom-based resource it contained no specific practical training activities.

3.2 Linking with practical training

Initial discussions with teachers indicated that they would find it very time consuming to carry out practical training and develop sufficient worksheets from the original *On The Move* resource to support the training in the classroom. They indicated that they would not be able to make full use of the *On The Move* resource without help to develop the necessary sections.

Conversely though, in order to carry out the practical training, they needed to be able to incorporate it into the National Curriculum by supporting it with classroom activities. It therefore became obvious, at an early stage, that the project needed to develop not only a volunteer training pack and support material but also the teaching material that enabled class teachers to use the original *On The Move* resource to its full potential. It was also necessary to develop guidance material for teachers to help them identify those parts of the original *On The Move* pack that specifically supported the aims and objectives of practical pedestrian training for children aged eight and nine years.

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Additionally, it was important to provide a specific framework and guide to assist the teachers in planning their delivery, including:

- a guide to the timing of the activities;
- equipment/resources required;
- organisation of the pupils, worksheets needed and the aims and objectives for each week's activities;
- suggested lesson plan.

A need was also identified for a set of guidelines to assist professional RSOs in promoting the training in the schools and help them facilitate the necessary teacher/volunteer training. Whilst the guidelines should encourage anyone undertaking such training for the first time to consult 'experts' for advice/guidance, it should be possible for any teacher to use the resource without any outside assistance (eg local RSO support).

Following this initial consultation, three specific resource requirements were identified:

- 1 Training material to enable RSOs to lead training/briefing sessions with teachers and volunteers (see section 4.1).
- 2 Teachers' worksheets with notes to assist the use of the original *On The Move* resource in the classroom to specifically support practical pedestrian training for children aged eight to nine years (see section 4.2).
- 3 Volunteers' support material for use during the practical on-road sessions (see section 4.3).

Chapter 4 Developing the new materials

The three resources detailed in section 3.2 were trialed and redesigned throughout the project. Their development is described below:

4.1 Training the volunteers

A resource was developed to help instructors, such as RSOs, in training adult volunteers. It was designed to provide the volunteers with a structured, yet simple, series of exercises which generally mimic the practical lessons that they would be required to teach the children when they are working with a class. It was suggested that this preliminary training session lasted about one hour, depending on the location of the roadside work and on the confidence and competence of the adult volunteers.

All potential volunteers are road users themselves and so have some prior knowledge of crossing the road safely. Training the volunteers consists of several elements:

- reinforcing their own knowledge;
- helping them understand the limitations of children aged eight/nine years;
- working through the pack describing the layout and content of the practical activities;
- developing teaching techniques to help them work effectively with children to achieve the aims of the individual activities.

Experience has indicated that the most important factors to take into account are:

- The training session should take place as close to the start of the work with the children as possible as this keeps everything fresh in the minds of the volunteers;
- The training session should be no more than one session as any greater number of sessions adds to the problems of recruitment of volunteers, as they are then being required to commit themselves to a greater number of visits to the school;
- Ensuring that all volunteers receive the relevant training. (Particularly relevant to those considering using a 'job-share' approach.);
- Making sure that volunteers have the opportunity to read through the notes and guidance for each session's activities prior to teaching them;
- Ensuring that the volunteers are clear as to the exact location for each of the different sessions, what action to take if the location is for some reason unavailable and the prescribed route to the location (as appropriate).

A sample of the training for volunteers is given in Appendix A.

4.2 Teachers' worksheets

The new materials have been developed as a resource covering five separate units, each containing classroom-based and practical activities. The amount of classroom-based work is generally greater than the curriculum time will allow. This is intentional as it caters for the most able children. Alternatively if a school wishes to spend more time on an area of work, then the number of prepared worksheets assists in this.

Table 1 below shows the course content, by unit.

Table 1
Organisation of
practical and
classroom based
activities

Unit 1	Practical	Identification of parts of the road and their relevance to road safety Identification of traffic direction Identification of a safe location to cross a road
	Class	Identifying road parts Geographical effects Roads and traffic
Unit 2	Practical	Communication-car/driver Blind spots, indicators, various lights Safety clues (exhaust fumes, people in vehicle etc.) Crossing between parked cars
	Class	The car – identifying various features Reaction times What is speed? Traffic sounds
Unit 3	Practical	Effect of weather on traffic, – use of senses Speed and distance Crossing between parked cars Crossing safely near junctions
	Class	Weather effects worksheet Light and ideas of conspicuity Colour – camouflage and contrast
Unit 4	Practical	Use of controlled crossings Crossing near complex junctions Crossing near hazardous junctions Ways to cross the road
	Class	Road signs Analysing potential dangers Accident statistics
Unit 5	Practical	Assessment activities
	Class	Assessment activities

Where possible the classroom based activities have been linked to or refer to the original *On The Move* resource and require the use of some of the material in the resource, particularly the ‘interactive poster’ or the traffic sounds cassette. The new worksheets are intended for use in the classroom to reinforce the concepts covered in the practical sessions and provide the pupils with additional information in related areas. The worksheets become increasingly more demanding as the course progresses, allowing the more able pupils to continue working and developing their understanding whilst the less able student is still able to complete the most relevant material. The material is intended for use by pupils working in small groups (preferably the same groupings as the practical training groups). This allows more adventurous activities (for example the work on Light and Dark) to be conducted without too much support in the classroom. It also encourages the groups to “investigate” specific projects and for all groups to present their findings to the rest of their class at a later session.

Grid-sheets are also provided (see Appendix B). The grid-sheets give guidance about the organisational requirements. They contain approximate lesson timings, resources required (scissors, glue etc,) suggested class organisation (in pairs, groups, whole class activity), and any worksheets needed from the original *On The Move* pack. The grid-sheets also contain the aims and objectives for the practical activity and associated classroom session.

4.3 Volunteers' support materials

Developing the new materials

The material provided to support the volunteers was complex to design. The original design of hand-held cards proved to be too simplistic and did not give volunteers enough information either about what to cover or about how to work effectively with children in on-road situations. Volunteers said that they preferred to have more in-depth material to study prior to attending each session and to have the sheets with them outside on a clipboard.

It was realised that the information on the volunteers' sheets needed to be changed to provide a briefing for each lesson, with instructions about what to cover and open-ended questions to help volunteers work directly with the children.

A number of techniques were used to develop these materials, involving encouraging children to discuss the issues and concerns about crossing the road and being a pedestrian in general:

- **The draw and tell technique** is widely used in many Personal, Health and Social Education projects to obtain information concerning children's points of view regarding the road and road safety issues (see Williams *et al.*, 1989);
- **Interviewing** children in small groups in a relaxed manner and informal setting;
- **Eavesdropping** on groups whilst they are engaged in specific activities, (a very informative method, as children are generally unaware that they are being monitored, and it gives an insight into the effectiveness of peer group learning);
- **Discussion sessions** where the children are required to analyse and comment upon certain situations. This could include various scenarios, such as:
 - a real situation in the environment in which they have been working;
 - using the 'interactive poster' from *On The Move* to make judgements regarding the aspects of safety as defined by their practical pedestrian training, and on occasions they were asked more specific questions;
- **Feedback presentations** where children are asked to tell the rest of the class what has been discussed.

In all the practical work the emphasis was on encouraging the children to talk freely about their answers and comment on each other's points of view. From the various techniques it was possible to gain a good insight to the children's levels of knowledge and understanding and their skills interpreting this information.

An example of the volunteers' supporting material is given in Appendix C. Most of this material was provided as A4 laminated sheets that could be taken outside attached to a clip-board.

Chapter 5 Evaluation of the materials

5.1 The sample of schools

The London Borough of Barnet is an example of a mainly suburban area, but also encompassing parts more akin to an inner city environment. The schools in the sample were typical of schools throughout the United Kingdom. They included both rural and inner-city schools, and schools in both deprived and affluent areas. The sample also included a very large school in which many of the pupils spoke English as a second language, and a church school.

For the purpose of this study it was agreed to trial the materials at a variety of locations, including those outside Barnet, to ensure that they were suitable for nationwide use. Therefore, in addition to Barnet schools, a rural school in a village location in Hertfordshire and an inner city school in the London Borough of Camden were also chosen.

Of the seventeen schools that were originally approached, six took part in the final trials of the materials. A further two schools were used to pilot the work, to attempt to iron out any problems before it was trialed fully.

The nine other schools elected to drop out mainly due to lack of adult volunteer support or other pressures on curriculum time.

5.2 Methodology

Each participating school was asked to recruit adult volunteers. These volunteers were then all trained consistently by the same member of the research team. Following a 'pre-test' of small groups of children (see section 5.5), the teachers and adult volunteers were asked to complete the training course, as described in Chapter 4. Following completion of the training, the researcher returned to the school to 'post-test' the children and collect feedback from teachers and adult volunteers.

As this was an exploratory study most of the research was of a qualitative nature, using fairly small samples of children. This allowed freedom for discussion and any subsequent adaptation of the material.

The following areas were evaluated using a variety of procedures:

- **The classroom worksheets** linking the training directly with the original *On The Move* resource. Teachers were asked to complete an evaluation sheet (Appendix D) assessing the effectiveness of the worksheets and how well they helped them use the *On The Move* resource. See section 5.3.
- **The practical pedestrian training** – the teachers' and volunteers' perspective. This was in the form of a formal written evaluation form that was completed by both teachers and volunteers (see Appendix E) and informal discussions with the researcher. Teachers taking part were also asked to discuss the project informally with the volunteers. See section 5.4.
- **Pupils' learning outcomes** – evaluated by observing the pedestrian skills of a sample of participants, using the sheet given as Appendix F. See section 5.5.

5.3 Classroom worksheets

The teachers were asked to complete the evaluation sheet shown in Appendix D, which was designed to assess the following:

- **overall appropriateness to age group.** Was the material appropriate to meet the requirements of the National Curriculum for this age group of pupils in terms of levels of attainment? Also, was the material appropriate in terms of content to reflect the pupils' level of understanding of the street environment?

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- **level of planning.** Was there adequate support in lesson planning to enable the teachers to use the worksheets in conjunction with the *On The Move* Big Book and other material?
- **organisation of resource.** Was the resource user-friendly in the format in which it was presented?
- **suitability of resource.** Was the resource suitable to be used in the classroom setting?
- **suitability of contents.** Were the contents of the resource suitable to be used in the normal classroom setting. Could the activities be undertaken within the classroom?
- **clarity of instructions for adults using the pack.** Could both teachers and volunteers use the material easily without extra Road Safety Officer support?
- **clarity of instructions for children.** Could the children undertake the activities without constant teacher support?
- **links between practical work and classroom activities.** Were the links between classroom and practical activities easy to understand and develop?
- **relevance of work to the practical training being undertaken.** Did the classroom activities seem relevant to the linked practical activities being undertaken?
- **presentation of material.** Was the format and presentation of the material acceptable to the teachers and the volunteers?
- **links to the rest of the original *On The Move* material.** Did the resource help teachers use the other supporting material from the *On The Move* resource?
- **pupils' enjoyment.** Did the pupils enjoy using the material and did they find it stimulating and relevant?
- **variety of activities.** Was there sufficient variety of activities to interest the full range of pupils within the class?
- **assessment procedures.** Were the assessment procedures for the material easy to carry out and use?
- **format of resource (ie folder with sheets).** Was the current presentation of the resource usable and user-friendly in its format?
- **Other alternative formats (ie disc/WebPages).** Would teachers and volunteers be happier if the material was presented in another format?
- **Other comments.** There was also a space for extra comments.

The results are summarised in Figure 1. The responses were, on the whole, very positive, with very few below average ratings. In particular, the teachers seemed to like the presentation and support in lesson planning. They felt that the resource was appropriate to the target group, with sufficient variety and enjoyment for the children.

Five out of the six teachers thought that the format (ie. a folder with sheets) was good or excellent. Half replied that they would be happy if the format was computerised (ie. on disk or web page).

The organisation and content of the practical pedestrian training activities were evaluated. As both teachers and volunteers were involved in different parts of the organisation both groups were asked to complete the evaluation sheet (shown in Appendix B). Both evaluations consisted of the same eight categories. These were:

- **guidelines.** Were the structure and format of the guidelines user friendly? Were they useful particularly for helping carry out the training both from a teacher's perspective

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Evaluation of the materials

and that of the volunteers? Were they clear and was there too much or not enough information?

- **organisation of the practical training.** Was the organisation of the practical activities easy to understand and successfully carried out?
- **range of activities.** Was the range of activities suitable for the age group and ability of the pupil?
- **suitability of the activities.** Were the practical activities themselves suitable for the abilities of the pupils and suitable for the roads around the school?
- **practical content of each training session.** Was there a sufficient number and variety of activities for each session?
- **training for teachers/volunteers.** Was the pre-course training session sufficient to support the practical activities?
- **timing of the practical sessions.** Were the practical session lengths sufficient to cover all the activities? Was the timing of the sessions within the school day suitable?
- **practical training group size.** Was the size of the group taking part in the training acceptable to allow good quality training to take place and to involve all the pupils?

The teachers and volunteers were both asked to score the resource out of five under each of these categories, where one was 'poor' and five 'excellent'.

5.4.1 Teachers' evaluation

As shown in Figure 2, the results of the teachers' evaluations were positive. In most categories evaluated, at least five out of six teachers rated the resource "good" or above.

Additional comments received from the teachers included the following:

"The pack was brilliant, offering a variety of ideas and suggestions which could be tailored to suit teachers' needs. I always felt that there was a lot of variety for the children, which was informative and enjoyable. Children thoroughly enjoyed the range of activities, to word finds, designs, and practical tests ie reflex. Feedback I received from the children and theory work in books reflected a highly enthusiastic bunch of students who thoroughly enjoyed the programme and, more importantly, learnt a lot from it. The On The Move pack contained a variety of educational tools, which were all of high quality. As I familiarise myself with all the information, I will plan and implement better lessons for years to come."

"I enjoyed doing the programme. Easy to use and follow. Perhaps (some) roads not as suitable (as others) to highlight all aspects of traffic problems. Children learnt a lot over the four weeks. It is definitely something I would do again next year. I found the lessons easy to follow. A good variety of activities."

"I enjoyed it."

"It was fun to do for the children – but I found it quite stressful recruiting and organising parental support. Did enjoy it and will try to do it again."

The very positive feedback was due, at least in part, to the fact that many of the potential problems had been ironed out in the pre-pilot stage. It was also noted that the more dynamic teachers tended to rate the resource more highly than the less dynamic ones. One teacher who had made a large effort in volunteer recruitment (including initiating a job share scheme) recorded a good or excellent verdict in every category.

5.4.2 Volunteers' evaluation

The results of the volunteers' evaluation of the practical training (see Appendix E) are shown in Figure 3. In general, the 16 participating volunteers found the material easy to use and were happy with the practical sessions and the training they received.

It is difficult to balance the actual training needs of the volunteers with an acceptable time commitment expected of them. Once volunteers had received the initial training and been involved in the practical sessions they themselves identified a greater training need. As programmes become more established and volunteers have a better understanding of what is needed prior to becoming involved, this will probably occur less, as more of their concerns will be addressed in the initial training session.

The volunteers were generally happy with the group sizes they worked with. They were also happy with the timing of the sessions. The content of the support material that they received and the prompt sheet that they had to use were well received. They generally felt that the material was suitable and easy to use.

5.5 Changes in children's pedestrian skills

A method of assessment of children's practical skills was included in the resource (see Appendix F) to enable schools to evaluate their schemes. This was used to assess a sample of five children from each participating school. The assessment covered:

- Basic crossing procedures;
- Parts of the road;
- Safe/dangerous crossing places;
- Vehicles and pedestrians;
- Walking on country lanes;
- Crossing various types of roads;
- Crossing between parked cars.

Each category was made up of a series of factors designed to assess whether the pupils had gained a range of appropriate pedestrian skills.

The practical pedestrian training material was designed to be flexible and used at a level suitable for the pupils and schools concerned. As a result, not all schools piloted all the material and consequently not all the participating children received the same level of training. Due to the small sample sizes, it was not possible to examine how the levels of attainment may vary with quality and quantity of training.

In order to measure changes in the pupils' knowledge and skills resulting from the training, they were tested once before the training and again after the training. For each school the aggregates of the pupils' overall 'before' and 'after' scores in each category were analysed. It should be noted that the 'after' assessments were carried out very soon after the training had been delivered and while the subject matter was still fresh in the pupils' minds. Also, all the adult volunteers involved were aware that it was a trial and this may well have affected their performance in a positive manner.

Figure 4 shows the results of the 30 children tested. It is clear that improvements were made in all categories following training, such that all the aggregate scores at post-test were over 90 per cent.

The small sample sizes meant that analysis of sub-groups was not possible. However, it was noted that – not surprisingly – children from rural schools were much more adept before training than urban children at walking along country lanes safely. However, following training, urban children performed at the same level as rural children.

Evaluation of the materials

Figure 1
Teachers' evaluation
of classroom resource

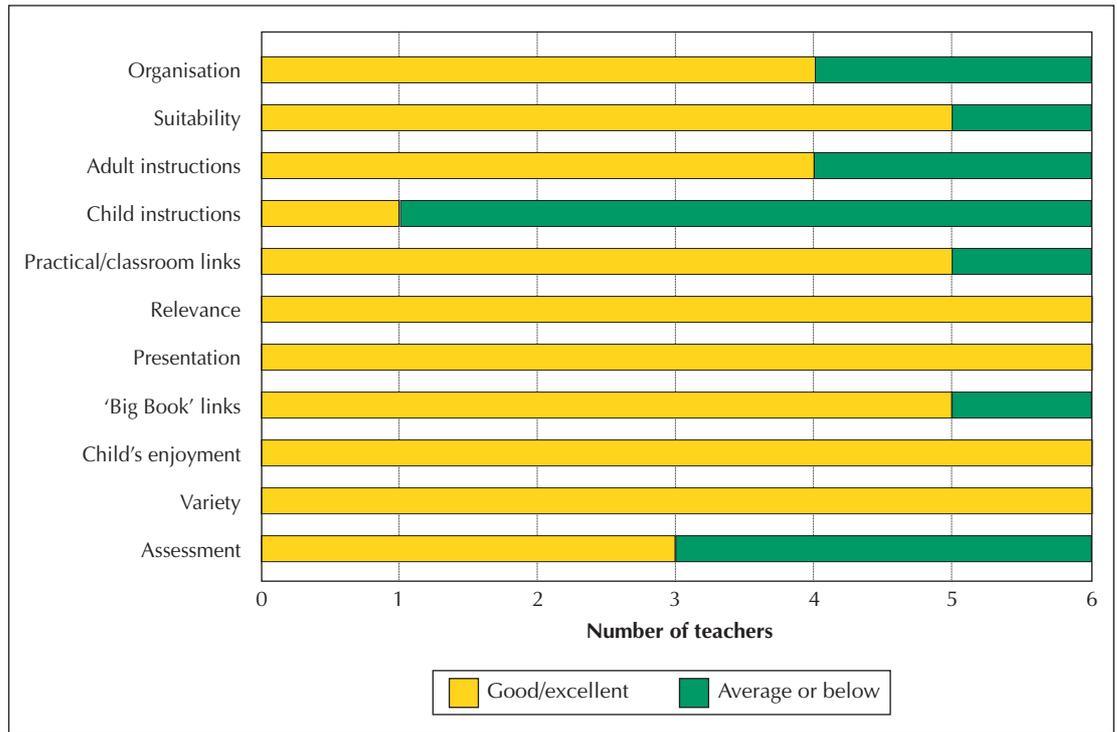


Figure 2
Teachers' evaluation
of practical
pedestrian training

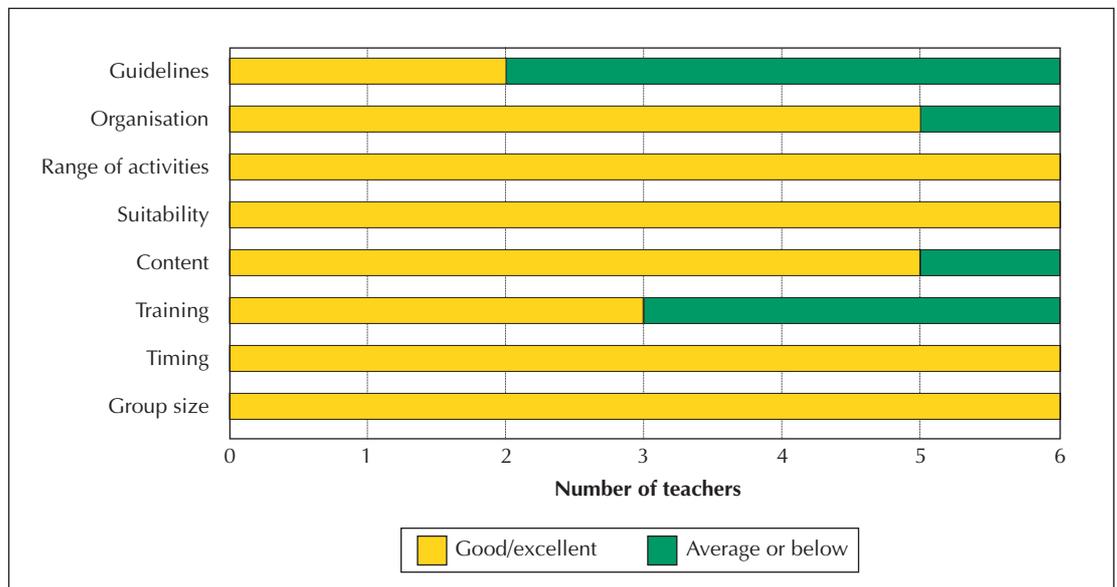


Figure 3
Volunteers' evaluation
of practical
pedestrian training

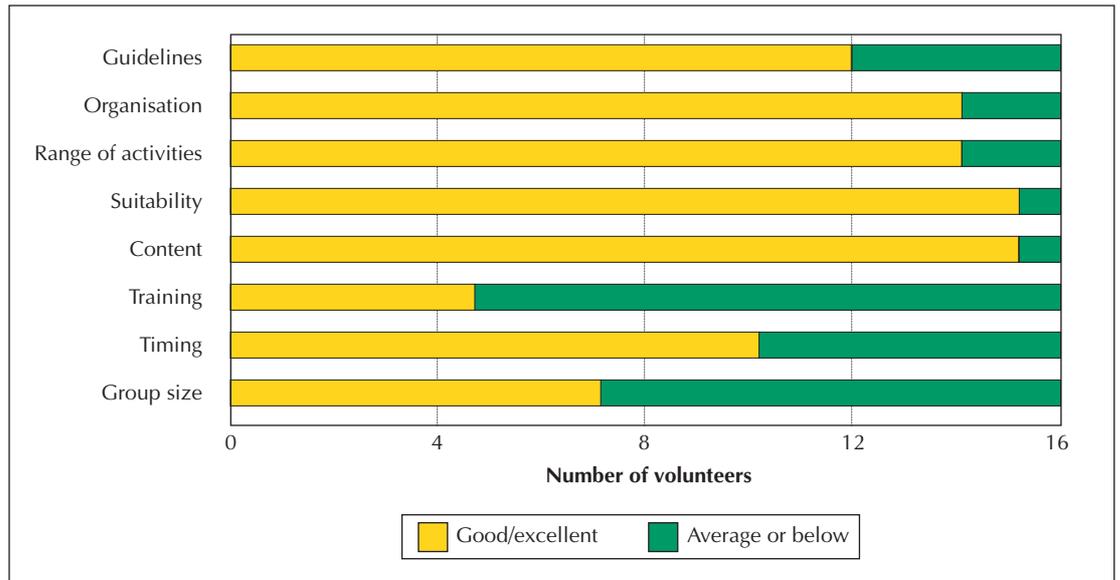
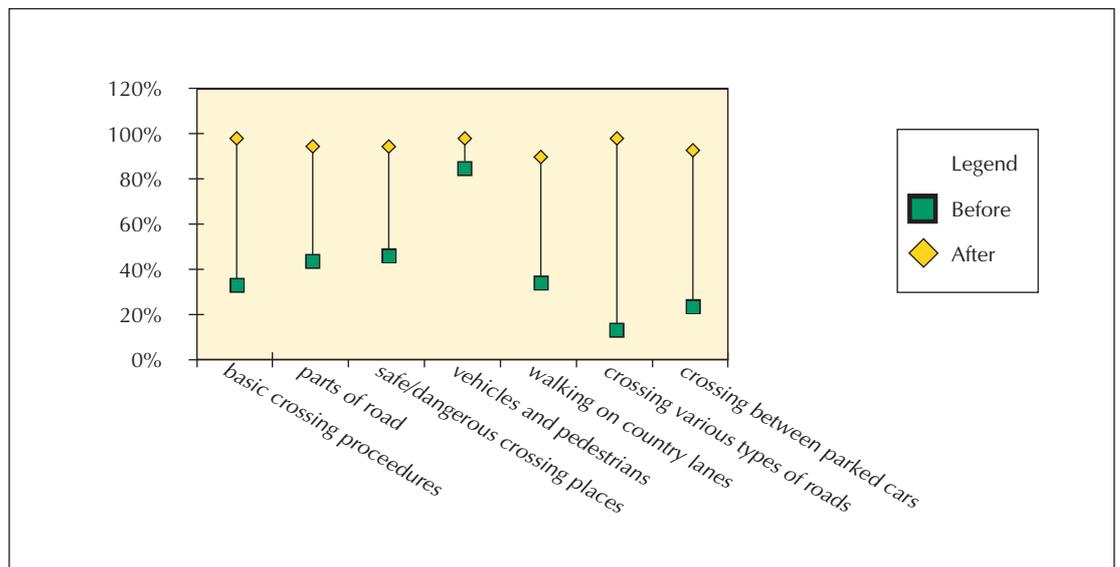


Figure 4
Evaluation of pupils'
learning outcomes



Chapter 6 Conclusions

This project aimed to develop and evaluate a practical pedestrian training pack, based around the *On The Move* classroom-based resource, for use with children aged eight and nine.

The initial consultation process revealed three specific resource requirements:

- a training manual to enable road safety professionals to lead training sessions with teachers and other adult volunteers;
- teachers' worksheets with notes to assist the use of the *On The Move* resource in the classroom to specifically support practical pedestrian training for children aged eight and nine;
- volunteers' support material for use during the practical on-road sessions.

The **training manual** is structured so that a road safety professional can lead training sessions for both teachers and volunteers prior to the pedestrian training activity taking place. Where there is no road safety professional available to provide support the material can be used directly by teachers to enable them to understand the aims and objectives of the resource.

The **teachers' worksheets** were designed to assist teachers to fully integrate the classroom and practical activities. To facilitate this, a grid-sheet was provided for each lesson, detailing the organisational and resource requirements.

The **volunteer support materials** aimed to give the adult trainers self-explanatory notes to enable them to conduct the practical roadside training with groups of children.

The materials and procedures were trialed on a small number of schools. The evaluation process itself demonstrated what the authors had already identified as a major problem in setting up and running practical pedestrian training schemes – getting and maintaining school support, and recruiting adult volunteers.

However, eight schools participated in the project: two in the development stage, to pilot the work, and the other six in the main trials. Procedures were developed to evaluate the scheme. These involved asking opinions of teachers and adult volunteers, and observing children's practical skills before and after training. The main results were:

- the new materials were, in general, liked by teachers. In particular, they seemed to like the presentation and support in lesson planning. They felt that the resource was appropriate to the target group, with sufficient variety and enjoyment for the children;
- the adult volunteers felt adequately equipped to work effectively with a group of children, following a relatively short training session;
- the children appeared to enjoy the activities and showed signs of improving their pedestrian skills following training.

In conclusion, *On The Move* seems ideal to support practical pedestrian training. It would appear from the small trial that the materials developed provide the necessary link between the two and enable road safety professionals, schools, adult volunteers and children to work successfully together.

Conclusions

Chapter 7 Recommendations

The development of the project has resulted in a draft resource that successfully links the original *On The Move* material with practical pedestrian training.

Recommendation 1:

The new materials should be marketed as an optional extra to *On The Move*.

What format should the new resource take?

The participating schools were given the materials free-of-charge in a loose-leaf folder format. This was popular with the schools, but would be expensive to produce and distribute in view of its weight. It may also be wasteful, as many schools will pick and choose elements of the materials and so would not require them all. Another disadvantage of the loose-leaf binder is that pages can easily become lost or mixed up.

The suggestion of a computer-based format (CD-ROM or Web page) was less popular with the schools¹. However, it is not known what effect potential cost might have on their opinion.

New On The Move users

It is understood that the AA Foundation has in excess of a thousand unsold copies of *On The Move*. This new work provides an ideal opportunity to renew interest in the resource.

Recommendation 2:

On The Move should be re-launched with the new materials included as a CD-ROM.

Existing On The Move users

There will clearly be a requirement amongst existing *On The Move* users to be able to include the new practical training element in their courses, but it does not seem reasonable to ask them to purchase a whole new copy of *On The Move*.

Recommendation 3:

The new materials should be available separately on CD-ROM to existing users.

More and more training resources are now available on the internet. For example, the DETR has attached *Kerbcraft* and *Let's Decide, Walk Wise* to its web page. They can both be accessed free of charge. Web pages have the added bonus of being easy to update. However, there would be costs associated with both the setting up and maintenance of a web site. It is possible to make the resource available via the internet, but make a charge for accessing it. This would allow the AA Foundation for Road Safety Research to re-coup some of its costs, but may mean that potential users would pass it up, favouring instead a free alternative resource.

¹ The number of CD-ROMs on the market has increased markedly since this research was conducted. This option may therefore be more attractive to teachers now, as they are more likely to have had experience in using them.

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However, the original *On The Move* resource includes materials which would not be suitable for access via the internet. The new materials have been specifically designed to be used in tandem with *On The Move* and it may be confusing to have parts of a resource available on line and others not.

Recommendation 4:

The materials should not be made available through the internet at this time. This could be reviewed once the other three recommendations have been implemented and demand for the materials has been assessed.

Chapter 8 References

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Appendix A: Example of volunteer training materials

Information For Practical Pedestrian Trainers

General Tips For Volunteer Helpers

Please remember that the children are being trained in most cases for **future** independent travel. The training is not designed to enable them to go out on their own once the course has been completed. **It is therefore important not to give the children or their parents the impression that they are now safely able to tackle traffic situations alone.**

General Road Safety Information:

- X Place the children so that everyone can see properly.
- X At the test sites gather the children into a small group beside you.
- X Be sure **not to block the children's view** and make sure they do not block each other's.
- X Bend down to **child eye level**: this will show you exactly what the children can and can't see.
- X When talking about traffic directions make sure to emphasise the meanings of LEFT and RIGHT by **pointing** in the correct direction (**for them**).

On The Way to the Sites:

- X Use the journeys between sites to reinforce previously taught concepts and ones which the children find difficult such as the **direction** that traffic comes from or can go to.
- X Encourage the children to **observe accurately** what other road users are doing, and to predict what may happen.
- X Help the children to realise that cars can come and go from several directions: not just from right and left but from behind and in front of them for example.*
- X When travelling between sites, be sure to **cross safely** and **involve the children** in the process. (Making sure they **Stop, Look and Listen** each time you cross a road).
- X Encourage them to **Think** about whether it is safe to cross.
(*Many accidents happen because children forget that traffic can come from behind them).

Learning by Doing:

- X Children of Year Four ages (8-9 yrs.) Should be trained in groups no bigger than five for the practical pedestrian work.

Developing a new practical pedestrian training resource

- X Training will take place in the **appropriate setting** and for much of the **practical work** this involves working at the **roadside**.
- X Children learn **best** from **enacting good practice**; they need to learn **how and why** to use the road appropriately, rather than learning a series of rules. They need **practice**, and the training therefore involves **learning by doing**.
- X Your role as the instructor is to **guide** the children's learning experience so that they discover for themselves the best ways to cross safely. The **children should not just carry out a list of instructions** given to them. Try very hard not to give them a list of "do's" and "don'ts" that they have to learn.
- X **Encourage the children to discuss the problem** among themselves - this is one of the best ways for the children to learn, however it is important to take an active role in this to ensure that the conversation remains connected to road safety and not the current state of premier league soccer or the pop charts!
- X **HAVE FUN!**

X **Before taking the children out:**

1. With the teacher or Road Safety Officer walk around the school's local roads in order to select appropriate sites for the practical work.
2. Check that the road(s) are suitable to the lesson content (lesson one requires a road that has as many features as possible that are easily observed, it also requires a 'T' junction or two for work on traffic directions).
3. If there are several groups working simultaneously it may mean finding two separate sites to enable both groups to work without interfering with each other.
4. Make sure a risk assessment has been done for the sites you will be using. This could be done by the teacher or, preferably, by your local Road Safety Officer (perhaps they will help you in picking the sites).
5. Check that all the children have permission from their parents/guardians to follow this work.
6. Ideally a form of easy communication should be established e.g. a mobile phone, or the knowledge of the closest available telephone (nearest public pay telephone if nearer than the school).
7. For the practical lesson on communication a car is essential, it is also essential to ensure that no accidents are waiting to happen. So if you have to use a car parked on a steep incline please chock the wheels, and try to remember to remove them at the end of the lesson!
8. Relax! Do not worry about working with the children, they will love having someone else to teach them. The subject matter is of an everyday relevance and all children at the least will have some horror story that they would love to share with you all. Without even realising it you are already an expert at crossing the road, otherwise you wouldn't be here today, you may not cross the road perfectly every time but you have developed the necessary skills that have enabled you to cross safely. That is what you are now going to help the children learn. Good luck.

The Main Issues

During practical pedestrian training as an instructor you will be looking at the following points:

1. The road environment - features, users, procedures.
2. Communication - with drivers, cars and other pedestrians.
3. Speed/distance and their relevance.
4. Use of controlled crossings/protected crossings.
5. Crossing skills - finding a safe place/between parked cars etc..
6. External factors - weather conditions, conspicuity.

a - The Road Environment

Identification of: road, pavement, kerb/edge, verge, gutter/drain, driveways, dropped kerb, common street furniture, and white/yellow lines.

Understanding of: users of pavements (pedestrians and vehicles), users of roads, vehicles approaching and departing (relevant cues - noise getting louder/softer, vehicles appearing to get larger/smaller), direction of approaching traffic, different types of roads and the implications of this (bigger roads tend to carry more and faster traffic).

b - Communication

Understanding of: indicators, flashed head/side lights, horn, reversing lights, audible warning systems, hazard warning lights, driver's hand signals, importance of eye contact.

Knowledge of: checks to determine likelihood of car moving (person in car, exhaust fumes, engine noise), driver's blind spots, road signs (triangles - warning, circular - ordering, and some of the basic ones such as speed limits, cycle routes etc.).

c - Speed/distance

Understanding of: principle of perspective, use of aural as well as visual evidence, the effect of weather conditions on these two factors, the concept of reaction time and the relevance of this to crossing a road (driver's reaction time).

Experience of: judgement of speed, estimation of distance.

d - Use of controlled crossings/protected crossings

Knowledge of: differing types of controlled crossings (Pelican, Puffin, Pegasus, Toucan, School Crossing Patrol, Police crossing, Pedestrian phase at traffic lights), and protected crossings (pedestrian refuges), crossing devices (subways, footbridges).

Understanding of: how to use controlled and protected crossings safely and/or correctly.

e - Crossing Skills

Knowledge of: what constitutes a 'safe' crossing place, features that can cause dangers (brow of a hill, sharp bend, visual obstructions), the need for constant awareness whilst crossing the road (keep looking and listening).

Understanding of: how to cross at a 'safe' unprotected crossing, the issues of crossing between parked cars (line of sight), the need to cross in the shortest line to minimize time spent in the road, the importance of not running, how to deal with complex crossing situations ('T' junctions, staggered junctions etc.).

f - External factors

Knowledge of: the effects of various different weather types and the implications for road safety, the importance of visibility or conspicuity, location - the differences to be found between a rural setting and an urban setting (Lack of pavement or footpath, the likelihood of animals using the road, lack of road markings etc.).

Understanding of: what can be done to minimize the risks of the weather conditions, the effect that adverse weather clothing can have on our senses.

Appendix B: Example of teachers' worksheets

Lesson 5 - Grid-sheet

Aims and objectives

Pupils should be able to:

- X demonstrate their knowledge of road types and features (eg. carriageways, kerb),
- X explain how drivers use various communication devices,
- X demonstrate an awareness of safety issues when crossing the road (eg. knowing where to check for traffic, safe and unsafe places to cross etc.),
- X justify chosen routes,
- X compose a simple guide to road safety,
- X examine a road setting and analyse some of the features especially with relevance to road safety.

Lesson	Activity Sheets	Activity	Worksheets	Resources Needed	Approx Time	Class Organisation
5	Practical Pedestrian Training - 'Tell Me, Show Me'	P	Checklists (for trainer)		25-30 mins	Group
	Cross that road	WS 1			5-10 mins	Group/Individual
	Can you help?	WS 2		Paper and colours	15-20 mins	Group/Individual
	21st Century Drivers	WS 3		Paper, card colours. Large sheet of paper (brainstorm)	20 mins	Group and Individual
	Safety Scale	WS 4	Safety Scale Worksheet	Photographs from OTM	15 mins	Group/Individual
	Are you looking carefully?	WS 5	Drawing of street scene	Pencils and colours	10 mins	Group and Individual
	What would you do?	WS 6		Photographs from OTM	5-10 mins	Individual

P - Practical Activity

WS - Worksheet

OTM - On The Move (original resource)

Appendix C: Example of volunteers' support materials

Session 1 (Part One) - Identifying Parts of the Road

Organisation:

Adult helper should take a group of children (max group size 5) to a local road as identified by class teacher/RSO. The adult should then ask the children to identify the road and its features, helping to correctly name, identify and explain any features. The children should also be encouraged to identify the different vehicles.

Prompts:

- What can you see?
- What do you think that is for?
- Why do you think we have...?
- What might happen if...?

Ask why street furniture is there.

Ask what various parts of the road are for example

- Do you know what that is? Why there is one of those there? What might happen if there wasn't one of those there?
- Who uses the road?
- Who uses the pavement?
- Do pedestrians only use the pavement? (dependent on answers given before)
Why might a pedestrian use the road?
- Do vehicles always use the road? When might they use or cross the pavement?

Ask about the various traffic as it passes:

- What sort of vehicle was that? Are they all like that? (get the children to label as much traffic as possible) Discuss the differing noises of traffic (generally lorries buses and big vehicles make deeper, louder noises and often cause vibrations).
- Can you see any dangers in this road /street?

Try to respond to the answers given and keep the conversation mainly on road safety aspects. It is very important that you listen carefully to any questions that the children might have and try to answer them fully – LISTEN TO THEIR PERSPECTIVE.

Key Words; (Checklist)

Road	Street	Carriageway	Lane	Driveway
Pavement	Footpath	Subway	Tactile Pavement	Dropped Pavement
Kerb	Gutter	Drain	Edge	Grass Verge
Guard Rails	Post Box	Telephone Box	Lamp Post	Bus Stop
Car	Lorry	Motorbike	Bicycle	Van
Cycle lane	Foot Bridge	Road Signs	Cats' Eyes	Painted lines
Bench	Litter Bin	Trees	Bollard	Pedestrian Crossing



Session 1 (Part Two) - Direction



Organisation:

Group as before, adult takes the group to a local (and previously identified) road which is as simple as local conditions allow. The objective is to increase children's awareness of the direction that traffic is likely to approach from.

Prompts:

- In a minute some traffic will come towards us. If you think about the work we did just now when we looked at the road we noticed that it is split into two lanes. Can anyone tell me why that is?
(coax answer if not forthcoming - so traffic can share the road safely)
- So remembering **that** should help us to work out where the traffic might come from. Does anyone have any ideas?
- Normally when we cross the road, the traffic nearest the kerb that we are standing on should come from where?
- That's right well done (hopefully!)
- Can you think of any times when that might not be the case?
- Good - how might you know if it is a one way street?
- What warnings/signs would let you know that a vehicle was reversing?

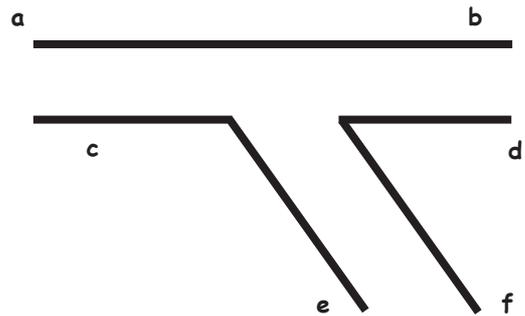
Organisation:

Lead children to a 'T' junction and ask them to identify where traffic might come from after each response the group can discuss their findings. If for example a 'T' junction is being used it would be profitable to repeat this work on each of the three 'arms' and possibly on each side of the three arms (this would allow up to six practices from the one junction), see diagram.

Appendix C: Example of volunteers' support materials

Prompts:

- O.K. then let's see how well you can do!
- I want you 'Jack' (positioned at 'a') to imagine that you are going to visit your best friend who lives over there in the house with the red front door (at f). You need to cross the road but you must watch out for any traffic. Where would you expect the traffic to be coming from?



Following the child's response allow the others to discuss points.

This can be repeated with each child at a different location (b, c, d, & e) with a different storyline.

- How else can you tell if there is any traffic coming? (Coax the answer if necessary-listening)
- Close your eyes and listen to the traffic. How can you tell if the traffic is getting closer?
- So if you can't see anything in the road you can double check by listening very carefully.

(If time permits the above session could be repeated in a situation which presents more of a challenge to the children - ie a crossroads).

The last activity demonstrates that crossing the road in a diagonal direction takes more time than crossing in a straight line. Select one child to do the activity, the remaining children are the 'researchers' who are going to time the two different ways to cross the road. The researchers count 'one and two and three....' whilst standing behind the kerb, The adult and selected child cross together in the ways mentioned. Through observation and discussion the children should reach the conclusion that it is safer to cross in a straight line as it exposes them to the danger of traffic for the shortest amount of time. (This is subject to the absence of any safer route for example SUBWAY, PELICAN CROSSING ETC.)

Appendix D: Teachers' evaluation of the training pack

Please complete the evaluation form below indicating how you rate each statement by circling the relevant number as shown below.

	1	2	3	4	5
	Poor	OK	Average	Good	Excellent
Was the material appropriate to meet the requirements of the National Curriculum for this age group of pupils in terms of levels of attainment?	1	2	3	4	5
Was the material appropriate in terms of content to reflect the pupils' level of understanding of the street environment?	1	2	3	4	5
Was there adequate support in lesson planning to enable the teachers to use the worksheets in conjunction with the <i>On The Move</i> Big Book and other material?	1	2	3	4	5
Was the resource user-friendly in the format in which it was presented?	1	2	3	4	5
Was the resource suitable to be used in the classroom setting?	1	2	3	4	5
Were the contents of the resource suitable to be used in the normal classroom setting? Could the activities be undertaken within the classroom?	1	2	3	4	5
Was the resource easy to use without extra Road Safety Officer support?	1	2	3	4	5
Could the children undertake the activities without constant teacher support?	1	2	3	4	5
Were the links between classroom and practical activities easy to understand and develop?	1	2	3	4	5
Did the classroom activities seem relevant and linked to the practical activities being undertaken?	1	2	3	4	5
Was the format and presentation of the material acceptable to the teachers and the volunteers?	1	2	3	4	5
Did the resource help you use the other supporting material from the <i>On The Move</i> resource?	1	2	3	4	5

Developing a new practical pedestrian training resource

Did the pupils enjoy using the material and did they find it stimulating and relevant and was there sufficient variety of activities to interest the full range of pupils within the class?

1 2 3 4 5

Were the assessment procedures for the material easy to carry out and use?

1 2 3 4 5

Was the current presentation of the resource usable and user-friendly in its format?

1 2 3 4 5

How would you feel if the resource was presented in a CD ROM or Web site format?

1 2 3 4 5

Please write any other comments you may have in the space below.

Appendix E: Teachers' and volunteers' evaluation of the practical pedestrian training

Please complete the evaluation form below indicating how you rate each statement by circling the relevant number as shown below.

1	2	3	4	5
Poor	OK	Average	Good	Excellent

The guidelines. Were the structure and format of the guidelines user friendly? For example; were they useful particularly for helping carry out the training both from a teacher's perspective and that of the volunteers? Were they clear and was there too much or not enough information?

1	2	3	4	5
---	---	---	---	---

The organisation of the practical training. Was the organisation of the practical activities easy to understand and successfully carried out?

1	2	3	4	5
---	---	---	---	---

The range of activities. Was the range of activities suitable for the age group and ability of the pupil?

1	2	3	4	5
---	---	---	---	---

The suitability of the activities. Were the practical activities themselves suitable for the abilities of the pupils and suitable for the roads around the school?

1	2	3	4	5
---	---	---	---	---

The practical content of each training session. Was there a sufficient number and variety of activities for each session?

1	2	3	4	5
---	---	---	---	---

The training for teachers/volunteers. Was the pre-course training session sufficient to support the practical activities?

1	2	3	4	5
---	---	---	---	---

The timing of the practical sessions. Were the practical session lengths sufficient to cover all the activities? Was the timing of the sessions within the school day suitable?

1	2	3	4	5
---	---	---	---	---

The practical training group size. Was the size of the group taking part in the training acceptable to allow good quality training to take place, to involve all the pupils and to ensure good safety management in the on-road training?

1	2	3	4	5
---	---	---	---	---

Please not any other comments you may have in the space below:

Appendix F: Evaluation of pupils' learning outcomes

Basic crossing procedures

(Mark with ✓ or X)

Chooses a safe place to cross					
Stops at the kerb					
Looks all around					
Listens for traffic					
Waits until it is safe, and makes the decision to cross					
Walks straight across					

Safe/dangerous crossing places

A safe unprotected crossing place in a quiet road					
The dangers near a brow of a hill					
The dangers near a corner					
A Pelican Crossing					
A staggered Pelican Crossing					
A pedestrian island/refuge					
A footbridge					
An underpass/subway					

Crossing between parked cars

Activity					
Stops at the kerb					
Looks in both directions after stopping					
Checks exhaust/lights/engine noise					
Advances to parked car on left					
Stops at the line of sight (Pauses 'P')					
Looks right at line of sight (while stopped 'S', walking 'W')					
Looks left at line of sight (while stopped 'S', walking 'W')					
Looks right again at line of sight (while stopped 'S', walking 'W')					
Crosses in a straight line					

Walking on country lanes

Where there is no pavement, walks facing the traffic, keeping close to the edge of the road					
Steps, if possible, off the road, on to the verge, and stands still until an approaching vehicle passes					

Vehicles and pedestrians

(Mark with ✓ or X)

Understands that pavements are for people					
Understands that roads are for vehicles					
Can give an example of when a vehicle may go on the pavement					
Can give an example of when a pedestrian may go on the road					
Can tell if a vehicle is travelling towards them					
Can tell if a vehicle is going away from them					

Parts of the road

Road					
Pavement					
Kerb/edge					
Verge					
Inside edge					
Gutter/drain					
Driveways					
Common street furniture					
Dropped kerb					

Using various types of roads

Walks on the inside of the pavement, away from the outside edge					
Checks for traffic at driveways etc. and knows when to STOP					
Notices broken or uneven pavement					
Can identify obstructions on the pavement					
Can decide when it is possible to walk around obstructions and stay on the pavement					
Keeps on the pavement where possible when passing groups of people					
STOPS , looks all around and carefully checks behind before stepping off the pavement to pass obstacles					
Speed of crossing in a straight line (mark either: slow 'S', normal 'N', Skip/hop 'H', Fast 'F')					

