Strategic Guidance for Road Safety Professionals

RoSPA
**The Royal Society for the
Prevention of Accidents**

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ROAD SAFETY OFFICERS ASSOCIATION

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Road Safety

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Introduction

Aim of the guide

This guide is for use by road safety professionals. It provides guidance on the role and responsibilities of all areas of the road safety function and directs the reader to sources of more detailed information and good practice. It places particular emphasis on professionals from different disciplines working together to achieve a reduction in road casualties.

The Guide provides a broad outline of the aims, strategy and measures available for each discipline in order to promote an understanding of the various disciplines within road safety, how they interconnect and how they can work together to maximise casualty reduction benefits. Therefore, readers will find the chapters on disciplines other than their own of particular interest. The Guide is not intended to act as a detailed manual for each of the road safety disciplines, as there are other specific Guidelines, referenced throughout this Guide, for this purpose.

For example, the Engineering chapter is mainly intended as an information source for their colleagues in Enforcement and Education, Training and Publicity (ETP), rather than Engineers themselves. Similarly, the Enforcement chapter gives guidance to other professionals on the work of Road Policing Officers and the ETP chapter gives information on the work of ETP Professionals. The Guide as a whole demonstrates how the different disciplines fit into the global picture.

The Guide does not provide a master plan of how professionals should work together because this needs to be negotiated locally to meet local needs. However it does emphasise that only true partnership working between all professionals and the public will achieve long term, successful casualty reduction.

The overall basis of road safety

The annual cost of road collisions in Great Britain (including medical, police, insurance, lost output, damage to property and an allowance for pain, grief and suffering) is huge. Road Accidents Great Britain 2001[1] estimates the cost of all road accidents as £17,418 million with £12,530 million of that due to personal injury accidents.

The provision of the road safety function is affected by the availability of resources, both in terms of appropriately qualified staff and finance, the perception of society's demands for safety on the road and the targets set by Government.

The Road Traffic Act 1988 Section 39 (see chapter 1, page 4).

- Allows the Secretary of State to promote road safety by disseminating information or advice on the use of roads, and to contribute towards road safety promotion by other authorities or bodies; and

- Requires Local Authorities to prepare and carry out a programme of measures to promote road safety, conduct studies into accidents on roads, other than trunk roads, within their area, take appropriate measures to prevent such accidents, and when constructing new roads to reduce the possibility of accidents occurring.

In Northern Ireland the Road Traffic Order (Northern Ireland) 1995 confers similar powers.

Following a major review in 1987 ('Road Safety – The Next Steps'), the role of government has developed from simply introducing regulation and implementing national publicity campaigns, to co-ordinating road accident casualty reduction activity at national and local level. It has also created a number of Executive Agencies within the Department for Transport, which are involved in road safety (see chapter 7, page 58).

In 2000 the Government published 'Tomorrow's Roads – Safer for Everyone' a national Road Safety Strategy incorporating casualty reduction targets.

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[1] Department for Transport, Scottish Executive, National Assembly for Wales: Road Accidents Great Britain: 2001 The Casualty Report. Published September 2002.

These have been built into English and Welsh local authorities' five year Local Transport Plans, Scottish Local Transport Strategies, Police Authority annual policing plans and the Road Safety Strategy for Wales[2]. The Strategy encourages all Highway Authorities to adopt their own local targets, publish their plans, carry out casualty reduction schemes, monitor action, evaluate progress and publish outcomes. Best practice and value for money are core elements in road accident casualty reduction and prevention.

The Police Service (see chapter 4, page 46) has responsibility for the enforcement of road traffic legislation[3] and the investigation of road traffic collisions. Chief Constables are consulted on engineering initiatives such as changes to speed limits, junction layouts and the introduction of other safety measures. In Scotland it is often the police, rather than the local authority, who are responsible for the provision of road safety education training and publicity and they employ civilian staff to fulfil this function.

Shared responsibility

Road safety directly involves all road users – virtually the entire population of the UK. It is a complex issue encompassing a diverse range of problems and solutions. Roads are the most dangerous environment in which the majority of people will ever operate, yet they feel relatively safe and society accepts a higher casualty rate than for other forms of transport or environment.

Road traffic accidents do not have a single cause. They result from a number of contributory factors that combine in a way that leads to a road user failing to cope in a particular situation. Road safety practice is a proactive attempt to identify the contributory factors that lead to road accidents, understand how they inter-relate and how they can be modified and prevented, to produce a safer environment and safer road users.

Given the number of people to be reached, an effective road safety manager needs to act as a catalyst, as well as a deliverer of road safety, inspiring and organising others to deliver road safety activities. The road safety manager has a complex task but many potential allies. The Government's 'Health of the Nation'[4] targets for reducing accidents, for instance, have given Health Authority staff a direct interest in reducing road traffic casualties, perhaps with Primary Care Trusts (PCT), through local Health Improvement and Modernisation Programmes (HIMPS). This has created an excellent opportunity for mutual co-operation with them, using their existing structures to reach target groups and deliver appropriate road safety advice and materials.

From 1st April 2003, Health Authorities in Wales were replaced by Local Health Boards.

Teachers play a vital role in delivering road safety education to children and young people. Parents and carers also have a crucial role to play in their children's road safety education and training, one which can be both positive and negative depending upon parental attitudes to road safety.

Road safety is also a major concern for adults. Companies should have policies to protect their staff and others from dangers on the road. Community agencies and representatives, and tenants and residents associations can all be powerful tools that road safety professionals can use to get their message across. Pressure groups can prove a useful ally.

The road safety manager also needs to be aware of other influences. It is now widely recognised that casualty totals are only one aspect of road safety, albeit the most important, and that modal choices, health risks from adverse environmental impact, community severance, encouraging good citizenship and physical fitness are all relevant to the road safety manager's work.

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[2] Road Safety Strategy for Wales Welsh Assembly Government 2003.
[3] Other agencies such as the Vehicle & Operator Services Agency (VOSA) also have an enforcement responsibility.
[4] The Health of the Nation White Paper, published in 1992.

Environmental, health and citizenship concerns have an increasing influence on transport policy, and road safety managers should contribute their expertise in the search for local solutions, which satisfy safety, environmental and health objectives.

Terms used in the guide

The terms 'crash', 'collision' and 'accident' have been used interchangeably in the document apart from the Engineering section where the term accident has been retained because it has a specific meaning for engineers.

The term 'road safety manager' refers to the person responsible for planning and delivering an authority's road safety services and who acts as a road safety facilitator in partnership working. Within the local authority, the road safety manager may hold responsibility for the whole function or the authority may split the responsibility for road safety engineering and for education, training and publicity. Within the police authority, responsibility is usually split for a) road policing and the enforcement of road traffic legislation b) collision investigation c) traffic management and d) management of safety cameras. Structures also vary, with some police forces covering all or some of these functions centrally while in others some responsibilities may be delegated to Basic Command Units.

The variety of organisational and operational structures can make it difficult for these diverse road safety professionals to make contact and work together. It is essential that they do so, and also work with others involved in road safety such as health and education services. This Guide aims to facilitate this process by detailing best practice advice and by providing information on the roles and responsibilities of the other professionals working in road safety.

Road safety functions and targets

This chapter describes the provision of the four E's of road safety: Education, Engineering, Enforcement and Encouragement, the road safety manager's role in each of these areas, and the important contribution that s/he makes to the overall target of casualty reduction. There are also sections on sources and use of accident information, setting priorities, resource management and professional training and qualifications.

1.1 Statutory duty

The 1988 Road Traffic Act, Section 39, puts a 'Statutory Duty' on the local authority to undertake studies into road accidents, and to take steps both to reduce and prevent accidents. The wording of the Act is:

39. (1)

"The Secretary of State may, with the approval of the Treasury, provide for promoting road safety by disseminating information or advice relating to the use of roads."

39. (2)

"Each local authority must prepare and carry out a programme of measures designed to promote road safety and may make contributions towards the cost of measures for promoting road safety taken by other authorities or bodies."

39. (3)
"Each local authority –
a. *must carry out studies into accidents arising out of the use of vehicles on roads or part of roads, other than trunk roads, within their area.*

b. *must, in the light of those studies, take such measures as appear to the authority to be appropriate to prevent such accidents, including the dissemination of information and advice relating to the use of the roads, the giving of practical training to road users or any class or description of road users, the construction, improvement, maintenance or repair of roads*

for which they are the highway authority, in Scotland, local roads authority, and other measures taken in the exercise of their powers for controlling, protecting or assisting the movement of traffic on roads, and

c. *in constructing new roads, must take such measures as appear to the authority to be appropriate to reduce the possibilities of such accidents when the roads come into use."*

1.2 Background

According to Road Accidents Great Britain[5] (RAGB), most collisions occur due to a combination of factors. About two-thirds of killed and seriously injured (KSI) accidents occur in built-up areas, i.e. on roads subject to speed limits up to and including 40 mph, but over half of fatal collisions occur on non-built up roads. One quarter of all crashes occur in the dark as do over a third of fatal accidents. One third of all collisions occur on wet roads.

Pedestrians make up almost a quarter of road user fatalities. One in seven of those killed in road collisions are children or adolescents. Over half of recorded deaths and serious injuries are amongst car occupants. The risk (per kilometre travelled) of being a casualty in urban areas is highest for riders of powered two-wheeled vehicles and pedal cyclists. Child pedestrian casualty risk is higher for children living in socially deprived areas and who are from ethnic minority communities. However there may well be statistical variations between local data and RAGB so road safety managers will need to take this into account when planning and prioritising.

The interaction between human factors and road features has important implications for safety engineering and road user education, and highlights the need for planners, engineers, road safety officers and police to work closely together.

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[5] Road Accidents Great Britain: The Casualty Report. Annual Publication by HMSO providing national information on road traffic casualties.

The Government's review of road safety in 1987 'Road Safety – The Next Steps' and the publication of the first edition of the Local Authority Associations' 'Road Safety Code of Good Practice' brought a sea change in road safety casualty reduction and prevention, with the first Government target to reduce road accident casualties.

An inter-disciplinary approach was developed and introduced which sought to examine the causes of road accidents and their possible treatments using the mechanisms of Engineering, Education, Enforcement and Encouragement. The '4 E's' are no longer seen as discrete activities but provide opportunities for bringing together people with an interest in road safety.

The next set of targets adopted in 2000 in 'Tomorrow's Roads Safer for Everyone' encourages the multi-disciplinary approach and the need for all sections of the community to work together to fulfil the Government's strategy. The targets to be achieved by the year 2010 and based on the average for the years 1994-98 are:

- A 40% reduction in the number of people killed or seriously injured in road accidents;

- A 50% reduction in the number of children killed or seriously injured; and

- A 10% reduction in the slight casualty rate, expressed as the number of people slightly injured per 100 million vehicle kilometres.

As a result of the Spending Review 2002 this target was updated to include 'tackling the significantly higher incidence in disadvantaged communities'.

Local authorities are expected to have their own casualty reduction targets to support the national targets.

The European Union has also set a casualty reduction target of:

- A 50% reduction of killed and seriously injured by 2010 compared to the year 2000.

To meet such targets input into the '4 E's' must now be expected and encouraged from many organisations representing the public, private and voluntary sectors of the community, a development which should be welcomed and encouraged when planning road safety projects.

These contributions are important to the road safety manager as they may also result in other skills and resources being made available. It is important, therefore, that the road safety manager, whatever their own discipline, should have a clear understanding of the '4 E's' how they inter-connect and the role they play in reducing and preventing road crash casualties.

1.3 Road safety education, training and publicity (ETP)

In general terms, these are defined as follows:

Education is a broad based activity, which usually takes place in schools and other educational establishments. It deals with ideas and concepts such as hazard perception and management of personal risk in relation to the road environment, and the development of coping strategies. It also includes development of an individual's understanding of their responsibilities to other road users. It is a gradual process, which may take place over a number of years.

Training is mostly concerned with creating or developing practical skills and is short term in duration.

Publicity is designed to provide information, raise awareness, give advice on appropriate behaviour, and thereby change attitudes towards a particular issue. It can also reinforce positive attitudes and behaviour learned through education and training.

All three activities aim to alter or influence behaviour, while education seeks to inculcate a positive attitude in road users, which will contribute to a safer environment for all.

Road safety education

One of the prime objectives of the road safety manager is to ensure that road safety education and training is delivered to all road users as a spiral curriculum. To produce road safety conscious adults, it is imperative to develop road safety programmes that are progressive and address all stages of an individual's development. As children grow older, their travel patterns and educational needs change. The programme needs to meet all current educational requirements and grow and develop throughout the child's life and be integrated into other learning and life activities. It needs to be provided on a frequent and regular basis.

The 'Good Practice in Road Safety Education Project' organised by the Transport Research Laboratory (TRL) for the Department of Transport between 1992 and 1995 advised that road safety officers could deploy their resources more effectively by minimising the teaching activities of their staff and concentrating more on the dissemination and promotion of road safety education in schools and sought to establish road safety education firmly within the curriculum of all schools. There are four main documents resulting from this project:

a. **Primary schools:** which indicates some of the ways in which primary teachers in the trial areas planned and organised road safety education in the context of the National Curriculum.

b. **Secondary schools**: which indicates some of the ways in which secondary teachers in the trial areas planned and organised road safety education in the context of the National Curriculum.

c. **In-service training:** which outlines how in-service training for road safety officers,

police officers, teachers and others can develop awareness of both the breadth of road safety education and the opportunities it provides for supporting the curriculum in schools.

d. **Organisations:** which indicates how road safety officers and the agencies involved in the promotion of road safety education, can work together to reinforce each others' influence in schools and deploy their resources effectively.

They cover a wide range of good practice and provide a useful guide on how to establish or continue the link between the school curriculum and road safety education, as well as the importance of in-service training and the co-ordination of the various agencies concerned with road safety.

In Scotland research commissioned by the Scottish Road Safety Campaign in 1999 has made similar recommendations[6] that the best use of road safety officer's time is in an advisory and support role rather than in providing direct road safety teaching. This research has also provided the basis of the Road Safety Education Strategy for Scotland which is being taken forward by a steering group consisting of representatives from Road Safety, Health and Education.

Other areas of road safety education should also be considered for inclusion in the ETP programme of work for example:

- Pre-school staff

- Post-natal health providers on in car safety

- Children's Traffic Club

- Sure Start, a scheme working with parents in areas of health inequality

- Teacher training.

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[6] Development Department Research Findings No. 78 Road safety Education in the Scottish Curriculum Tony Graham, ODS Ltd, Frazer McCallum and Professor Peter Duff, Aberdeen University.

Road safety training

Dealing with the road environment is a practical activity and as such it requires skills training. Pedestrian, cycling, and where appropriate motor-cycling and driver training should be built into the road safety curriculum. Road safety professionals should ensure that any education given in theory is integrated into the practical skills needed by the individual to remain safe on the road.

Training is designed to provide the necessary skills to particular road user groups to safely undertake specific activities. However, these activities should not be considered in isolation. Cyclist training should build upon what has already been learned in pedestrian training and education, and motor-cyclist and driver trainers should ensure that the training they are providing is complementary to and builds on the road safety education and training their pupils have already received.

The Manager may also consider the scope for certain services to be provided by outside bodies under his or her direction and supervision.

DfT is shortly to publish a report on the methodology for evaluating the effectiveness of road safety education interventions, which will be available on the DfT website[7], along with information on other useful research.

Adult education

The approach to training and education for adults presents a different challenge. Unlike school children, they are not a captive audience. Adults will have established their own ideas on road use techniques and may have greater difficulty in adopting new behaviour patterns.

Training courses should, therefore, be specific and targeted at selected groups of road users. The scope and range of topics is extensive and needs to take account not only of standard elements, such as motorcycle riding techniques, better driving courses etc., but also of more specific and locally identified needs. Advanced training should not over emphasise the skills element[8] but give equal weight to behaviour modification and positive attitudes to safe road use. Training schemes should also seek to involve all of the agencies that have an interest in road safety matters, in particular, those who have specialist expertise.

Encouraging employers to manage the safety of their own drivers provides an opportunity to continue road safety training and education with a high-risk group. Independent research commissioned by the Health and Safety Executive (HSE) estimates that between a quarter and a third of all road traffic incidents involved someone who was at work at the time[9].

Encouraging employers to successfully tackle the road risk of their employees could have a substantial effect on casualty reduction. Businesses should be encouraged to develop their own travel plans. Local training agencies could help ensure consistency and standards of driver training.

Road safety publicity

The Department for Transport, SRSC and ROSCOW organise national publicity campaigns on many topics. This allows local road safety managers to run their own publicity and enforcement campaigns to either coincide or complement the national campaigns. In May 2000 the DfT launched the 'Think' branding, its aim is to provide a continuous programme of local and national publicity so that road safety is constantly to the forefront of the public's mind.

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[7] http://www.roads.dft.gov.uk/road safety/road research/index.htm

[8] The CIECA EU 'Advanced' Project, recommendations paper for voluntary and obligatory post licence driver and rider training.

[9] The Work Related Road Safety Task Group, 'Reducing at-work road traffic incidents' Report to Government and the Health and Safety Commission.
http://www.orsa.org.uk
http://www.rospa.org.uk/morr/index.htm
http://www.dft,gov.uk/

Like many other road safety activities, publicity needs to be considered in a broader context than a single agency or authority. The creation of a local 'casualty reduction network' is recommended to provide a wide contact base to promote and encourage good practice.

The starting point for publicity should always be with evidence that a particular problem exists, and that publicity is likely to play a role in affecting change. Evidence may come from national or local accident data; agencies, such as the police or health; pressure groups; elected members or private individuals. It can then be decided if the problem can be tackled effectively through the use of publicity or by a combination of activities. Each campaign should involve monitoring, assessment and evaluation to determine how effective it has been in fulfilling its objectives and what lessons can be learned for future campaigns.

The EU Tapestry Project[10], due to report in November 2003, is seeking to provide a methodology for evaluation and effective targeting of publicity campaigns for sustainable transport. This information should be transferable to road safety publicity.

1.4 Road safety engineering

Road safety engineering is considered to be the physical construction or alteration of roads, while endeavouring to create a road environment that is safer for all road users. Some of these features are primary and are intended to prevent collisions while others are secondary and are intended to reduce the levels of impact and severity of casualties.

It is vital that there is a good working relationship between highway safety engineers, ETP, police and enforcement officers, so that road safety engineering projects can benefit from a wider view and input. Liaison with highway engineers, traffic engineers and transport planners is also important. Engineers should appreciate and value the roles of ETP and police officers with their experience of public perceptions about roads and the risks associated with how they are used. ETP officers have particular knowledge where schools and children are concerned and specialist police officers can offer particular advice on how road layouts can affect the physics of car handling. Both groups should be able to give objective advice on, and directly contribute to, a range of large and small schemes. In particular, they should be involved in safety audits (See 3.6 chapter 3, page 37) at the relevant stages. Engineers should also consult with the local community and with user groups who can provide valuable information on what they need from their road environment and engineers can make it clear what engineering can and cannot do.

School crossing patrol managers have specific knowledge of sites where pedestrians, particularly children, experience difficulty in crossing the road. Engineers need to consult with the manager when planning remedial action at a site, which may have an adverse effect on the safety of the school crossing patrol's operation.

Engineers should also be aware that the public need to be educated on the benefits of engineering schemes and in some instances how they should use them. This work should be undertaken by ETP professionals and should be costed into budget applications.

Effective road safety engineering depends on reliable data about where, when, how and why accidents occur. Remedial action should be focused on sites, routes and areas with poor accident records in order to concentrate efforts where there is a known, rather than a perceived, risk.

The three main approaches to road safety engineering are accident investigation, analysis and prevention, urban safety management and safety audit.

Accident investigation analysis and prevention

Highway safety engineers identify problems from the analysis of accident data. They then select, design and implement remedial measures, which are monitored and evaluated to assess casualty reduction achieved. Their work includes treating sites where there are accident clusters at a junction or short length of road; treating a series of locations with common accident factors; treating stretches of highway, which have above average accident rates; and treating areas where accident rates are high. Local safety schemes and traffic calming have proved particularly successful in reducing casualties.

Urban safety management

Urban safety management (USM) is a structured approach to road accident prevention and casualty reduction that requires a coherent range of actions be taken. It can help local authorities develop a safety strategy for each of their urban areas. USM involves adjusting the balance between safety, access and ease of mobility, and often includes the redistribution of traffic and speed management.

Safety audit

It is recommended that a safety audit should be undertaken as part of the highway design process. The main objective is to ensure that all highway schemes operate as safely as possible when open to traffic. An audit ensures that a scheme is considered systematically and at relevant stages in its development by a multi-disciplinary team with expertise in safety engineering and accident investigation and prevention, which is independent of the design team. IHT Guidelines on Safety Audit recommend the inclusion of a road safety officer and police traffic management officer in the multi-disciplinary team. The school crossing patrol

manager should be included where appropriate. The advice given in Planning and Design Guide should be taken into consideration (see 3.7 chapter 3 page 38).

1.5   Road safety enforcement

Enforcement of the road traffic laws is the responsibility of the Police and the Vehicles and Operators Services Agency (VOSA) but some areas have been decriminalised and are now the responsibility of the local authorities.

The Association of Chief Police Officers in England, Wales and Northern Ireland (ACPO) has produced a roads policing policy, entitled 'Modern Road Policing A Manifesto for the Future'[11].

This policy aims to reverse the trend of recent years where road policing was the poor relation and focuses on the following four tasks:

- Enforcing the law
- Promoting road safety
- Investigating incidents
- Patrolling.

Her Majesty's Inspectors of Constabulary also produced a thematic report on Road Policing and Traffic.[12] This report recommends that road policing should be an integral part of core policing and should follow an intelligence led policing model to achieve casualty reduction.

In November 2002 the Home Office published the first National Policing Plan for 2003-2006, which recommends that police forces and authorities include in their local plans strategies for reducing road deaths and injuries and achieving a safe environment for all road users. These strategies should be targeted and intelligence led.

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[11] http://www.acpo.police.uk/policies/ba_brunstrom_manifesto2.pdf
[12] Road Policing and Traffic HMIC Thematic Inspection Report 1998.

The Association of Chief Police Officers in Scotland (ACPOS) has produced a National Road Policing Strategy 2001-2006 entitled 'Safer Roads in Scotland'. The key themes of this strategy include better road user behaviour, reduce offending, safer vehicles, safer roads and reduced road user crime.

Statistical collection

The police are responsible for the collection of statistical data from reported injury traffic collisions. This information is collected and is known as STATS 19[13] data. The content has been agreed nationally as important to road safety. Local forms may, in addition, include information, which has been agreed locally with road safety officers and engineers, such as where a child pedestrian casualty goes to school. The school a child casualty attends is assigned a numeric code for identification and subsequent road safety action in some local authorities. The inclusion of such local information can improve the targeting of road safety initiatives but it is important that the police officer completing the form understands its importance and the significance of the data being collected. The STATS 19 form does not record data on non-injury collisions, it only records the injury collisions which are reported to the police. Comparison between STATS 19 data and hospital records has shown that there is an under reporting of some injury collisions.

Collision investigation

When a fatal or potentially fatal collision occurs a full investigation takes place under the guidance set out by the Road Death Investigation Manual[14]. The manual sets out clear guidelines on the investigative process and in particular investigators should amass all available evidence so that all viable lines of enquiry are dealt with thus ascertaining all the causes of the collision whether they be human, environmental or vehicular. The manual fully embraces the concept of precipitating and contributory factors. The investigative model contained therein states that investigators should inform other agencies regarding remedial information, which is intended to prevent further collisions occurring at that scene or in similar circumstances.

Traffic management

Many police forces have now established traffic management departments, which can be staffed by police officers, support staff or a mixture of both. These departments represent the Chief Officer of Police for consultation purposes and provide an interface between Enforcement, ETP and Engineering.

Safety camera enforcement

The safety cameras are deployed solely to assist in the reduction of identified serious and fatal speed-related road casualties. Authorities can also use camera enforcement at traffic light junctions to detect drivers crossing the junction when the lights are red. The national safety camera scheme allows, safety camera partnerships between police forces, local authorities and other public bodies to be reimbursed for both the capital and revenue costs of safety camera operations through fines revenue, collected from offenders. The approach is intended to be cost neutral to each partnership. Each partnership is required to appoint a highway authority to act as Project Treasurer.

Safety camera criteria

To be accepted as part of the camera funding scheme, a police force area must create a partnership including local authorities, the police and magistrates courts, present an operational case to the Project Board and ensure the whole process is monitored and audited annually to ensure netting off rules are not broken.

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[13] A copy of STATS 19 is available at the back of Road Accidents Great Britain: The Casualty Report.

[14] Road Death Investigation Manual ACPO 2001.

Partnerships need to conduct an analysis of speeds and casualties at dangerous sites or along problem routes and camera sites should have had eight personal injury (PI) accidents of which four are killed or seriously injured (KSI) in the previous three years over a minimum 1 km stretch of road. 20% of vehicles using the road are exceeding the speed limit. Camera activity must achieve casualty reduction and comply with certain rules such as warning drivers of the presence of speed cameras, reminding them of the speed limit and ensuring the visibility of camera housings. If it fails to do so it risks suspension from the scheme. Authorities can also use camera enforcement at traffic light junctions to detect drivers crossing the junction when the lights are red.

1.6 Road safety encouragement

To make a measurable contribution to road casualty reduction, a safety culture must be engendered within the community which encourages individuals to accept responsibility for their own and others safety. For this to occur, all organisations involved in promoting safety should be encouraged to work together as true partners to develop a common strategy that exploits all parties' areas of expertise.

This will help to avoid wasteful duplication, allow economies of scale, create a greater understanding between disciplines and agencies, provide a greater knowledge and skills base, and opportunities for training of enablers and deliverers of services. It also means that the public will receive a consistent message.

The community can only be encouraged to help itself when the structure to enable it to do so is in place. Road safety managers are well placed to assist in all aspects of developing such a process.

The ETP Manager should work with other agencies to develop a strategy that will provide information and advice and, where necessary, enable training of community members. The advice given in the

Highway Code illustrates the correct attitudes and behaviour to which all road users should be encouraged to conform.

In order to develop this strategy, a local 'casualty reduction network' needs to be introduced, involving all agencies whose work involves safety. The Play it Safe document, 'Action for Child Safety, A guide for your local campaign,' outlines a suitable structure for 'Networking' which can be used for this purpose. However, all activity needs to be monitored and evaluated to ensure the most effective use of resources.

1.7 Sources and use of collision information

Before remedial road safety programmes, whether engineering, ETP or enforcement based, can be planned, it is necessary for the road safety managers to identify what problems are to be tackled. It is impossible to operate effectively without reference to basic collision information. The main sources are:

1. Casualty data (STATS 19) – generated by the Police and held by the local authority or an organisation under contract to the local authority.

2. Police collision report books or collision reconstruction files – where they can be accessed. These documents are used in criminal cases and can only be accessed after the legal case is complete. Some police forces make their spent case files available to the Transport Research Laboratory (TRL) who have, with DfT funding, created a standard database of crash information.

3. Casualty records produced by doctors and hospital Accident and Emergency departments.

4. Other sources, such as reports from DfT or from Social research within the Scottish Executive.

Casualty data

STATS 19 records are usually available through the Highways, Technical Services, Planning or Engineering Department of the Local Authority, with the agreement of the Police. They provide details of the vehicles and casualties involved in each reported injury road traffic collision, the attendant circumstances and (sometimes) contributory factors. Records from around the country are compiled into a national report, 'Road Accidents Great Britain', which is published annually by the Department for Transport. Quarterly provisional estimates[15] are also being provided on an experimental basis on the Department for Transport website. Postcode data, if recorded, can determine locations for specific ETP inputs.

Police collision reports

These are confidential documents that contain an account of a collision together with statements from participants and witnesses and usually a plan of the crash scene. Although a search of these documents will be time-consuming, much useful information can be derived from them. Police consent will be required but experience in some Authorities indicates that it is possible for this type of project to be undertaken successfully.

Hospital data

Records held by hospitals, will help to fill the numerical gaps in the STATS 19 data and supplement the level of detail that is available. Progress has been made in the number of hospitals collecting data, but because hospitals use different computer systems and data sets, it is unlikely, in the foreseeable future, that all hospitals will be able to supply appropriate, comparative information readily. It should also be noted that the definitions of what constitutes a child, or indeed a fatal road crash, differs from those used in STATS 19 and this must be borne in mind when making use of hospital data.

Other information

Subjective information may be obtained through consultation with local residents or community groups. This may be helpful for confirmation purposes, or to locate a hitherto unidentified site or area where collisions (especially damage only) occur. This information may contradict the objective evidence of accident data and should, therefore, be treated cautiously. There is a great deal of published research and literature on many road safety issues, which can provide useful information. The Royal Society for the Prevention of Accidents (RoSPA) and TRL libraries, along with other sources of information as listed in appendix 1, are good sources of such information.

In addition to the Department for Transport's annual publication, 'Road Accidents Great Britain' (RAGB), similar publications are produced specifically for Scotland and Wales by their respective Governments and by the Police Service of Northern Ireland (PSNI). The Department for Transport also publishes an annual casualty report for England, 'Road Accident Statistics English Regions'.

RAGB, and the other national accident reports, provide details of the national picture. It will also be necessary, however, to keep a record of local data for immediate use, and most appropriate local authority offices will have access to such information on their computer systems.

1.8　Setting priorities

Road safety policy is seldom static. Circumstances (traffic volume and type, demographics, travel patterns, accident patterns) change, and policies and practices must keep pace with such changes

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15 http://www.transtat.dft.gov.uk/qbullets/qcaso2.htm

in order to remain effective. It is vital that road safety managers consider both the national and local picture when developing policies, practices and programmes to ensure that they reflect the changing needs of road users in the area.

It is essential that managers recognise the effects that external factors such as recent, or proposed, changes in legislation and regulation, as well as developments in overall transport policy, can have on setting priorities.

Each Local Highway Authority will have a committee or cabinet structure in which road safety will feature. This facility is important and should be treated accordingly. If road safety activity is to be established as relevant to the community, then it is vital that it should form part of the Authority's policy. Elected members represent the community and, therefore, the status of road safety must benefit from their active involvement. The Police Authority serves a similar function with the police, since it is also made up of elected representatives.

It is beneficial to identify clearly and unequivocally in the Local Authority's Local Transport Plan the key areas of road safety work in the short, medium and longer term. Similarly, the steps and stages that will be taken to effect progress, and how this will be monitored, should be identified. In this way it will be clear what is to be accomplished, by whom, in what time scale and using what resources. This will also indicate what cannot be done due to limited resources. Local policing plans should mirror the National Policing Plan and have plans identified by crime and disorder audits that may include road safety.

The careful study of local collision/casualty information will have helped the road safety manager to identify the areas, roads and/or road user groups which require attention. Many authorities produce regular updates of

their local accident data, which will immediately indicate whether changes in collision patterns are occurring. It is then necessary for the road safety manager to consider what, if any, action can be taken by the authority and what should form the basis of any inter-disciplinary or inter-agency action which would then need to be referred to an appropriate working group.

Action should not be planned from too little data, or from short-term fluctuations. Priorities are usually set according to the number of collisions and casualties over a three-year period. But other factors should also be considered. The level of accidents and casualties related to an identified problem, site or road user group, and the percentage change in those accidents and casualties, can be compared to:

- The authority's average
- The national average
- Previous three years' data
- Route average
- The average in similar authorities
- Progress towards nationally agreed targets
- Other identified problems.

The Euro RAP[16] road assessment programme provides information, which will allow authorities to benchmark the risk rating of their roads against similar roads in other areas. Making such comparisons will help the road safety manager decide what problems should be addressed in a priority order with the available resources. However this should not detract from the resources available for the ongoing education and training work in schools.

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[16] http://www.eurorap.org/

1.9 Resource management

The extent and nature of road safety programmes will depend upon the availability of finance, staff, facilities and time. Limited budgets may place restrictions on the programmes road safety managers are able to implement. Managers should also be aware of the many roles and responsibilities of their team members, which may limit the amount of staff time available for planning, implementing and evaluating programmes. However, it may be possible to supplement budgets with commercial sponsorship, EU or Government funding for specific projects.

It is important to note that, despite careful planning, unexpected opportunities or demands may occur during the year. In order to respond to such an occurrence it may be necessary to delay the implementation of a planned activity, in favour of the new opportunity.

Where sites are being selected for a local programme of engineering measures, there must be robust documentation for the decision making and prioritisation process, taking into account their history and other factors. Such a process should be open to scrutiny. Any subsequent re-programming or re-prioritisation should be equally robust and open to scrutiny.

To carry out the activities outlined in this chapter, the road safety manager should be responsible for a budget and should be appropriately trained in its management. The finance available will dictate the breadth and depth of activity in all road safety activities that can be supported.

Managers new to Local Government or who have not held such responsibility previously, should ask for advice and guidance on such matters through their department's Administration Manager or the Authority's Internal Audit Section which is located in the Treasurer's or Finance Department.

The road safety manager should be aware of the provisions of the Health and Safety at Work Act 1974 and the revisions added in January 1993. In particular the legal requirement to produce written risk assessments. The chapter on risk assessment provides more information in this area. (See chapter 6, page 53).

The road safety manager should also be aware of, and conform to, the requirements as set out in the Citizen's Charter, further details of which should be available through their own local authority. If the road safety team is undertaking activities that require the collection of information from individuals then the Manager requires to know and implement the requirements of the Data Protection Act 1998, and ensure that they are met.

Financial considerations

Although the annual cost of road collisions is enormous, these costs are to a great extent borne by the individuals involved, their families and employers, and by services, which are provided on a national scale, like medical treatment. Thus the proportion of the costs falling to individual local authorities may be relatively small in terms of damage to the road infrastructure or the cost of social welfare services, resulting from road crashes. It is therefore, important that local authorities ensure that the somewhat hidden nature of accident costs, does not result in a diminution of the resources needed for road safety work. These should have high priority and be sufficient for that work which can be undertaken most effectively at a local level.

A particular problem can be the funding for ETP work since this is revenue allocation, which has been under particular pressure in local authorities for several years now. Where ETP work is required as part of a capital project then those costs should be included in the project budget.

1.10 Local transport plans

The production of Local Transport Plans (LTPs) became a statutory duty for local highways authorities in England and Wales in the Transport Act 2000. They provide a five-year plan on local transport strategy prepared in consultation with the local community. In England local authorities use LTPs to bid for the capital funding needed to implement the programme. They must comply with the governments integrated transport strategy and are submitted to the Regional Government Office not Central Government for a decision on the funding applied for.

1.11 Best Value

Best Value places on local authorities a responsibility to secure continuous improvement in the delivery of local services through a system of:

- Challenge
- Comparison
- Consultation
- Competition.

It has been a statutory responsibility of local authorities since April 2000 having been introduced in the Local Government Act 1999[17].

In Wales Best Value has been replaced by Wales Improvement Programme – W.I.P.s

1.12 Professional training and qualifications

Professional training, qualifications and development are vital for road safety, not only so that road safety practitioners have the necessary expertise to fulfil their roles, but to ensure that they are accorded due status for the work they do, and to encourage people to enter and stay in the road safety profession.

There is a clear need for structured training for road safety practitioners that leads to recognised national qualifications and contributes to career progression. As the work of road safety officers, road safety engineers and enforcement officers complement each other, the training structure should encompass all areas, while allowing for specialisation.

Employers and managers should recognise the importance of continuous professional development (CPD), and ensure that adequate budgets, and time for staff to undertake training programmes, are provided.

The Institution of Highways and Transportation Engineers (IHT) with others developed a system of National Vocational Qualifications (NVQs) and Scottish Vocational Qualifications (SVQs) for road safety practitioners.

Existing training and qualifications

i. **Diploma in Accident and Safety Management**

   Manchester College of Arts and Technology

   This Institute of Road Safety Officers (IRSO) Course, recognised as a BTEC Professional Development Diploma, is aimed at road safety officers, traffic accident investigators, police officers and driving instructors. It is a modular course that can be completed over two years by means of distance learning, and is graded as Level 5 NVQ.

ii. **Postgraduate Diploma/MSc in Safety Management**

   Bournemouth University

   A two-year course involving five modules in the first year and three in the second year. Aimed at graduates and others with relevant professional qualifications and experience. It is validated by the IHT.

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[17] Local Government Act 2000 HMSO.

iii. **Road Safety Engineering Course**

RoSPA

These courses are aimed at road safety engineers and technicians, road safety officers, police officers, armed forces personnel and consultants. The Accident Investigation, Analysis and Prevention (AIP) course is a two-week residential course, the second week of which involves a practical case study. The Advanced Safety Engineering course is one week.

iv. **Road Safety Staff Training Phase I, II and III**

The Phase I course is conducted in-house. The Phase II course, conducted by TMS on behalf of the National Road Safety Training Group, is a five-day course aimed at relatively inexperienced road safety officers and covers the various roles of the RSO. The Phase III course is aimed at more experienced Road safety officers and comprises a series of one day courses on specific topics, ranging from Accident Investigation to Communication Skills.

v. **Continuing Professional Development**

LARSOA

The LARSOA National Staff Training Group has recently produced a comprehensive booklet for RSO CPD. Copies of the booklet are available from LARSOA[18].

IRSO

IRSO provides a programme of Continuing Professional Development for its members through a network of training events co-ordinated by its local groups.

vi. **Short courses**

Various organisations

Short courses, usually in road safety engineering and safety audit are provided by several organisations, including the University of Leeds and TRL.

vii. **Conferences and seminars**

Various organisations

Several conferences and seminars are conducted throughout the year by various organisations, including LARSOA, IRSO, RoSPA, RoSCOW, SRSC, PTRC and PACTS.

viii. **In-house training**

Most local authorities provide in-house training for employees, including general management training as well as specific road safety training. Phase I of the Road Safety Staff Training course is conducted in-house. Both RoSPA and the TMS Consultancy are able to provide in-house training.

ix. **Institution of Occupational Safety and Health (IOSH)**

IOSH is committed to promoting protection from workplace hazards at every level. A nationwide-network of over seven hundred course providers delivers IOSH's accredited health and safety courses. These courses may be run in-house, via open learning or in conjunction with an external trainer. Founded on best practice, rather than UK legislation, the courses can be delivered internationally.

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[18] http://www.larsoa.org/training.html

Education, training and publicity

This chapter examines the role of the Education, Training and Publicity (ETP) road safety manager, the specialist in establishing road safety programmes and schemes that will benefit the local community and contribute to road casualty reduction targets. In some authorities, the ETP specialist has a different job title; Accident Prevention Officer, Public Safety Officer, Safety Education Officer or Traffic Education Officer. In this document the term 'ETP Manager' is understood to include the road safety function of all such post holders.

2.1 Background

After years of improving the quality of our road environment and the safety of the vehicles we drive, road collisions are still reported on a daily basis. People are killed and injured every hour, and almost every minute, of the day. Human error contributes to the vast majority (95%)[19, 20] of these accidents. There is, therefore, a need to change road user behaviour. Drivers and others need to approach their use of the roads in a different way, and ETP professionals need to work with others to achieve this.

The ETP Manager is the member of any casualty reduction partnership with the skills, expertise and sometimes the staff to contribute to the reduction of the casualty total by helping to change and develop road user attitudes and behaviour through the medium of Education, Training, Publicity and Encouragement. They are also able to play a vital role in the other two 'E's, Enforcement and Engineering, by working closely with road safety engineers and enforcement agencies, principally the police.

Local authorities have a responsibility to their communities – for quality of life, environment, safety and livelihood. The 1988 Road Traffic Act empowers local authorities to provide a road safety service, which should include ETP as well as other aspects of casualty reduction. Employing staff to provide a road safety ETP service can only be seen as good practice.

2.2 The role of the ETP manager

ETP managers are well placed to adopt an equal partnership with engineers and others working for casualty reduction. They have the expertise to help draw these diverse interests together and to co-ordinate road safety activity with associated professional and representative groups. ETP managers should be catalysts – they excel at making things happen, without necessarily becoming involved in providing the service at grass roots level.

The role of the ETP manager and their staff will include some or all of the following. Please note, this is not a prescriptive list:

- Obtain, analyse and interpret data regarding the causes, contributory factors and consequences of collisions

- Identify and prioritise vulnerable 'at risk' road user groups, situations and trends

- Set aims, objectives and targets

- Develop and agree with other professionals, policies, strategies, programmes and activities to influence road user behaviour

- Develop and maintain communication channels with professional groups

- Motivate other professionals to assist in the delivery of road safety services

- Manage the School Crossing Patrol Service

- Liaison and partnership working with other disciplines

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[19] Sabey BE and Staughton GC 'Interacting roles of road environment, vehicle and road user in accidents' Fifth International Conference of the International Association for accident and Traffic Medicine, London 1975.

[20] Sabey BE and Taylor H 'The known risks we run; the highway'. TRRL Supplementary Report 567, Crowthorne 1980.

- Organise the provision of training and education for safe, responsible movement on the roads for those who live, work and travel in their area. Although historically involved to a large extent in schools, ETP managers have a pro-active role in the promotion of training and education to all those who use the roads, young and old, pedestrian, cyclist, motorcyclist and driver

- Encourage and enable road safety programmes to be delivered by others

- Develop communication channels with target road user groups

- Design and implement road safety programmes

- Promote the use of publicity to raise awareness of road safety and crash risk

- Produce and disseminate road safety resources

- Obtain and disseminate road safety resources from other organisations

- Train other professionals in the delivery of road safety programmes

- Manage the training of road users in specific skills

- Advise and use the media to communicate road safety messages

- Organise and conduct road safety exhibitions

- Contribute to road safety engineering schemes and safety audits

- Contribute to road safety enforcement campaigns

- Consult with the public on local road safety needs

- Monitor and evaluate road safety programmes.

These are not in order of priority because priorities must be set locally to meet local need.

2.3 Strategies and implementation of ETP programmes

The way in which the ETP service operates locally is likely to reflect the geography and demography of the authority. The provision of ETP involves day-by-day action, accompanied by constant review. It is not the same as engineering where intervention is generally focused on a specific scheme which, once complete, can be left to look after itself needing only appropriate monitoring.

Having determined which problems can be addressed through ETP, and set priorities, the ETP manager should design and implement appropriate programmes in association with relevant partners. In most cases, action will require corporate and co-operative effort from both inside and outside the Authority. Once the problem and its many factors have been identified, it is essential that all possible partners are involved as soon as practical, to ensure joint ownership and to increase the probability of success.

When designing a new programme it is useful to identify any relevant good practice and research related to the chosen subject, and to talk to colleagues (inside and outside the Authority) who may have carried out similar work.

Good practice guidelines should be followed, such as:

- A Road Safety Good Practice Guide, June 2001. DTLR. (currently being re-written)

- Minibus Safety – A Code of Good Practice, March 2002. RoSPA et al

- Guidelines for the Management and Operation of Practical Child Pedestrian Skills Training Schemes, RoSPA et al

Education, training and publicity

- Identification of Hazards and the Assessment of Risk of Walking Routes to School Guidelines, March 2002. LARSOA

- School Crossing Patrol Guidelines, March 2003. LARSOA

- Dramatic Impact: Guidelines for Commissioning and Implementing Theatre in Education (TIE) for Road Safety Officers and Other Professionals, March 2003. RoSPA

- Practical Cyclist Training Schemes, June 2000. RoSPA et al

- Adult Cycle Training – a guide for Organisers and Instructors, May 2003. CTC

- TRL Reports have been produced on a range of ETP topics, which provide a well-researched academic view of road safety issues

- School Travel Strategies and Plans: A best practice guide for local authorities, June 1999. DETR

- Learning About Safety Through Experiencing Risk – (LASER) – RoSPA currently updating

- Safety today for sustainability tomorrow – A good practice guide for green transport education, 1998. LARSOA

- Eastern Region Driver Development Working Group Reports, LARSOA Eastern Region

- Some LAs also have their own local codes of practice e.g. Essex has one for Driving Standards, and Hertfordshire has one for SCPs

- The Department for Transport Website which has information on research projects and government initiatives and

- Journals, such as 'In Roads', IRSO's journal, RoSPA's 'Care on the Road' and other professional magazines.

In Scotland the following good practice guidelines have been published:

- A Safe Place to Live – Developing Community Based Initiatives to Promote Road Safety (Scottish Executive 2002)

- Guidance How to Run Safer Routes to School (Scottish Executive 2000).

The SRSC publishes an Annual Report and Business Plan and the booklet 'Road Safety Education – A Strategy for Scotland' which provide up-to-date information on national initiatives taking place in Scotland. In Wales ROSCOW produce an Annual Report.

It is also helpful to seek advice from other people with relevant expertise (teachers, social workers, police, a sample of the target audience, etc.).

Other factors that should be considered are:

Audience appeal: materials, style, language must appeal to the target audience if they are to be effective.

Clarity: the target audience must easily understand the messages in the programme.

Delivery: the methods chosen to deliver the programme must be effective in reaching the target audience.

Timing: a campaign encouraging the use of cycle lights may be useful in September, but not in June, or there may be a possible clash or opportunity with a national initiative.

User-friendliness: materials should be easy to use, especially if parents and teachers are intended to use them.

Resources are crucial and may preclude some types of programme: television advertising or a project that would require too much staff time, for example.

2.4 Road safety education

A main priority for ETP staff in advancing child road safety education is to advise and support parents, carers, pre-school staff and teachers on both best practice and the resources that are available to them. They should also encourage pre-school staff and teachers to include safety education within the context of their normal classroom work. Support will include the provision of resources, which may be produced by the Authority or obtained from other organisations, and training for staff on their use. RSOs can also offer guidance to teachers on the selection of indicators designed to test the effectiveness of specific inputs with groups of pupils.

Where possible, ETP staff should liaise with teacher training colleges to provide training sessions for student teachers on the importance of road safety and how it can be integrated into the curriculum.

ETP staff disseminate good ideas to schools, colleges and other organisations that may relate to children or adults. Training teachers and governors is one of the best ways of delivering an effective ETP service. However where teachers and governors are not prepared to take on this role it may be necessary for road safety officers to carry out this work directly in schools.

Driver education and adult education are also areas in which the road safety officer will be able to give considerable help and advice, working with employers to ensure the safety of staff while using the road and managing their occupational road risk[21].

In Scotland, the SRSC commissioned a review of road safety education in 1999. From the findings of this review a strategy for road safety education in Scotland was developed and a steering group made up of representatives from road safety, education and health was established. The key elements of the strategy are that road safety education (RSE) should be taught in Personal & Social Development (PSD) within 'personal safety'. The main responsibility for the delivery for RSE should be the class teacher in primary school and the teacher responsible for PSD in secondary. RSE should link to national educational guidelines and RSE materials should be teacher and pupil friendly. In support of the strategy a comprehensive training programme covering RSOs, head, class and trainee teachers should be developed. The SRSC has employed an Education Officer in order to progress the strategy.

2.5 Road safety training

It is the role of the ETP service to:

- Identify the need for appropriate training and assist in its development

- Enable training courses to happen

- Provide resources for these courses to promote training for at risk groups of road users

- Deliver courses where necessary

- Ensure the schemes are widely and appropriately advertised

- Ensure courses are risk assessed and monitored for safety and content.

Good Practice Guidelines have been published for many types of road safety training schemes, such as Kerbcraft[22] and Walkwise[23] child pedestrian

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[21] http://www.roads.dft.gov.uk/road safety/road research/index.htm
Managing Occupational Road Risk – The RoSPA Guide – RoSPA.
Managing Occupational Road Risk in Voluntary Organisations RoSPA 2003.
http://www.orsa.org.uk
http://www.rospa.org.uk/morr/index.htm
[22] The Drumchapel Project: Road Safety Research Report No 3; published in 1997 by DTLR.
[23] http://www.dft.gov.uk/roadsafety/roadresearch/index.htm

skills training schemes, and many organisations provide training courses or training resources for specific road user groups.

Target groups for road safety training include:

- Pedestrians
- Cyclists
- Motorcyclists
- Drivers
- Minibus drivers and operators
- Other vulnerable road users.

2.6 Road safety encouragement

The community should be encouraged to become involved in road safety programmes as volunteers. In many areas pedestrian training, cycle training and walking buses are run and organised by volunteers under the aegis of the local authority who ensure that all health and safety requirements are met. (See chapter 6, page 53). These volunteers are an extremely valuable resource, not only for the work they do but also for the community ownership of road safety that they represent.

2.7 Road safety publicity

There are various ways in which publicity can be used to impact upon the vulnerable 'at risk' groups or the anti-social behaviour of some drivers. The greatest effect is obtained with sustained, well-targeted information which impacts on the target group. Publicity needs to take account of national and local issues. It may take the form of:

- Support for DfT 'THINK!' campaigns by distributing externally produced, free materials, giving the exercise a local flavour and relating it to a local problem, or

- Local campaigns where materials are produced to deal with an issue that is specific to a particular area

- It can also be used to precede a local enforcement campaign.

Some examples of target outlets for dissemination of promotional materials include:

- Health authorities and PCTs
- Local business
- Residents groups.

Specific information can be targeted for specific organisations such as Drink/Drive messages in establishments, which serve alcohol.

Local media outlets may also be willing to support or run campaigns, particularly if targeted at their user group.

In Scotland the SRSC and ACPOS develop a number of publicity campaigns aimed at speeding, drink and drug driving and seatbelt wearing. Publicity materials in support of these campaigns are provided free of charge to enable road safety units to promote the campaigns on a local level. A similar situation exists in Wales.

2.8 Objectives

The objectives of a road safety programme should be agreed and recorded at the start of the design process, so that it is clear what the programme is intended to achieve and to enable its effectiveness to be evaluated at a later stage.

It is necessary to decide what level of change (a percentage reduction in accidents or a change in knowledge, attitude or behaviour) the programme is intended to achieve, and to express this as a target.

The management principle of SMART or SMARTER targets can be used when setting targets, which are:

Specific
Measurable
Achievable
Realistic
Time-related
Evaluated
Reviewed

The objectives will also affect the type of programme chosen. Training enables people to acquire new skills, whereas publicity is more suited to raising awareness, increasing knowledge and changing attitudes. Using a range of co-ordinated approaches to solve a particular problem is likely to be more successful than just using one approach.

2.9 ETP – evaluation

Evaluation is needed:

■ To determine whether a programme has had any effect, and the extent, nature and cost of that effect

■ To determine whether the materials and activities used have had an impact among the target group

■ To provide information for use as a guide to future policy and to determine the level of resources which should be made available

■ To provide guidance on the desirability, effectiveness and cost of future programmes.

Types of evaluation

The most frequently used form of evaluation compares the progress and results of a programme against its original objectives. It assumes that the objectives are complete and that no others develop during the programme. With this approach, a method of evaluation is developed at the outset of the programme and used to measure the progress and results of the project.

However, this does not take into account the need for the continuous improvement of a programme as it is implemented. It tends to hinder, rather than promote, changes in the programme because it prevents modification until the programme is completed so that the data on which it is based can remain unaltered.

Therefore, to be fully effective, evaluation should consist of four stages:

Context: Analyse the accident problem, its causes and contributory factors.

Input: Details of the programme, its design, implementation and objectives.

Formative (or process): Test the programme, or some of its components (i.e. conduct a pilot programme on a target audience) and make amendments before full implementation or monitor the progress of the programme to maintain a record of procedural events and activities.

Summative (or product): Review the results against the original or amended objectives.

Some types of programme are difficult to evaluate, although it is possible to measure whether knowledge has been gained, or there has been a change in attitude. It is more practical to select comparatively small projects and prepare a method of evaluating them over a given period. Each of the projects needs to be designed so that it can be evaluated and is flexible enough to absorb any changes that may be judged necessary. Indeed, the evaluation process should be designed into the programme from the outset. Lessons from a small scale project may then be applied on a larger scale.

2.10 Evaluation measurements

The following may be measured to evaluate the effects of a programme:

i.   Accident data, i.e. numbers, pattern and contributory factors.

ii.   Acceptability of materials, (type of presentation, print, colour, size, word content, format, cost, availability).

iii. Comprehension of message or subject matter.

iv.   Recall of message or subject matter.

v.   Changes in the attituded and/or behaviour of the target road user group.

Evaluation measurements can be conducted in a number of ways.

i.   **A questionnaire to the target group and/or other appropriate persons**

      Questionnaires are useful for collecting information on knowledge, attitudes, and experience and 'claimed' behaviour. They have limitations, however, in that questions may be 'leading', or misinterpreted and answers may not always be accurate. Producing questionnaires requires particular skill and therefore a specialist should be consulted on its content, length and use.

ii.   **Observation of behaviour of target group**

      People can be asked to report on the way they behave, they can be tested under controlled conditions, or their normal behaviour can be covertly observed. The first two methods are often easier to arrange and indicate whether people know how to behave, but the results can be deceptive. Covert observations of real life behaviour are more accurate.

iii. **Discussion with relevant persons**

      Provides an assessment of the opinions of people affected by the programme, or by the problem it is designed to improve.
      The interviewer should be trained in conducting such discussions without unduly influencing or directing the responses.

iv.   **Trial and error at process stage**

      A pilot programme can be conducted, or individual components of the programme can be tested, on a smaller scale. The programme or any of its components can be amended according to the results of the test before the full programme is implemented.

v.   **Examination of accident data**

      STATS 19, plus hospital records will show whether there have been casualty changes. If under-reporting is a problem (as with cycling and pedestrian accidents), a survey among the target population is an additional check. The following checks may be useful:

      ■ A comparison of accident/casualty figures of the target group with those of previous years

      ■ A comparison of the percentage involvement of the target group with other groups in the overall accident pattern in the Authority's area

      ■ A comparison of appropriate figures with those of other authorities of similar size and pattern

      ■ A comparison of relevant figures with the national accident pattern, taking into account variations in traffic flow and other variables, e.g. weather

■ Whether any factors outside of the programme that may have affected the accident patterns of the target group have changed.

vi. **Control groups**

A comparison of changes in the target group against a control group (as similar as possible to the target group) who have not received the programme.

vii. **Cost/effectiveness**

The results may be measured in numerical and financial terms. For example, a campaign to persuade parents to buy infant carriers results in an increase in use that may be measured. The saving in injury costs can be calculated using published casualty costs. This figure, set against the cost of promotion, will indicate its financial effectiveness. Moreover, the information can be used to forecast possible results in a similar enterprise.

Stages of evaluation

Evaluation may be conducted at three different stages:

1. **During the process stage** to enable the programme to be monitored and to judge whether any modifications are necessary.

2. **Immediately after the programme has been completed** to provide an assessment of its immediate effects.

3. **After a period of time** (six months, one year or longer) to provide an assessment of the longer term effects of the programme, and whether those effects change over time.

The results of evaluation usually require some action to be taken.

Process evaluation

Amendments to the programme should be made as indicated by the evaluation.

Product evaluation

If this indicates that the programme has failed to satisfactorily influence knowledge, understanding, recall, behaviour or accidents among the target group, the reasons for its failure must be sought to benefit future activity. If the evaluation indicates the programme has been successful, the manager can use this as a guide to developing future programmes.

2.11 Target audience

To be effective, a road safety programme must be designed specifically for its target audience. A programme aimed at 9 and 10 year old children, for instance, is unlikely to be effective with teenagers.

Targeting a specific road user group for treatment is a difficult and complex task that should be approached scientifically. For example, schoolchildren often respond well to road safety education. Adults, however, respond less well, as they do not form a captive audience. Publicity may, therefore, be a more appropriate tool but again must be used selectively to maximise its effectiveness with the target group.

Shock campaigns should be used with care. Consumer research by the DfT has shown that such material alienates a general audience and is not successful in changing their behaviour.

Conversely, research may indicate that a target audience would be unresponsive to publicity, for example, and that enforcement is likely to be more effective.

Census information can be helpful when targeting specific areas or groups.

2.12 Other areas of work

Road safety officers may be involved in a wide variety of activities that affect ETP directly or indirectly. Local circumstances will dictate what priority is given to them.

The following activities may be undertaken by the ETP team or by other departments in the local authority:

Advice on the purchase and use of child in-car restraints

Local businesses or organisations may offer to check child car seats and give advice to parents on in-car safety for young children through trained technicians. In many authorities, members of staff in local retail outlets are also trained to give advice at the point of sale. Good advice is vital at a local level and needs careful monitoring by local road safety officers. Local health professionals may also welcome advice and appropriate literature for dissemination to parents and for use in pre-natal classes. The RoSPA website[24] is a good source of information for both public and professionals.

The Scottish Road Safety Campaign in partnership with ACPOS and RoSPA have developed 'The Good Egg Guide to In Car Child Safety'. This is a comprehensive guide aimed at parents and carers[25].

Junior road safety officers (JRSO)

These schemes may be organised through primary or secondary schools to give pupils some personal responsibilities towards road safety promotion. Recognition needs to be given by the road safety officer and the school to the individuals for the work they do. Actively encouraging young people to undertake these responsible 'adult' roles can be encouraged; they work best when there is real ownership of issues by all the participants in the process: JRSOs, teachers and all the pupils in a school.

The SRSC has developed a national JRSO scheme. This has involved the production of free resources for all JRSOs and the development of a website[26] to support their activities.

Junior citizen/crucial crew/mega drive events

These events may be led by agencies other than ETP specialists but will include a variety of safety scenarios that can encourage young people to become more aware of their responsibilities as young citizens.

Sustainable transport/green transport education

The debates surrounding sustainable transport[27], environmental issues and reducing danger on the roads by encouraging cycling and walking rather than driving are often given fresh impetus when the ETP specialist is involved. These issues affect travel patterns, and hence accident patterns, and will therefore affect accident and casualty reduction activities. The development of Walking Bus schemes and involvement in Walk to School events supports sustainable transport issues. Support for the development of School Travel Plans, School Road Safety plans and Safer Routes to School schemes all come within the ETP specialist's domain.

School travel plans (STP)

Schools are encouraged to develop and implement school travel plans. Considerable support is available, in particular from the Safer Routes to School (SRTS) project and Road Safety Units, but ownership, implementation and management of the plan must sit with the school if it is to address the school's needs and be sustainable.

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[24] http://www.childcarseats.org.uk/

[25] http://www.protectchild.co.uk

[26] http://www.jrso.com

[27] The Government's Consultation on developing an Integrated Transport Policy: A Report. http://www.dft.gov.uk/itwp/report/index.html

Education, training and publicity

Guidance and support on the development of an effective plan is available from the school travel plan co-ordinator. Travel plans should ensure that travel issues are properly investigated and that safety is considered before any initiative is implemented. They provide excellent opportunities to encourage the development of a programme of road safety education and promote road safety messages in addition to the potential safety benefits that can result if fewer cars are concentrated around schools and children are encouraged to use the journey to school to develop road skills that will allow them to make independent journeys safely as they get older.

The benefits of a travel plan are being promoted widely to schools and others with an interest in improving travel to school. This facilitates local highways engineers, road safety officers, police officers, curriculum advisors and those involved in the Healthy Schools Award identifying and promoting the travel plan as the best way for a school to take ownership of and effectively address issues of safety and congestion. In turn travel plans facilitate the development of partnerships within and beyond the school community and inform future support that aims to improve travel to schools.

The planning process affords opportunities to generate new travel plans and to develop good links with education planners, development control and the planning authorities to ensure that sound travel plans are developed.
The existence of a travel plan can be a factor taken into consideration when schools are considered as potential Safer Routes to Schools projects and once selected development of the project is driven by the travel plan. Road safety officers support the development of travel plan initiatives such as walking buses, pedestrian skills training, cycle training and curriculum support.

Regular monitoring and review of school travel plans is essential. Monitoring is carried out by the school and road safety officers and the STP co-ordinator assist and support schools in STP reviews. Reports of monitoring inform continued development of the school's travel plan and efforts to improve road safety and reduce congestion.

Some local authorities within Wales have appointed dedicated school travel plan co-ordinators to develop and implement travel plans and related measures in schools. Where there are no dedicated school travel plan co-ordinators the work of engaging schools in the travel plan process is one element within the remit of the regional travel plan co-ordinators who work for the five Regional Transport Consortia. Enthusiastic local authority colleagues such as cycling officers and staff from road safety teams, as well as external partners, often support the work of both the regional and school travel plan co-ordinators in respect of school travel plans.

As with the development and implementation of travel plans generally the opportunities to affect modal shift through school travel plans in Wales will vary from one area to another due to the distances young people sometimes travel to school in the more rural areas, the climate and topography of the country as well as issues concerning safety and the perception of 'stranger danger'.

Opportunities do exist to integrate elements of the travel plan development process in to the school curriculum and this can sometimes be a means of gaining the support and endorsement of the schools, which is a crucial factor in the success, or otherwise of any school travel plan.

The travel plan concept is also being introduced in Scotland.

Taxi licensing and monitoring

Outside London this is the responsibility of the Local Authority and TfL within London. Sometimes, because of their links with driving issues, it is also a function of the ETP specialist group. Taxi licensing is intended to protect public safety. Vehicles and drivers must be safe. Two types of vehicles carry passengers and are regarded by the public as taxis. Hackney carriages operate from ranks and can be flagged down in the street. Private hire vehicles are ordered by making a booking through an operator's office. Only hackney carriages can legally call themselves 'taxis'. Hackney carriages are licensed vehicles, driven by licensed hackney carriage drivers, which carry an identification plate front and rear. Private hire vehicles display identification but are otherwise indistinguishable from any other vehicle. The vehicles, the operators and the drivers are all licensed. DVLA offers a testing facility for taxi drivers but it is not mandatory.

Health

Health initiatives often provide an opportunity to promote Road Safety issues. Examples of Health Schemes, which road safety departments can successfully use to get their messages across are:

Healthy schools programme

Aim *"To create a healthy ethos within schools; improve the health and self-esteem of the school community; and enable children to make healthier choices and improve their educational achievement".*

The Department of Health (DH) and the Department for Education and Skills (DfES) are jointly developing and funding the initiative. Both Departments have committed funding of £5.7 million for 2002-2003 and £5.7million for 2003-2004. The Health Education Authority is also playing a part in managing and developing projects for the initiative and producing a Healthy Schools Newsletter. A National Healthy Schools Scheme[28] is a key part of the initiative, aimed at promoting the development of healthy schools with a 'whole school approach', and gathering examples of good practice. The National Healthy School Standard was launched in October 1999, and Health Education Partnerships have been set up in every LEA. All National Healthy School Standard Partnerships have been accredited.

Sure Start

Sure Start aims to improve the health and well-being of families and children before and from birth, so children are ready to flourish when they go to school. It does this by:

- Setting up local Sure Start programmes to improve services for families with children under four

- Spreading good practice learned from local programmes to everyone involved in providing services for young children.

Sure Start[29] is a cornerstone of the Government's drive to tackle child poverty and social exclusion. It is based on firm evidence of what works. They will be concentrated in neighbourhoods where a high proportion of children are living in poverty and where Sure Start can help them to succeed by pioneering new ways of working to improve services.

By 2004, there will be 524 Sure Start programmes helping up to 400,000 children living in disadvantaged areas, including a third of under 4s living in poverty. 450 programmes were up and running by early April 2003. Areas of social deprivation are recognised as having a higher child pedestrian casualty problem than more affluent areas.

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[28] http://www.wiredforhealth.gov.uk/
[29] www.surestart.gov.uk/

SportScotland promote a scheme called the Active Primary School. This involves the employment of co-ordinators who work with a cluster of nursery and primary schools and look at ways of increasing the levels of physical activity of pupils. For many schools the journey to and from school has become the focus of attention with pupils being encouraged to walk or cycle to school. It is vital that such initiatives are carried out in consultation with the local road safety unit.

Crime and Disorder reduction partnerships

The 1998 Crime and Disorder Act established partnerships between the police, local authorities, probation service, health authorities, the voluntary sector and local residents and businesses. These partnerships are working to reduce crime and disorder in their area by following this process:

- Establishing the levels of crime and disorder problems in their area, and consulting widely with the population of that area to make sure that the partnership's perception matches that of local people, especially minority groups, such as gay men and lesbians, or members of ethnic minorities.

- Devising a strategy containing measures to tackle those priority problems. This is to include targets, and target owners for each of the priority areas. The strategy will last for three years, but must be kept under review by the partnership.

The first strategies were published by 1 April 1999, by the 375 partnerships.

An extensive programme of research, training, seminars and consultancy support and comprehensive guidance from the Government was put in place to help the partnerships achieve real and sustained reductions in crime and disorder.

In Scotland community safety is a strategic priority for a range of key players who collectively can build safer, more inclusive, healthier and more vibrant, economically attractive communities.

In February 1999, the government strategy 'A Safer Scotland' was published, for tackling crime and its causes, and this identifies the way forward for building public confidence and safer communities.

A Safer Scotland was preceded by a partnership strategy for action on community safety, Safer Communities through Partnership, published following two consultative conferences involving local authorities, voluntary organisations and the business community. The content of the publication was approved by The Scottish Office, the Convention of Scottish Local Authorities (CoSLA) and the Association of Chief Police Officers in Scotland (ACPOS).

That strategy encourages local authorities and the police to take the lead in building safer communities by establishing local partnerships involving public organisations, the private sector and voluntary bodies.

CoSLA endorsed its commitment to community safety by publishing Community Safety – a Key Council Strategy. Their guidance aims to ensure co-ordinated actions "to protect people's right to live in confidence and without fear for their own or other people's safety".

Local authorities and their partners have a major role in the delivery of public services and the development of social and economic policy that can impact on public safety. By accommodating community safety targets in their mainstream activities, local authorities can sustain improvements and build on future success.

CoSLA's guidance provides examples of community safety issues, which can be influenced by local authorities in four areas:

- Making the public environment safer
- Preventing crime
- Making people's lives safer
- Supporting individuals

ACPOS has also given its commitment to creating safer communities with publication of a policy statement.

It is widely accepted that the most effective community safety strategies are based on locally defined information, needs and concerns. Many of the recently formed partnerships have adopted the broad definition of community safety which embraces focused action plans to tackle crime and disorder (including anti-social behaviour) and fear of crime, together with measures to address road, fire, water and home safety.

Crime and Disorder Audits

The Crime and Disorder Act requires the 'responsible authorities' (i.e. the Unitary Local Authority, or the County and District/Borough/City and the corresponding area police force), to co-operate and collaborate with a range of organisations to develop a local strategy to tackle the problems of crime and disorder. There is no universal partnership model for these Community Safety Partnerships but effective partnerships will develop locally-appropriate structures, supported by systems and protocols. The best partnerships will focus on a small number of key issues and look for synergy in complementary strategies and plans to achieve a greater impact. This audit will be the first analysis of local crime and problems for many partnerships. An effective audit is critical to the success of the local community safety strategy, as this analysis will determine the key priorities for both immediate and long-term action. Road safety practioners should work to

ensure that road safety issues are included in the audit. Partners will have to consider how to handle potentially sensitive data and constantly update their information to reflect changing problems. The audit requires organisations to make a long-term commitment to information sharing. Local communities, who are becoming increasingly frustrated by crime and disorder problems, must be invited to contribute their perspective and ideas to the audit.

Safety Camera Partnerships

Safety Camera Partnerships began in April 2000 as a trial of the 'cost recovery system'. Eight pilot areas took part; Cleveland, Essex, Lincolnshire, Northamptonshire, Nottingham, South Wales, Strathclyde and Thames Valley.

The cost recovery trial was set up to test a system of funding the camera enforcement process, which would be 'netted off' from the fines of speeding motorists. The introduction of this system, if successful, would make it possible for more partnerships to introduce a comprehensive camera enforcement programme and a public information programme about the risks of speeding.

There was already a proven accident reduction benefit on roads where camera enforcement had taken place but there were insufficient funds available to provide camera enforcement in each highway authority or police area.

This pilot trial proved a reduction in the number of casualties at camera locations by 35% and a further reduction in pedestrian casualties by 56%. The scheme was successful and is now 'rolling out' nationally. (Department for Transport 'A Cost Recovery system for speed and red-light cameras – two year pilot evaluation'[30])

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[30] www.roads.dft.gov.uk/roadsafety/cameras/red-light/pdf/cameras.pdf

Education, training and publicity

Safety Camera Partnerships operate across the country based around police force areas. Generally the partnerships comprise the main responsible authorities, the police, the highway authority/s and the magistrates' courts.

Many camera partnerships also have other partners who add value to the work being undertaken. These include the health authority and other emergency services. This provides the partnerships with a wide range of expertise.

The main aim of the Safety Camera Partnerships is to reduce the number of casualties on the roads, and in so doing assist local authorities in achieving the casualty reduction targets set by the Government in its 10 year road safety strategy. (See page 5.) In addition to the targeted enforcement there will be extensive public information and communications campaigns aimed at raising awareness, maintaining public support and managing a media perception that is sometimes at odds with the aims and objectives of the scheme.

Education and publicity

All safety camera partnerships have a communications manager whose job is to communicate the need for camera enforcement in a consistent way. These professionals act as a single point of contact within each partnership and they will actively engage in internal communications as well as external campaigns aimed at building on the public support that currently exists for camera activity. All safety camera partnerships publicise information relating to local activity by giving, for example, regular updates on web sites, in local papers and on local radio. The locations of the cameras are publicised in an attempt to encourage motorists to slow down.

Safety Camera Partnerships and road safety officers (RSOs) share common aims and objectives of reducing road casualties and making roads safer for all road users. RSOs and Safety Camera Communications Managers should work closely to achieve their objectives and where possible activities should be synchronised to maximise publicity and awareness.

There are other benefits:

- RSOs are encouraged to form an alliance with their local Safety Camera Partnership to enhance their own speed awareness and education activities

- RSOs have a wealth of established local contacts and experience in speed reduction which can benefit the safety camera partnership locally

- Safety Camera Communications Managers may come from a public relations background and/ or have experience in marketing in the private sector. These skills will bring a fresh approach and new ways of reaching target groups

- Larger networks of contacts and expertise will be opened up within the partnership agencies, such as the police, highways authorities and the health authority

- Finally road safety staff may benefit from extra support materials provided by the partnerships and be able to promote safety camera issues through the work that they do.

Training

Some safety camera partnerships who have not yet fully adopted the ACPO Speed Enforcement Guidelines[31] offer speed awareness courses to drivers who offend within certain thresholds. This is an alternative conditional offer to the fixed penalty.

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[31] www.acpo.police.uk

These courses are often run in conjunction with the local road safety team who already deliver the Driver Improvement Scheme (DIS) around the country. (Some police forces have opted to use private companies to deliver DIS.)

Those who attend speed awareness courses pay a rate similar to the fine but do not receive penalty points. This provides an option to educate drivers rather than simply punish and offers an alternative for the lower level offender.

LARSOA and Association of National Driver Improvement Scheme Providers (ANDISP) agree that there should be a national scheme run in a similar way to Driver Improvement Courses and have commissioned research into the various schemes in existence.

2.13 Partners in the ETP process

National groups

The national groups involved with the ETP function and with which the road safety manager should liaise, are listed in Appendix 1.

Regional groups

There are also Regional Groups, in which each road safety manager should participate, which affect the way in which the ETP specialist works. The two main Regional Groups are:

- The Road Casualty Reduction Steering Group, convened by the DfT regional offices to encourage a regional approach to the casualty problem

- LARSOA groups, which have a specific identity, related to the region.

Local groups

It is also necessary for the Road Safety Officer to develop links with a wide range of agencies in the locality. Some of the relevant groups are:

Health authorities, trusts, etc

Particularly in the light of the contribution they need to make to casualty reduction as part of their Health of the Nation targets for accident reduction.

Other local authority departments

The Education, Youth Services, Social Services and others will have a function that could contribute to the improvement of road safety in the area. They may not appreciate how partnerships in road safety need to be developed and a positive encouragement from the road safety manager is needed to make them work effectively as identified in the LAA 'Road Safety Code of Good Practice'.

The highway management/maintenance section may also be a useful ally providing information on how the road environment is planned to prevent accidents and how a road surface can improve vehicle braking and manoeuvrability.

Interested organisations

In addition to the organisations listed in Appendix 1, there are other interested bodies. For instance, Approved Driving Instructors (ADIs) will usually be happy to provide free publicity materials to pupils, to back up the work they are doing in the car during driving lessons. As a result of the introduction of the Pass Plus scheme and the Theory Test some ADIs have forged closer links with schools and other institutions in the local area; this needs to be encouraged. The Pre-School Learning Alliance and National Child Minders' Association (NCMA) amongst other groups work with those who service the needs of young children in the private sector.

With encouragement all these groups can see themselves as ambassadors for safety and will incorporate safety training in their service and professional development with appropriate guidance.

Education, training and publicity

2.14 Community links

Road safety issues are often very closely linked to the needs of a local community. Change needs to be introduced sensitively and RSOs are useful enablers of the desired change. Forming the right relationship with schools, tenants associations, local committees and other groups within an area can be difficult. RSOs are generally good communicators and can enable a positive dialogue with the public, instead of the all too frequent problems associated with consultation. Voluntary Road Safety Committees and other groups may exist and it may be possible for their energy to be harnessed, though this is not always profitable. Local interest in road safety may be obtained from pressure groups, for instance, cycling lobbyists can be encouraged to help with cyclist training.

The ETP manager should ensure that good links with the local community are developed. This may also be beneficial in other ways. Local community funding may be available through the local authority where other casualty reduction money is not. A good working relationship with the community can then release opportunities that might not otherwise exist.

'The Health of the Nation' and community safety strategies have community focus as part of the overall delivery of targets. How they work in each locality will need to be established locally.

Engineering

This chapter focuses on the role of the Engineering road safety manager within the casualty reduction group and use of accident remedial engineering to prevent accidents and reduce casualties. It outlines the role of Safety Engineers and the main elements of their work: accident analysis, Urban and Rural Safety Management and Safety Audit. The importance of monitoring and evaluation is once again stressed.

3.1   Background

While ETP seeks to educate road users of all ages to assist them to cope with their environment, (see 3.8, page 39) Safety Engineers aim to create a road environment that is safer for all. The typical areas of influence of road safety engineering are highlighted below:

	PRE crash	Crash	POST crash
Human factors	Education Training Publicity	Training	
Road environment factors	**Road safety engineering**	**Road safety engineering**	**Incident Traffic Management**
Vehicle factors	Emerging vehicle engineering	Vehicle engineering	Telematics

For example, road environment factors such as road alignment, pavement condition, drainage, guidance for road users and control of road users can influence the incidence of a crash and therefore are 'pre-crash' controls. However, should a crash occur, the road environment can still greatly influence the outcome of the crash. For example, if there are no obstructions in an area that an errant vehicle travels into, there is likely to be a much reduced severity of crash if there is a crash at all. Similarly, controls such as speed limits will influence the severity of a crash in addition to the chances of a crash occurrence.

3.2   Legislation and obligations

The 1980 Highways Act places a statutory duty of care to road users upon the Highway Authority: *"The authority who are for the time being the highway authority for a highway maintainable at public expense are under a duty,..., to maintain the highway."*

The Roads (Scotland) Act 1984 places a similar responsibility on the Roads Authority.

The duty upon the Highways Agency in England and Wales and the Scottish Executive in Scotland is in respect of motorways and the trunk road network for which it is the highway authority. For other roads, the County or Metropolitan District Council or the local Unitary Authority is the highway authority. In Scotland the local authority is the Roads Authority.

The 1988 Road Traffic Act makes provision for the local authority to undertake studies into accidents, and to take steps both to reduce and prevent accidents. Following a road accident it may be possible that a plaintiff could argue that a highway authority is in breach of these statutory duties, and is therefore negligent, especially where there is evidence to suggest that highway features may have been the dominant causal factor. The police may also investigate a highway authority under the criminal law in line with the advice contained in the 'Road Death Investigation Manual'.

The 1980 Highways Act does, however, provide grounds for a defence where the *"highway authority had taken such care as in all the circumstances was reasonably required to secure that the part of highway to which the action relates was not dangerous."*

It is therefore likely that a case against a highway authority will be based upon whether reasonable care had been taken by the authority to protect road users.

3.3 The role of safety engineers

Safety engineers can undertake two complementary courses of action to reduce the incidence of accidents and their severity: accident prevention and accident reduction. Accident prevention involves measures, which are intended to prevent accidents from happening in the first place. Accident reduction involves measures, which are designed to reduce the number and severity of accidents.

Effective accident prevention and reduction requires reliable data knowing **where** accidents occur; **what** has happened; and **why**. Information on previous accidents is essential to identify target groups and activities, and to deal with accident clusters, or undertake route studies or area initiatives. This data is based on the information gathered by police offers in the STATS 19 form or equivalent, (see chapter 4, page 46). Knowledge about the circumstances, which contribute to the occurrence and the seriousness of road accidents, is imperfect and predictions of when and where accidents are likely to occur is difficult. In most accidents a number of contributory factors are likely to have come together, a change in any one of which might have prevented the accident. One factor may be the road characteristics.

Safety engineers must understand the road features that contribute to accidents and take appropriate action. Becoming aware of and analysing data on near misses and damage only collisions can also add useful data.

Not only is it the safety engineer's task to understand **why** accidents occur but also **how**

to reduce the risk of their continuing by making changes in the road layout, road surface, traffic signing etc. or a combination of factors. Road layout, junction control, traffic signs etc. are changed for many reasons of which road safety may only be one. Accident prevention requires safety engineers and others to minimise the presence of hazards, however accidents may continue to occur if road users deliberately take risks. This must be tackled through education and enforcement as well as engineering.

In undertaking their duties, road safety engineers will generally seek to achieve a road environment that:

- **Warns** road users of any unexpected features or those requiring special attention,

- **Informs** road users about what is likely to be expected,

- **Guides** road users,

- **Controls** road users as far as possible where conflicts may exist, and

- **Forgives** road errors or inappropriate behaviour.

The Department for Transport determines central spending on road engineering, and has some influence on local spending, and some contributions may be sourced from the private sector. Local safety schemes in potentially dangerous locations can generate rates of return of over 250% pa in the first year of operation, which indicates under-investment in such schemes[32].

It was expected that as more local schemes were adopted the average returns generated might decline. Molasses[33] the database of local safety schemes held by TRL has demonstrated that this is not yet the case.

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[32] Molasses data base www.trl.co.uk/molasses
[33] ibid

Bids for funding local road safety schemes may cover individual or area improvements. Urban transport packages should usually include a considerable element of highway safety work.

The effectiveness of Safety Engineers' work will be maximised if they work closely with other colleagues. ETP colleagues are skilled in understanding and affecting road user behaviour, have good links with the local community and will be able to advise on how road users might respond to particular engineering schemes, and complement the engineering scheme with targeted ETP. The cost of ETP work required for capital work should be built into capital funding applications. (See chapter 2, page 17).

Colleagues in police traffic management can also be a helpful source of information (See chapter 4, page 46) as can highway management/maintenance engineers.

3.4 Accident analysis and investigation

Traffic accidents arise from a complex chain of events involving the interaction of often many factors contributing to the event, coinciding with many factors not contributing to the event. In comparison to the amount of travel undertaken and the experiences in any individual's life, they are extremely rare, and in many instances random, events. Accordingly, there is a great need for investigation, analysis and evaluation to understand the nature of traffic accidents to allow effective countermeasure strategies, be they Education, Engineering or Enforcement.

It is important to understand that accident investigations will be carried out at various levels.

At the first and highest level, a database of information will be compiled with particular coded fields, and the data will be scrutinised for relevant trends and indicators. Data on personal injury road accidents are derived from STATS 19[34]. Many forces use their own forms, which collect the same data as STATS 19 but with additional data used locally.

At the second level, some additional data will be considered. For example, accident data obtained for a particular site and a site inspection undertaken to review the circumstances of the crashes and allow further consideration. This is often the furthest that accident investigation proceeds, with the identification of problems from accident analysis; diagnosis of sites and situations; selection of treatment; design and implementation of measures; and the monitoring and evaluation of benefits.

At the third and final level, in depth analysis and possibly collection will be undertaken by a team of specialists on a specific crash or generally limited sample of crashes. These investigations may be looking at anything from isolated factors (such as mobile phone usage) or multiple factors through to almost 'expeditionary' research setting out to find what there is to find and is not currently known, understood, or quantified. A good example of this field of work is the TRL On-The-Spot project with experts responding to samples of crashes performing analysis beyond the standard police data collection, and investigation.

Detailed procedures, including techniques for investigation, an indication of the effectiveness of available remedial measures, and the needs for monitoring and evaluation, are taught in RoSPA's Safety Engineering Training courses and explained in their Road Safety Engineering Manual[35].

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[34] Road Accidents Great Britain 2001 The Casualty Report TSO Example at the end of document.
[35] Road Safety Engineering Manual RoSPA 2002.

Hazard identification requires a multi disciplinary approach by various partners involved with road safety and engineers should encourage other road safety managers in ETP and enforcement to contribute to this process.

In approaching hazard identification the partners should have no pre-conceptions concerning expected road user behaviour. Furthermore they must consider the abilities of all road users; and apply the guidance contained in the Department for Transport's Advice Notes[36] and elsewhere with common sense.

A systematic approach to accident analysis and investigation makes the best use of resources. The basis for the management of such a system is outlined in the **IHT's guidelines on Accident Reduction and Prevention** (ARP).

The objectives of ARP are:

i.   The application of **cost-effective measures** on existing roads as the basis for accident reduction; and

ii. The application of **safety principles** in the provision, improvement and maintenance of roads as a means of accident prevention.

The former is achieved through detailed accident investigation; the latter through undertaking safety audits (see below). The basis for ARP is that safety principles must be observed in all highway engineering schemes: new construction, improvement or maintenance of existing roads, traffic management schemes or other works on the highway. ARP programmes help identify areas for cost-effective casualty reduction in the short and medium term. Furthermore, highway engineers must recognise the importance of monitoring and evaluating ARP programmes in ensuring value for money.

Remedial action

By focusing remedial action on sites and areas with poor accident records highway safety engineers will be concentrating efforts on sites where there is a known risk, rather than a perceived risk. At some locations, reducing perceived risk can increase the number of accidents. Safety engineers will usually have an even greater impact on accident reduction by undertaking area-wide safety schemes rather than focusing only on selected individual sites.

Expenditure on Local Safety Schemes based on ARP work may be eligible for central government funding. It would be wrong, however, to assume that the most appropriate engineering remedy will be achievable at a low cost. In some circumstances a substantial road improvement would be necessary. However, in cost-benefit terms such schemes should still be able to compete successfully against other road improvements for funding.

Four main approaches may be undertaken:

i.   **Action at single sites** or short lengths of road where accidents cluster;

ii. **Mass action** at locations with common accident factors;

iii. **Route action** on stretches of highway having above average accident rates for the type of road; and

iv. **Area action** where accidents over an area are high, particularly in urban areas.

Critical to the success of remedial action is that the action is appropriate and targeted to the problems identified. This is particularly important in considering treatments that may have an adverse impact on other areas of safety. Road safety engineers should be aware of specific adverse impacts that can be estimated for particular treatments in addition to what each countermeasure is suited to achieve.

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[36] http://www.roads.dft.gov.uk/road network/ditm/tal/traffic/index.htm

3.5 Urban safety management

Urban Safety Management (USM) is a structured approach to road accident prevention and casualty reduction and is described in the IHTs 'Urban Safety Management Guidelines'. It can help local authorities to implement the LAA 'Road Safety Code of Good Practice' and to develop a safety strategy for each of their urban areas. USM requires that a coherent range of actions be taken in pursuit of the objectives identified in the strategy.

USM involves adjusting the balance between safety, directness of access and ease of mobility on foot, by bicycle, by public transport, by private motor vehicle, and for delivery of goods. The means envisaged include redistribution of traffic and speed management.

Good urban safety management involves four steps:

i. Identifying the current and possible future hierarchy of highways;

ii. Appraising the extent and characteristics of accidents;

iii. Assessing route performance; and

iv. Setting safety objectives.

USM embraces and augments existing ARP programmes by developing highway and traffic engineering measures for accident reduction in each part of the town or city in the form of local area safety schemes, which count as local safety schemes for funding purposes. These work by achieving a safer distribution of traffic among the roads in the local area, and can be integrated with measures taken in the area in pursuit of other urban policies. In this way, accidents and casualties can typically be reduced by about ten per cent beyond the reductions achieved by traditional ARP programmes.

3.6 Rural safety management

A structured approach to Rural Safety Management is a much newer concept with IHT producing Guidelines in 1999[37]. Rural roads are defined as routes with speed limits in excess of 40 miles per hour with the addition of the villages and small towns on these routes, which have lower speed limits.

The Guidelines advocate the adoption of a hierarchical approach to rural safety management with classes of roads being defined by their different functions of Motorway, Class A, Class B, and Class C and Unclassified roads.

Class A roads

These routes are where motorised traffic predominates and a whole route approach is desirable. The aim is to harmonise the design between one urban area and the next to increase ease of travel.

Class B roads

These roads will have a much wider use and should be designed for ease of use by both motorised and non-motorised road users. A lower speed limit of 50 miles per hour should be considered.

Class C and unclassified roads

These should be tackled with an area-based approach with specific 'country areas' having a maximum speed limit of 40 miles an hour. The roads outside the 'country areas' would have upper speed limits of 50 miles per hour.

The need to address the issue of Rural Safety Management was also raised in the DETR document 'New Directions In Speed Management'[38] and the Department for Transport has continued to fund research[39] in this area.

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[37] Guidelines for rural safety management. Institution of Highways and Transportation, (1999).

[38] New Directions in Speed Management – A Review of Policy DETR March 2000.

[39] The relationship between speed and accidents on rural single-carriageway roads. M C Taylor, A Baruya and J V Kennedy. Transport Research Laboratory. TRL Report number 511.

Rural Road Hierarchy Development Project

This project was set up and funded by DfT to implement its commitment from the speed chapter of the Road Safety Strategy. The aim of the project was to establish the relevant issues in rural road hierarchy development, taking account of the views of the many affected and interested organisations. A small working group was set up comprising key representatives of these organisations to develop a template for the hierarchy and a protocol for assigning roads to a position within it, and to consider the legal framework in which it would operate. The report on the project 'Development of a Rural Road Hierarchy for Speed Management' is available on the Web[40].

3.7 Safety audit

A safety audit is a procedure, which an authority should undertake as part of the highway design process. The DfT's Circulars 'Road Safety Audits (HA42/90 and HD19/94)' and the IHT's 'Safety Audit Guidelines' include details of the objectives and principles of safety audit.

The main objective of safety audit is to ensure that all highway schemes should operate as safely as possible after opening to traffic. Subsidiary objectives are:

i.   to minimise the risk of accidents on the adjacent network;

ii. to enhance the importance of safety in highway design; and

iii. to reduce the whole-life costs of a scheme by preventing future accidents.

Undertaking an audit ensures that a scheme is considered systematically and at relevant stages in its development by a multi-disciplinary team with expertise in safety engineering and accident investigation, which is independent of the design team. It also allocates responsibility for implementing its findings. In a number of local authorities these teams include road safety officers from an ETP background, as recommended in IHT Guidelines. The School Crossing Patrol Manager should also be included where appropriate.

Safety audit procedures are mandatory for trunk roads and should be undertaken by highway authorities for all new road schemes, and new schemes for the improvement and maintenance of existing roads. Audit procedures need to be established when work is being carried out on the highway by developers or by statutory companies as well as by local authorities.

Improvements in road safety require the application of safety principles in the provision, improvement and maintenance of roads as a means of accident prevention. The safety principles to be considered under safety audit involve: geometric design; road surface characteristics; road markings and delineation; road signs, furniture and Statutory Undertaker apparatus; traffic management; and road works and maintenance.

Safety audit is relevant at different stages of a scheme: feasibility/initial design; on completion of draft plans or preliminary design; during or on completion of detailed design; and immediately prior to opening. Standard checklists can assist a well-defined auditing procedure.

Child safety audits

The concept of child safety audits was introduced in the Road Safety Strategy, Tomorrow's Roads – safer for everyone. These audits are expected to identify the child road safety problems within the area, implement strategies to deal with them and evaluate the success of the scheme. There is guidance[41] available from the DfT.

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[40] http://www.roads.dft.gov.uk/roadsafety/ruralroad/index.htm
[41] www.roads.dft.gov.uk/roadsafety/la/childsafetyaudits/

3.8 Highway engineering issues

Within the area of the road environment, there will be numerous factors influencing safety. Expanding on the earlier table gives an indication of the scope of influence the road safety engineer will have:

making provision for turning traffic; and providing safe pedestrian and cycle crossing facilities. Comprehensive advice about design is given by the DfT for different types of junction, particularly roundabouts and those controlled by traffic signals.

Road environment factors	PRE crash	Crash	POST crash
	Road factors Road cross section, curvature, road surface, drainage, sight distances	**Roadside factors** Roadside objects	**Incident response** Monitoring for early notification, protection from further harm, CCTV, road loops, emergency phones, emergency access
	Traffic management factors Guiding lines and signs, traffic controls, speed limits, traffic flows	**Traffic management factors** Speed limits	
	Land use factors Adjoining land use and conflict generated		
	Road network factors Role and function of road		
	External factors Weather & climate.		

Following is some discussion on particular aspects of road environment factors as they apply to the UK.

Road layout and design

Various features of road layout and design influence road safety. These include:

i. **Junctions**

Over half of accidents occur at junctions so network planning should try to minimise the need for junctions. The choice of junction design and control should be governed by: minimising the number of potential conflicts; ensuring adequate visibility and sight distances; avoiding perceptual problems;

ii. **Access control**

Control of access helps to minimise accidents. Roads with direct frontage generally have accident rates up to double those with limited access. Restrictions on access in residential areas could reduce pedestrian accidents by half.

iii. **Horizontal and vertical alignment**

Where drivers cannot see well ahead, often the risk of accidents increases. This is particularly noticeable where there are bends or the crest of a hill. Where the two occur together there may be more accidents if the driver's perception of the environment is in any way faulty.

A road user's perception of horizontal and vertical alignment can often be manipulated to act as a **perceptual countermeasure**, with the road user driving in a generally safer manner suitable to their perception of comfortable travel.

iv. **Cross sections**

Road safety on rural roads is influenced by the number and width of lanes, the hard shoulder, and the central reserve design. The interaction between traffic flows and these features are complex.

The aim must be to have sufficient lane widths with effective lateral clearance and recovery areas without making the road so open that it encourages drivers to increase their speed[42].

Skid resistance

Road surface characteristics have a particularly significant effect on road safety. Accident potential is considerably reduced by the use of surfaces with better skid resistance in the wet. Visibility in the wet can be improved, and glare at night reduced, by suitable surface texture. Surveys are used to ensure that the highest levels of skid resistance are maintained.

Effective skid resistance depends on the type of stone used, the wearing effects of weather and traffic loading. Polishing makes it difficult to maintain adequate wet skid resistance.

Polish-resistant aggregates should therefore be applied at the most problematic sites on heavily trafficked roads. On inter-urban routes longer-lasting rough-texture surfaces, such as porous asphalt, are being adopted since these have safety benefits, for example, by reducing spray. In urban areas it is essential to ensure that the surface texture is the optimum for the local lighting conditions. Special skid-resistant surfacing may be introduced with considerable benefit at roundabouts and on the approaches to pedestrian crossings and traffic signal controlled junctions.

Street furniture

Street furniture includes road signs and covers a wide range of safety features: street lighting, anti-dazzle screens, traffic islands and warning signs all help the road user to identify the scene ahead and warn of potential hazards[43]. The correct use of road signs is prescribed in the Traffic Signs and General Directions Regulations 2002.

Roadworks

Roadworks include any works or temporary restrictions, which cause partial or total obstruction of the highway: the area between the highway boundaries, including verge, footway, cycleway or carriageway. This ranges from opening a manhole in an urban footway to full-scale contra-flow schemes. The standards for traffic management at roadworks are set out in the Design Manual for Roads and Bridges (DMRB), Volume 8, Section 4, TA64/94[44, 45].

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[42] Safety evaluation of different kinds of cross-section on rural two-lane roads. VTT Communities and Infrastructure/Finland.

[43] The Traffic Signs Regulations and General Directions (1994) .

Statutory Instrument 1994 No. 1519 Road Traffic London:HMSO – the updated version may be published.

The Traffic Signs Manual (various dates; DTLR,London:TSO) – signs and road markings

Various Traffic Advisory Leaflets – specific innovations/developments such as traffic calming

IHT's The Environmental Management of Highways touches on street furniture.

[44] http://www.archive.official-documents.co.uk/document/ha/dmrb/index.htm

[45] Department for Transport | Safety at Street Works and Road Works – A Code of Practice (201523324).

Code of Practice for the Co-ordination of Street Works and Works for Road Purposes and Related Matters: Second Edition 2001.

Safety at Street Works and Road Works – A Code of Practice: Second Edition 2002.

Code of Practice for the Co-ordination of Street Works and Works for Road Purposes and Related Matters: Second Edition 2001. Regulations – Street Works

Roadworks significantly increase the potential for accidents. Personal injury accidents at road works are, on average, 60% greater than in normal conditions. The responsibility for safety at road works, both for the highway workers and for the travelling public, rests with the person or organisation carrying them out. This may be the highway authority, a statutory undertaker or body undertaking work in the highway under licence. The highway authority has an overall responsibility to ensure that the works are properly and safely carried out.

Volume 8 of the DMRB specifies the appropriate measures to be taken to ensure safety at road works. The objective is to achieve a satisfactory balance between getting the work done as safely as possible, optimising work efficiency and minimising congestion, delay and inconvenience. Sufficient flexibility should be built into the traffic control at road works to enable changes to be made for safety reasons, at short notice if necessary.

It may be necessary to invoke temporary speed limits in the area of the road works to ensure the safety of staff working on site in addition to motorists. Temporary mandatory speed limits should be at least 20 mph lower than any permanent limit. In some circumstances, it may be sensible to introduce advisory speed limits where mandatory ones are not justified, although drivers often do not respond well to limits below that which they would normally adopt when confronted with road works. Safety cameras can be used to enforce temporary speed limits.

The New Roads and Street Works Act 1991 provides the framework within which utilities must carry out works in the highway to install or access their equipment buried under the road or in the footway. The Act provides also for the co-ordination and inspection of utility street works by highway authorities[46].

Highway maintenance

The adequate maintenance of all roads, especially in the winter, is an important feature of casualty reduction that should be included in the authority's Local Transport Plan. Not only must road surfaces and pavement markings be kept in good condition, but so too must roadside equipment such as signs and barriers. The road safety manager should liaise with the authority's Highways Maintenance Section to ensure budgets are maintained in order to avoid increasing the wear and tear of the highway network, which will lead to higher accidents levels in the future. Failure by the authority to meet its duty of care may result in litigation and compensation costs.

3.9 Department for Transport standards

The Department for Transport has developed various guidelines[47] and criteria to enable highway authorities to ensure that highways are managed in a proper manner and are as safe as is reasonably possible. Some of the issues discussed in the previous section are covered by standards.

However, strict adherence to standards does not guarantee the safest design, hence the need for safety audits. Although the Government lays down the specified guidelines for various highways design and traffic management measures, there is no legal compulsion on the authority to follow the criteria unless a measure requires Government approval. In most cases, the criteria are applied by professional engineers who understand and appreciate their significance.

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[46] New Roads and Street Works Act 1991 (NRSWA).
[47] http://www.roads.dft.gov.uk/road network/ditm/tal/traffic/index.htm

The criteria relate to highway design, both along the carriageway and at road junctions. Other criteria deal with traffic management measures such as traffic signs, pedestrian crossings, toucan crossings, traffic calming and speed limits.

Standards have been set that influence the safety of all road users, including:

a. **Pedestrians**

Standards ensure that pedestrian crossings are provided only where they are safe and pedestrians will use them. Guidance on the assessment of pedestrian crossings is available[48].

b. **Cyclists**

The safety of cyclists can be catered for by a variety of techniques, but perhaps segregated cycle lanes are the most effective. On-street cycle lanes should not be less than 1.2 metres wide, depending upon location and traffic flow, and preferably 1.5 metres wide (or 2 metres wherever possible). Junction design is particularly important for cyclists' safety and the adoption of advanced stop lines may be of benefit. Toucan crossings provide the facility for cyclists to cross roads. The 'Cycle Friendly Infrastructure: Guidelines for Planning and Design'[49] and other advice notes deal with the detailed arrangements for cyclists' safety. This includes information on height of signs and width of cycle routes.

c. **Motorcyclists**

Motorcyclists should also be given consideration when engineering methods are being

considered. Some local authorities now have motorcyclist forums, which are a good source of information and experience for engineers to consult with at the planning stage to ensure that design features are not going to cause problems. For example the siting of drain covers and road paint can have particular relevance to road adhesion and preventing skids.

d. **Mobility access**

It is unlawful[50] for a provider of services to discriminate against a disabled person by refusing to provide, or deliberately not providing to a disabled person any service, which he provides to members of the public. Providers of services also have a duty to make adjustments to practice, policy, procedure or physical features where such features make it impossible or unreasonably difficult for a disabled person to use a service[51].

The provision of resources such as dropped kerbs and tactile surfaces ensure that it easier for people with a disability to use the road environment and increase their access to other facilities.

Steps must be taken to ensure that the roads infrastructure is designed and adapted to provide easy access for users with a disability or people with prams or pushchairs.

Information is available in the relevant Traffic Advisory Leaflet[52].

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[48] Traffic Advisory Leaflet 1/01 Local Transport Note 1/95, The Assessment of Pedestrian Crossings, Crossings Department for Transport HMSO.

[49] Cycle-Friendly Infrastructure: Guidelines for Planning and Design, Department of Transport, Bicycle Association, Cyclists' Touring Club and Institution of Highways and Transportation 1996.

[50] Disability Discrimination Act 1995 Part III Discrimination in other areas HMSO.

http://www.roads.dft.gov.uk/road network/ditm/tal/traffic/index.htm

Traffic Advisory Leaflet 1/01 Local Transport Note 1/95, The Assessment of Pedestrian Crossings. Crossings Department for Transport HMSO

[51] UK Department for Transport | Inclusive Mobility – A Guide to Best Practice on Access to pedestrian and transport infrastructure (537002032).

[52] Traffic Advisory Leaflet 06/02: Inclusive Mobility: A guide to best practice on access to modern pedestrian and transport infrastructure Department for Transport HMSO.

d. **Standards for infrastructure**

Three particular engineering features have an important bearing on road safety for drivers: speed limits, traffic calming and road signs and markings.

i. *Speed limits*

Unless a speed limit is reasonable it will have little effect on collisions or driver behaviour. Highway authorities have the authority to determine speed limits in their own area. In residential areas, 20mph zones can be introduced with appropriate traffic calming features (see below) to make the limit self-enforcing, although such measures are not obligatory.

The speed limit criteria are based upon: the speed of traffic; the personal injury collision rate; the character and environment of the road; and traffic composition, and guidance is given in Circular 1/93.

Variable speed limits can be adopted by the use of Variable Message Signs[53] (VMS).

Advisory VMS signals may be set manually to give warning of an incident, or Automatic Incident Detection (AID) equipment on motorways allows a speed restriction to be set automatically as soon as a queue forms and the police are alerted.

ii. *Traffic calming*

Traffic calming involves the modification of existing road layouts to reduce the volume and speed of vehicles travelling through areas where they are likely to come into conflict with vulnerable road users. It can contribute to safety by reducing the number and severity of injury accidents but it also has environmental and wider social objectives. Speed is controlled by the physical layout of the street. A reduction in the speed of vehicles not only reduces the likelihood of an accident occurring but it also reduces the severity of the injuries, which result, particularly those involving pedestrians. Traffic calming is most readily applicable where most vehicle movements have either their origin or their destination in the neighbourhood, and good alternative routes are available for through traffic. Traffic calming on routes carrying substantial amounts of through traffic requires strong justification and especially careful design. A good source of further information is the DfT Traffic Calming Bibliography[54].

Various potential physical alterations to the street exist: vertical deflections; narrowing; changing the horizontal alignment; and treatment of junctions. The most common are road surface measures. Speed cushions allow larger vehicles to traverse and may be a more acceptable alternative to humps.

Designers must be sympathetic to the needs of the emergency services and bus operators[55, 56]. In residential areas where road humps are installed, accidents can be reduced by up to 60% as a result of lower vehicle speeds[57] rather than reduced flows. Research indicates that accidents may be reduced by 8% on untreated roads surrounding such sites.

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[53] Traffic Advisory Leaflets 17/99: Code of Practice for Traffic Control and Information Systems Department for Transport HMSO.

[54] Traffic Advisory Leaflets 05/01: Traffic Calming Bibliography Department for Transport.

[55] Traffic Advisory Leaflets 01/98: Speed Cushion Schemes Department for Transport HMSO.

[56] Traffic Advisory Leaflets 03/94: Fire and Ambulance Services Traffic Calming: A Code of Practice Department for Transport HMSO.

[57] Molasses data base www.trl.co.uk/molasses.

Some highway authorities have installed speed-reducing measures on the approaches to and within villages to convey to drivers that they are entering a different environment from the open road and should drive accordingly. Measures adopted can include redesigned nameplates, speed limit signs, hatched road markings, contrasting surfaces and central islands. 'Gateways' are less effective in reducing speeds since reductions are not always sustained unless calming measures are introduced within the length of the village. But the more measures that are used together, the greater the effect.

iii. *Road signs and markings*

Road signs and markings are a good example of the way in which standards ensure uniformity throughout the country. For example, the regulations[58] indicate the need for double white lines, their length and where they can be laid.

3.10 Evaluation

It is essential that engineering remedial schemes are monitored and evaluated to assess their effectiveness. This will provide:

■ An early warning if the scheme is not working as it was designed

■ Guidance on the likely effectiveness of similar schemes at other sites in the future

■ An indication of accident/casualty migration as a result of a scheme.

Evaluation methods for road safety engineering schemes are well established, and usually involve a 'Before and After' analysis. These take two forms:

i. The level and types of accidents at the site, route or area in question for a three-year period before the remedial scheme was implemented are compared to those in the three-year period after implementation.

ii. The level and types of accidents at the site, route or area in question in the three year period before the remedial scheme was implemented and in the three years after implementation are compared to accidents at a control site, route or area over the same periods.

When comparing 'Before and After' data it is important to consider whether any changes other than the remedial scheme have occurred at the site that may affect the change in accidents, such as an increase or decrease in traffic volume. Change in pedestrian routing may also be a factor worth considering.

The second form of evaluation is to use a control site. Comparison is made between the control site and the one where remedial measures have been put in place. It is important that control sites are as similar to the actual site as possible, are close enough to it so that any external changes will affect both equally but not so close as to be affected by the remedial scheme itself.

Monitoring and evaluation should also include the public reaction from all user types and residents to the scheme, just as the public should have been consulted when the scheme was being planned.

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[58] Statutory Instrument 2002 No. 3113 The Traffic Signs Regulations and General Directions 2002 HMSO.

3.11 Monitoring progress towards targets

In addition to evaluating individual road safety programmes, the road safety manager must also monitor their organisation's progress towards the Year 2010 Casualty Reduction Target. However, managers also need to consider what targets and performance monitors will need to be developed for the years beyond 2010.

There needs always to be a very clear public headline figure which is easy to understand and publicise. For all those working towards the targets, guidelines are needed for particular areas of work and target areas of casualties. The road safety manager should ensure that practitioners target their resources effectively towards particular problem areas identified at a national and local level.

Monitoring the progress towards these headline targets is complex and requires a large number of areas to be studied to identify the areas of work which are most effective and the action that needs to be taken year by year to progress towards the headline target.

Examples of subsidiary targets that might be adopted include:

- Casualty reduction targets for specific groups of road user and specific age groups

- Reducing accident rates (this requires information on the levels of use of particular modes locally and a continual monitoring of accident types)

- Measuring against unit plans for specific work projects

- The community response to environmental, traffic, educational and publicity schemes can give a good view of the usefulness and acceptability of interventions. However little of this data is collected and used.

- Behavioural change can in the short term be an indication of the effectiveness of schemes before casualty figures themselves demonstrate whether a scheme has been successful.

The feedback from these performance indicators will advise the road safety manager in future planning rounds.

This chapter focuses on the work of the police in enforcement, collision reconstruction, traffic management and data collection and the role of the enforcement manager in the casualty reduction partnership.

4.1 Background

The first principle of policing is the protection of life. The Statement of Common Purpose issued by the Police Service nationally includes the phrase "... to protect, help and reassure the community." The police function in relation to the roads is primarily enforcement, incident management and investigation.

Since 1994, the Home Secretary has set key objectives for policing in England and Wales. Road safety and casualty reduction were included in the National Policing Plan 2003-2006 published by the Home Office in November 2002, which sets out for the first time, strategic national priorities for the police service. This document suggests that police forces and authorities should include targeted and intelligence led strategies for the reduction of road deaths and casualties and to achieve a safe environment on the road.

However, in response to public concern over road collisions and their duty to maintain free movement of traffic, the police endeavour to obtain closer observance of all traffic laws by using publicity, education, encouragement and positive but judicious enforcement, as appropriate. The Police also fully support and co-operate with other interested agencies in the pursuit of road safety measures.

There are 51 police forces in the United Kingdom, and the roads policing function may be implemented in different ways. Information on local provision can be obtained by contacting the headquarters of the local constabulary.

A close working relationship between the Police, ETP and Engineering is essential in casualty reduction. The Police provide essential accident data from STATS 19 records, or equivalent and Collision Report Books, co-operate in ETP programmes and can target specific enforcement activities to coincide with an authority's road safety programmes in both publicity and engineering. Consultation with other agencies and the public is a key element in setting policing objectives.

4.2 Road safety functions of the police

Road policing

Road policing continues to be an important element of road safety enforcement. It includes duties, such as the examination and prohibition of defective vehicles and drivers' hours offences. Roads policing officers work both reactively (for example, attending collision scenes) and proactively (for example, running speed enforcement campaigns).

Data collection

The Police collect statistical information on reported personal injury accidents in the form of STATS 19 records. The information recorded is:

- The attendant circumstances

- The vehicles involved

- The casualties involved, including age, gender, injuries and actions

- Contributory factors (not always recorded nationally).

STATS 19 data is extremely useful, but it does have some limitations. Not every injury road accident is reported to the Police – indeed this is not required by law provided that the parties involved exchange relevant personal information. Under reporting is particularly acute in the case of pedestrian and cyclist casualties.

Written reports of collisions attended by Police are also produced together with statements by participants and witnesses and sometimes a sketch plan. These can provide extra information, which is very useful for investigative purposes.

However, they are confidential documents and access to them may be restricted. It is also important that officers involved in gathering data understand why they are doing so and the importance to the work of everyone working in road safety.

Safety activities

It is important that the Police manager liaises with the other road safety professionals to ensure that the road safety activities of the Police are co-ordinated with and are mutually supportive of the work done by others.

The Police may be involved in public education campaigns and school liaison. Some forces are involved in driver education and driver rehabilitation courses. The Police may also be involved in safety audit and accident investigation schemes but their primary role in road safety is the enforcement of road traffic legislation.

Collision investigation

When a fatal or potentially fatal collision has occurred then a criminal investigation will take place using the methods outlined in the Road Death Investigation Manual. The manual complements the Murder Investigation Manual and treats death on the road as an unlawful killing until proven otherwise. An investigation team that should include a Senior Investigating Officer (SIO), a collision investigator, an investigating officer, a vehicle examiner and a family liaison officer, will gather all available evidence. Only when all evidence has been gathered will a decision be taken on prosecutions or other courses of action.

The evidence gathered may indicate that a failure in the road or one of the vehicles involved caused or contributed to the collision. Where this is the case, such information should be passed to the safety engineer for possible remedial measures to be implemented or to the vehicle manufacturer so the model can be checked for a general defect.

When officers experience a series of similar types of collisions this information should be passed to the ETP manager to be highlighted to the public in a publicity campaign and through the local media.

Traffic management

The Chief Officer of Police is a consultee for all engineering measures planned by a local authority. In some forces this responsibility has been delegated to a specialist traffic management team who prepare the consultation response. This team may consist of police officers, support staff or both. Staff may have some engineering training but most teams have experienced roads policing officers who can advise how planned changes may affect some road users. It is beneficial for engineers to include these traffic management officers in the initial design phases and through the entire planning process.

The analysis of accidents on a stretch of road may identify no factors, which can be addressed by engineering. Where enforcement is required to reduce collisions the traffic management team should provide liaison to obtain enforcement by roads policing officers.

Enforcement

The enforcement activity of roads policing officers should be targeted at problems identified through research into casualty patterns. If a trend is identified which suggests that inappropriate speed is over-featuring in collisions in a particular locality, the Police can target enforcement on that area for a short time. Police resources may also be deployed to investigate whether a perceived problem at a location is a real one.

Speed

Technological advances are adding to the equipment available to the Police. Hand-held laser speed detection devices are now available, and since July 1992, evidence from roadside cameras have been used to convict motorists of speeding offences.

Cameras are also used at junctions controlled by traffic lights. The Police co-operate closely with Local Authorities in funding, siting and operating these devices. Camera partnerships have been set up in most areas with others planned. These allow all the stakeholders in road safety to site cameras in areas with a speed problem and sufficient speed related casualties and the fines from speeding motorists are fed back to pay for speed reduction initiatives. (See page 29.)

Enforcement comes in several forms. The presence of a marked Police vehicle has an effect on driver behaviour. However, enforcement normally means positive action, which may include:

- Arrest (for the more serious offences)
- Report for Summons
- Fixed Penalty Notice
- Verbal warning.

The traffic laws that the Police enforce that have a direct bearing on road safety include:

- Speed limits
- Impairment through drink/drug driving
- Seat belt use
- Drivers' hours
- Vehicle safety.

The Police also co-operate with other agencies to enforce specialised traffic laws, although these functions may also be carried out separately from other bodies:

- Overweight vehicles (with Trading Standards officials)
- Large Goods and Passenger Carrying vehicles (with the Vehicle Inspectorate)
- Vehicles carrying dangerous chemicals (with the Health and Safety Executive)

It is worth reiterating that each police force approaches roads policing differently, in the same way as Local Authorities vary in their approach to road safety. Contact between the road safety manager and the part of the local constabulary that deals with roads policing matters to clarify the services provided is fundamental.

ACPO and ACPOS

The views of the Police Service in England, Wales and Northern Ireland are represented by the Association of Chief Police Officers (ACPO), and in Scotland by the Association of Chief Police Officers in Scotland (ACPOS).

ACPO has 10 main business areas, which includes roads policing. The Roads Policing business area has many functions but its main activity centres on the 'Manifesto for the Future of Modern Road Policing'[59]. Its aims are to:

- Enforce the law
- Promote road safety
- Investigate incidents
- Patrol the roads.

It also provides liaison between the Home Office, the Department for Transport, representative bodies in Local Government, other bodies such as the Association of County Councils, RoSPA, motoring organisations and all Chief Officers of Police to advise and inform Chief Officers of all significant professional developments in the field of traffic. All correspondence should be addressed to the Secretary.

The membership of the Association of Chief Police Officers in Scotland is made up of all Chief Constables, Deputy Chief Constables and Assistant Chief Constables in Scotland.

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[59] http://www.acpo.police.uk/policies/ba_brunstrom_manifesto2.pdf.

Enforcement

Formally a staff association it is now the strategic body which oversees and co-ordinates all aspects of the direction and development of the Scottish Police Service. It operates through a system of standing committees, which determine policies for policing throughout Scotland. This includes a Road Policing Standing Committee.

ACPOS plays an active part in road safety in Scotland taking part in and supporting many publicity and enforcement campaigns. ACPOS produces an annual report on its work and a policy document on its policing priorities[60] which includes a priority of road casualty reduction and the National Roads Policing Strategy.

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[60] http://www.scottish.police.uk/main/acpos/spicc/policing2703V2.pdf

School crossing patrol service

This chapter looks at the role and responsibilities of the School Crossing Patrol Service Manager. The need for sites to be risk assessed, staff properly trained and monitored and the legal basis for the school crossing patrol service.

5.1 Background

School Crossing Patrols (SCPs) were established by the School Crossing Patrol Act 1953 and instituted on 1 July 1954 through the School Crossing Patrol Order 1954. The Road Traffic Regulation Act 1984 (Sections 26-28) gave 'Appropriate Authorities' (defined as county councils, metropolitan district councils, the Commissioner of the Metropolitan Police and the Common Council of the City of London) the power to appoint SCPs to help children cross the road on their way to or from school, or from one part of a school to another, between the hours of 8:00 am and 5:30 pm.

Section 270 of the Transport Act 2000, which came into force on 30 January 2001, amended the 1984 Regulations to permit Patrols to operate "at such times as the authority thinks fit", and to stop traffic to help anyone (child or adult) to cross the road, whether or not they are travelling to or from school. The same amendments were also introduced in Section 77 of the Transport (Scotland) Act 2001.

The amended Regulations define that Appropriate Authorities:

- Shall be the council of the county or metropolitan district outside Greater London

- Shall in the City of London be the Common Council of the City

- Shall in a London Borough be the council of the Borough

- Shall in Scotland be the council constituted under Section 2 of the local Government etc. (Scotland) Act 1994.

5.2 Operational guidelines

There are national 'School Crossing Patrol Service Guidelines'[61]. The document covers such issues as:

- Management system
- Risk Assessment and Risk Management
- School Crossing Patrol Sites
- Selection and appointment
- Training
- Supervision
- Summary of Best Practice
- Criteria for the Establishment of SCP Sites
- Appendices containing generic forms.

5.3 Establishment of sites

Although the law now allows Patrols to stop traffic to help anyone (child or adult) cross the road, School Crossing Patrol sites should be established, using national guidelines. Some authorities may adopt local criteria but they must be based on the number of children walking to and from school and the volume of traffic at the site in question. Once established, SCPs may stop traffic to help anyone to cross the road, but it is **not recommended** that the sites be established on the basis of the number of adult pedestrians.

5.4 Parental responsibility

Even where an SCP is provided, parents remain responsible for ensuring their children's safety, just as they do when a zebra crossing or pelican crossing is provided.

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[61] School Crossing Patrol Service – Guidelines LARSOA, RoSPA.

5.5 Responsibility for the service

It is strongly recommended that the Service is managed and operated by the department responsible for highways, traffic and engineering, and ETP services. In Scotland, this is usually the department with responsibility for roads.

School Crossing Patrols are essentially a road crossing facility (one of the many traffic management options available, alongside facilities such as Zebra and Pelican Crossings). The establishment of sites should be very much part of an Authority's overall provision of safe crossing facilities. Although Patrols are closely associated with individual schools, their main function is a road safety, rather than an educational, one.

In authorities where the highways function has been privatised, it is recommended that the SCP service remain with the Local Authority.

It is also recommended that the overall responsibility, and day-to-day management of the Service, be invested in one department rather than being shared between different ones. However, close liaison between the Highways and Education Departments, schools and the Police, where appropriate, is important as each has a valuable role to play in the provision, maintenance and management of the Service.

5.6 Management system

An effective management system is essential, as outlined in 'School Crossing Patrol Service Guidelines'. It should ensure that Patrols are properly recruited, trained and supervised, that adequate records are kept, patrol sites are checked to ensure that they are 'safe' for Patrols to operate, and assessed to ensure that they are justified.

The Manager must consider the risks involved in running the Service and how they can be reduced or minimised (Risk Management).

Risk assessments must be conducted by trained staff. The risk assessment must be recorded, and regularly updated, to demonstrate that reasonable care is being taken, and to enable the Service to be monitored to ensure that standards, once set, are maintained, reviewed and improved.

There must be sufficient staff to cope with all eventualities. Ideally, specific trained staff should be appointed whose only (or main) task is the operation and management of the SCP service. Staff should receive the equipment they need and be properly trained to use it.

SCPs should be provided with, and wear, high visibility jackets complying with the appropriate British Standard whilst operating. Supervisory staff should ensure that Patrols always wear their full uniform, including the hat, when on duty and Managers should ensure that Patrols and supervisors fully understand that, without the full uniform, including hat, they have no legal power to stop traffic.

It is important that the Manager maintains good liaison with the headteachers of schools, which have, or may be given, Patrols to ensure that they are aware of the operating procedures, particularly in relation to (planned or unplanned) absences.

5.7 Selection and appointment

Section 26 (3) of the Road Traffic Act 1984, as amended by the Transport Act 2000 and the Transport (Scotland) Act 2001, states that Authorities have a "duty to satisfy themselves of the adequate qualifications of persons appointed to patrol".

Therefore, the process of recruiting, training and supervising Patrols must be carefully considered. Managers should consult their Human Resources or Personnel Department and adhere to the Authority's recruitment and equal opportunities policies and procedures, which will include reference to the Criminal Reference Bureau.

School crossing patrol service

Recruitment is a major problem facing many SCP Services and there are many localities where the Service is seriously understaffed. However, even when there is a recruitment shortage, it is important that the suitability of potential Patrols is carefully assessed.

All Patrols must be trained. Section 26 of the Road Traffic Regulation Act 1984, as amended by the Transport Act 2000 and the Transport (Scotland) Act 2001, places a duty on the Authority "to provide requisite training" for its Patrols.

More comprehensive detail of all the above is contained in the 'School Crossing Patrol Service Guidelines'.

This chapter provides basic guidance on the statutory requirement for activities to be risk assessed and employers' and employees' duty of care. It discusses the principles of risk assessment and the implementation of safe systems of working as they impact on road safety managers. This should not be seen as a definitive guide but a starting point for further research and practical training.

6.1 Risk assessment legislative basis

The health and safety of staff and others involved in, or affected by, an organisation's activities is a major area of responsibility for managers. It is a responsibility, which road safety managers should take seriously and ensure that this area is given the time and effort it requires. Every local authority has risk assessment practices and procedures and the road safety manager should consult with their Health and Safety Advisor to ensure compliance with the policies, which have been adopted.

The concept of risk assessment first appeared in the Health and Safety at Work Act 1974 which implied that employers had a responsibility to risk assess the work of their employees. This implied responsibility was made explicit in the Management of Health and Safety at Work Regulations published in 1992[62] and updated in 1999[63]. The relevant regulations are:

Risk assessment

3—1. Every employer shall make a suitable and sufficient assessment of:

    a. the risks to the health and safety of his employees to which they are exposed whilst they are at work; and

    b. the risks to the health and safety of persons not in his employment arising out of or in connection with the conduct by him of his undertaking, for the purpose of identifying the measures he needs to take to comply with the requirements and prohibitions imposed upon him by or under the relevant statutory provisions.

3. Any assessment such as is referred to in paragraph (1) or (2) shall be reviewed by the employer or self-employed person who made it if—

    a. there is reason to suspect that it is no longer valid; or

    b. there has been a significant change in the matters to which it relates;

    and where as a result of any such review changes to an assessment are required, the employer or self-employed person concerned shall make them.

4. Where the employer employs five or more employees, he shall record—

    a. the significant findings of the assessment; and

    b. any group of his employees identified by it as being especially at risk.

6.2 Capabilities and training

The Management of Health and Safety at Work Regulations also lays upon an employer the responsibility to ensure that when entrusting a task to an employee that employee's capability as regards health and safety is taken into account. They must ensure that the employee has the requisite knowledge and skills to carry out the work in a safe manner.

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[62] Statutory Instrument 1992 No. 2051 The Management of Health and Safety at Work Regulations 1992 HMSO.
[63] Statutory Instrument 1999 No. 3242 The Management of Health and Safety at Work Regulations 1999 HMSO.

Employees must be provided with adequate health and safety training:-

1. On recruitment and

2. On being exposed to new or increased risks because of:

    i. transferral or change of responsibility;

    ii. new equipment or change of working practices with present equipment;

    iii. introduction of new technology;

    iv. introduction of a new system of work or change to present system of work.

The training shall:

a. be repeated periodically as required;

b. be adapted to take account of new or changed risks;

c. take place during working hours.

6.3 Duty of care

The Health and Safety at Work Act 1974 also requires employers to ensure that, as far as is reasonably practicable, that people not in their employ are not subjected to unreasonable risk to their health and safety[64]. The Act[65] also lays on employees, at work, a general duty to:

a. to take reasonable care for the health and safety of himself and of other persons who may be affected by his acts or omissions at work; and

b. as regards any duty or requirement imposed on his employer or any other person by or under any of the relevant statutory provisions, to co-operate with him so far as is necessary to enable that duty or requirement to be performed or complied with.

6.4 Responsibilities for safety

The legislation means all managers and employees have a responsibility for health and safety.

Employees have a duty to protect their own safety and the safety of people they are working with, both fellow employees and members of the public. Managers are responsible for the health and safety of their staff and for ensuring that employees understand the duty of care they have for their own and other's safety and the training to execute that responsibility effectively.

A large part of the responsibility for safety is satisfied by risk assessing work practices and sites to ensure that hazards and risk are reduced to a minimum, by eliminating or reducing any risks identified. Where an employer has more than five employees, risk assessments must be recorded in writing and kept on record. They should be updated on a regular basis and where there is a major change in circumstances, they must be redone immediately.

6.5 Hazard and risk

The two areas considered in risk assessment are hazard and risk.

A **hazard** is something with the potential to cause harm.

A **risk** is the likelihood of a hazard resulting in harm.

The level of risk depends on:

1. Likelihood of occurrence

2. Potential severity

3. The population which might be affected.

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[64] Health and Safety at Work Act 1974 HMSO. Section 3. (1) General duties of employers and self-employed to persons other than their employees.

[65] Health and Safety at Work Act 1974 HMSO Section 7 General duties of employees at work.

Risk assessment

The aim of a risk assessment is to identify any hazards, estimate the risk of the hazard occurring, and determine the measures necessary to eliminate or reduce the likelihood of occurrence, the potential severity and the population affected. Essentially the aim is to make an activity as safe as possible.

Examples of such activities are:

- Pedestrian training
- Cycle training
- Walking buses
- School Crossing Patrol sites
- Training events
- Publicity events
- Theatre in Education.

There are specific guidelines for many of these activities that include best practice advice on risk assessment and management. (Pages 18/19.)

6.6 Principles of risk assessment

The risk assessment needs to consider the following questions:

- Where is the task carried out?
- When is the task carried out?
- Who could be affected by the work?
- What do people do?
- What do people use in terms of equipment?
- What are the sources of possible errors?
- How is the task carried out with regard to frequency, work methods and procedures?

Various methods can be used to assess and prioritise risks and the road safety manager should check with their Health and Safety Department what method and forms are used within the organisation. If these need to be adapted for a specific road safety activity this should be done with the agreement of the Health and Safety Department.

However the Health and Safety Department also needs to recognise the specific expertise of road safety professionals in their own area of responsibility.

6.7 Identifying priorities

Once the risk assessment has been carried out, the next step is to identify priorities, which should take the following points into consideration.

- High risks require priority
- An action plan be developed with set targets
- Temporary arrangements may be necessary
- Minor risks can be given a low priority

6.8 Implement risk assessment

- Develop controls
- Implement controls
- Review and monitor

6.9 Specific and generic risk assessment

When dealing with static activities such as office work it is possible to do generic risk assessment, where one site is assessed and the principles applied to the rest. This saves time and effort. However when dealing with dynamic activities, specific risk assessments are necessary. In a road safety environment a mixture of both is required. Some activities are always the same and a generic assessment can be used which covers that activity. Where an activity differs according to the site, target group etc. then a specific assessment is required.

6.10 Reviewing procedures

Records should be kept of all risk assessments, and these should be available to all parties involved. They should detail when the risk assessment is scheduled for review and the circumstances, which require a review to be carried out ahead of schedule.

Typical circumstances, which would require an immediate review, are:

■ An accident or unplanned occurrence

■ A significant change to an aspect of the activity.

6.11 Risk controls

The general principles of prevention are laid out in schedule 1 of The Management of Health and Safety at Work Regulations 1999[66], and consist of

a. Avoiding risks;

b. Evaluating the risks which cannot be avoided;

c. Combating the risks at source;

d. Adapting the work to the individual;

e. Adapting to technical progress;

f. Replacing the dangerous by the non-dangerous or the less dangerous;

g. Developing a coherent overall prevention policy which covers technology, organisation of work, working conditions, social relationships and the influence of factors relating to the working environment;

h. Giving collective protective measures priority over individual protective measures; and

i. Giving appropriate instructions to employees.

These principles are designed for a work environment and must be applied to other areas of road safety with intelligence. Where practical skills training is being given to children on the road, risk cannot be avoided. A balance has to be found which allows children and young people to be trained safely to deal with a hazardous environment while risk is reduced to a minimum. This can be done by devising and implementing a safe method of working.

6.12 Safe system of working

Having identified and prioritised the risks identified in the risk assessment the next step is to develop control measures to reduce risks to an acceptable level. In the development of controls various points should be considered

■ A variety of options should be considered

■ Consultation with staff/volunteers should take place to gain their viewpoint

■ How arrangements will be maintained

■ Effectiveness of the arrangements

■ Consequence of failure

■ The organisation determines what is reasonably practical

■ Information should be shared

■ Records must be kept

■ There must be procedures for serious and imminent danger.

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[66] Statutory Instrument 1999 No. 3242 The Management of Health and Safety at Work Regulations 1999 HMSO.

6.13 Implementation of safe system of working

When a safe method has been developed it is important that it is properly implemented and that all staff and volunteers are fully conversant with it. This can be done through:

- Policy documents

- Procedures and or work instructions

- Staff/volunteer handbooks

- Induction courses

- Training sessions

- Briefing sessions

- Setting up a system of monitoring.

The road safety manager needs to ensure that such materials are easily understood and relevant to the activity and risks involved. They must be provided for all the staff and volunteers working in a particular activity.

6.14 Monitoring

It is of particular importance to have a schedule of monitoring so that activities and sites are risk assessed at regular intervals and that the safe system of working is still the best for the circumstances and it is being implemented properly. The greater the risk, the more often assessments and reviews need to be done. Risk assessments also need to be redone and systems reviewed when:

- There is to be a significant change

- The validity of the assessment is suspect

- Following an accident, incident or near miss.

Other organisations in road safety

Part I of this chapter explains the role of statutory bodies in road safety within the Public Sector, specifically central and local government. These organisations are both autonomous and interdependent, in that each carries out its own statutory function, yet relies on the others for information and guidance. In addition, the Government maintains a legislative framework within which all parties operate, dictates national policy on road safety and provides resources for local activity through the Standard Spending Assessment (SSA) and other financial mechanisms. Part II examines the role of other bodies in road safety.

Part I – Statutory bodies

Central government

7.1 Background

Following a major review by the main government departments in 1987 'Road Safety – The Next Steps', the role of government has developed from simply introducing appropriate regulation and implementing national publicity campaigns, to becoming co-ordinators of road accident casualty reduction activity at national and local level. Through its Department for Transport, a target has been set which establishes best practice[67] and value for money as core elements in road accident casualty reduction and prevention. This strategy encourages all Highway Authorities to adopt their own local targets, publish their plans, carry out casualty reduction schemes, monitor action, evaluate progress and publish outcomes.

In addition, the Government has created a number of Executive Agencies within the Department for Transport, which are involved in road safety.

7.2 Government structure

The Department for Transport (DfT) develops the National Policy for Road Safety which applies throughout the UK. The national responsibility for road safety has been organised by Government into regions.

England

In England, the Department for Transport's Road Safety Division is sub-divided into six sections, each dealing with specific responsibilities ranging across issues such as driver impairment, speed management, vulnerable road users, targets, strategy and training and testing. In addition, in England, the Department for Transport is represented in the Government's 10 regional offices.

Northern Ireland

In Northern Ireland, road safety is co-ordinated by the Northern Ireland Office's Department of the Environment. The Northern Ireland Road Safety Strategy[68] sets a target of a one-third reduction (from the average for the period 1996-2000) in the number of people killed and seriously injured and a target of 50% for the number of children killed or seriously injured, to be achieved by 2012.

Scotland

In Scotland the Scottish Executive Development Department Transport Division 3 is responsible for road safety policy relating to devolved issues. This Division is responsible for providing grants to the Scottish Road Safety Campaign, RoSPA in Scotland and it is funding a programme of child pedestrian training schemes in line with the DfT initiative.

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[67] A Road Safety Good Practice Guide. DTLR. June 2001.
[68] Northern Ireland Road Safety Strategy 2002-2012 Department of the Environment 2002.

Scottish Road Safety Campaign

In 1986 The Scottish Office set up the Scottish Road Safety Campaign (SRSC) to plan and co-ordinate road safety activities in Scotland during European Road Safety Year. The funding was maintained and is now provided by the Scottish Executive Development Department. The SRSC develops and co-ordinates national road safety education and publicity initiatives and is responsible for managing the Children's Traffic Club in Scotland which is free for all three year olds. The SRSC operates via a number of committees, which draw their membership from police and local authority road safety units, ACPOS, NHS Health Scotland, Learning and Teaching Scotland, motoring organisations and RoSPA.

The SRSC works closely with all local authority and police road safety units in an attempt to ensure a co-ordinated approach to road safety in Scotland[69].

Wales

In Wales, the Welsh Assembly Government carries out all major publicity within the country. It also contributes to the cost of road safety projects proposed by the Road Safety Council of Wales[70]. The Road Safety Strategy for Wales[71] provides guidance to professionals in the road safety policy area and links to the UK Government Strategy (see 7.4).

The Road Safety Council of Wales (RoSCOW) uses RoSPA Wales to provide a secretariat for its committees, sub-committees and working groups. This is an interesting model, which has enjoyed success in Wales; it raised the profile of road safety within the country. It co-ordinates, stimulates and promotes road safety education, training and publicity and aims to reduce accidents and the severity of injury to all road user groups.

It is useful to develop a dialogue with the local regional office as this may assist with local schemes, especially if they have the potential to be developed across one or more regions. In addition, regional offices often organise launches of national campaigns. The road safety manager may be able to assist with this process by offering a suitable local initiative which links with the national message, thus gaining valuable local publicity.

7.3 Consultation

Apart from advising its Ministers, other government departments, local government, police and the private sector, the Department for Transport plays a key role in shaping road safety legislation. In carrying out this task, it usually consults with organisations/individuals who might be affected. This process is also used when revising important documents such as the Highway Code. Consultation provides an important opportunity for managers of organisations selected to participate, to make known their views and influence outcomes.

7.4 Government targets

In 1987 'Road safety – The Next Steps' set a Government target to reduce road traffic accident casualties by one third by the year 2000, using the average of 1981-5 as the baseline. This served a useful purpose in encouraging inter-disciplinary and inter-agency partnerships at local authority level. Working together and sharing knowledge, skills and resources has contributed to the considerable reduction in fatal and serious casualties on Britain's roads.

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[69] http://www.srsc.org.uk
[70] http://www.roscow.org.uk
[70] Road Safety Strategy for Wales, Welsh Assembly Government January 2003.

The Government continued the use of targets in 'Tomorrow's Roads – Safer for Everyone'[72], which set the present targets. It is to be expected that numerical targets for casualty reduction will be retained by them in the future, however, the process will become more sophisticated and will continue to be complimented by other initiatives such as encouraging modal shifts in transport use, which fit a greener, more environmentally friendly agenda. It is, therefore, essential that road safety managers, who are ideally placed enablers, network with other professionals from the planning, engineering, health and other appropriate disciplines, to ensure a coherent approach.

7.5 National publicity/targeting the message

The Department for Transport carries out research to establish ways of using publicity to effectively influence road user behaviour, and employs advertising agencies to develop appropriate campaigns suitable for use across all media. These campaigns are branded with the 'THINK!' logo that everyone working in road safety is encouraged to use. The Department circulates information to road safety officers and others, giving advance warning of such campaigns. It also makes support materials freely available upon request. It is important that road safety managers ensure they are aware of the Department's publicity campaign programme, to better plan local activity, and maximise opportunities provided by national initiatives. In this way, full use can be made of finite resources. To influence the national 'THINK!' campaigns, road safety managers should, through their authorities, make representations, either on a regional basis or via their professional associations.

7.6 Government publications on road safety

The Department for Transport produces numerous publications and reports on various aspects of road safety, including accident statistics, road safety education in schools, best practice in road safety engineering schemes and many others. Managers should familiarise themselves with such information as it is an important tool to assist road safety practitioners in their work.

7.7 Research and development

The Department also commissions research on road safety using various agencies and organisations. This research ranges from educational schemes like the pre-school Children's Traffic Club and 'The Road Safety Education in Schools Project' to schemes involving roads and vehicle engineering.

In planning interventions etc., managers may need to gain access to appropriate research papers. The TRL and RoSPA maintain an extensive library service that may be used for this purpose.

7.8 Executive agencies within the Department for Transport

Driving Standards Agency (DSA)

The DSA has been an Executive Agency of the Department for Transport since April 1990. It promotes road safety through improving driving standards, testing drivers and riders, maintaining the statutory register of Approved Driving Instructors and supervising basic training for learner motorcyclists. It is responsible for setting the standards for theory and practical tests including the hazard perception testing of novice drivers. The DSA also has a testing service for taxi drivers, has developed a voluntary register of LGV Instructors, and run the fleet driver trainer registration scheme.

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72 Tomorrow's Roads – Safer for Everyone The Government's road safety strategy and casualty reduction targets for 2010 .

The Highways Agency

The Highways Agency is an Executive Agency of the Department for Transport and was established in April 1994. It is responsible for managing – on behalf of the Secretary of State for Transport – a safe, efficient and environmentally acceptable motorway and trunk road network throughout England. In addition it commissions accident investigation work and funds local safety scheme programmes on these roads.

Driver and Vehicle Licensing Agency

The DVLA's principal responsibilities are the registration and licensing of drivers and vehicles together with the collection and enforcement of vehicle excise duty. It also provides a range of other services for the Department for Transport, other Government Departments, the Police, the public and external organisations.

7.9 Home Office

The Home Office is the Government department responsible for the Police, internal affairs in England and Wales including the protection and security of the public. It aims to reduce crime and the fear of crime by working with individuals and communities to build a safe, just and tolerant society. Support and mobilise communities so that, through active citizenship, they are able to shape policy and improvement for their locality, overcome nuisance, anti-social behaviour, maintain and enhance social cohesion and enjoy their homes and public spaces peacefully.

It seeks to deliver the Department's policies and responsibilities fairly, effectively and efficiently through the most up to date project and day-to-day management, the best use of resources and the development of partnership working.

7.10 Scottish Executive

The Scottish Executive is the devolved government for Scotland.

It is responsible for most of the issues of day-to-day concern to the people of Scotland, including health, education, justice, rural affairs, and transport. It manages an annual budget of more than £20 billion in the financial year 2002-2003 that is due to rise to almost £26 billion in 2005-2006.

The Executive was established in 1999, following the first elections to the Scottish Parliament. The Executive is led by a First Minister who is nominated by the Parliament and in turn appoints the other Scottish Ministers who make up the Cabinet.

Executive civil servants are accountable to Scottish Ministers, who are themselves accountable to the Scottish Parliament. The Executive's plans and priorities are set out in a Partnership Agreement which was drawn up following the 2003 election.

7.11 Department of Health

The aim of the Department of Health is to improve the health and well-being of people in England. It has more than 5000 staff who are responsible for driving forward change and modernisation in the NHS and social care, as well as improving standards of public health. Staff also develop policies, set national standards and ensure these are being met.

The Department of Health provides specialist guidance to general practitioners, dentists and social workers, on helping to promote healthier lifestyles and living. To ensure that the needs of patients and service users are at the forefront of health and social care, they are focusing on six main priorities. Many of these priorities focus on improving the things that most matter to patients – such as cancer, heart disease, mental health, primary care and older people's care – as well as reducing appointment waiting times. Other priorities focus on making sure the availability of the right staff and right capacity to deliver first-class treatment and care.

7.12 The European Union (EU)

The European Union can also influence road safety in Britain through issuing Directives and Regulations which impact upon our legislation. It also, from time to time, dedicates a year to road safety causes and encourages member states to bring forth local initiatives in support, e.g. 1995 EU 'Year of the Young Driver'.

Local government/ highway authorities

7.13 Background

The statutory responsibility for the delivery of road safety services rests with various local authorities, Unitary Authorities, Metropolitan District Councils, London Boroughs and County Councils in delivering road safety as part of their statutory responsibilities.

These authorities are responsible for all aspects of road safety on non-trunk roads. All are members of their respective National Associations and are represented within the Local Authorities Association (LAA). These Associations influence government thinking on many issues, including road safety, and are therefore important to the road safety manager, who should know what they do and how to access them.

7.14 Local government mechanisms for carrying out road safety

LAA 'Road Safety Code of Good Practice'

Following the Government's publication 'Road Safety – The Next Steps' in 1987, the LAA published the 'Road Safety Code of Good Practice' which was revised in 1996. Managers need to acquaint themselves with this document as it provides a coherent, planned approach to local road safety activity and covers the following topics:

- Duties and Responsibilities of Local Authorities
- Road Safety Planning
- Engineering, Education, Enforcement and Encouragement
- Resources, Budgets and Programmes
- Information and Partnerships.

Local Transport Plans and local Transport Strategies

Local Transport Plans are produced by local authorities in England and Wales on a five yearly basis. In England they are used to apply for government funding for their local transport needs. These documents should include the authorities' targets for casualty reduction and how these savings are to be achieved both internally and through partnership working. Road safety managers should lead the process and co-ordinate the production and dissemination of the road safety part of the document.

Local Transport Plans are important and many authorities use the process of their production as an opportunity to consult widely with their communities. This also offers opportunities for other organisations to contribute to the Plan. Annual Progress Reports on the LTP are required and guidance on how these should be produced is available on the DfT Website[72].

The document should include all road safety activity in engineering, education, enforcement and encouragement planned for the next five years, including involvement with other agencies. It should also review the effectiveness of the measures employed in the previous five year plan. Some authorities produce a separate Road Safety Plan and annual review as a 'daughter document' to their LTP.

[73] http://www.local-transport.dft.gov.uk/ltp3/pdf/edition03.pdf

In Scotland, Local Transport Plans are not a statutory duty although many authorities produce similar documents called Local Transport Strategies, but these are not the basis for funding applications.

In some areas of Scotland, the responsibility for road safety education, training and publicity (ETP), rests with the Police, who employ suitably qualified civilian road safety officers. In these areas the local authorities should still include education, training and publicity in their road safety plans. To assist their respective Chief Constables to deliver the service that is required, there should be negotiations between police and local authority. The Police should submit reports on a regular basis to the Council on the progress and effectiveness of the work carried out.

7.15 Elected members and committees

To ensure each element of the Road Safety Plan makes an effective contribution to meeting the authority's casualty reduction target, it must impact on the community. Councillors (Elected Members) represent the community and should be kept informed of all local activity. This is usually achieved through a Cabinet or Committee structure and it is part of the role of the road safety manager to establish and make use of an appropriate reporting channel to the relevant Cabinet Member, Committee, or sub-committee. In addition, some Members also sit on other statutory committees such as the Police Authority and can raise the profile of road safety on the agendas of these organisations.

Elected Members are often faced with making tough decisions concerning the allocation of finite resources between competing priorities. Such competition may even have the affect of reducing the resources available for road safety activity. It is essential, therefore, that Members are acquainted with the importance and value to the community of road safety schemes. They need adequate information, which is easily understandable and produced in good time.

7.16 Enforcement

In addition to the enforcement role carried out by the police, the Vehicle Inspectorate renamed the Vehicle & Operator Services Agency (VOSA) has a statutory responsibility for enforcing legislation covering defective vehicles and drivers' hours, for large goods and passenger carrying vehicles. This function is carried out by Trading Standards Officers. DVLA are gathering road side evidence to prosecute excise licence offences. Following powers introduced in the Road Traffic Act 1991, many local authorities have taken over the responsibility for enforcing certain parking restrictions from the police.

7.17 A corporate approach

Producing the road safety part of the LTP or the Road Safety Plan, may be the responsibility of a single department but most, if not all, departments should be involved, along with appropriate Elected Members who represent policy and resources and the main spending committees. This can be achieved through developing a network of managers involved in Health and Safety, Personnel, Engineering, Planning, Transport, Trading Standards, Environmental Health, etc. The road safety manager is often ideally placed to establish and support such a network and ensure its deliberations are fed into the Road Safety Plan, LTP and other appropriate strategies. This is vital because, if casualty reduction targets are to be met, road safety must be elevated in importance across the whole of an authority and also with other partners in both the public and private sectors.

7.18 Regional forums

Local authorities network with each other at many levels as service delivery often benefits from such practice. Much work to develop best practice is carried out at regional level. Road safety has benefited from this and will, hopefully, continue to do so. These forums may be officer oriented, solely concerned with ETP, Engineering or

Enforcement or all of these together, or may indeed be constituted from Members and officers from across the road safety spectrum, and have a formal committee structure.

An example of the latter is the Road Safety Council of Wales (RoSCOW), which uses RoSPA Wales to provide a secretariat for its committees, sub-committees and working groups.

7.19 Local government associations

Convention of Scottish Local Authorities

The Convention of Scottish Local Authorities (CoSLA) , is the representative voice of Scottish local government and also acts as the employers' association on behalf of all Scottish councils, negotiating salaries, wages and conditions of service for local government employees with the relevant trade unions.

County Surveyors' Society (CSS)

The Society was formed in 1885 to promote the acquisition and exchange of knowledge and experience in management and in the science and technology of highway engineering, transportation, waste disposal and related activities in the civil engineering field. Its membership comprises County Surveyors, Directors of Transportation, Directors of Environment and Engineers from County Councils. It operates an Accident Reduction Working Group to advise it on road safety matters, develop and disseminate good practice and advocate casualty reduction objectives.

Local Authority Road Safety Officers' Association (LARSOA)

The Local Authority Road Safety Officers' Association is the national body representing the professional local authority view of road safety. The Association operates under the auspices of the County Surveyors' Society and the Technical Advisers' Group. Membership is open to up to two officers from each County, London Borough and

Metropolitan District Council in England and Wales, the Regional and Island Councils in Scotland, the Governments of the Isle of Man and the Channel Islands, and the Road Safety Education Service of the Department of the Environment (Northern Ireland). The Association acts as adviser on behalf of all local authorities on road safety matters to the Department for Transport and other national bodies. It also produces road safety publicity and educational materials, and commissions and undertakes research projects on road safety issues.

Local Authority Technical Advisers' Group (TAG)

This Association provides technical advice to external organisations as well as to both local and central Government. Standing committees are responsible for a wide range of technical functions. Road safety issues are considered by the Transportation Committee. A member of that Committee, who acts as Road Safety Adviser, also serves as an Officer of LARSOA to ensure communication and co-ordination between these bodies.

London Technical Advisers' Group (LOTAG)

LOTAG objectives are to promote and discuss matters of mutual interest, provide appropriate advice and maintain close liaison with Government Departments and other relevant bodies, membership comprises Directors and other Chief Officers responsible for highways, transportation, engineering, public works in each of the London Boroughs and the City of London. LARSOA London advises it on road safety issues.

Society of Chief Officers of Transportation in Scotland (SCOTS)

The aim of SCOTS is to be in a position to give policy advice on a national basis and be a forum for professional advice and interchange of information on all policy matters on transportation in the widest sense including roads, transportation, public transport and related issues concerning land use, development and the physical environment. SCOTS – 'The Society of Chief Officers of Transportation in Scotland' is affiliated to The County Surveyors Society (CSS).

Transport for London (TfL)

TfL is the integrated body responsible for the capital's transport system. Its role is to implement the Mayor's Transport Strategy for London and manage the transport services across the capital for which the Mayor has responsibility. TfL has responsibility for both the planning and delivery of transport facilities, which enables it to take a truly integrated approach to how people, goods and services move around London. TfL is directed by a management board whose members are chosen for their understanding of transport matters and appointed by the Mayor of London, who chairs the TfL Board.

TfL's responsibilities are to manage London's buses, the Docklands Light Railway (DLR) and Croydon Tramlink. It also runs London River Services, Victoria Coach Station and London's Transport Museum. Once the PPP contracts are signed, London Underground will become part of TfL.

TfL also manages a 550km network of main roads, all of London's 4,600 traffic lights and regulates taxis and the private hire trade. To ensure greater accessibility, TfL co-ordinates schemes for transport users with mobility impairments as well as running the Dial-a-Ride scheme. Considerable work is being undertaken to improve conditions for walkers, cyclists, drivers and freight and implement proposals for reducing congestion on London's streets.

Part II – The role of other bodies

7.20 Background

Road safety activity is enhanced by valuable contributions from a wide range of non-statutory bodies and organisations, including Health Authorities (although Health Authorities are statutory bodies, 'Health of the Nation' is a non-statutory initiative). This section provides brief details of a number of organisations, which may prove helpful to road safety managers. Their addresses, and those of other relevant bodies, are listed in Appendix 1.

Association of Industrial Road Safety Officers (AIRSO)

Founded in 1965, AIRSO promotes road safety in industry through exchanging information concerning accident prevention, driver training and vehicle construction. This is an important organisation for road safety managers to be aware of, as its members are keen to support central government and local authority initiatives. Indeed many local authority road safety officers are members of AIRSO.

Bicycle Helmet Initiation Trust (BHIT)

The Bicycle Helmet Initiative trust (BHIT) aims to promote the wearing of bicycle helmets by the under 16 age group on a national scale. The Trust is committed to work in partnership to develop a proven community programme with other Health Care Districts, police, schools and road safety units to the benefit of young pedal cyclists living within their community.

Brake

Brake is a road safety charity dedicated to stopping deaths and injuries on roads through awareness-raising campaigns, including Road Safety Week and educational resources including leaflets, posters and advertising. They also provide a counselling service for people bereaved and injured on the road.

Child Accident Prevention Trust (CAPT)

CAPT is a scientific advisory body, which is concerned with establishing the causes and patterns of all childhood accidents, resultant injuries and identifying appropriate interventions. In this regard it both encourages research and carries it out.

Friends of the Earth (FOE)

FOE is committed to the conservation, restoration and national use of the environment. In keeping with this it seeks to achieve a safe, healthy, efficient and equitable transport system.

Health Authorities, Hospital Trusts and Primary Care Units

These bodies have emerged as a result of central government reforms of the National Health Service. These reforms included a review of health care and introduced a change in its delivery, elevating prevention to the same level of importance as cure.

Health Authorities now act as purchasers of services provided by Hospitals which are organised as NHS Trusts. This arrangement is helpful to road safety as Health Authorities can build into their contracts with Trust Hospitals a requirement to participate in accident prevention.

This was reinforced in the publication of the Government White Paper in 1992 called 'Health of the Nation' (in England), 'Strategic Intent and Direction' (in Wales).

This emphasised disease prevention in five key areas and identified accidents as one of them. A core requirement of the initiative is the building of 'Healthy Alliances' between interested bodies and organisations to have ownership of the problem of accidents and participate in the solution.

Local Authorities should seek to support such strategic Healthy Alliances and the road safety manager can make an important contribution to this wider area of concern, helping to achieve the Authority's road accident casualty reduction target, whilst gaining knowledge, skills and expertise from health professional colleagues.

Institution of Highways and Transportation (IHT)

The IHT was founded in 1930 as a learned Society and seeks to bring together all those engaged in highways and transportation whatever their discipline. It provides a forum for the exchange of technical information, produces relevant publications and Guidelines and advises the Government and other bodies. It aims to make roads safer for the travelling public. The IHT developed and administers a system of professional training qualifications for road safety practitioners (National Vocational Qualifications). It publishes technical guidelines on road safety engineering that are of particular use to highway safety engineers: 'Accident Reduction and Prevention', 'Urban Safety Management, 'Safety Audit' and 'Cycle Friendly Infra-structure'.

Institute of Road Safety Officers (IRSO)

The Institute of Road Safety Officers was formed in 1971 and is the professional body for those engaged principally in promoting the education, training and publicity aspects of road safety. Its membership encompasses all those officers employed by local authorities throughout the UK as well as those employed by other public or private bodies whose duties qualify them for membership. The primary aim of the Institute is to provide recognition of the professional standing of road safety officers – ensuring that members move through the grading structure of the Institute with the necessary expertise to carry out the duties, which are required, by local authorities and other

employers. The Institute's BTEC Professional Development Diploma in Accident and Safety Management, designed to give students the opportunity to pursue professional qualifications in the management of safety, is provided by the Manchester College of Arts and Technology. The Institute's Area Groups meet regularly and organise lectures, seminars and other forms of in-service training. The Institute is represented on all major road safety committees and organisations.

London Accident Prevention Council (LAPC)

LAPC's roots stem from the London Safety First Council which was formed in 1917. Now a registered charity, LAPC provides a forum for road safety officers, councillors and representatives from other interested groups to tackle the problem of casualties on London's roads.

The Council campaigns and lobbies on road safety issues as they affect London and other large conurbations. The main source of funding is through the sale of road safety campaign materials and publications, the most successful of which is 'Caring Parent', having sold some 5 million copies to local authorities nationwide. Other popular publications include Driving Children to School and Road Safety for Makaton Users.

Parliamentary Advisory Council for Transport Safety (PACTS)

PACTS was formed in 1982 following the implementation of the 1981 Transport Act, to provide independent technical advice on transport issues to Parliament. Its membership consists of Parliamentarians from all parties, transport safety specialists and representatives from appropriate professional bodies and organisations.

PACTS is concerned with road, rail and air transport and acts as a forum for discussion on all transport safety issues. The Council played an important role in achieving mandatory seat belt legislation and the banning of unrestrained children from travelling

in the front seats of vehicles. It is also invited by Parliament to provide objective comment to assist in achieving effective legislation in transport safety, which will maximise its potential for saving lives and reducing injury.

RAC Foundation

The RAC Foundation for Motoring is established to promote the environmental, economic, mobility and safety issues relating to use of motor vehicles. It was formed in 1999, to research and campaign on a wide variety of issues of general interest to RAC Motoring Services members and to responsible motorists generally. It has developed close links with central and local government departments, national organisations such as RoSPA and the media, as well as providing representation on a number of advisory committees and working groups.

It conducts high profile media campaigns on numerous issues including vehicle and road user safety, vehicle security, motoring taxation and the deteriorating condition of UK roads.

Roadsafe

RoadSafe is a road safety partnership of leading companies in the motor and transport industries in Britain, the Government and road safety professionals. It aims to reduce deaths and injuries caused by road accidents and promote safer driving. It brings together representatives from Government, the vehicle and component manufacturing and road transport industries, road safety professionals and the specialist media, to work together to find new approaches to reducing casualties amongst vulnerable groups.

Launched in October 2001, RoadSafe's primary objectives are: To build partnerships with road safety professionals, the media and Government. To promote best practice in road safety and to demonstrate the commitment of sponsors to social responsibility in the field of road safety and traffic management.

Other organisations in road safety

Royal Society for the Prevention of Accidents (RoSPA)

RoSPA is a registered charity, which was created in 1917. Today, RoSPA promotes safety in all areas of life – on the road, in the home, at work, in schools, at leisure and on or near water. Its aim is to help reduce accidental deaths and injury. It seeks to achieve this by working with and through practitioners and policy makers. It also works in partnership with key organisations to achieve injury prevention.

Road safety remains one of the most important areas of RoSPA's work. RoSPA raises awareness about the causes of road accidents and promotes measures to help prevent them or reduce their severity. Its Key Road Safety Issue is the need to improve the standard of driving. The Society's road safety activities include:

- Providing road safety education, training and publicity initiatives and resources
- Providing a wide range of driver training schemes
- Providing road safety engineering training
- Promoting the Management of Occupational Road Risk.

Scottish Accident Prevention Council (SAPC)

The Council was set up in 1931 to co-ordinate and stimulate accident prevention in all facets of daily life. Over the years it has responded to the significant changes of lifestyle and technology, and has recently revised its constitution to try to achieve the most effective means of pursuing its objectives. It draws membership from organisations and bodies throughout Scotland who have an involvement in matters affecting safety. The Council consists of representatives from local authorities, including police, fire services, education, social work and roads departments; health boards, motoring organisations, and voluntary and professional bodies are also included in its membership.

The AA Motoring Trust

The AA Motoring Trust researches and publishes information on different aspects of driving in easy-to-read leaflets, which it makes available to road safety officers in quantity, free of charge. Information ranges from 'in car' safety to 'don't drink and drive'. It also contributes to national road safety issues. In 1986 the AA established a 'Foundation for Road Safety Research' to examine such matters as the behavioural factors in accidents this was being renamed in 2003 the 'AA Trust for Road Safety Research'.

The Campaign against Drinking and Driving (CADD)

CADD was formed in 1985 to support and assist families of victims killed or injured by drunken and other irresponsible drivers on the roads of Britain. It also seeks to reduce the number of such victims by lobbying for tougher legislation, unfettered enforcement, and the right of appeal against too lenient sentencing. CADD will lend support to Local Authority campaigns and contribute to Rehabilitation Courses for Drink Drive Offenders.

The Guild of Experienced Motorists (GEM)

GEM was formed in 1932 as an association whose membership consisted of experienced drivers dedicated to the principle of improving driver behaviour by displaying care, courtesy and consideration. GEM has used its influence and resources to promote important road safety issues such as 'Child Safe – Wales', a campaign that promoted in-car safety throughout Wales. It has participated in a consortium of Local Authorities and Health Authorities, which commissioned research into exploring possible correlation between defective vision and road accidents.

GEM also produces a magazine featuring road safety information, which it circulates to its members and to road safety officers. In addition, GEM has published advisory leaflets to assist road users. One of these, 'The Safety of Women Behind the Wheel', is concerned with women travelling alone in cars. In 1987 GEM appointed its own Road Safety Adviser to promote its aims and objects and provide support for central and local government initiatives.

The Institute of Advanced Motorists (IAM)

The Institute of Advanced Motorists is an independent organisation which aims to improve the standard of driving (and riding) on the UK roads, by the administration of an Advanced Test. They also work for the advancement of road safety.

Definitions

Accident investigation analysis and prevention

The activity undertaken by highway engineers where they use accident data to identify accident clusters and plan and implement remedial engineering measures to prevent or reduce further collisions.

Collision/crash investigation and reconstruction

The activity undertaken by police officers at the scene of a fatal or serious crash where they investigate and reconstruct the chain of events leading to the crash to establish what caused it. The primary aim is to gather evidence for the H. M. Coroner and for prosecution.

Highway Engineer

Highway Engineers are responsible for the design and construction of new roads and major highway maintenance and alteration projects.

Road Safety Officer

Road Safety Officers (RSO) are those members of the overall road safety team who specialise in Education, Training and Publicity (ETP) road safety programmes. They also work closely with road safety engineers and enforcement agencies. In some authorities, they are called Accident Prevention Officers, Public Safety Officers, Safety Education Officers or Traffic Education Officers. They may work for a road safety manager or operate autonomously. The police service may also employ RSOs.

Road Safety Manager

The Road Safety Manager is the person responsible for managing the planning and delivery of the Local Authority's road safety services, and may hold responsibility for both safety engineering and ETP activities or for only one of them. Road Safety Managers may also be employed by other organisations involved in road safety, such as commercial or charitable organisations, consultancies and the Police Service.

Safety Engineer

Safety Engineers are responsible for accident investigation, and the design, implementation and evaluation of remedial road safety engineering schemes. The main elements of their work are: Accident Investigation and Prevention, Urban Safety Management, Rural Safety Management, Child Safety Audit and Safety Audit. In some authorities they are called Accident Prevention Officers, Accident Investigation and Prevention Officers or Road Safety Engineers.

Traffic Engineer

Traffic Engineers are responsible for the design, implementation and evaluation of traffic management schemes and traffic control systems.

Useful addresses

AA Motoring Trust/Foundation for Road Safety Research

Southwood East
Apollo Rise
Farnborough
Hants GU14 0JW

Tel: 0870 5500 600/01252 700971
Email: motorist@theaa.com
          foundation@theaa.com
Web: www.aatrust.com

Association of Chief Police Officers (ACPO)

General Secretary
25 Victoria Street
London SW1H 0EX

Tel: 020 7227 3434
Email: info@acpo.police.uk

Association of Chief Police Officers in Scotland (ACPOS)

Road Policing Standing Committee
Secretary
Richard Gray
Assistant Chief Constable
Strathclyde Police
173 Pitt Street
Glasgow G2 4JS

Tel: 0141 532 2000
Fax: 0141 532 2475
Email: contactus@strathclyde.police.uk

Association of Industrial Road Safety Officers (AIRSO)

Graham Feest
Secretary
508 Chiswick High Road
London W4 5RG

Tel: 020 8987 9459 or 07974 814116
Fax: 020 8987 9578
Email: secretary@airso.org.uk

Association of London Government

59 Southwark Street
London SE1 0AL

Tel: 020 7934 9999
Email: info@alg.gov.uk

Association of Metropolitan Authorities

35 Great Smith Street
London SW1P 3BJ

Tel: 0171 222 8100

Bicycle Helmet Initiative Trust (BHIT)

Angie Lee
Executive Director
The Bicycle Helmet Initiative Trust
43-45 Milford Road
First Floor
Reading
Berkshire RG1 8LG

Tel: 0118 958 3585
Fax: 0118 956 8424
Email: BHIT@dial.pipex.com

BRAKE

PO Box 548
Huddersfield HD1 2XZ

Tel: 01484 559909
Fax: 01484 559983
Email: brake@brake.org.uk

British Horse Society

Stoneleigh
Kenilworth
Warwickshire CV8 2ER

Tel: 01203 696697
Fax: 01203 692351

Appendix 1

British Motorcyclists Federation (BMF)

14-16 Briton Street
Leicester LE3 0AA

Tel: 0116 254 8818
Fax: 0116 254 3030
Email: enquiry@bmf.co.uk

British Standards Institution (BSI)

389 Chiswick High Road
London W4 4AL

Tel: +44 (0)20 8996 9000
Fax: +44 (0)20 8996 7001
Email: cservices@bsi-global.com

Campaign Against Drinking and Driving (CADD)

Boston House
Grove Technology Park
Wantage
Oxon OX12 9FF

Tel: 0870 74430003
Fax: 0870 74430003
Email: jane@caddhq.freeserve.co.uk

Child Accident Prevention Trust (CAPT)

4th Floor
18-20 Farringdon Lane
London EC1R 3HA

Tel: 020 7608 3828
Fax: 020 7608 3674
Email: safe@capt.org.uk

Community Transport Association (CTA)

Highbank
Halton Street
Hyde
Stockport
Cheshire SK14 2NY

Tel: 0161 366 6685 or 0161 351 1475
Fax: 0161 351 7221
Email: CTAUK@CommunityTransport.com

Confederation of Passenger Transport UK (CPT)

Imperial House
15-19 Kingsway
London WC2B 6UN

Tel: 020 7240 3131
Fax: 020 7240 6565
Email: cpt@cpt-uk.org

Consumers Association

2 Marylebone Road
London NW1 4DF

Tel: 020 7770 7000 (9am to 6pm, Mon- Fri)
Fax: 020 7770 7600
Email: editor@which.net

Convention of Scottish Local Authorities (CoSLA)

Roseberry House
9 Haymarket Terrace
Edinburgh EH12 5XZ

Tel: +44(0) 131 474 9200
Fax: +44(0) 131 474 9292
Email: enquiries@cosla.gov.uk

County Surveyors' Society (CSS)

Richard Wills
Honorary Secretary and Treasurer
Director of Highways & Planning
Lincolnshire County Council
4th Floor
Orchard Street
City Hall
Lincoln LN1 1DB

Tel: 01522 553000
Fax: 01522 512335
Email: richard.wills@lincolnshire.gov.uk

Appendix 1

Cyclists Touring Club (CTC)

Cotterell House
69 Meadrow
Godalming
Surrey GU7 3HS

Tel: 0870 873 0060
Fax: 01483 426994
Email: cycling@ctc.org.uk

Department for Education and Skills (DfES)

PO Box 5050
Sherwood Park
Annesley
Nottingham NG15 0JD

Department of Health (DOH)

Richmond House
79 Whitehall
London SW1A 2NL

Department for Transport (DfT)

Great Minster House
76 Marsham Street
London SW1P 4DR

Tel: 020 7944 8300
Fax: 020 7944 6589
Email: road.safety@dft.gsi.gov.uk

Department of Environment (Northern Ireland)

Road Safety Education Branch
Clarence Court
10-18 Adelaide Street
Belfast BT2 8GB

Tel: 01232 540540
Email: roadsafety.clarencecourt@doeni.gov.uk

Department of Trade and Industry (DTI)

Consumer Safety Unit
Room 429
1 Victoria Street
London SW1H 0ET

Tel: +44/207/215 0361
Fax: +44/207/215 0357

Driving Standards Agency (DSA)

Stanley House
56 Talbot Street
Nottingham NG1 5GU

Tel: 0115 901 2500
Fax: 0115 901 2510
Email: customer.services@dsa.gsi.gov.uk

DVLA

Longview Road
Swansea SA6 7J6

Tel: 01792 782341

Driver Enquiry Unit:
Tel: 0870 240 0009
Fax: 01792 783071
Email: drivers.dvla@gtnet.gov.uk

Vehicle Enquiry Unit:
Tel: 0870 240 0010
Fax: 01792 782793

European Transport Safety Council

Rue Du Cornet Hoornstraat 34
1040 Brussels, Belgium

Tel: + 322 230 4106
Fax: + 322 230 4215
Email: info@etsc.be

Appendix 1

Freight Transport Association

Hermes House
St Johns Road
Tunbridge Wells
Kent TN4 9UZ

Tel: 01892 526171
Fax: 01892 534989

Friends of the Earth

26-28 Underwood Street
London N1 7JQ

Tel: +44 (0)20 7490 1555
Fax: +44 (0)20 7490 0881

Guild of Experienced Motorists (GEM)

Station Road
Forrest Row
East Sussex RH18 5EN

Tel: 01342 825676
Fax: 01342 824847

Health Development Agency

Holborn Gate
330 High Holborn
London WC1V 7BA

Tel: +44 (0) 20 7430 0850
Fax: +44 (0) 20 7061 3390
Email: communications@hda-online.org.uk

Highways Agency

Romney House
43 Marsham Street
London SW1P 3HW

Tel: 08459 55 65 75
Tel: 0345 50 40 30 (Information line)
Fax: 0171 921 2214
Email: ha_info@highways.gsi.gov.uk

Home Office

50 Queen Anne's Gate
London SW1H 9AT

Tel: 0870 0001585
Fax: 020 7273 2065
Email: public.enquiries@homeoffice.gsi.gov.uk

Institute of Advanced Motorists (IAM)

510 Chiswick High Road
London W4 5RG

Tel: 020 8996 9600
Fax: 020 8996 9601

Institution of Civil Engineers (ICE)

One Great George Street
Westminster
London SW1P 3AA

Tel: +44 (0)20 7 222 7722
Fax: +44 (0)20 7 222 7500

Institution of Highways and Transportation (IHT)

6 Endsleigh Street
London WC1H 0DZ

Tel: +44(0)20 7387 2525
Fax: +44(0)20 7387 2808
Email: info@iht.org

Local Authority Road Safety Officers' Association (LARSOA)

Secretary
Brian Hogarth
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Lincoln LN4 3PL

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Email: bhogarth@bun.com

MIRA

Watling Street
Nuneaton CV10 0TU

Tel: +44 (0)24 7635 5000
Fax: +44 (0)24 7635 5355
Email: enquiries@mira.co.uk

Mobility and Vehicle Information Service (MAVIS)

Brian Ellison
MAVIS O Wing
MacAdam Avenue
Old Wokingham Road
Crowthorne
Berkshire RG45 6XD

Tel: 01344 661000

Motorcycle Action Group (MAG)

Central Office
PO Box 750
Rugby CV21 3ZR

Tel: 0870 444 8 448
Email: central-office@mag-uk.org

Motor Schools Association of Great Britain Ltd (MSA)

101 Wellington Road North
Stockport
Cheshire SK4 2LP

Tel: 0161 429 9669
Fax: 0161 429 9779
Email: mail@msagb.co.uk

National Assembly for Wales

Road Safety and Sustainable Travel Unit
Transport Directorate
Welsh Assembly Government
Cathays Park,
Cardiff CF10 3NQ

Tel: 029 20826501/2

NHS Confederation

London Office
1 Warwick Row
London SW1E 5ER

Tel: 020 7959 7272
Fax: 020 7959 7273

Occupational Road Safety Alliance (ORSA)

c/o **Roger Bibbings**
RoSPA
Edgbaston Park
353 Bristol Road
Birmingham B5 7ST

Tel: 0121 248 2095
Email: help@orsa.org.uk

Parliamentary Advisory Council for Transport Safety (PACTS)

Rob Gifford
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PTRC Education and Research Services Ltd

Glenthorne House
Hammersmith Grove
London W6 0LG

Tel: (020) 8741 1516
Fax: (020) 8741 5993
Email: lenises@ptrc-training.co.uk

RAC Foundation for Motoring

89-91 Pall Mall
London SW1Y 5HS

Email: kdelaney@racfoundation.co.uk

Roadpeace

PO Box 2579
London NW10 3PW

Tel: +44 (0)20 8838 5102
Tel: +44 (0)20 8964 1021 (Support Line)
Fax: +44 (0)20 8838 5103
Email: info@roadpeace.org

Roadsafe

Forbes House,
Halkin Street
London SW1X 7DS

Tel: +44 (0) 207 344 1605
Fax: +44 (0) 20 7235 7112
Email: info@roadsafe.com

Road Safety Council of Northern Ireland (RSCNI)

Steve Melvile
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Tel: 02890 501163
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Road Safety Council of Wales (RoSCOW)

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Royal Society for the Prevention of Accidents (RoSPA)

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353 Bristol Road
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Royal Society for the Prevention of Accidents (Scotland office)

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Royal Society for the Prevention of Accidents (Wales office)

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Scottish Accident Prevention Council (SAPC)

Michael McDonnell
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Scottish Executive Development Department

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Edinburgh EH6 6QQ

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Fax: 0131 244 0871
Email: roadsafety2@scotland.gsi.gov.uk

Scottish Road Safety Campaign (SRSC)

Heriot-Watt Research Park (North)
Riccarton
Currie
Edinburgh EH14 4AP

Tel: 0131 472 9200
Fax: 0131 472 9201
Email: enquiries@srsc.org.uk

Society of Chief Officers of Transportation in Scotland (SCOTS)

Road Safety and Traffic Management Working Group
Andy Duff (Secretary)
Road Accident Investigation Unit
Woodhill House
Westburn Road
Aberdeen AB16 5GB

Tel: 01224 665285
Fax: 01224 662005
Email: andy.duff@aberdeenshire.gov.uk

Society of Motor Manufacturers and Traders (SMMT)

Forbes House
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London SW1X 7DS

Tel: +44 (0)20 7235 7000
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Email: smmt@smmt.co.uk

Transport Research Laboratory (TRL)

Old Wokingham Road
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Notes

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