

4.6

ROAD SAFETY EDUCATION OF CHILDREN



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On average, 20 percent of all people killed in traffic accidents in developing countries are aged under 15. This is twice as high as in the developed world.

- Human error plays a large part in road accidents, being a contributory factor in about 95 percent of accidents.
- Teaching safety skills to children can provide lifelong benefits to society.

Roads in developing countries are often more unsafe than roads in industrial countries and the traffic safety problems faced by children will often be greater in the developing world. Absence of traffic education can leave children exposed to unnecessary risk. Since the traffic circumstances and problems faced by such children are very different, it is inappropriate to simply use teaching materials from developed countries. Local materials need to be developed. Although these may be based on principles and materials from developed countries, they will need to be adapted to reflect the needs, problems, and circumstances of relevance to local children.

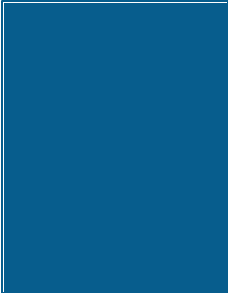
In addition, an incremental approach is needed to improve road safety education. Road safety provision should not rely on only occasional, isolated talks by visiting speakers but should include regular practical training. Essential components in developing and improving this sector are as follows:

- inclusion of road safety in the school curriculum appropriate to each age group;
- development and production of classroom materials;
- production of a teachers' guide and dissemination to all teachers;
- inclusion of road safety in teacher training courses; and
- coordination of activity and clearly defined responsibilities.

PRIORITY ACTIONS NEEDED

1. Review current extent of road safety education in school curriculum and assess adequacy and practicality of lessons and materials.
2. Develop road safety education pilot projects in high-risk areas, especially around roads being rehabilitated where the road accidents are likely to increase.
3. Strengthen road safety education in national curriculum with on-road practical lessons.

Children need to be made more aware of road safety and should be taught survival skills appropriate to their age and needs. Teaching of road safety in schools is best done by teachers who have themselves been trained on road safety issues and who can provide such instruction on a regular basis to their students.



1 INTRODUCTION

These sector guidelines on “Road Safety Education for Children” are from a set of *Road Safety Guidelines for the Asian and Pacific Region* policymakers, developed as part of a regional technical assistance project (RETA 5620: Regional Initiatives in Road Safety) funded by the Asian Development Bank (ADB).

This section deals with children’s traffic education through formal education (schools) and nonformal education (community programs). Road safety publicity and education for the general public is dealt with in Sector Guidelines 4.8, “Road Safety Publicity.”

2 WHY IS ROAD SAFETY EDUCATION (RSE) NEEDED?

Children in many motorized countries are more likely to die or be injured as a result of a road accident, than through any other cause. In developing countries, 20 percent of traffic deaths are people under the age of 15 and the threat of road accidents will increase with motorization. Several factors contribute to this risk to children in developing countries:

- 1) both the speed and volume of motor vehicle traffic will increase, especially on rehabilitated roads;
- 2) roadside friction will continue as poor land use planning, operational control, and limited road space lead to conflicting uses of road and roadsides;
- 3) road improvements tend to focus on motor vehicle requirements and not pedestrian needs;
- 4) traffic police can offer only limited help as they are poorly equipped to control motor vehicle traffic and not properly trained to consider pedestrian needs; and
- 5) most parents are unable to provide road safety training as they themselves never received any training and even if they did, traffic conditions have changed dramatically since their childhood.

RSE is needed to provide the necessary structure for the acquisition of safety knowl-

edge and skills. These include decision making skills, and the identification and assessment of risk and strategies to reduce these risks. RSE attempts to prepare children for different tasks at each stage of their increasingly independent use of the road network and, later, as adults.

3 KEY COMPONENTS

3.1 Road Safety in the Curriculum

Road safety is too important and complex to be dealt with by simple messages given a few times a year. Experience from various countries has shown repeatedly that one-off talks by visiting speakers (e.g., police or other well-meaning groups) are not particularly effective unless they are part of ongoing work in the school through a structured program of RSE.

It is essential for long-term prospects of road safety education in schools that there is adequate provision in the national curriculum. This is the building block on which further traffic education is based.

Without this, there will be only ad hoc activity with little control of content. By specifying what should be taught to each age group, some control over content and quality will be achieved. The curriculum content must of course be well-defined, based on sound educational principles and should reflect local needs and accident problems.

Road safety is an area of work that fits naturally into many topics and centers of interest already going on in schools. It can provide a vehicle for basic skills of literacy and numeracy as well as being a topic in its own right, for example, within life skills, social studies, or health education.

Where possible, specific road safety lessons can be included in the school timetable, but it should also be incorporated into other subjects throughout the year.

In addition to being appropriate for the age group, road safety lesson content should also be relevant to local conditions, include practical roadside training, and be reinforced on a regular basis. There is often a tendency to over-emphasize the teaching of road signs and signals, especially to young children. It is essential to move away from the idea that knowledge of the road signs and traffic lights equates to road safety.

There should be more emphasis on teaching survival skills in a progressive manner that is appropriate to each age group. Rather than rigid rules that may not be applicable in a new situation they come across, children need to be taught concepts for survival. For example, teaching children that they **must** cross the road at traffic lights may cause confusion if the lights are not working properly, or if there are none in the locality. It is preferable to teach rules and principles for crossing the road that can be applied equally to traffic light controlled junctions, marked pedestrian crossings, rural roads, or other situations.

Like other measures aimed at increasing road safety in a country, actual problems should be identified and specific age groups targeted, based on accident data. For example, if there

is an accident problem involving 10-12 year olds crossing roads, this should be highlighted in the curriculum.

It has been shown that it may be more effective to teach children the skills needed to cross a specific road by practical training; i.e., to concentrate on behavior.

As they grow, older children will be able to generalize specific situations and actions to other situations. There is evidence that practical training is the most effective means of improving young children's skills and judgments and, therefore, they will learn about road safety best by being exposed to real traffic situations in a controlled, safe manner. However, classroom-based RSE can help, for the following reasons:

- 1) without effective classroom work, children may not give sufficient attention or priority to the dangers of road use; and
- 2) without effective classroom work, children may not learn the vocabulary of the road, may not have concepts such as car stopping distances explained to them, and may not understand exactly how they are in danger or putting others in danger.

However, classroom work alone will not improve critical skills such as road crossing. Supervised practice in the traffic situation is much more effective and should be carried out as close to the age as possible when children in the community start using the roads on their own.

Many countries have traffic parks but rarely do the conditions inside the parks reflect the conditions on real roads that children have to cross in that country.

There is little point in teaching children in the park on roads with well-maintained footpaths and a well-marked, well-signposted road network if these do not exist in their local environment. It is more effective to teach children on real, local roads under proper adult supervision. Groups should be small, with a high ratio of adults to children to ensure safety. Classroom and practical lessons need to be given on a regular basis to reinforce safe road use behavior in children. Road safety education should be incorporated into the national curriculum with lessons conducted on a regular basis.

Plate 1:
Road safety being taught
in school.



3.2 Teachers' Guide

Once there is adequate provision in the curriculum, it is necessary to give teachers the correct information to be able to teach road safety effectively. By producing a teachers' guide, and distributing it to schools, the ability of teachers to teach road safety will be increased substantially. In countries where the majority of primary school age children do attend school, it is appropriate to concentrate initially on increasing and improving road safety education through the schools, before considering options for nonformal education.

Production and dissemination of a full teachers' guide will facilitate the process of encouraging road safety teaching in schools and will give teachers a permanent reminder and source of reference in the classroom. The guide should enable teachers to teach the concepts included in the core curriculum and ideally should be produced in a large enough quantity for every primary school teacher to have a personal copy.

3.3 Teacher Training

Teacher training should be of existing teachers, through a series of local seminars, and of new teachers entering the profession, through the teacher training colleges. To train all teachers in basic road safety teaching throughout a country is a large commitment. It is unlikely to be achievable unless a dedicated person is appointed to this task, full time, for at least two years. Their role should be primarily to train trainers to run road safety seminars, for head teachers initially, but then covering all class teachers. They could also be involved in resource development to gradually build up the road safety materials available in a country.

In the longer term, it will be necessary to include a road safety element in initial teacher training courses to ensure that teachers coming into the profession are fully equipped to teach road safety to their students.

3.4 Teaching Aids

Research from other countries has shown that it is important that effective road safety education does not rely simply on talks by visiting speakers at irregular intervals^{1,2}. Talks can supplement ongoing, curricular-based class-

room work, but are arguably more effective if supported by teaching resources. Some countries have found it beneficial to establish specialist road safety officers to assist and support teachers — by providing ideas, resources, and teaching materials. Materials for use in the classroom can include, but are not limited, to the following:

- 1) worksheets;
- 2) posters;
- 3) teaching pack;
- 4) slides;
- 5) books and games; and
- 6) videos.

The most basic of these to produce are the worksheets, which are cheap and therefore easy to reproduce. These should concentrate on vocabulary development for young children and then move onto crossing skills and more complex issues as the children's ages increase^{5,6}.

Initially, resources can be adapted from those of other countries, an approach that minimizes development costs and time implications, but eventually local resources — teaching packs, worksheets, videos, and posters — should be produced. There should always be the option for adapting resources for local needs, as materials that are appropriate in one area of a country may not be as relevant elsewhere and vice versa. It is also useful to have good quality resources that can be used immediately while a comprehensive curriculum is developed. Approaches used in other teaching areas can be used for road safety. For example, if puppet shows are popular among children, they can be used as an effective carrier for road safety messages. In some countries, including Malaysia, computer-based learning is popular with secondary students.

3.5 Community Education

Once formal education practices are established, it is necessary to turn attention towards nonformal education methods to bring road safety education to children who do not regularly attend school, especially in high-risk areas.

There are various options available. One community-based program that it may be possible to use is Child-to-Child⁴, which has been developed and used in many countries around the world. The basis of the program is that children attending school are taught about

various health and social problems, and how to deal with them. This includes such issues as water, malaria, AIDS, and an element of road safety. The children are encouraged to disseminate the information to younger children and their parents, and to take practical action in their communities to improve their own chances of survival. Many of the materials are available in different languages.

Other community groups that can help in getting the road safety message across include the Scouts and Guides and women's groups (e.g., literacy or health programs) to teach parents how to teach their children to be safe.

Community education should also be used to emphasize lifelong learning and to build links between home, community, and school.

3.6 Policy Coordination

Lack of awareness by policymakers of the need for RSE can be an impediment in improving this sector. It is often the case that there is ad hoc road safety education already taking place. A national road safety council (NRSC), or similar body has a vital role to play in coordinating road safety nationally, to increase efficiency and prevent duplication of effort. This is especially important when there are limited resources available in this sector.

Many government and nongovernment organizations (NGO) can play a role in RSE. Obviously, the ministry of education is an important player, but also ministries of health, police, etc., can play a part. Highlighting of accident problems, and even a network national accident database, can help to direct activity in all organizations towards the same target.

For the development of road safety within a country, it is essential that information, ideas, and examples of good practice are disseminated among professionals working in the field. At the very least, if there is no NRSC in place, this could be done within the appropriate ministry. Information could be shared by:

- 1) regular meetings or seminars;
- 2) a newsletter;

- 3) membership of overseas road safety organization to keep abreast of current international advances; and
- 4) training — external and in-house.

In some countries, the private sector (e.g., banks, insurance companies, manufacturers, and distributors) are willing to invest in road safety as part of their corporate responsibility and/or marketing and public relations strategies. The association of insurance companies in India has funded development of road safety education materials. Businesses may be willing to finance publication costs in return for sponsorship credit or company logos printed on the publications.

Although it is generally recommended that there should be an increase in road safety tuition through schools, police teams already in existence in many countries do have a role in supplementing this, and supporting topic work. However, one problem that the officers face is that they are unlikely to stay in one section of the police for a long period.

Valuable resources are lost by training officers for this specific role and then losing their expertise. Consideration should perhaps be given to road safety being a career position within the police.

4 STAGES OF DEVELOPMENT

The development of an effective road safety education program in a developing country will most probably involve the country proceeding through a number of stages. The major steps are typically as follows:

- 1) **review of current practices and responsibilities for RSE.** RSE provided by schools, police, or service groups should be assessed in light of accident data and recent trends to identify priority areas and opportunities for improvement;
- 2) **short-term and immediate improvements to the current system identified and introduced.** To enable RSE to continue in a more effective form while more substantial programs are set up, short-term improvements to the existing system should be undertaken. For example, if police teams visit schools to give

Plate 2:
Children being taught on real roads in Nepal.



talks on road safety they can increase effectiveness by basic training, content review, and production of worksheets that can be left at the school to encourage follow-up work. Maximum use should also be made of school outings with practical road safety lessons incorporated;

- 3) **introduce RSE pilot project.** Areas where road accidents are a serious problem should be targeted first. Local expertise should be developed. Villages near rehabilitated roads are an ideal candidate as the accident risk is increasing. Aid-funded projects are beginning to fund local RSE programs in order to prepare roadside communities for expected increases in vehicle speeds and traffic volumes. Local reference material should be produced and may require preliminary road safety awareness seminars offered by an RSE specialist;
- 4) **develop RSE school curriculum content.** To ensure relevant skills are taught to each age group in a structured way, RSE policy and plans should be drawn up to improve provision in a sensible and organized manner and to identify priority areas in the country. Clearly defined responsibility for RSE and good coordination between providers is necessary;
- 5) **produce basic classroom materials and teachers' guides.** It is important to ensure relevance of materials to the local situation and to accident problems identified. Teachers' guides and materials should be pilot tested before final production. When a teachers' guide is available, ideally all current and new teachers should have their own copy;
- 6) **improve teacher training.** Development and inclusion of road safety in initial teacher training through colleges and continuing professional development. This should include the abilities of different aged children, implications for their behavior on the roads, how to teach safety effectively, how road safety issues can be incorporated into current school topics, and an introduction to available teaching materials;
- 7) **introduce community education initiatives.** To ensure road safety messages

reach children who are unable to attend school on a regular basis and to educate parents and older generations, community education programs should include RSE. (Once schools are all teaching road safety, RSE can be expanded to involve NGOs for supplemental support).

5 BENEFITS AND EFFECTS

The potential benefits of RSE for children include the following:

- 1) increased awareness and knowledge of the traffic environment;
- 2) appropriate survival skills necessary for the safe use of the road environment;
- 3) understanding of the behavior and attitudes that have an influence on road safety;
- 4) knowledge and understanding of how humans, vehicles, and systems interact and work;
- 5) decision making skills that will enable them to make choices and to take responsibility for their own safety and that of others;
- 6) esteem and care for other people;
- 7) knowledge and understanding of the causes and consequences of road accidents; and
- 8) necessary knowledge, understanding, and skills to travel safely in or on a vehicle, while showing consideration for others.

Research shows that human error plays a large part in road accidents. It is a contributory factor in about 95 percent of accidents. By teaching the basics of road safety to children, they are being prepared for the future and developing positive, safe attitudes that will have benefit in years to come as these children become teenagers and then adults. Inculcation of safety skills in children can provide lifelong benefits to society. In countries where the number of motorized vehicles is still increasing, the number of accidents is likely to rise unless steps are taken to educate road users at an early age.

Attitudes developed in the earliest years largely define how the individual behaves on the road in later years. Attitudes are difficult to change once they have been formed. It is

easier to teach good habits at an early age than to break bad habits later. RSE has long-term benefits for the community in terms of road user behavior as it helps to develop positive attitudes and values. RSE should commence at an early age — at kindergarten, or even earlier through publicity initiatives aimed at parents.

Road safety education is necessary to provide the basis for improving road user behavior over time. Because it involves the development of safe, positive attitudes, it will always be a long-term investment. This is especially because it is trying to counteract attitudes and behavior learned from and continually reinforced by parents and others in close contact with the children who tend to pass on unsafe behavior.

Many of a child's attitudes are learned in the first five years of life from their parents and carers. Once developed, attitudes can be difficult to change.

6 EXAMPLES OF GOOD PRACTICE

In **Bangladesh**, where road safety education is limited, one organization, the Centre for the Rehabilitation of the Paralysed, has

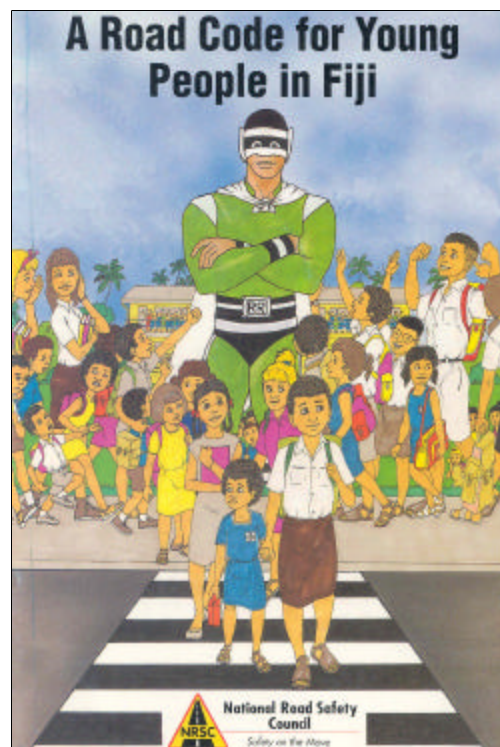


Plate 3:
Fiji child education material.

begun sending current and former patients who were paralyzed in road accidents to visit schools and discuss their tragedy. The center has also produced road safety advice leaflets, which it distributes to schools. NGO promotion of road safety is the objective of a recent World Bank initiative in Bangladesh.

Fiji has recently introduced traffic safety into the curriculum. A teachers' guide is being developed and the National Road Safety Council⁷ in association with the Department of Education is introducing a number of initiatives, including visiting drama groups to present safety plays for school children and development of a road safety character called "Road Ranger" to provide safety advice (see Plate 3).

Several road safety education booklets have been produced recently in **India**. The previously mentioned Loss Prevention Association's publication and *Dealing with Traffic — A Guide for Young People* were produced from the proceeds of an art exhibition held during the International Conference on Traffic Safety in New Delhi in 1991.

In **Kazakhstan**, the traffic police are active in the organization of road safety lessons by teachers in the schools. Parents are also involved with the parents of entry classes being tested themselves on their road safety knowledge. Parents are requested to help their children identify and map out a safe route to school.

A road safety education project in **Nepal** funded by the Overseas Development Administration (ODA) of the United Kingdom (UK) has produced local road safety education materials, including readers, workbooks, posters, and teachers guides.

These materials were produced by a team of writers from the Primary Education Curriculum Text Book Design Unit after undergoing a week's orientation, which included field visits to rehabilitated roads, discussions with traffic police and pediatricians, and a brief review of road safety materials designed for schools in the UK.

Puppet shows were used to introduce the topic of road safety education into primary schools as well as women's groups and roadside communities⁸.

The experiences of accident victims are used in many countries to emphasize the personal consequences of road accidents. In **Denmark**, a team of people crippled in road accidents visit schools as part of an RSE program. In the **United States (US)**, Mothers Against

Drunk Drivers often send representatives to speak to schools, especially, the age groups where students are starting to drive.

All speakers must be properly trained and can serve an effective supplementary role.

7 REFERENCES AND KEY DOCUMENTS

1. Department of Transport (DoT). 1995. Road Safety Education in Schools: Good Practice Guidelines. UK: DoT.
2. DoT. 1996. Child Development and the Aims of Road Safety Education: A Review and Analysis. Road Safety Research Report No. 1. UK: DoT.
3. More information can be obtained on Road Safety Officers (RSO) from the Institute of Road Safety Officers, 16 Southlands Avenue, Louth, Lincolnshire LN11 8EW, UK. Tel: (44 1507) 327 028.
4. Child-to-Child Trust, Institute of Education, 20 Bedford Way, London WC1H OAL, UK. Tel: (44 171) 612 6650; Fax: (44 171) 612 6645.
5. Information about resources and teaching aids can be obtained from: the Royal Society for the Prevention of Accidents (RoSPA), Cannon House, The Priory Queensway, Birmingham B4 6BS, UK. Tel: (44 121) 200 2461; Fax: (44 121) 200 1254.
6. British Institute of Traffic Education Research (BITER), Kent House, Kent Street, Birmingham B5 6QF, UK. Tel: (44 121) 622 2402; Fax: (44 121) 622 3450.
7. National Road Safety Committee, P.O. Box 7125, Nasinu, Suva, Fiji. Tel: (679) 394 886; Fax: (679) 393 253.
8. Ram Badan Joshi, Private Boarding School Organization, Kathmandu, Nepal. Fax: (977) 141 2572.

Road Safety Guidelines for the Asian and Pacific Region

The guidelines cover 14 individual sectors affecting road safety, with four introductory chapters and four appendices. Information is presented in a series of freestanding documents that can be extracted for distribution and discussion.

Executive Summary

1: Introduction and Background

2: Road Safety Trends in the Asian and Pacific Region

3: Road Safety Action Plans and Programs

4.1: Coordination and Management of Road Safety

4.2: Road Accident Data Systems

4.3: Road Safety Funding and the Role of the Insurance Industry

4.4: Safe Planning and Design of Roads

4.5: Improvement of Hazardous Locations

4.6: Road Safety Education of Children

4.7: Driver Training and Testing

4.8: Road Safety Publicity and Campaigns

4.9: Vehicle Safety Standards

4.10: Traffic Legislation

4.11: Traffic Police and Law Enforcement

4.12: Emergency Assistance to Road Accident Victims

4.13: Road Safety Research

4.14: Road Accident Costing

Appendix A: Useful Documents Worth Acquiring

Appendix B: International Contacts and Organizations

Appendix C: Comparative Study: Fiji Road Safety Action Plan

Appendix D: Comparative Statistics



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