

# MANUAL FOR DEVELOPMENT OF SCHOOL ROAD SAFETY PLAN



**Making school  
areas/zones safer  
from road crashes**

**BOTNAR**  
Child Road Safety Challenge



**CEE**

Centre for Environment Education





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## **PREFACE**

The Right of Children to Free and Compulsory Education Act, 2009 (RTE, 2009) in CHAPTER V, Clause 29. (2) (g) emphasizes on making the child free of fear, trauma and anxiety especially in and around the school. This duty falls to the School Management Committee, teachers and parents, not only while at school, but also while travelling to and from school.

Children have to travel to school every day. Some students travel alone while others are accompanied by parents/ guardians. In both the cases, a child is at risk of being in a crash. Children have less ability to perceive risks as their physical and cognitive skills are in the developing stage which makes them a vulnerable road user group.

School Zones present a unique road safety problem because of the presence of young children and a mixture of different kinds of traffic – pedestrian, bicycle and vehicular. The safety of students travelling to and from school is one of the most important issues to be dealt with by the school stakeholders. A road safety plan specific for school zones is a good method for managing this complex situation.

Schools usually have a school development plan and well developed plans for transaction of lessons, for examinations and sometimes also for emergency handling but many do not yet have a road safety plan. This is largely due to the lack of focus on road safety in schools and in society in general. But lately, both government and citizens have begun realising the importance of ensuring road safety. Road safety messages have been incorporated in school textbooks of Central Board of Secondary Education and also in many state level textbooks. The Supreme Court of India issued guidelines for safety of children in school bus/ van in 2015. Efforts have been ongoing to strengthen the road safety legislations. Efforts have also been ongoing inside school campuses in the form of road safety messages, dramas and competitions.

This document attempts to strengthen these efforts by incorporating road safety plan in the overall school plan to ensure safety of children while travelling to and from school. The guiding principles for such a plan and a basic framework has been suggested here for making it easier for schools to formulate their own specific plans. A good road safety plan will strive to maintain controlled interaction between children and vehicles to reduce injuries.

A school road safety plan (SRSP) helps stakeholders to identify, analyse and prioritise road safety activities. The main objectives of a SRSP are –

1. To see that children, their parents and teachers are safe on the roads on, around and approaching the school
2. To achieve safe and efficient flow of traffic to, from and around the school at all times
3. To make children, their parents and teachers aware of the rules of the road and help them become responsible road users.
4. To teach children, their parents and teachers effective strategies for keeping safe on the roads as pedestrians, cyclists or passengers, and also as drivers for the adults.

This module has been prepared to help stakeholders make their school zones safer from the road safety point of view. It has been developed as part of the ‘Safer Roads for Safer Childhood’ (SRSC) project implemented in Jorhat, Assam to enhance road safety for children, especially focussing on 6 pilot schools. The project is implemented by Centre for

Environment Education (CEE), Indian Institute of Technology (IIT), Guwahati and Department of Home and Political Affairs, Govt. of Assam (through Jorhat Police). The project is guided by Global Road Safety Partnership, a programme of the International Red Cross (IFRC) and funded by Fondation Botnar, a Swiss based Philanthropic organization.

The processes mentioned in this document will be facilitated in schools by CEE in the project schools during the project period. School stakeholders can use this document in the next years to develop future school road safety plans.

## HOW TO USE THIS MANUAL

This is an instructive manual developed for school stakeholders to guide them how to develop a school road safety plan (SRSP). The aim of a SRSP is to minimise risk and to safeguard children while travelling to and from school.

Project team members of the SRSC project will guide the school stakeholders step by step to implement the processes involved in developing a robust SRSP.

The objectives of this manual are to help them:

1. To understand the kind of risks faced by children while travelling to and from schools
2. To identify potential road safety risks in a school zone
3. To develop an implementation plan to address the identified risks

The content of this manual has been divided into four overarching chapters with additional information and support tools in appendices:

1. Chapter I of this manual highlights the vulnerability of a child as a road user, best practices for child road safety and Indian laws and rules on the topic.
2. Chapter II deals with some common engineering, education and enforcement practices that are important for school zone road safety
3. Chapter III provides instruction on how to plan and develop a school road safety plan (SRSP) integrating the information related to school zone safety.
4. Chapter IV provides instruction on how to implement, monitor and evaluate a school road safety plan (SRSP) relative to the identified objectives.

The main body of this manual will provide an understanding of the ‘why’ and ‘how’ for developing a SRSP, with the appendices providing extra fact and tip sheets to provide more in-depth support when it is time to develop a SRSP for your school.

## CHAPTER I – INTRODUCTION TO CHILD ROAD SAFETY

Road traffic injuries are the leading cause of death for children and young adults aged 5-29 years.[1] Children account for 30–40% of all road traffic deaths in low-income and middle-income countries. Of these, a large percentage of children are from India. Twenty-five children die on Indian roads every day, according to a 2017 report by the Ministry of Road Transport and Highways. These statistics are driven home when we see road crashes taking away young lives in our own city or town. A study of police records for Jorhat city showed that 23 serious road crashes occurred in four years (2014- 31<sup>st</sup> Aug 2018) in which 10 children were killed. These crash statistics only reveal the major crashes as minor cases are rarely reported to the Police.

Young children are hit by large vehicles which cannot see them because of their small stature. Most underage drivers drive motor cycles without protective gear and many are grievously injured or lose their lives in road crashes. Speeding of vehicles near the school zones may kill or injure many young children. In most case private vans carrying school children don't follow road safety rules and endanger children's lives every day.

### WHY FOCUS ON CHILD ROAD SAFETY?

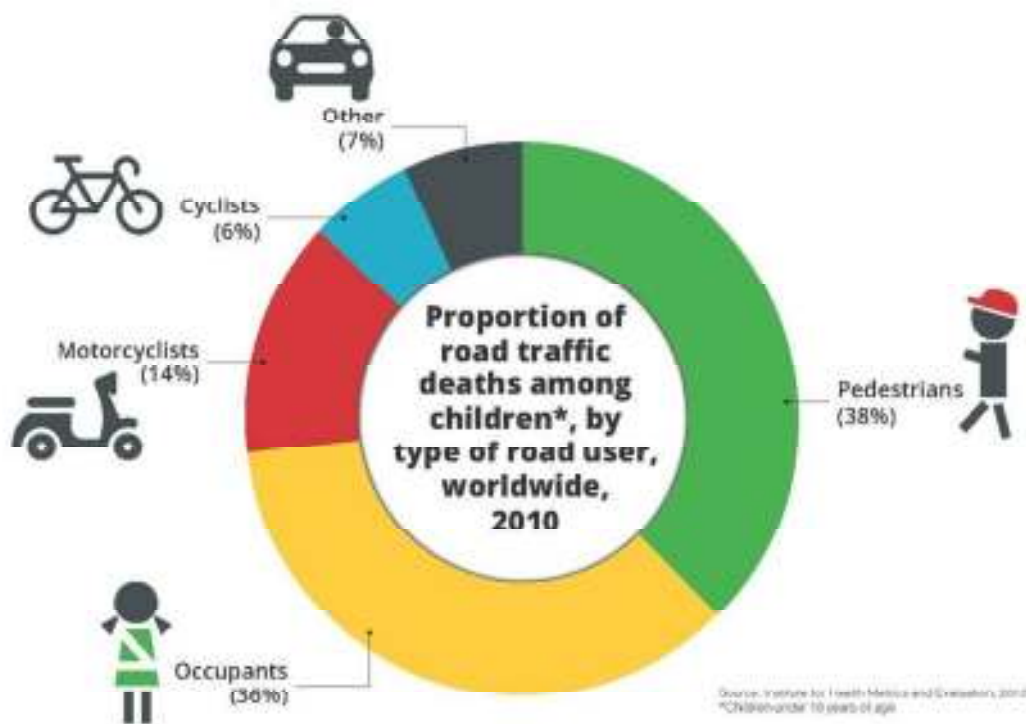


FIG 1: Global Statistics of Child Fatalities

\* Children under 19 years of age

All human beings are vulnerable to injury on the road because our bodies are not bio-mechanically adapted to the forces of vehicle impacts. Younger children are further limited by their less advanced *physical, cognitive* and *social* development, making them more vulnerable to road traffic injury than adults.

Aspects relating to children's stage of physical, cognitive and social development all have important implications for their safety when travelling to school. The following sections provide more information and things to consider in relation to each of these.

**Physical development** – At the age a child joins a school, he/ she is in a fragile developmental stage. The head and bones are soft and the brain is developing. This makes them much more susceptible to grievous injury in a road crash. Many a time, the effect of the head injury is not seen immediately. Studies have shown that a child is four times as likely to die as compared to an adult if involved in the same crash circumstances.

The height of a child being shorter, they have difficulty seeing vehicles approaching them. Also being small, they are less visible in the road environment to the drivers. Both these conditions increase the risk of their being involved in road crashes. In many scenarios when a vehicle hits an adult, it hits their body, but in the same circumstances would hit the head of a child because of their shorter height. Young children are in the process of developing their reflexes. As a result, when they face sudden danger, they cannot always react and respond quickly to move out of harm's way.

**Cognitive development** – Children in different growing stages have different levels of cognitive abilities. Younger children have less risk awareness because they cannot naturally perceive and process this information. Cognitive skills are important in the road environment as they help to detect the presence of vehicles, in recognising safe and dangerous locations, making distance, speed and time judgments. Specific education inputs are required to help them understand what they can do to be safer.

As children grow, they gain cognitive maturity and are able to understand the complexities of the road environment. When they become adolescents, the tendency to explore risks (both positive and negative) increases. At the same time, they become more prone to distractions, fatigue and heightened emotions, which also impact on their perceptions, attention and decision-making. Adolescents (13-19 years), especially boys, can under-estimate the likelihood of bad events happening to them and over-estimate their skills and competencies. Peer pressure also is an important motivator at this age. Even children likely to follow safe behaviours do not always do so if they fear being ridiculed by their peers. For example – an adolescent who usually wears a helmet while riding a bicycle might not in front of peers who tend to ridicule him/ her for wearing it.

**Social development** – Boys account for nearly twice as many road traffic deaths as girls worldwide. This increased risk for boys is thought to be due to

- a) greater exposure to traffic because in Indian culture, boys are more likely to be allowed out to go out independently and at younger ages than girls, which leads to greater unsupervised exposure to road traffic.

For example, more boys are generally interested in playing outdoor sports like cricket and football than girls and tend to go out to play in the afternoon or evening. Boys are

also often asked to do chores involving moving outside home like going to the neighbourhood store.

- b) Since boys are less under direct supervision of parents and other adults, they exhibit a greater tendency to take more risks than girls, especially as adolescents.

For example, a boy of 14 years old is more likely to be allowed to walk to school alone than a girl owing to issues of eve-teasing.

- c) In Indian condition, children belonging to the lower socio-economic strata are more exposed to road traffic as pedestrians and also in less safe travel modes such as bicycles, cycle rickshaws, autorickshaws, e-rickshaws, scooters and motor cycles.

Implications of all three of these aspects of development are important to be taken into account when identifying key road safety risks in your school area.

### **WHY ROAD SAFETY SHOULD BE A PRIORITY IN SCHOOL ZONES?**

School zones present a complex set of road safety issues. Different modes of travel converge at school in morning hours and diverge from the school in afternoon. There is a high density of children on the road in school zones at these times. This concentrated traffic two times a day makes the road environment riskier than the normal road environment.

School is a place where maximum children can be educated at the same time. Students can adopt positive behaviours easily while learning with peers as compared to learning in isolation. This can help to establish safer peer norms to reduce the risks that arise because of peer pressure and risk taking tendencies during adolescence. What a child learns can also easily travel to their homes and from there to the larger society especially when parents and other family members take part in the road safety plan development process. A preliminary assessment of 18 schools located in Jorhat Municipality area, done by CEE and IIT Guwahati, found the following modes of travel were the most common for children travelling to and from school:

- Walking: 64% of students travel to school by foot, most of whom are unaccompanied by adults.
- Bicycling: 12% of students travel to school by riding bicycles.
- Motorised two wheelers: 10.6% of students travel by motorised two wheelers driven by an adult.
- Motorised three wheelers: 5% travel by auto-rickshaws.
- Private vans: 3% of students were seen to travel by private vans.
- Other/ multi-modes – 5% of the students were seen using different modes for travel like cycle-rickshaws, personal car, common vans (where students travel with other passengers) and only one school has a private bus facility in which few students travel.

Each of these modes of travel has specific risks and therefore specific implications for developing your SRSP. These findings can help guide you when determining what to prioritise in your SRSP within the timeframes and other resources available. More

information on each of these modes of travel and the risks for children when travelling to school below –

Let us see how children travel to and from school in Jorhat and the risks associated with each mode. The identified risks are those which should be addressed in the SRSP in order to reduce child injuries.

- i. **Walking** – As can be seen in Fig 1 for Global Statistics of Child Fatalities, child pedestrians are more vulnerable than other road users.

On their way to school, children have to face a number of difficulties –

- a) They have to walk near the road as there are many places where there are **no foot paths** or there are **broken or very high footpaths** which they cannot reach up to easily.
  - b) **Presence of street hawkers, extended shop fronts, and construction materials** block footpaths or walking areas near the road. This places them in the close proximity to vehicles moving on the road and can also obscure them from the view of drivers.
  - c) In some places in their journey, the **walking paths narrow** down so much that they have to walk in front of vehicles.
  - d) **Driveways and parking lots** also pose a threat to children. Cars reversing on these can sometimes miss seeing children and hit them.
  - e) The situation is worse if the school or the residence is situated near a **high-speed road or a highway** or if the child is traveling through a high speed road to reach school. This is because a vehicle driving at a high speed may not be able to stop in time and may hit the child. Similarly, when the child is in a high speed vehicle, the driver may not be able to stop the car quickly enough to avoid collision. Both these situations may result in a greater impact reducing the chances of survival in the crash. On the other hand, a vehicle driving at a slower speed will have time to stop the car on seeing a possible obstruction thereby lowering the impact and reducing the chances of a crash.
  - f) The child walking to school also has to cross the road, sometimes at more than one places. On the road, several crossings have **no zebra crossings, traffic police or traffic lights**. Some **crossings may remain hidden** by large vehicles. Even if all of these are present, there are often vehicle drivers who flout the rules.
- ii. **Bicycling** –The following challenges are faced by bicycle riders in Jorhat –
    - a) **Lack of bicycle track** owing to which they have to share the road with motorised vehicles or share the footpath with pedestrians.
    - b) The bicycle is light in weight and the rider can **easily lose balance** if it is hit by another vehicle or if hits a pedestrian or any immobile structure.
    - c) A bicycle **lacks the physical protection** that vehicles like cars and buses have. There are also chances of losing control of the bicycle while riding in a road full with potholes or in rugged terrains.



- iii. **Motorised two wheelers** - A significant number of students (10.6%) in Jorhat travel by motorized two wheelers driven by an adult.
- a) It can be seen that many of these students travelling as pillion riders in two-wheelers are not made to wear any kind of **protective gear** like helmets. Often the drivers themselves do not wear a helmet setting the wrong example for the children.
  - b) Many children also tend to **get down on the side of the road** facing the traffic thereby increasing the risk of collision with vehicles.

iv. **Motorised three wheelers**

Motorised three- wheelers, commonly known as auto -rickshaws also pose dangers on the road. The capacity of these vans are for 3 occupants but it is mostly seen filled with 4-5 children. Being lightweight, people travelling in these vehicles run a higher risk of serious injury as these vehicles are **highly impacted even at low crash speeds**. They are easily smashed or over-turned causing grievous injury to the occupants. Additionally, these vehicles do not have the provision of seat- belts to safeguard the driver and occupants from serious injury.

v. **Private vans** – 3% of students in the schools studied were seen to travel by private vans.

- a) Most of the Private vans are not registered as ‘vehicles transporting school children’. More often they flout the rules mandated by the Supreme Court of India’s ‘guidelines for school transportation’. Most of these vans do not have the facility of seat-belts thereby endangering children’s lives..
- b) Also since these vehicles are often filled beyond passenger capacity, it poses additional risk in event of a crash.

vi. **Others** –

- a. **Private Car** – 4% students in Jorhat were found to travel to school by a car driven by an adult.
  - a) The use of seat-belts was not seen to be common. This can cause severe injury to the occupants in case of a road crash.
  - b) Children commonly ride in the front seat of a car. Children riding in the front risk are at a greater risk than those at back even if they are wearing seatbelts. There is greater risk of head injury in the front seat. Where possible, children should be seated in the back seats restrained in appropriate child seats. Correctly seating and restraining children in the rear seat can reduce fatalities by 60%.
- b. **School Bus/ Private Bus** – One school in the study area had a school bus which was found to be privately owned in which 0.5% of the student population travels. Students travelling in buses should make sure they are properly seated. They

should refrain from walking around or standing on the bus to avoid being thrown off in case of sudden impact. Students should also be advised not to stick their hands or head out of the windows. They should not distract the driver.

Parents/ guardians and school authorities should also ensure that buses carrying school children follow the Supreme Court Guidelines on Transportation of children.

- c. **Cycle – rickshaw** - The capacity of a cycle-rickshaw is two people but most of these vehicles are **filled beyond capacity** while carrying school children which make them dangerously prone to over- turning.

## LEGISLATION RELATED TO ROAD SAFETY

Before planning any activity on child road safety, it is essential to learn about the important National laws and regulations in India and International agreements related to these.

The following national legislation and international declaration provide context for the current SRSP initiative:

1. Indian Motor Vehicles (MVA) Act 1988: This is the act which currently regulates all traffic on Indian roads. There are traffic rules mentioned in the act and penalties to be levied on violation of these rules.[2]
2. Motor Vehicles Amendment Act, 2019: The Motor Vehicles Amendment Act, 2019 was passed by the Lok Sabha and Rajya Sabha in July 2019. It has become an act after being assented to by the President of India on 9 August 2019. This bill introduces stricter penalties for road rule violations, protection of good Samaritans, cashless treatment during golden hour, development of motor vehicle fund, compulsory seat belt for driver and passengers, compulsory child restraint, compulsory helmet for all two wheeler riders and so on.[3]
3. Indian Road Congress Guidelines: An apex body set up by Government of India (GOI), Indian Road Congress (IRC) issues guidelines for road construction, development and maintenance. There are specific guidelines for school zone areas in front of the school.[4]
4. Supreme Court Guidelines on Safe Transport of School Children: The Supreme Court of India had given guidelines for school buses and vehicles carrying students, including requirements for the buses, drivers, students and parents/guardians. [5]
5. The United Nations Decade of Action for Road Safety 2011–2020: It was proclaimed by the United Nations General Assembly in 2010 that road safety should be made a key priority of all countries during the current decade in order to reduce escalating road traffic injury statistics. These include goals and targets specific to children.[6]

6. The Right of Children to Free and Compulsory Education Act or Right to Education Act (RTE), 2009 is an Act of the Parliament of India which describes the modalities of the importance of free and compulsory education for children between the ages of 6 to 14 years in India under Article 21A of the Indian Constitution. Chapter V, Clause 29. (2) (g) of the act emphasizes on making the child free of fear, trauma and anxiety especially in and around the school.[7]

Further information of relevance to children travelling to and from school is included in Appendix 3.

## **CHAPTER II – INTERVENTIONS FOR SCHOOL ROAD SAFETY**

The Safe System Approach for road safety is considered to be an international best practice in road safety by World Health Organisation (WHO). This approach that takes human vulnerability and fallibility into account while planning road safety. This approach has four components –

- a) Safer Roads
- b) Safer Speeds
- c) Safer Vehicles
- d) Safer Road use

This document will focus on the interventions possible at a school level. The three broad intervention areas are Education, Engineering and Enforcement. Further details and examples included in Appendix 4, which you should consult in detail when developing your school's SRSP.

### **EDUCATION**

Education here is not just about student education in school, but the broad term relating to information and instruction to improve knowledge, skills and attitudes. This manual provides road safety education for stakeholders in child road safety and the development of a SRSP, for example.

Training is a term that can be seen as a specific form of education and usually targets one or few key skills at a time. An example of training a specific skill would be teaching children to make eye contact with drivers before crossing a road, even at a designated crossing. Other broad education approaches for children are included in Appendix 4.

Others likely to need further education specific to improving safe school travel for children in Jorhat include parents and guardians, school staff and management committees, drivers who transport children to school, drivers driving in the school zone and others who can support local engineering, regulation and enforcement initiatives. Appendix 4 also highlights some examples for these stakeholders.

### **ENGINEERING**

Engineering interventions in relation to school travel safety relate to physical changes in the built environment that aim to improve safety among road users. These can range from simple low-cost measures, such as painting lines and other markings on roads and footpaths, to complex higher-cost construction projects, such as installing speed humps and pedestrian fencing.

Appendix 4 provides information on a range of engineering initiatives that have been shown to improve road safety. When developing your SRSP, think about the main travel modes that children use to get to and from school and where key issues are concentrated on the road network. Issues with motorised vehicles near the main school entrances/exits can be obvious, but remember also that most children in Jorhat walk or ride a bicycle to school. So consider any nearby complex intersections or favoured mid-block crossing areas where children might not be seen or predicted to cross by drivers.

If there are known or recorded road traffic collisions that have occurred at or near your school, brainstorm all of the factors that might have contributed to these. Often the road user is blamed for doing the wrong thing – you have read in this manual why aspects of development mean a child will not always follow the rules. Likewise “human factors” relate to drivers as well. We get tired, distracted, lose attention and cannot always see children around visual obstacles like parked trucks. This is why we cannot rely on education alone and need engineering measures to help us avoid making mistakes. The safe system approach shifts the blame solely from the road user to other factors such as design of roads and roadsides and parking and speed policies that result in poor sight distances or obstructed views for children when crossing roads. Therefore, it is important that engineering measures are adopted keeping human vulnerabilities in mind.

## **ENFORCEMENT**

Another human failing in the context of road safety is that we often aim to take “short cuts” in our busy multifaceted lives. Road safety is not always front of mind when we travel and we are not always able to see the danger in given scenarios or see why road rules should always apply. Small errors of judgment can have significant consequences in road safety and so this is one context where compliance is critical. While many errors can be unintentional, as noted above in terms of “human errors”, intentional risks contribute heavily to the road traffic statistics and need also to be addressed.

There are two aspects of enforcement found to be important for improving compliance with road safety legislations:

1. **General deterrence:** this relates to road users seeing visible examples of enforcement so that they know enforcement is occurring. Seeing a police officer, traffic camera or alcohol testing station are some examples. While these can’t occur at all times, a trick is for visible initiatives to occur at random times and/or locations so that this builds a belief that they *might* occur at any time or place. For example, you could have a school parking officer work every drop off and pick up times for one week but then randomly at any of these times now and then, keeping costs down while trying to make road users more vigilant.
2. **Specific deterrence:** this is important for those who think they can get around the general deterrence initiatives, such as know where to avoid cameras and alcohol testing stops. These road users need to know they as individuals can be caught. Randomness of enforcement also helps to catch these road users. Note too that even warnings can have an impact initially, without having to fine people. Consider having warnings for at least the first breach on any given rule you choose to enforce, while road users get used to your new interventions.

See some examples of enforcement initiatives in Appendix 4. Consider what your SRSP might include that will match the key issues and the corresponding education and/or engineering interventions that you have identified and prioritised.

## **CHAPTER III - SCHOOL ROAD SAFETY PLAN DEVELOPMENT**

A school road safety plan (SRSP) helps the stakeholders to identify, analyse and prioritise road safety activities. The main objectives of a SRSP are –

1. To enhance safety of children, their parents and teachers on the roads on, around and approaching the school
2. To make children, their parents and teachers aware of the rules of the road and to help them learn and share new strategies on road safety.
3. To teach children, their parents and teachers effective strategies for keeping safe on the roads as pedestrians, cyclists or passengers, and also as drivers for the adults.

### **TIME REQUIREMENT**

The process will be facilitated by CEE in 3-4 sessions spread over 1-2 months. Session 1: CEE team will have a meeting with school head teacher and SMDC president to discuss the stakeholders to be invited for the meeting. Preparation of school map and checklist will be done on this day.

Session 2: On this day, SMDC will include other stakeholders also for a day long workshop.

In this one day workshop, school level stakeholders including teachers, administrators, school management and development committee (SMDC), parents will be oriented & engaged in visualization workshops by CEE. Indian Institute of Technology, Guwahati (IITG) will give technical explanation of the safety assessment in these workshops. The purpose of the day-one workshop will be to –

- Explain project objectives – Why develop a school road safety plan?
- Dangers to children travelling to and from school on the road and how to keep them safe.
- Create an understanding about the road safety challenges (as assessed by IITG) pertaining to their school
- Engage them in a visualization process as to how they want their school's road safety condition

Sessions 3,4 and 5: Based on the draft outline of the plan prepared in the workshop, CEE team will work closely with the teachers and SMC to detail out the plans. These activities will be divided into 3-4 sessions as per requirement of the school. Schools will:

- Conduct the road safety audits
- Prioritise the problems
- Brainstorm solutions
- Develop the microplan

Plans thus developed will be endorsed by the School Management Committee and shared with the District Road Safety Committee.

The responsibility of monitoring and evaluating SRSP will lie with the SMDC. Since every school has to mandatorily have a SMDC meeting each month, the SRS plan can be presented in the SMDC forum each month.

## PROCESSES FOR SRSP

The processes to be followed while developing a road safety plan has been described in detail in the following sections:

### i. ROLE OF SCHOOL MANAGEMENT AND DEVELOPMENT COMMITTEE (SMDC)

The first step in the development of a School Road Safety Plan (SRSP) is the selection of a stakeholder committee to develop it. A school stakeholder is someone who knows the school and has a stake in the improvement of the school and the students. Since each school already has a School Management and Development Committee which is a government recognised body, it would be wise to make it the responsible body for developing the SRSP.

The SMDC may decide to co-opt some members of the following stakeholders for developing the SRSP. The SMDC may also take their help in implementing and monitoring the SRSP activities.

SI	STAKEHOLDERS
1	SMDC (Lead role)
2	Teachers
3	Student Council
4	Parents, Guardians
5	Local community (educationists)
6	Any other member/group decided by SMDC

**Table : List of Stakeholder Groups**

### How to choose stakeholders?

Every school will have a large number of stakeholders. For example- guardians of all students. It would be very difficult to include everyone in the committee. Also, all stakeholders may not be equally interested and motivated. Therefore, the selection of stakeholders who will support and strengthen road safety initiatives in and around school is very important. This selection can be done by following a process known as **Stakeholder Analysis**.

**See the Appendix 3: Stakeholder Analysis Tool.** This tool will be used to select the stakeholders who are most likely to contribute to the development and implementation of the plan. The people/ stakeholder falling in the actively engage area of the stakeholder matrix

should all be included in the entire process of SRSP development and implementation. Members falling in the other three areas of the matrix can also be included based on their area of interest, expertise and time availability.

## **1. ROAD SAFETY AUDIT**

Every school is unique and has unique road safety concerns. Stakeholders should work together to identify the issues faced by their school. A road safety audit would help to understand the current road safety situation near the school and identify risks.

### **Requirements**

- Checklist – It includes all road safety parameters important for safety of children in the school zone. A checklist has been given in **appendix 4** for reference. Stakeholders can adapt the checklist to their respective school zones and refer to it for observation during the walk and tick or fill in the appropriate response.
- Map - Stakeholders should carry a copy of the school zone map during the observation walk to be able to pin point the risky areas.

### **Process**

A road safety audit involves members of the stakeholder committee going for an observation walk around the school during which they observe and identify the risk spots in front of the school.

### **Rules**

- The walk should preferably be done during pick up or drop off times.
- All stakeholders should familiarise themselves with the checklist before embarking on the walk.
- Stakeholders should work in pairs with one person acting as an observer and another person documenting the risk.
- Observations need to be done at the height of children to really understand the risks. Stakeholders should kneel down at important points to see how their view of approaching vehicles is obstructed and also see how they are hidden from a driver's view.
- While observing behaviours, they should maintain some distance and remain unobtrusive so as not to attract attention. Attracting attention may lead to people being on their guard from expressing their natural behaviour.

**See the Appendix 4 for an indicative checklist on School Road Safety Audit**

## **2. IDENTIFICATION OF POTENTIAL INTERVENTIONS**

The road safety audit identifies the risks associated with children in the school zone. It also highlights the risk zones in a school in the school map. This data can be further analysed to



understand the cause of each risk. The risks to children can be due to increased speed, unsafe vehicles, unsafe road designs, poor behaviour or a combination of these factors.

The risk factors may be different for different schools. It may be behaviour based in case of a school where most students travel by driving motor vehicles without licence. It may also be related to vehicle speed in the zone. The risk factor also increases if there is a black spot near the school zone.

### **ROAD SAFETY FACT – BLACK SPOT**

*A black spot is a location which is accident prone or where more than one road crash has been recorded. In India, black spot data is collected every year by traffic police, roads department and transport department. Based on the findings, they plan to make necessary improvements to eliminate the black spot.*

### **THE HADDON MATRIX**

The Haddon Matrix is an injury prevention model. It can be used as a tool to identify the factors associated with a road crash.

The table below shows a generalised Haddon Matrix for factors of road crashes involving children in a school zone. Identifying the factors will help stakeholders develop effective strategies for intervention. A blank Haddon matrix has been given in **Appendix 5** for filling in school specific factors.

	<b>CAUSATIVE FACTORS OF ROAD CRASHES (with respect to children)</b>		
	<b>Human Behaviour</b>	<b>Vehicle Defects</b>	<b>Environmental Problems</b>

<p><b>BEFORE CRASH</b></p>	<ul style="list-style-type: none"> <li>● Not following traffic rules</li> <li>● Crossing streets mid-block or in unexpected places</li> <li>● Riding bicycle aggressively weaving around vehicles</li> <li>● Being distracted</li> <li>● Travelling too fast</li> </ul> <p><u>Behaviour of other road users – mostly vehicle drivers</u></p> <ul style="list-style-type: none"> <li>● Speeding</li> <li>● Drunken driving</li> <li>● Overloaded vehicles</li> <li>● Improper Overtaking</li> <li>● Distracted driving</li> </ul>	<p><u>Vehicles under direct control of the child</u></p> <ul style="list-style-type: none"> <li>● Non- maintenance of vehicles (including bicycles)</li> <li>● Improper brakes</li> <li>● Improper lighting</li> <li>● Tyre burst</li> </ul> <p><u>Specific to vehicles under direct control of the parents and other drivers</u></p> <ul style="list-style-type: none"> <li>● Improper lighting</li> <li>● Driving old vehicles</li> <li>● Non-maintenance of vehicles</li> </ul>	<ul style="list-style-type: none"> <li>● Faulty road design</li> <li>● Poor visibility</li> <li>● Obstructions in road</li> <li>● Mix of pedestrians, cyclists and motor vehicles in areas with high speed limits</li> <li>● Improper or no signages (no school zone ahead signage or placed in the wrong places)</li> <li>● Potholes</li> <li>● No zebra crossing</li> <li>● No Footpath</li> <li>● No Speed Breakers</li> <li>● Improper Speed Breakers (very high/ broken etc.)</li> </ul>
<p><b>AGGRAVATING FACTORS OF ROAD INJURY</b></p>			
<p><b>DURING CRASH</b></p>	<ul style="list-style-type: none"> <li>● Non-use of protective gear (helmets, seat belt, child restraint)</li> </ul>	<ul style="list-style-type: none"> <li>● No protective gear (eg. Airbags, seat belts)</li> </ul>	<ul style="list-style-type: none"> <li>● Lack of ambulance</li> </ul>
<p><b>POST CRASH</b></p>	<ul style="list-style-type: none"> <li>● No trained personnel in first aid</li> </ul>		<ul style="list-style-type: none"> <li>● No first aid</li> <li>● No ambulance</li> </ul>

Table : Haddon Matrix for Road Injury

The factors responsible for causing a road crash are known as **Causative factors**. There are also some factors which are not responsible for a crash but they affect the severity of the injury because of the crash known as **Aggravating factors**.

Solutions for each risk identified in the above step will be identified through stakeholder discussion. Stakeholders can follow practices implemented in different places around the world which have helped in child road safety, with examples included in this manual(**education, engineering and enforcement examples given in Appendix 2**).

Learning from effective practices is important before starting any road safety intervention. Many interventions which seem effective on paper do not turn out to be so in the real world. Learning from what worked and why helps to understand which factors should be considered for successful implementation.

## **PRIORITISE**

Prioritisation is the process of selecting or ranking issues which needs to be solved first. It is important to prioritise tasks when our resources (humanpower, funds, time, materials etc.) are limited.

After identifying the risks in the previous step, stakeholders will need to prioritise the problems. Problems which are considered high risk should be addressed in the first six months, medium risks in the first one year and low risks can be addressed in the next year.

Prioritisation of the identified risks can be done by using a tool known as the **Pairwise Comparison Matrix** which has been explained in detail in **Appendix 6**. This matrix compares two alternatives to see which one is preferred over the other.

### **Requirements**

A white/ black board

Marker/ Chalk

A facilitator

### **Process**

Let us learn how to fill the matrix using an example.

- I. Suppose the list of risks identified by the stakeholders of School ‘X’ include the following :

- Unsafe student crossing behaviour (CB)
- Unsafe drop off/ pick up behaviour (DO)
- Vehicle parking near school (V)
- Broken footpath (F)
- Not using safety gears (helmet, seatbelts etc.) (SG)
- High vehicle speed(S)

- II. Assign a symbol to each problem. For example Unsafe crossing behaviour can be denoted as CB .

- III. Draw a table and fill in the first column and first row with the risks identified.

Risks	CB	DO	V	F	SG	S
CB						

DO						
V						
F						
SG						
S						

IV. Now fill in the first cell by comparing the risk in row 1 to the risk in column 1. Since both columns represent the same symbol CB, write CB in the box.

Move on to the next cell in row 2 and compare the symbol 'CB' to symbol 'DO' i.e compare the risks 'Unsafe crossing behaviour' to 'Unsafe drop off pick up behaviour'. The facilitator will ask the stakeholders to choose the solution with more priority.

Please note that higher priorities should be assigned to solutions addressing the greatest road safety risk not just those most prevalent. Different schools may choose differently owing to the cause of the risk. If the crossing behaviour is more risky in school X then it should be selected over the other risk but if the unsafe drop off pick up behaviour seems more risky for students, then it is accorded higher priority. In this manner, fill the entire matrix.

Risks	CB	DO	V	F	SG	S
CB	CB	CB	CB	CB	CB	S
DO	CB	DO	DO	DO	SG	S
V	CB	DO	V	F	SG	S
F	CB	DO	F	F	SG	S
SG	CB	SG	SG	SG	SG	S
S	S	S	S	S	S	S

V. Now count the number of times each symbol is represented in the matrix. The symbols appearing most number of times are ranked as being of higher priority than one appearing lesser number of times.

Therefore, the priority list of solutions/ interventions of school 'X' is as follows :

- a. High vehicle speed(S) = 11
- b. Unsafe student crossing behaviour (CB) = 9
- c. Not using safety gears (helmet, seatbelts etc.) (SG) = 7
- d. Unsafe drop off/ pick up behaviour (DO) = 5
- e. Broken footpath (F) = 3
- f. Vehicle parking near school (V) = 1

### 3. IDENTIFICATION OF SOLUTIONS

Once the list of problems have been identified and prioritised, the stakeholder group can start discussing the possible solutions and interventions. The solutions may fall into one or more of these categories –

- i. Education
- ii. Engineering
- iii. Enforcement
- iv. Others

Let us continue the example of the hypothetical school ‘X’ and try to find out solutions to the risks identified. In this step, all types of solutions/ possibilities should be looked into without thinking of limitations of resources (The resource budgeting will be done at a later stage). The solutions identified will be divided into categories of education, engineering, enforcement or others.

Brainstorming for Possible Solutions				
	EDUCATION	ENGINEERING	ENFORCEMENT	OTHERS
High vehicle speed(S)	Driver awareness	Traffic calming measures	Police patrol	
Unsafe student crossing behaviour (CB)	Awareness of students and parents	Zebra crossing		Volunteer for crossing guard
Not using safety gears (helmet, seatbelts etc.) (SG)	Awareness of parents/ guardians		Fine by traffic police	
Unsafe drop off/ pick up behaviour (DO)	Awareness of students and parents	Demarcated 2 min drop off pick up zone	Supervision by school authorities	
Broken footpath (F)		Footpath repair		
Vehicle parking near school (V)			No parking zone declared by SMC	

### 4. DEVELOP MICROPLANS

The next step is the development of a micro-plan. Microplan development in the context of SRSP means a participatory process for development and management of a school road safety system. Participation of all the stakeholders is integral for the success of a micro-plan.

In this process, the plan for implementation is developed. . The scope of the task, timeline, persons responsible, strategies for implementation, monitoring and evaluation are worked out. Each task may be further divided into sub-tasks with short term and long term targets.

### Requirements

A white/ black board

Marker/ Chalk

A facilitator

### Process

	<b>Task</b>	<b>Strategy</b>	<b>Person responsible</b>	<b>Resource required</b>	<b>Source of resource</b>	<b>Timeline</b>	<b>Progress</b>
Education	Teaching crossing safety to children	Talk/ demonstration on road safety in morning assembly 3 days a week.	Assistant Teacher	Time		Regular activity	
	Awareness of parents/ guardians	Conduct at least three awareness meetings	SMDC members and School Teachers	Hall Refreshments (50 people x 3 meetings x Rs..... per person refreshment)	Partially from individual donations and partially supported by SRSC project meeting fund when facilitated by project team	3 months	
	Driver awareness	Develop wall paintings and posters for informing drivers	SMDC	Rs. 2000 (approx.)	SRSC project fund	3 months	
	Traffic Calming measures	Application to Public Works Department for traffic calming measures and regular follow up	Head Teacher and SMDC President	Time	PWD with partial support from SRSC fund	5 months	

		with department					
Engineering	Footpath repair	Application to Public Works Department for a speed breaker on both sides of school road and regular follow up with department	Head Teacher and SMDC President	Time	PWD	5 months	
	Zebra crossing near school zone	Zebra crossing developed by PWD and project fund	Head Teacher will follow up with	Total budget = Cost of paint x Amount of paint required	Support from SRSC project	1 month	
	Demarcating drop off zone	Demarcating drop off and pick up zones using white paint.  School to enforce implementation	School teachers	Total budget = Cost of paint x Amount of paint required	Support from SRSC project	10 days	
	Road Signages	Road signages for –  1. School Zone Ahead 2. Speed breaker  To be developed by Public Works Department (PWD) with support from	Head Teacher and SMDC president	No of signages x cost per signage	Support from SRSC project	1 month	

		project fund					
Enforcement	Police patrolling and fines	Application to traffic police and follow up. Support will be provided by CEE team	Head Teacher and SMDC			1 month	
	No parking zone	Signs	SMDC	Cost per sign = No of signs =	School Development Fund	2 months	
Others	Volunteer Crossing guard	Seeking volunteers from among parents, guardians, teachers and local youth to act as crossing guards. Allot days of the week to the guards	SMDC and teacher			Regular activity	

A blank microplan format has been shared in Appendix 9.



## **CHAPTER IV - SCHOOL ROAD SAFETY PLAN IMPLEMENTATION AND EVALUATION**

### **1. Monitoring and Evaluation**

Monitoring and Evaluation (M&E) is an important component of any plan. Monitoring refers to the ongoing systematic collection of data regarding the performance of a road safety programme or intervention during or after its implementation. Evaluation involves the analysis of this data from time to time in order to determine the effect of the treatment or program.

Regular internal M&E is important to ensure that activities are happening as per schedule and giving the desired results. If due to some changes, the activity needs to be modified or changed, it can be identified through this step and stakeholders can take necessary action.

For example – If the school has planned to put road signs outside the gate but in that time frame some government agency has completed the task, stakeholders may omit that task from the micro-plan and allocate the time and resources for the task to another high priority task.

## How will the M& E be done?

Monitoring and evaluation can be done by the following committees –

1. **School Management Committee** – Since each SMDC meets every month to discuss issues related to the school, the SRSP can be discussed and its progress monitored in this platform on a monthly basis.

The committee will have the following roles also –

- i. **Documenting Change** - The changes that come about as an outcome of the micro-plan implementation should be documented periodically. This can help or feed into the next year's road safety plan. They can also learn from the negative outcomes or failures encountered in implementation. Other schools willing to take up road safety can refer to these learnings before implanting in their own schools.
  - ii. **Revisiting the SRSP** - As safety improves around the school zone with the implementation of SRSP, the next step could be to include more targets and cover a broader scope. To do this, the plan should be revisited every six months. This will help to take into account recent changes in the road infrastructure, administration and effectiveness of the plan already implemented. Any changes (addition, deletion or modification) in tasks can be done in this meeting/ discussion. For major modifications required in the plan, this sub-group may call a meeting involving other stakeholders.
2. **Social Audit team**- Every year, all government schools in Assam are audited by a team of selected individuals in the locality. The SRSP can be placed in the social audit for feedback and comments.

## REFERENCES

- 1) World Health Organization. (2018). Road Traffic Injuries from <https://www.who.int/news-room/fact-sheets/detail/road-traffic-injuries>
- 2) Motor Vehicles Act 1989 <http://as2.ori.nic.in:8080/web/cmacts.jsp>
- 3) Motor Vehicles Amendment Bill 2019 <http://pib.gov.in/newsite/PrintRelease.aspx?relid=192424>
- 4) Indian Road Congress <http://www.irc.nic.in/>
- 5) Supreme Court Guidelines on School Transportation <https://www.trackschoolbus.com/school-bus-rules-and-regulations/india/>
- 6) UNDESD <https://en.unesco.org/themes/education-sustainable-development/what-is-esd/un-decade-of-esd>
- 7) Right to Education Act 2009 [https://mhrd.gov.in/rte\\_rules](https://mhrd.gov.in/rte_rules)

## RECOMMENDED READINGS

- 8) ROAD SAFETY MANUAL. Retrieved on March 25, 2019 from <https://roadsafety.piarc.org/en/planning-design-operation/monitoring-and-evaluation>

## KEY STAKEHOLDERS IN THE REGION

- 1) Jorhat Police
  - a) Superintendent of Police  
Atilagaon, Jorhat, Assam 785001  
Email – [sp-jorhat@assampolice.gov.in](mailto:sp-jorhat@assampolice.gov.in)  
Phone : 0376-2320021
  - b) Jorhat Sadar Police Station  
Mahatma Gandhi Rd, Opp Nokia Care, Jorhat, Assam 785001  
Phone: 0376 232 0018
  - c) Cinnamara Police Station  
SH 31, Goswami Nagar, Jorhat CD Block Part, Assam 785008  
Phone: 0376 236 0346
- 2) Public Works Department
  - a) Office of Superintendent Engineer  
Professor& Staff Colony, road, Garmur, Jorhat, Assam 785007
  - b) Office of Executive Engineer  
EC Road, Itakhuli, Jorhat, Assam 785007
- 3) Jorhat Municipal Board  
AT Rd, Malow Ali, Jorhat, Assam 785001  
Phone : 0376 232 0017
- 4) Health Department  
Office Of Joint Director Of Health Service  
AT Rd, Chowk Bazar, New Colony, Jorhat, Assam 785001  
Email – [jtdhsjorhat2016@gmail.com](mailto:jtdhsjorhat2016@gmail.com)
- 5) Ambulance Services  
Phone no: 108

## APPENDICES

### **APPENDIX 1 – NATIONAL LEGISLATION AND INTERNATIONAL DECLARATION REGARDING ROAD SAFETY**

#### **Indian Laws and Regulations in context of Child Road Safety**

1. Indian Motor Vehicles (IMV) Act 1988 – This is the act which regulates all traffic on Indian roads. There are traffic rules mentioned in the act and penalties to be levied on violation of these rules. However, the IMV act, 1988 mentions nothing about child road safety. [3]

A new bill known as Motor Vehicles Amendment Bill has been proposed which focuses on stringent rules for road safety. It also mentions some rules related to the safety of children. The bill is yet to become an Act.

2. Indian Road Congress Guidelines – An apex body set up by GOI, Indian Road Congress (IRC) issues guidelines for road construction, development and maintenance.  
There are specific guidelines for school zones which talks about school drop off and pick up zones, signages, school walking maps, crossing guards, clear footpaths, better police enforcement and many such initiatives to make ‘Safe Routes to School’.
3. Supreme Court Guidelines on Safe Transport of School Children – The Supreme Court of India had given guidelines for school buses and vehicles carrying students. The guidelines says –
  - a) School buses should be painted in yellow.
  - b) School bus must be written in the back and front of the bus.
  - c) If it is a hired bus, ‘On School Duty’ should be clearly indicated.
  - d) Bus should have a first aid box.
  - e) Bus should be fitted with speed governor of specified standard.
  - f) The windows of bus should be fitted with horizontal grills.
  - g) There should be a fire extinguisher in the bus.
  - h) School name and telephone number must be written on the bus.
  - i) The doors of the bus should be fitted with reliable locks.
  - j) To keep the school bags safely, there should be space fitted under the seats.
  - k) There must be a qualified attendant in the bus to attend to children.
  - l) Any parent or guardian sitting in the bus or a teacher may also travel to ensure these safety norms.
  - m) The driver should have at least 5 years’ experience of driving heavy vehicles.
  - n) A driver who has been challaned more than twice in a year for offences like red light jumping, violation of lane discipline or allowing unauthorised person to drive cannot be employed.

- o) A driver who has been challaned even once for the offence of over speeding, drunken driving and dangerous driving cannot be employed.

## **APPENDIX 2 – EDUCATION, ENGINEERING AND ENFORCEMENT INITIATIVES**

Improving child safety when travelling to and from school in Jorhat can be addressed from a range of different approaches falling into three key areas: Education, Engineering and Enforcement. The following sections provide some examples of each. A good way to identify key interventions for your SRSP is to “brainstorm” a wide range of ideas of approaches in all three of these areas that are relevant for your school and the specific travel problems you have identified. (You can work on what is achievable and can be prioritised later.)

### **1. EDUCATION INTERVENTIONS**

When thinking about education interventions for children, refer back to the information on child development. We cannot rely on children to always remember and do the right thing. Adult supervision is key to keeping children safe, but not always achievable. Think about the wide range of relevant stakeholders when targeting road safety around your school.

#### Classroom activities

Incorporating road safety activities in classroom will help students learn road safety rules easily. Teachers can utilise the topics in the curriculum related to road safety to demonstrate safety practices and also talk about issues related to the topic.

Important road safety concepts which are not there in the curriculum can be introduced through related topics in the curriculum. Teachers can refer to the ‘Making Children Safe on Road – A handbook for teacher’s orientation’ prepared as part of the project for this.

#### Extra-curricular activities

Students can take part in road safety campaigns during road safety week celebration. During important celebrations like annual function, they can stage plays and develop exhibitions on road safety topics.

#### Education of Stakeholders

This involves creating awareness among parents, guardians, school staff, School Management Committee members, and bus/van/auto-rickshaw / rickshaw drivers to ensure their support in students’ safety in school zones and while travelling to and fro school.

### **2. ENGINEERING INTERVENTIONS**

Engineering interventions are mainly dependent on local authorities like the Public Works Department and municipality. Stakeholders can try to raise awareness of local authorities on problems faced by children of their school and have meetings with the local authorities to gain help in bringing about changes. They can also approach other agencies interested in road safety issue like CSR agencies and non-governmental organisations working in the field.

### Demarcation of Pick up and Drop off zones

Morning and afternoon times near school zones are usually full of chaos. Students arrive in different modes at the same time. Parents dropping children in their vehicles double or triple park forcing vulnerable pedestrians and cyclists on the road. A solution to this can be in the form of a marked pick up and drop off zone.

School pick up and drop off zones are clearly marked areas for parents and guardians to drop and pick up their children. Parents/ Guardians drop their children and move on giving the spot to the next vehicle. These zones should be made 2 minute zones so that vehicles do not linger after dropping the child. This 2 minute only zone is for directly dropping off and picking up students already waiting close to the main entrance/exit to the school on same side of road. There should be a separate area where they can wait when arriving early or waiting for later students so that they do not block the school gate.

Vehicles which carry many students like auto-rickshaws, rickshaws should be parked on another designated spot different from the private vehicles depending on the availability of space as more students queue there. In this way, congestion and chaos are reduced.

The appropriate places for parking and waiting will be different for each school based on the area available. Whenever possible, try to prioritise places on the school side of the street for drop off / pick up areas where children transfer unsupervised, else close to designated crossing areas. Where possible, school should try to have more than one entry and exit points in order to separate the volume of students in one area.

### Signages and Messages

School authorities can manage traffic during pick-up and drop-off times by ensuring that appropriate and clearly visible signage indicating presence of school zone is maintained. Appropriate messages for drivers, parents and the children would serve as reminders for maintaining discipline in school zones.

### Traffic Calming Measures

Traffic calming measures should be introduced near school zones to reduce the speed of vehicles. Constructing speed breakers, speed humps, rumble strips etc. will help in calming traffic speed.

### Pavement markings

Markings on the road with paint which give guidance to the drivers through messages. These markings help in controlling traffic by conveying important road related information to the drivers without distracting attention from the road. There are often open spaces near the road which are used haphazardly for parking, street vending, walking and cycling. Painting these spaces to designate areas for each activity will make traffic more organised in the area and drivers from approaching vehicles will not encroach into these areas.

### Designated Crossings

It is very important to have Zebra crossings in each school zone. Approaching vehicles will be able to see the crossing and slow down or stop to allow children to cross safely.

### Footpaths

Students walking to and from school will remain safe from traffic if they walk on footpaths. Therefore, it is very important to construct new footpaths where not available and maintain the ones that are present. They should be of appropriate height enough to allow children to reach easily but also high enough to safeguard them from traffic. Fencing can be done to further separate the pedestrians from vehicles.

## **3. ENFORCEMENT INTERVENTIONS**

### Police Patrolling

Traffic police can patrol the school zones at different times of the day and penalise errant drivers, remove unauthorised parkings, enforce helmet and seat belt wearing etc. At first, they can start with regular patrolling and later on reduce the frequency. This will make drivers approaching the school zones alert and reduce traffic conflicts.

### School Patrolling

School authorities can occasionally check if students and guardians are following road rules. They can check helmet wearing, seat belt usage, entry exit side of vehicle, parking etc. They can call guardian meetings to enforce these rules when need is felt.

### Staggered School Timings

Staggered school timings introduced for different classes can reduce a lot of congestion during morning and afternoon hours. In this system, some classes can start and end school earlier while some other classes can start and end later. If this can be done, it is best to have the youngest children start earliest and older students later (according to the latest understanding of developmental influences on sleep needs and school performance).

## **4. OTHER INTERVENTIONS**

### Crossing near school

Crossing near the school is difficult for young children. A crossing guard is an adult who assists children to cross the road by stopping the traffic using a stop sign and walks the children to safety. Crossing guards are mostly voluntary though some countries have salaried crossing guards also. In many schools, parents play the role of crossing guard by dividing the days of work among them. Older students who take the lead role in road safety activities in their school also known as Road Safety Friends can guide other students to enter/ exit the school in a disciplined manner and guide them in crossing from the side of the school

### Walking Bus

A walking school bus is a group of children walking to school with one or more adults. Instead of letting children walk alone, parents/ guardians can turn to take children to school. An adult can take all students living nearby to school by walking in a planned route.



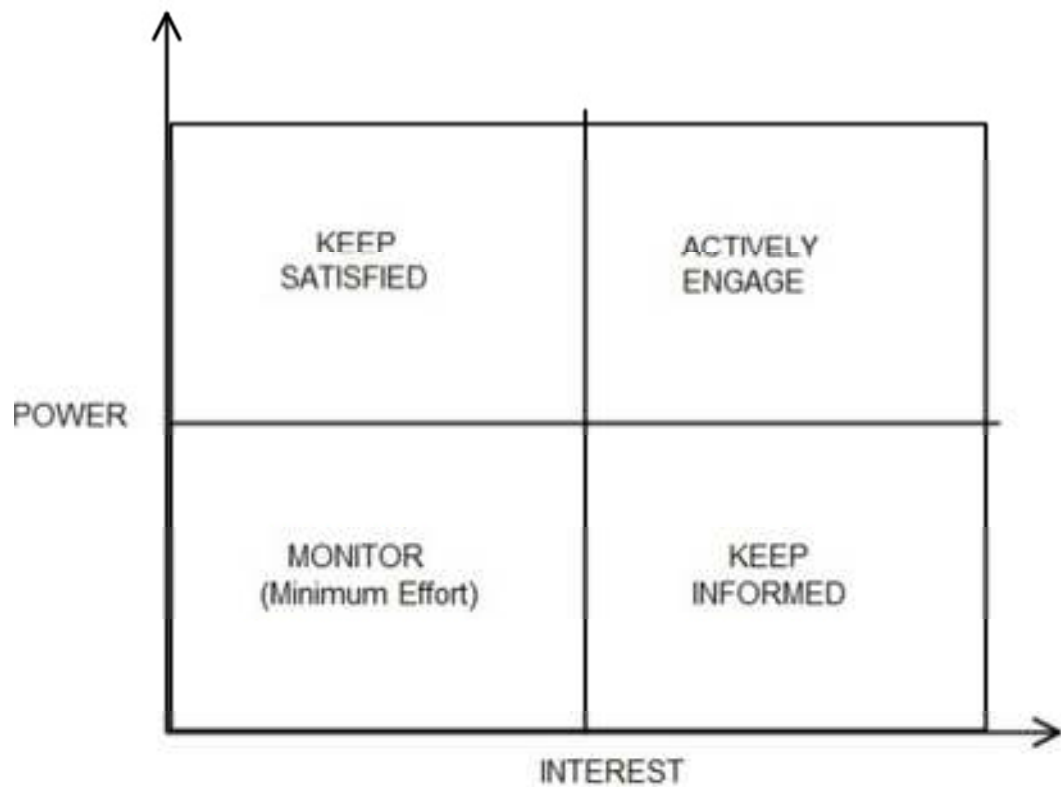
## APPENDIX 3 – STAKEHOLDER ANALYSIS TOOL

### STEPS FOR DEVELOPING A SCHOOL ROAD SAFETY PLAN

#### I. Stakeholder Analysis

The following processes are to be followed for stakeholder analysis:

- i. School will make a list of all stakeholders.
- ii. A matrix with power on y-axis and interest in x-axis is to be developed. Based on the position of the stakeholder in the matrix, prioritisation should be done.



Based on the position in the matrix, stakeholders can be divided into four different types:

- High Power, High Interest – These stakeholders should be actively engaged in the programme.
- High Power, Low Interest – These people are less interested but have the power to impact the programme. Therefore, it is important to keep them satisfied.

- Low Power, High Interest – These people can help the programme and therefore should be kept informed for their inputs
- Low Power, Low Interest – These people should be monitored but minimal effort should be put in it.

#### APPENDIX 4 – ROAD SAFETY AUDIT TOOL

CHECKLIST FOR ROAD SAFETY AUDIT		
OBSERVE		Comments/ description
FOOTPATHS/ WALKING AREAS	Continuity of footpaths	
	Obstruction	
	Maintenance (if the footpath is broken in some places)	
	Height of footpath (Whether easily accessible to children)	
	Do vehicles and cyclists use footpath?	
	Any other issue	
ROAD CROSSING	Visibility of incoming traffic (mention places where visibility is obstructed and reasons)	
	Any adult person helping in crossing	

SPEED	Speed of vehicles during school hours	
	Presence of traffic calming structures (speed breaker)	
	Any school zone ahead sign?	
\DROFF, PICK UP	Is there traffic congestion?	
	Do parents/ guardians use safety gears (helmet, seat belt)?	
	Do children use safety gears (bicycle helmet, motorcycle helmet, seat belt) ?	
	Are vehicles parked in school zone?	
	Are street hawkers causing congestion?	
	Any other observation	
	Do children enter or exit vehicle from/ on the wrong side?	
	Any other observation	
RISKS IDENTIFIED BY CHILDREN	Any area mentioned by children as risky in school zone?	
	Any area mentioned by children as risky immediately near school	

	zone?	
	Any other risk factor mentioned by children?	

**APPENDIX 5 – INTERVENTION BRAINSTORMING TOOL**

Please find below a blank format of the Haddon Matrix for stakeholders doing the road safety audit in school zone. After the audit, one should try to fill the matrix with the risks observed during the observation walk. This will help other stakeholders and all students of the school understand the risks easily. You can use the blank format given here, or draw it in a blackboard, chart paper or notebook for developing the microplan. Add or delete rows as per requirement.

	<b>CAUSATIVE FACTORS OF ROAD CRASHES (with respect to children)</b>		
	<b>Human Behaviour</b>	<b>Vehicle Defects</b>	<b>Environmental Problems</b>
<b>BEFORE CRASH</b>			
	<b>AGGRAVATING FACTORS OF ROAD INJURY</b>		

<b>DURING CRASH</b>			
<b>POST CRASH</b>			

**APPENDIX 6 – PRIORITISATION TOOL**

This is a format to prioritise the risks you have identified in the school audit. You can use the blank format given here, or draw it in a blackboard, chart paper or notebook. Add or delete rows as per requirement.

Risks	Risk 1	Risk 2	Risk 3	Risk 4	Risk 5	Risk 6
Risk 1						
Risk 2						
Risk 3						
Risk 4						
Risk 5						
Risk 6						

## APPENDIX 7 – MICRO PLAN TOOL

This is a format to develop your school's microplan. You can use the blank format given here, or draw it in a blackboard, chart paper or notebook for developing the microplan. Add or delete rows as per requirement.

	<b>Task</b>	<b>Strategy</b>	<b>Person responsible</b>	<b>Resource required</b>	<b>Source resource</b>	<b>of</b>	<b>Timeline</b>	<b>Progress</b>
Education								
Engineering								

Enforcement							