

# MAKING CHILDREN SAFE ON ROAD

A HANDBOOK FOR TEACHERS' ORIENTATION

Developed for the  
Safer Roads for Safer Childhood Project



Centre for Environment Education  
North Eastern Regional Cell

**MAKING CHILDREN SAFE ON ROAD: A handbook for teachers' orientation** is developed by Centre for Environment Education (CEE) under the 'Safer Roads for Safer Childhood' (SRSC) project being implemented in Jorhat city of Assam, India.

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**Safer Roads for Safer Childhood (SRSC) Project:** Safer Roads for Safer Childhood (SRSC) Project is being implemented in Jorhat city of Assam, India to enhance road safety for children, especially focussing on 6 pilot schools. The project is implemented by Centre for Environment Education (CEE), IIT Guwahati and Department of Home and Political Affairs, Govt of Assam (through Jorhat Police). The project is guided by Global Road Safety Partnership (GRSP), a programme of the International Red Cross (IFRC) and funded by Fondation Botnar, a Swiss based Philanthropic organization. It is part of Botnar Child Road Safety Challenge (BCRSC). India is one of the 6 countries that have won the Botnar CRS Challenge.

## PREFACE

Every year, 1.37 million people die globally as a result of road crashes. 50 million more are injured. Road crashes also result in emotional, physical as well as economic burden. In India alone 1274 crashes happen on road every day and it is the second largest killer of young people in the country.<sup>1</sup> Most of them are of school going age. This high mortality and injury rate associated with road safety makes it an important public health issue. Addressing road safety issues is therefore a matter of priority.

Road infrastructure, safer vehicles, proper awareness of drivers and other road users are all important to minimize road crashes. Good infrastructure cannot stop all road crashes if driver or pedestrians behave recklessly on road. Similarly, merely having education is not enough if the infrastructure is faulty or proper enforcement is not in place. Globally, therefore, an integrated approach has been adopted that is called the **Safe Systems Approach**. The 'Safe Systems Approach' which looks at the interactions between vehicles, humans and road infrastructure has been advocated to address the issues of the highly complex road system. Road safety education is an integral part of this approach which enables people to adopt safer behaviours.

Although efforts are on-going to integrate road safety into the curriculum, very few concepts are mentioned in the school text books at present. Therefore, as teachers and educators, it is our duty to fill this gap by providing the skill sets and knowledge to enable children to remain safe on the roads. This handbook has been designed to equip teachers with knowledge about road safety issues and to guide them in transacting road safety education to their students. 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 specially in and around the school.

This handbook has been prepared as part of the 'Safer Roads for Safer Childhood' 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), IIT Guwahati and Department of Home and Political Affairs, Govt of Assam (through Jorhat Police). The project is guided by Global Road Safety Partnership (GRSP), a programme of the International Red Cross (IFRC) and funded by Fondation Botnar, a Swiss based philanthropic organization.

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## HOW TO USE THIS HANDBOOK

This handbook is primarily aimed at teachers teaching standards from VI to VIII. However, teachers teaching other standards in middle and high school levels can also use this book to understand road safety issues related to children. They can adapt the concepts and activities given here to the students they teach.

The objectives of this handbook are to –

- i. Provide information to teachers about road safety issues with specific focus on children, and
- ii. Provide guidance to use the information in transacting road safety education to students

**Unit I** of the handbook provides an statistical overview on why child road safety needs to be addressed as a major global public health challenge.

**Unit II** focuses on road crashes, why crashes happen and what aggravates road injuries.

**Unit III** talks specifically about children as a vulnerable road user group, and why they are vulnerable.

**Unit IV** elaborates different risks from home to school, Indian Road Congress (IRC) guidelines, and some important laws.

**Unit V** suggests what can be done to make children safe in the road environment.

**Unit VI** gives some quick tips for road safety education.

Activity section has some suggested activities that teachers can do with students to teach them about road safety.

Units I to VI aim to equip the teachers with background knowledge about road safety. These include information and concepts of road safety with respect to children. The activities given in the activity section are mainly for students. These activities will be done by students and guided by the teachers. Each activity is divided into several sub-points, i.e. :

- i. Objectives - describes the purpose of the activity.
- ii. Place/ Condition – where the activity can be done and the external settings required for the activity
- iii. Age group – for which age group the activity is more appropriate
- iv. Materials/ Resources - required materials for conducting the activity
- v. Before you begin (Entry requirements) – the previous knowledge children should have before embarking on the tasks.

- vi. Introduction - guidance on the activity methods and how to explain the activity to the students.
- vii. Activity completion criteria - details for determining the activity has been completed by each student.
- viii. Assessment – guidance on how the teacher will assess the children’s completion of the activity .
- ix. Notes – comments on any safety concerns and any other general information.

A summary of all the activities are given in the following table, identifying the key contents and learning outcomes. This provides a quick reference guide that can be readily viewed in addition to the Table of Contents for locating certain sections of the handbook.

### ACTIVITY QUICK REFERENCE GUIDE

Activity referenc enumber	ActivityTitle & Type of the Activity	Key Contents	Learning Outcome(s)
1	<b>Road Signages</b> Outdoor activity	<ul style="list-style-type: none"> <li>• Road signs important for students</li> </ul>	<ul style="list-style-type: none"> <li>• Understand appropriate behaviour related to road signs</li> </ul>
2	<b>Newspaper study</b> Collection of news clips & presentation to class	<ul style="list-style-type: none"> <li>• Local road safety articles</li> </ul>	<ul style="list-style-type: none"> <li>• Understand local road safety issues</li> </ul>
3	<b>Safety Act</b> Role Play	<ul style="list-style-type: none"> <li>• Road safety devices i.e helmet, seat belts</li> </ul>	<ul style="list-style-type: none"> <li>• Understand importance of road safety devices</li> </ul>
4	<b>Modes of Travel</b> Collecting information	<ul style="list-style-type: none"> <li>• Different modes of travel</li> </ul>	<ul style="list-style-type: none"> <li>• Understanding different modes of travel to school</li> </ul>
5	<b>Know the Dangers</b> Observation	<ul style="list-style-type: none"> <li>• Road Safety Problems</li> </ul>	<ul style="list-style-type: none"> <li>• Understand road safety problems in own school zone</li> </ul>

## INTRODUCTION

We all need to go outside home for various purposes. Some have to go for business, some to schools, offices and for many other purposes. As we step out of home, we place ourselves in a public space known as a road. A road may be as small as a neighbourhood lane or as large as a National Highway.

It would be wonderful if we were the only road user and not sharing the road with anyone else. But that is not the case. There are many others on the road travelling in different modes which often lead to Modal Conflict. Many a times these modal conflicts result in the unfortunate phenomenon known as Road Crash. Crashes often result in loss of lives and/or grievous injuries which not only cause physical harm but also bring tremendous grief to the people involved and friends and families of the victims. Apart from the physical and mental agony, crashes put people through economic hardships.

A large percentage of these crash victims are children. As per statistics published by the Ministry of Road Transport and Highways in the report 'Road Accidents in India – 2017', 7443 males and 1965 females of the ***school going age*** (upto 18 years) were killed in road accidents in India in 2017. In Assam alone, 529 children were injured and 268 killed in road crashes. **Being a vulnerable road user group, it is essential that children gain the knowledge and skills to navigate in the road environment.**



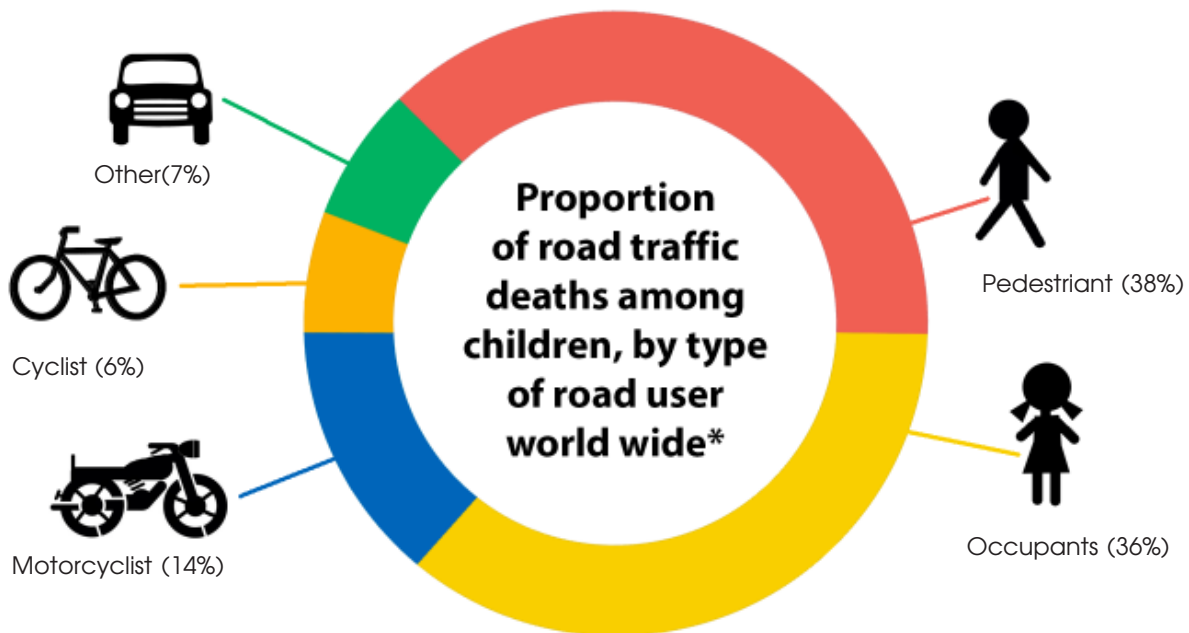
This is the reason for bringing this road safety education initiative to your school. School is a place where maximum children can be educated at the same time. Students can adopt positive behaviours easily while learning with peers as compared to learning in isolation. What a child learns easily travels to their homes and from there to the larger society.

You might have noticed that this introduction does not use the word 'accidents'. In India, we refer to crashes as 'accidents' in casual conversation and also in some official communications. The word 'accident' infers that the action had occurred due to some error which was not preventable. In fact, most crash events are preventable, as will be explained further in the following sections. Therefore, in order to highlight the preventable nature of the problem, this document will use the term 'crashes' or 'collisions'.

## 1. WHAT STATISTICS SAY?

The severity of the dangers faced by children is represented in the global and national statistics as shown below:

- 1** Global share of road fatalities  
India has the most road fatalities (10%) in the world.<sup>2</sup>
- 2** Road traffic injuries are the leading cause of death among people aged between 15 and 29 years worldwide.<sup>3</sup>
- 3** Children aged 15–19 are at greatest risk of road traffic injury.<sup>4</sup>

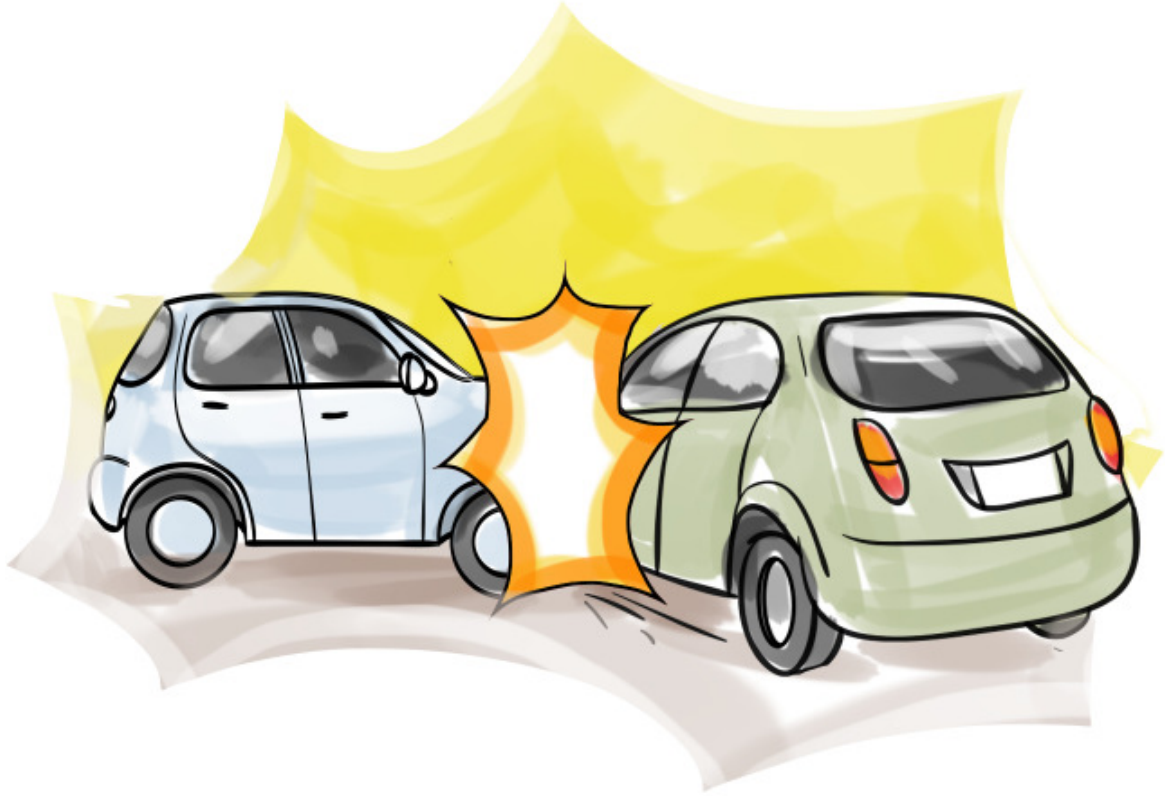


**FIG 1: Global Statistics of Child Fatalities**

\* Children under 19 years of age



## 2. WHY CRASHES OCCUR?



A road crash can occur due to many factors. The factors causing the 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**.

CAUSATIVE FACTORS OF ROAD CRASHES*		
(with respect to children)		
Human Behaviour	Vehicle Defects	Environmental Problems
<u>Behaviour of children:</u> <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>	<u>Vehicles under direct control of the child</u> <ul style="list-style-type: none"> <li>♦ Non- maintenance of vehicles (bicycles)               <ul style="list-style-type: none"> <li>• Brakes</li> <li>• Lighting</li> <li>• Tyre</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>♦ Faulty road design</li> <li>♦ Poor visibility               <ul style="list-style-type: none"> <li>• Fog</li> <li>• Blind turning</li> <li>• Poor light</li> </ul> </li> <li>♦ Obstructions on road</li> <li>♦ Mix of pedestrians, cyclists and motor vehicles in road.</li> <li>♦ Improper or no signages (ex- no school zone ahead signage or placed in the wrong place.)</li> </ul>

Human Behaviour	Vehicle Defects	Environmental Problems
<u>Behaviour of other road users – mostly vehicle drivers</u> <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>	<u>Specific to vehicles under direct control of the parents and other drivers</u> <ul style="list-style-type: none"> <li>♦ Improper lighting</li> <li>♦ Non-maintenance of the vehicle</li> <li>♦ Driving old damaged vehicles</li> </ul>	<ul style="list-style-type: none"> <li>♦ Improper or no signages (no school zone ahead signage or placed in the wrong places)</li> <li>♦ No Footpath</li> <li>♦ Man hole / Potholes</li> <li>♦ No zebra crossing</li> <li>♦ No Speed Breakers</li> <li>♦ Improper Speed Breakers (very high/ broken etc.)</li> </ul>
<b>AGGRAVATING FACTORS OF ROAD INJURY*</b>		
Non-use of protective gear (helmets, seat belt, child restraint)	No protective gear (eg. Airbags, seat belts)	

\* This is only a indicative list. Teachers may add more to the list after discussing with their classes.

Broadly, both causative and aggravating factors are sub-divided into human, vehicle and environmental factors.

● **Human Behaviour** resulting in crashes is in the form of not following traffic rules, errors of judgment, lack of attention or sometimes also deliberate actions; for example, a driver driving at a higher speed than the posted limit or higher than suits the conditions.

Preventable behaviours contribute more to fatalities and injuries than road conditions or vehicle defects. Of the human errors resulting in crashes which result in grievous injury or fatality, the following are some common ones in India:

### I. Speed

Pedestrians have a 90% chance of surviving car crashes at 30km/h or below, but less than a 50% chance of surviving impacts at 45 km/h or above. School zones should always have low speed limits and signages to show that a school is ahead to allow drivers to slow down.<sup>5</sup>



## II. Lack of protective gear

Helmets and seat belts, for example, help in reducing the impact of the collision and safeguard against grievous injury. Lack of these gears can result in serious injuries in case of a road crash. Therefore, it is advisable for all passengers/riders to use protective gear.



## III. Distracted driving

A driver may be distracted due to many reasons both internal and external. Internal distractions mean talking to fellow passengers, listening to the radio and using a mobile phone. External distractions refer to looking at large hoardings, shops or other people on the road. In the last few years, mobile phones have become a major distraction for drivers and pedestrians alike. It is advisable for drivers not to engage in distractive behaviour while driving.



## IV. Distracted pedestrians

Pedestrians can be similarly distracted while talking to others, talking or texting on the phone, listening to music or looking at other places on the road. Pedestrians should be aware of their surroundings and not be distracted while walking on the road.



## V. Driving under influence of intoxicating substances

Intoxicating substances like alcohol and recreational drugs like marijuana, opium, heroin etc recreational drugs impairs judgment and increases the reaction time of the driver which increases the stopping distance leading to increase in incidence of crashes.

● **Environmental Problems** in the context of road crashes include the design, construction and maintenance of roads, and weather conditions, such as fog, rain, snow and so on.

Most environmental conditions are not in control of the child, but it is important that learn how to distinguish between safe and unsafe road environments. Some commonly seen road environmental problems are –

### I. Low visibility

Low visibility of road due to poor weather (eg. fog, heavy rain etc.) or insufficient street lighting can cause crashes.

### II. Improper road design

Sharp curves, improperly designed speed-breakers, blind corners, potholes on road are some of the common road engineering problems that can cause a crash.

● **Mechanical/ Vehicle Defects** include all types of mechanical failure of the vehicle.

Vehicle defects are also usually not in control of a child unless it is a bicycle which they are maintaining themselves. Some of the common vehicle defects that may result in a crash include –

### I. Brake defects-

It can cause the driver to lose control of the vehicle and end up in a crash.

### II. Overloaded vehicle-

Over loaded vehicles may lead to tyre bursts. The driver also finds it difficult to control such a vehicle.

### III. Tyre defects-

Tyre puncture, tyre bursts are also the causes of many road crashes as these cause the vehicle to slow down significantly in a short time.

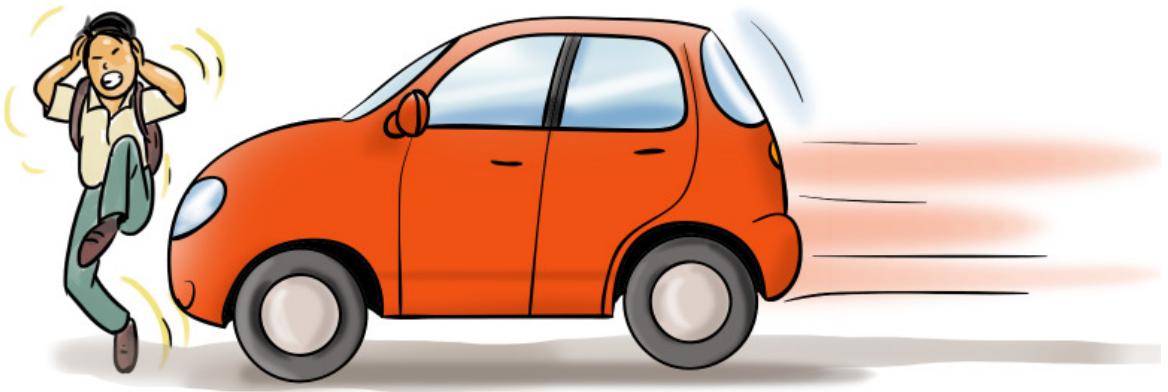


## THE PHYSICS OF SPEED

**Stopping distance = Reaction distance + Braking distance**



A vehicle driving at a speed of 30 km/hr will stop at a distance of 13.5 m (9m + 4.5 m)



A vehicle travelling at a speed of 50 km/hr will stop at a distance of 27.5 m (15 m + 12.5 m)

Reaction distance is the distance travelled by a car from the point where the driver sees the obstruction and applies brakes. Braking distance is the distance travelled from the point where brakes are applied to the point where the car stops. The stopping distance is also dependent on the road and weather conditions. That is why it is important for drivers to maintain a safe distance from the vehicle in front to allow for stopping distance.

### 3. WHY ARE CHILDREN UNSAFE ON ROAD?

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 physical, cognitive and social development, making them vulnerable to road crashes than adults.



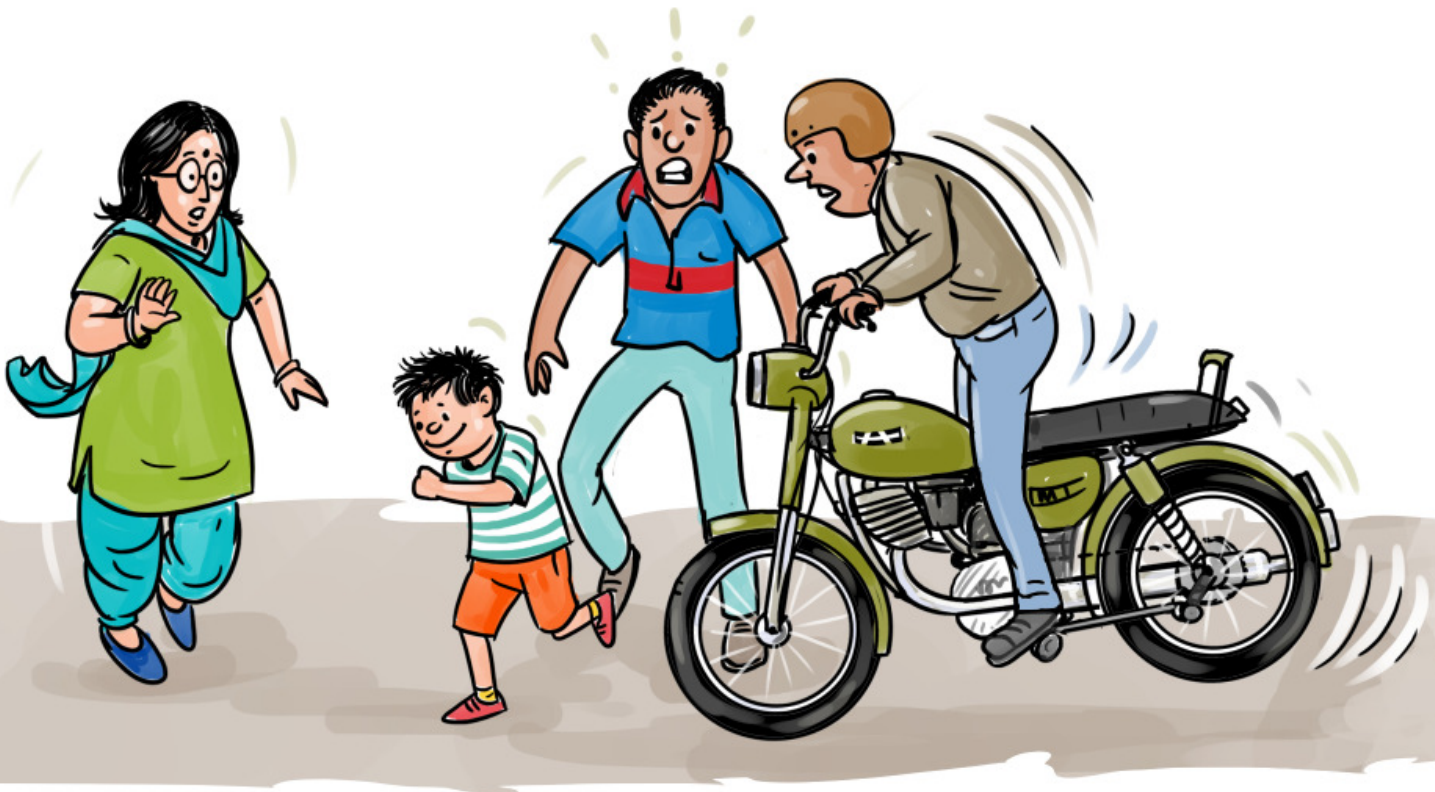
**Physical development** – At the age a child joins a school, he/ she is in a fragile developmental stage. The head and bones are soft and the brain is developing. This makes them much more susceptible to grievous injury in a road crash. Many a time, the effect of the head injury is not seen immediately.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

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. When a vehicle hits an adult, it usually hits the body but the same vehicle would hit the head of a child because of their shorter height. Also young children are in the process of developing their reflexes. As a result, when they face sudden danger, they cannot react and respond quickly and 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 increase. 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 because of the fear of being ridiculed by their peers. For example – an adolescent might not want to wear a helmet while riding a bicycle in an attempt to present self as tough in front of peers.

**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 greater exposure to traffic, as well as a tendency for boys to take more risks than girls, especially as adolescents.

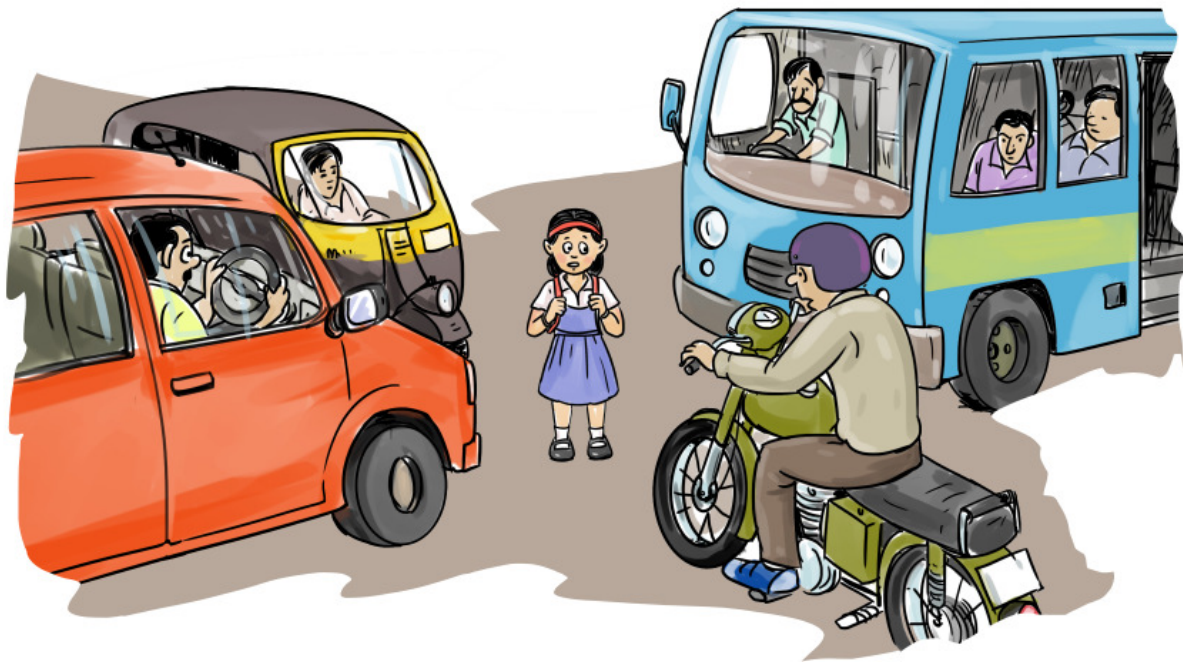
In Indian condition, children belonging to the lower socio-economic strata are more exposed to road traffic and hence involved in more road crashes.



#### 4. HOME TO SCHOOL: A JOURNEY WITH CHALLENGES

The seemingly simple and routine journey from home to school is therefore full of perils for children. The home to school and back home journey is of great significance for a child and also one where they encounter a lot of dangers. This is a necessary and regular trip taken by most children.

Have a look at the table 1 showing the approximate distance travelled by children in Jorhat every year for the purpose of going to school.



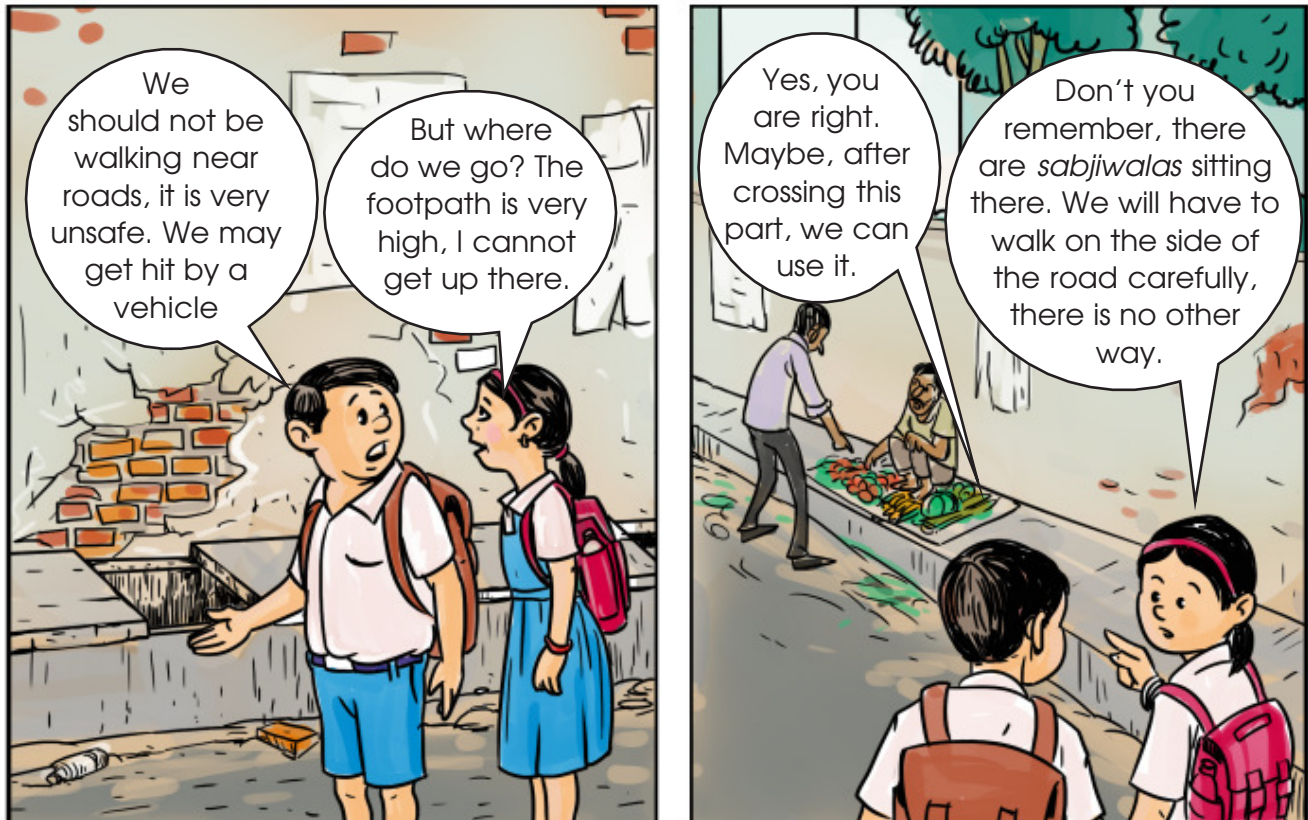
No of schools in Jorhat city	80 schools
No of students in each school (avg)	150 students
Average trip length of a child (to and fro school)	2 km
School Days in a year	200 (approximate days in primary level. It may be more in higher classes or in a particular year)
Total trip length of all children each day	$80 \times 150 \times 2 = 24,000$ km
Yearly trip length	$24000 \times 200 = 4,800,000$

Children in Jorhat travel more than **48 lakh km** every year only for going to and coming back from school. Besides this journey, children also undertake other journeys with or without adult supervision.

To understand the problems faced by children in road environment in detail, let us first see the situations they face daily.



## 4.1 TRAVEL MODES AND ASSOCIATED RISKS



### a) The Child as a Pedestrian

On their way to school, children have to walk near the road as there are many places where there are no footpath or the ones that are there are broken or too high for them to reach up to easily. 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. During the morning hour, the roads are usually teeming with traffic with most people travelling to their workplace and with guardians dropping their children to school. In some places in their journey, the walking paths narrow down so much that they have to walk in front of vehicles. This is a highly dangerous situation for children as because of their smaller height, they may be hidden from the view of vehicle drivers. Because of their developing cognitive skills, their behaviour is less predictable than adults and they may choose to move suddenly in different directions which is difficult for a driver to anticipate. Children should be taught about these dangers and asked to be alert and aware at all times. They should be encouraged to stay away from engaging in distracting behaviours like talking on the phone, using headphones, talking to friends etc, while on the road.

Driveways and Parking lots also pose a threat to children. Cars reversing on these can sometimes miss seeing children and hit them. Children should be taught to pay specific attention to driveways and lane ways to avoid getting hit.

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.

The child walking to school also has to cross the road, sometimes at more than one place. On the road, several crossings may not have zebra crossings, traffic policeman or traffic lights. Even if all of these are present, there are often vehicle drivers who flout the rules. Children using these crossings on their way to and from school are highly vulnerable.

Therefore, it is important that children are taught how to cross the road. Younger children should preferably be accompanied by adults while crossing. If not, then they should be taught to cross along with an adult before being allowed to cross alone. They should be taught to always stop, look and listen for approaching vehicles before crossing. They should be made aware of distinction between safe and unsafe places to cross. Places where one can see both sides of the road clearly are safe places to cross and places where one cannot see both sides of the road clearly are unsafe for crossing. Examples of unsafe places - bend of the road, behind a parked vehicle, wide roads etc.

### **b) The child as a bicyclist**

Many children travel to school by bicycle especially in rural and semi-urban areas. Many parents also drop their children by bicycle. However, this road user group face a number of challenges. The first and foremost challenge is the lack of proper bicycle track owing to which they have to share the road with motorised vehicles. Secondly, the bicycle is light in weight and can easily lose balance when hit by another vehicle or if it hits a pedestrian or any immobile structure. 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.

Although wearing a helmet while riding a bicycle is not mandated by Indian law, it is, however, important to use one to protect self from serious head injury. Bicyclists should also make sure that they are riding the bicycle which is of the right size for them. This, they can ensure by checking if they can comfortably ride the bicycle and by making necessary seat adjustments. The bicycle should have reflectors which make it visible from a distance on cloudy, overcast days or in the evenings. Children should be taught how to give hand signals before turning left or right on the road. They should be aware of all the rules of the road. Following these rules will help keep bicyclists safe on the road.



### c) The Child in a three-wheeler

Many children in India travel to school in motorised three wheelers i.e. auto rickshaws/ e-rickshaw or in non-motorised three wheelers i.e. cycle rickshaws. Most of these rickshaws are filled beyond capacity while carrying school children.



Being lightweight, people travelling in these run a higher risk of serious injury as these vehicles are highly impacted even at low crash speeds. They are easily smashed or overturned causing grievous injury to the occupants.

### d) The child travelling with parents/guardians

Many children are dropped to school in two-wheelers and four-wheelers. We may feel that a child being dropped and picked up by a parent/guardian is safer than the one travelling alone. However, it is often seen that parents/ guardians also do not always follow the safe practices and endanger their children. Many children 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. Many times, the child gets down from the two-wheeler/ four wheeler on the side of the road facing the traffic thereby increasing the risk of collision with vehicles.

As a teacher, you observe students coming to school every day.

- What other road safety risks do you observe?
- What is the most common road safety issue in your school zone?
- What do you think can be the solutions?

### e)The child travelling by school bus or van

A large percentage of children travel to school by school buses or vans in India. Travelling by school bus or vans are considered safer for children than walking or cycling but there are cases of crashes occurring in them too. There are several instances where children put their head/arms/legs etc out of the window, get down at stops without supervision, buses/vans are driven by unlicensed drivers all of which significantly increase the risk of grievous injury or worse fatality. As a result, the Supreme Court of India devised **special guidelines for school transportation**.



The guidelines says –

- i. School buses should be painted in yellow.
- ii. 'School Bus' must be written in the back and front of the bus.
- iii. If it is a hired bus, 'On School Duty' should be clearly indicated.
- iv. Bus should have a first aid box.
- v. Bus should be fitted with speed governor of specified standard.
- vi. The windows of bus should be fitted with horizontal grills.
- vii. There should be a fire extinguisher in the bus.
- viii. School name and telephone number must be written on the bus.
- ix. A list of students with Blood group and telephone number should be in the vehicle.
- x. The doors of the bus should be fitted with reliable locks.
- xi. To keep the school bags safely, there should be space fitted under the seats.
- xii. There must be a qualified attendant in the bus to attend to children.

- xiii. Any parent or guardian sitting in the bus or a teacher may also travel to ensure these safety norms.
- xiv. The driver should have at least 5 years' experience of driving heavy vehicles.
- xv. 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.
- xvi. A driver who has been challaned even once for the offence of over speeding, drunken driving and dangerous driving cannot be employed.

Many other rules have been framed for the safety of children. However, very few are followed.

Private vans are the most common defaulters of these rules in India. These vans cater to many students especially in schools with inadequate number of buses or with no bus service. Many of these vehicles are not registered as 'vehicles transporting school children' and also do not follow any of the rules mandated thereby endangering children's lives. Most of these vans do not have the facility of seat-belts. Also since these vehicles are often filled beyond passenger capacity, it poses additional risk in event of a crash. Wherever possible, children should not be transported in unregistered vehicles. School authorities and guardians should work together to improve transportation options where non-registered transportation is in use.

Even after the child is dropped by the vehicle, crashes can happen. A child being of small stature, the driver cannot view them easily if they are standing in front or back side of the vehicle and may run over him/ her.

Discuss in group –

1. Who owns the vehicle? – School/ Private owner
2. Whether the Driver and Handyman have licences ?
3. Whether the driver has any penalty record ?
4. Do the school bus/ van has an escort from the school?
5. Does the vehicle maintain a list of students with blood groups?
6. Whether the bus/ van windows have the protective bars/ net?
7. Whether the vehicle is painted in yellow colour?
8. Whether the School name is written on the body of the vehicle?
9. Whether the vehicle is registered as a TRANSPORT vehicle (yellow number plate)?
10. How many children are being transported? If it is according to the permissible carrying capacity?
11. Whether the vehicle has seat belts for all occupants?

## 4.2 INDIAN ROAD LAWS AND RULES

There are several laws, rules and guidelines in India which have been developed to ensure road safety. It is important for every road user to be aware of them.

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.<sup>6</sup>
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.<sup>7</sup>
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.<sup>8</sup>
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.<sup>9</sup>
5. 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.<sup>10</sup>

## 5. HOW CAN WE MAKE CHILDREN SAFE ON ROAD?

Now that we have understood the grave nature of the problem, the question that arises is - How can we make the road to school safer for children?

### 5.1 EDUCATION AND AWARENESS

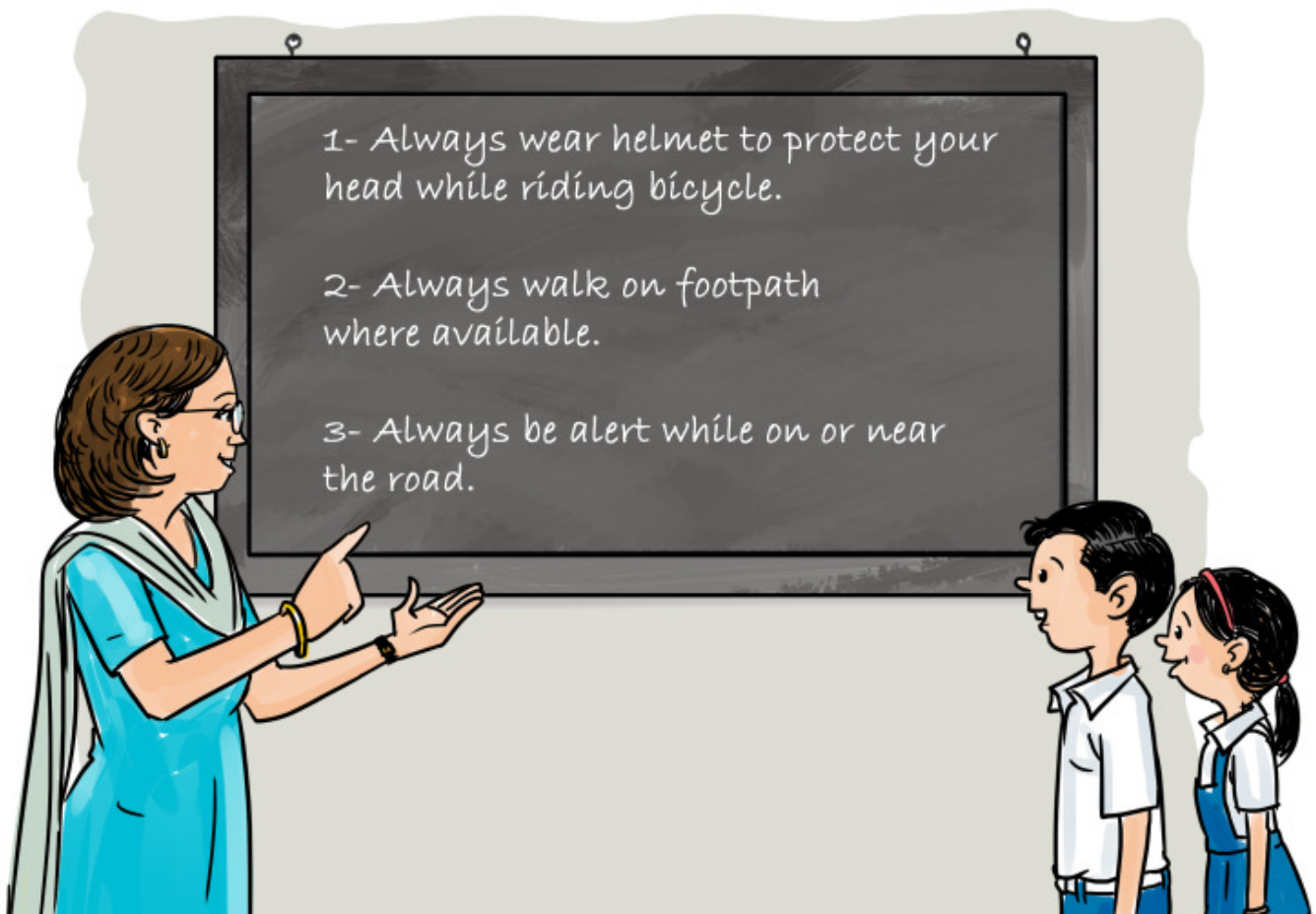
The most important intervention to be done for children's safety is to educate them about the perils of the road environment and safety measures they should follow. This would equip the child with an awareness which will help them to avoid dangerous places.

### a) When to teach Road Safety?

Schools have regular classes and exam schedules to keep up with. Without proper planning and time budgeting, road safety messages may not be effectively delivered on a regular basis.

- Morning Assembly can be a key time to give messages related to road safety to all the students at once. Road safety drills can also be done.
- Lessons in the curriculum where road signs and zebra crossings are mentioned should be expanded to provide them more information. Instead of limiting the lessons to reading, teachers can help students to gain safe walking, safe crossing behaviours. (example - Class V Science book of CBSE(Central Board of Secondary Education), Class VIII Social Studies book of SEBA(Board of Secondary Education, Assam)).
- Extracurricular classes like dance, drama, music, art classes can use road safety as a theme. For example – students can draw different road signs in their art class or there can be a skit or one act play on road safety.
- Special occasions like award ceremonies, festival celebrations can be used by teachers to motivate the students to prepare performances related to road safety.
- Student projects are now-a-days compulsory. Projects can also be given around the theme of road safety.

There are many more ways to engage students on a regular basis in discussion about their safety in the road environment making them habitual to practice good road behaviour.



## b) Teaching Methodologies and Tools

The teaching methodology should be suited to the child's developmental stage and can be different for different age groups. It is important that a multi-sensory approach is adopted to convey the messages to children.

- A child below 5 years has begun understanding their environment through symbol. They can learn through colours (colouring books) and rhymes.
- A child from ages 5-12 can understand rules. This is the age when traffic rules can be taught.
- Children above 10 years can also start thinking critically. They can be given hypothetical situations and asked how they would react then.
- An adolescent (13-19 years) has learnt critical thinking. They can also think about the future. Teachers can involve them in planning road safety activities and programmes in school. They can also be taught about the enormity of the situation by showing videos or incorporating it in their lessons. Methods should be followed which engage their minds in critical thinking and reflection.

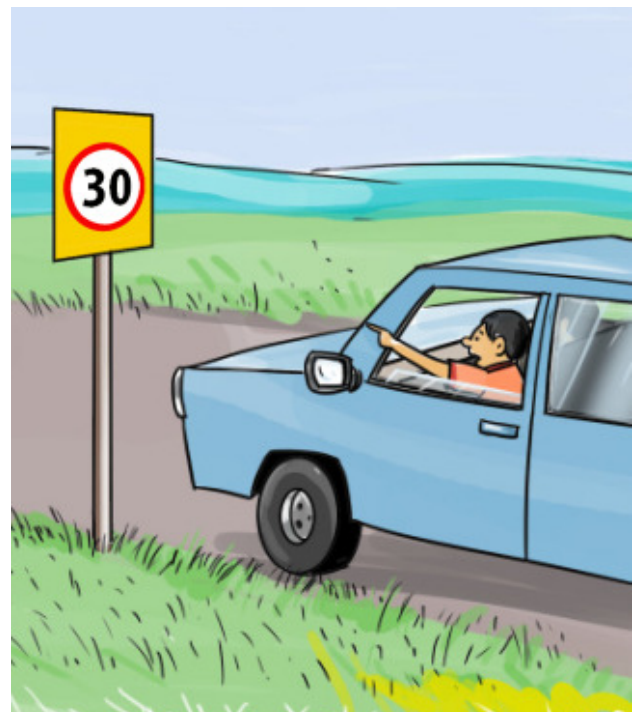
## 5.2 ACTIONS FOR MAKING THE SCHOOL ZONE SAFE

Various low cost interventions can be done to make the school zone safe from the road safety point of view.

### a) Speed Management in School Zones

School zones should have a lower speed limit than other areas to decrease the risk to students coming in and going out. Signages notifying school zone speeds should be put so that approaching drivers may clearly see them and reduce speed before reaching the area. Wherever possible, these zones should have controlled crossings. Students should be taught to be aware of drivers who do not lower their speed and be on their guard at all times.

***As per a notification by the Governor of Assam in 2015, speed limit near all institutional areas shall be 30 km/hour.***







### b) Involving Crossing Guards or Patrols

As already discussed, young children are not capable of judging traffic speeds and finding safe places to cross from. Adult crossing guards can help to do this. Their job is to temporarily hold the traffic to allow the students to cross. School authorities or parents can play this role. Parents can volunteer on alternate basis as crossing guards. Crossing guards can carry a banner or sign to indicate their role so that drivers can see them and stop their vehicles.

This is a low cost or low investment solution to the risks children face.

### c) Demarcating School Drop Off and Pick Up Zones

Another low cost solution to reduce risk is demarcating drop off –pick up zones where parents can stop their vehicles for a moment to safely let the children into school and move on. Buses and other school vehicles can have separate zones or can drop the students inside the school campus (this is for schools which have enough space in its campus to allow bus or vans to drive inside). This system ensures that there is no congestion and chaos at drop off and pick up times.



#### d) Increase Enforcement around Schools

A strong plan of enforcement around school zones involving police is required. Evidence strongly suggests that as the certainty of being caught and penalised increases, no matter how small the penalty, road user behaviour improves correspondingly. Warnings have also proven effective in improving driver behaviour on roads.

Besides external vehicles, school vehicles and parents also fail to follow safe driving rules at times which can be enforced in the school zone.

#### e) Awareness Campaigns

One important communication tool is the celebration of Road Safety Week. It is celebrated across the world to increase awareness on road safety. The United Nations Road Safety week is celebrated in the month of May. In India, it is celebrated nationally in the month of January and also at different times by relevant departments. Students can celebrate 'Road Safety Week' in school campus.

Road safety quiz, art competitions, drama, poster competitions are other ways through which different messages related to road safety can be delivered to other students, guardians and larger public.





### **f) Infrastructure Improvements**

Road infrastructure changes can reduce road safety risks. For improving the road safety issues related to infrastructure, government departments like Public Works Department (PWD) can take steps such as installing signalised crossings, creating pedestrian refuge islands, building over passes etc.

For minor changes such as road signs, road markings or drop off demarcation, schools can take support from local organisations, youth groups etc.

### **g) Recognising Road Safety as an Agenda**

Putting road safety as an agenda in the Parents Teachers and School Management Committee meetings will go a long way to bring in attention to the issue. A teacher trained in road safety issues will be the best one to facilitate these meetings and discussions. More involvement of all the stakeholders in the issue will mean that responsibilities will be shared. School authorities will be able to mobilise necessary resources for making minor changes required. For example, getting a new school zone signage or marking of the drop off zone can be done. Reaching out to local community, authorities and agencies for support will become easier.

Resource support need not always mean monetary support. Someone may offer their time and attention to help students cross safely while others may offer to make a new signage for the school. Any support to keep the children safe on the roads is a welcome one.

### **g) Developing a School Road Safety Plan**

All the stakeholders of a school should work together to develop a school road safety plan (SRSP). A SRSP will have defined responsibilities of each stakeholder towards achieving the common goal of safe children on safe roads. It is an important step as it provides the appropriate framework for approach and time allotted for child road safety.

## 6. TIPS, DOs AND DON'Ts FOR ROAD SAFETY EDUCATION

- DO support and encourage students to provide their own ideas and answers to questions, rather than providing the answers yourself. Children are much more likely to remember what they have learned if they generate their own responses. This is acknowledging that this can be a challenge sometimes, such as when students are tired or non-responsive.
  - Including a simple example and encouraging them to think of more complex or more detailed examples can help.
  - Breaking larger classes into small groups and then getting them to report back to the whole class also can be a good tactic.
- DO think about learning in different environments. For example, identify if there is a safe place at the school, such as a playground area or front of school, where children can line up and view the road environment. This can provide visual real-world examples for certain activities, which increases the likelihood that children have understood the learning objectives and can put their new learning into context.
- DO think about two different approaches to reducing road trauma: First, can the risk be eliminated altogether (e.g. by travelling on a different route or by a different method, such as by bus versus over-crowded rickshaw passenger)? Second, if the risk cannot be eliminated, can the potential risk, or harm caused by the risk, be managed or minimised (e.g. by travelling at a different time of day or by wearing a helmet)? This helps students to think through scenarios and know they have choices.
- DON'T use "shock tactics" such as graphic "horror stories" of crashes (e.g. where people died and/or were severely injured) and gently redirect students who start to do this to other details that are appropriate for the context. For example, explain that we don't want the class to be upset, so please don't use too much sensitive detail, but it is good to understand when these things happen what was learned from the experience (e.g. how the situation might have been avoided or what support the student had that was helpful). This is important so that children do not become too fearful of using the roads or disengage altogether.
  - A "coping strategy" that people of all ages commonly use to avoid dealing with such extremes is to disengage as it can be too difficult to process the information otherwise. It is better to use less threatening, everyday negative outcomes as examples to motivate behaviour change. For example, if the students find it easier and faster to cross the road without stopping to look both sides for approaching vehicles, then maybe they can be reminded that in case of even a minor road crash injury, they will lose much more time and also be in discomfort.
- DON'T present road crashes and collisions as "accidents" that can never be prevented (i.e. that they "just happen" and there is not much that can be done). While there can be unexpected aspects to some incidents, road users can drive, ride and walk in ways

that anticipate risk and seek to avoid them. In reality then, the vast majority of **crashes are predictable and preventable**. This is important for students to know so that they are empowered to feel they can have some control over what they do and what happens to them (and others). This also helps to avoid students thinking road safety education is not important or useful.

- DO following learning principles that maximise the chance that students will learn, remember and act on what they have learnt.
  - **Meaningful** – give the ‘why’, reason for learning.
  - **Active** – plan activities that are engaging, connected, practical.
  - **Primacy and Recency** – the first and last (e.g. points made in an introduction/ explanation/instruction or tasks within an activity) are the most likely to be recalled and retained, so make them the most important ones (and try to end on a positive).
  - **Feedback** – provide positive, immediate feedback and focus on one key point at a time.
  - **Overlearning** – practise a task past the point of initial skill acquisition; change context not content; layer from simple to complex.
  - **Reinforcement** – use key words/phrases/sequences to reinforce main messages (these have been shown to work best in groups of three, e.g. LOOK, LISTEN, THINK).
  - **Multi-sensory** – consider ways to use seeing, hearing, touch combined.
  
- If you are a Mathematics or Social Studies teacher, you can easily integrate road safety in your regular classroom transactions.
  - In maths, the sums related to speed may include examples of vehicle speed
  - In geometry, you may give examples of roads and curves in road to explain angles
  - In social studies, road environment can be mentioned
  - Students may be asked to draw local area map showing roads and crash prone areas
  
- DO create a positive learning environment that encourages students to think about road safety beyond the classroom. Encourage them to talk about what they learn with their families, friends and neighbours, understanding road safety is a “team effort” but we can all contribute as individuals.

## ACTIVITY GUIDES

The purpose of road safety education is to prepare students for the real life road environment. Activities help students in engaging in the topic through active learning. Students can also get involved in long term activities or Projects. Projects are student driven exercises which involves the process of investigation, exploration and experimentation. Projects play a very important role in a student's learning process. It helps them to apply the knowledge in solving problems.

Below are some activities/projects through which teachers can teach students about road safety issues

### ACTIVITY 1: ROAD SIGNAGES (GAME)

#### **Objective**

- The objective of this activity is that students learn about the common road signages and learn the appropriate behaviours associated with them.

#### **Place/Conditions**

- The activity should be conducted on school playground/ any level ground and students should be made to form a large circle keeping some space in the middle.

#### **Age Group**

- This activity is suitable for children of age group 10-14 years.

#### **Materials/ Resources**

- Materials: Chalk, road signage cards(could be drawn on paper)
- Additional teachers required to supervise the activity (Senior students or parents can also help)



#### **Before You Begin**

- Teacher to acquaint students with common road signs (especially the ones relevant to school zones) before starting the activity. Students should be able to identify the signages. Some road signs are given in *annexure 1*.
- Students draw relevant road signs on cards.
- Class teacher to inform other teachers a day in advance about the support required during the activity.

### **Introduction**

- Recap the earlier discussion on road signs and their meanings
- Inform students about the objective of the activity.

### **Follow the Signs**


- Draw a route on the school ground and lay down the paper/ cardboard signanges at different points along the route.
- Ask each student to walk/ run along this route.
- Give different roles to different students

Student 1 : Ask the student to assume he/she is travelling to school using a car in this route.

Student 2: Ask the student to assume he/she is riding a bicycle to school.

Student 3: Ask the student to assume he/she is a driver and is approaching the school zone.

Student 4: Ask student to assume he/ she is a pedestrian walking to school.

For example, a signage showing  will mean that the child playing the role of driver should slow down (the speed of walking/ running) as he/she is entering a school zone.

### **Rules of the Activity**

- When music is on, vehicles will move on the road. If a vehicle moves on the road when the music is off, they are likely to meet a crash so they are out of the game.
- When music is stopped, pedestrians can cross. If a pedestrian try to cross the road when music is on, s/he is likely to be hit by a vehicle. So, s/he is also out.
- Defaulters/ Rule violators will get tickets or fines.

For example - A vehicle not slowing down in School zone will get a ticket.

- If a player gets two tickets, he/she is out of the game.

### **Activity completion criteria**

- Each student knows the correct behaviour associated with each road sign.

**Assessment Criteria**

- All students are able to identify the road signs correctly and perform the behaviour associated with it properly.

**Assessment Method**

- Teachers to observe if students are able to perform the behaviour associated with each signage.

**Supporting rationale**

- Students need to understand what behaviours they should follow while out in the road.

**ACTIVITY 2: NEWSPAPER STUDY (PROJECT)****Objective**

- The purpose of this activity is to ensure students to understand the local road safety issues, reflect on their own road safety attitudes and behaviours.

**Place/ Conditions**

- Classroom set up with children facing towards student presenting his/ her analysis of the newspaper report

**Age Group**

- This activity is suitable for children of age group 10-14 years.

**Materials/ Resources**

- Some simple newspaper articles on road safety (as a back up for children who were unable to obtain so that they have opportunity to assess quickly and still join in the discussions)

**Before you begin**

- Teacher will divide the students into groups of 3-4 students each.
- Teacher will help students to collect newspaper articles on road safety issues.



### ***Introduction***

- Present the activity objectives and requirements for presentations to the students when asking them to do the pre-activity homework (i.e. collection of news articles)
- Start the class by revising the objectives and requirements. Explain that this activity is to help the students understand some common road safety issues in their area including the ones they face while commuting to and from school.

### ***Presentation***

- Students take turn in groups to present about the newspaper reports they found.
- Teacher can prompt questions to make the student and rest of the class understand how the particular clipping is relevant to them.

For example – When a student is reading a news clipping on ‘Traffic Police Department celebrating road safety week’, the teacher can prompt the class to think why weeklong celebration is required? Can they also think of any such initiative in their school or in the neighbourhoods they reside in?

### ***Activity completion criteria***

- Each group has made a presentation

### ***Assessment Criteria***

- Students are able to identify local road safety issues

### ***Assessment Method***

- Questioning of students

### ***Supporting rationale***

- Students need to understand local road safety issues and how they can be safe on the road

### ***General safety notes, comments***

- Young students should only use blunt-ended scissors when cutting out articles or have an adult supervisor or cut out the articles for them

## ACTIVITY 3: SAFETY ACT (ROLE PLAY)

### **Objective**

- The purpose(s) of this activity is that students understand the importance of using safety measures like helmet and seat-belts.

### **Place/ Conditions**

- Use the stage, if the school has any. Or else use an empty room or school ground. Assign one part as a make-shift stage.
- Students will seat towards the end of the class/ground facing the make-shift stage.

### **Age Group**

- This activity is suitable for children of age group 12-16 years.

### **Materials/ Resources required**

- Teacher can take help of 2-3 other teachers/ non-teaching staff/ interested community members to help the students in developing their role play.
- Invite other teachers as audience.



### **Before you begin**

- Teachers to talk to students about road safety devices like helmets and seat belts and their importance in keeping people safe.
- Teacher to teach students about the basics of a staging a classroom play like how to develop a script, about acting.

### **Introduction**

- Present the activity objective(s) to the students. Explain how role playing will help them to understand the problems faced by a particular road user group.
- Format of the activity will be small group discussion and role play.
- Students to be informed that the new Motor Vehicles Amendment Act 2019 requires both the driver and pillion rider to wear helmet in two-wheelers and all the passengers

of a vehicle to wear seat-belts. Studies have shown that all passengers of a vehicle are equally at risk in case of a road crash. Therefore, it is important for the safety of all passengers to use helmets and seat-belts. There is also no law in India for bicyclists to wear helmets but it is advisable to use one.

### ***Small Group Discussion***

- Divide the students into groups and give them a topic to enact a role play in. Teacher can think of topics appropriate for the students they are teaching.

For example - Group 1 is given the topic 'Convince parents driving students to school in a motor cycle to make their children wear helmets'.

Group 2 can be given the topic 'Convince your elder brother/sister to wear the helmet properly'.

Group 3 can be given the topic 'As a traffic policeman, talk to occupants of a car about importance of wearing seat- belts'.

- Give each group 45 mins to discuss on their topic and assign roles to students
- Teacher to move around the class and facilitate the group discussions.

### ***Role Play***

- Each team to be allotted 10 minutes for their role play.



### ***Activity completion criteria***

- All students participated in the group discussion and role play exercise.

### ***Assessment Criteria***

- Students are able to understand the importance of road safety devices.
- Students will be able to make other people aware about proper use of road safety devices.

### ***Assessment Method***

- Observation

### ***Supporting rationale***

- Students will develop critical and reflective thinking after this activity.

**General safety notes, comments**

- This is a time extensive activity. Teachers should use free class periods for conducting some parts of the activity. A play can be enacted during the school annual day also.
- Teachers should plan the activity well in advance.

**ACTIVITY 4: MODES OF TRAVEL (SURVEY)****Objective**

- The purpose of this activity is for students to understand the different modes of travel of their classmates.

**Place/ Conditions**

- Inside a classroom

**Age Group**

- This activity is suitable children of age group 14-16 years.

**Materials/Resources**

- Blackboard/ White board, Paper, Pen, Pencils, Note Book

**Before you begin**

- Talk to the students about different modes of travel and difficulties faced during the journey.

**Introduction**

- Present the activity objective of the study to the students.
- Make a group comprising of 5-6 students.
- Ask them to learn about the mode of travelling of all students of their class.
- They can ask each student the following questions –
  - How they travel to school?
  - What is the distance from home to school?

- Do they come alone or are accompanied by any elder person?
- What kind of difficulties they face in the journey and in which location(s)?
- Ask them to note down their observations in a notebook.

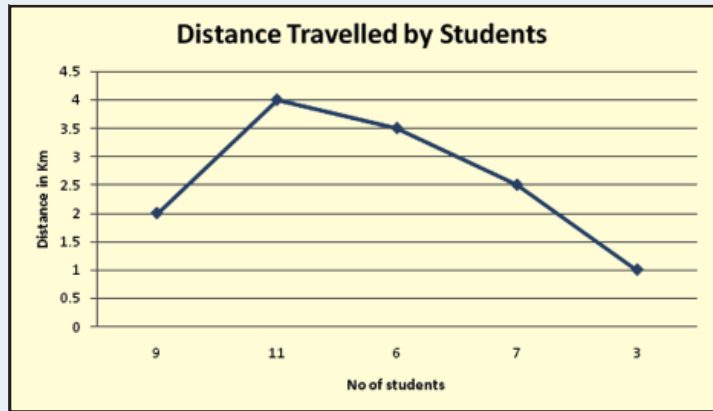
### **Analysis**

- After collecting the data from all the students, ask them to analyse the data in the following format :

**Table 2: Activity Data Table**

DATA TABLE		
1	No of students travelling by non-motorised modes	Walking: Bicycle: Cycle rickshaw:
2	No of students travelling by motorised modes	Two-wheelers: Family car: Auto-rickshaw: Public 4 wheeler: Public bus: School Van: School bus:
3	No of students travelling with an adult	
4	No of students travelling alonewithout adult supervision	
5	No of students travelling in groups	
6	Average distance travelled by students	
7	Total distance travelled by all students	

- Ask the students to plot a graph showing the distance travelled by the students each day. An example is given below in which a class of 36 students travel distance has been plotted in a graph.
- Students can also be guided to make other analysis like-



- Which is the most common problem faced by children?
- Which problems are unique to the mode of transport used?

### **Activity completion criteria**

- Students have collected the data and have completed the table.



### **Assessment Criteria**

- Students are able to understand the problems faced by children in different modes.



### **Assessment Method**

- Observation of children's ability to analyse and draw conclusions

### **Supporting rationale**

- This activity teaches children that different modes of transport may face different problems and will broaden their perspective about the road users.
- This activity will also help them learn to collect relevant data related to road safety
- The data collected can be in future used to develop a road safety plan for all students of the class

## ACTIVITY 5: KNOW THE DANGERS (SURVEY)

### **Objective**

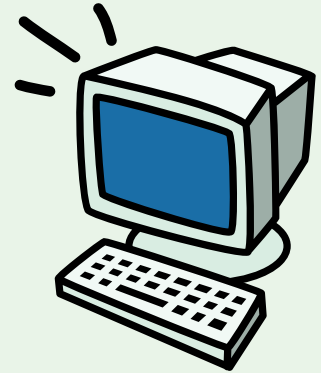
- The purpose of this activity is to understand the road safety practices followed by students, teachers and guardians.

### **Place/ Conditions**

- Students to stand at the school entry gate facing the road.

### **Age Group**

- This activity is suitable children of age group 13-16 years.



### **Materials/Resources**

- Pen, paper
- Teacher and one volunteer guardian to support the students during observation and data collection.

### **Entry requirements**

- Students should be aware of the correct road safety practices to be followed in a school zone.

### **Introduction**

- Present the activity objective(s) to the students. Explain that the survey is being conducted to understand the kind of improvement needed in the school zone related to road safety. This is a group work activity.

### **Data Collection**

- Divide the students into groups of 4-5 students or according to the class size.
- Assign days to each group and ask them to reach school early on the appointed day and observe the road safety problems observed near the school gate for a duration of 15 – 20 mins.
- Different groups can observe different issues. For example – one group can count the number of motorcycle drivers and pillion riders not wearing helmets. Another group can observe the number of children crossing the road without looking both sides.

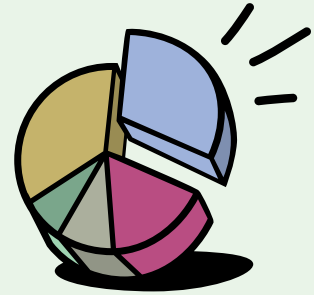
- Ask them to observe situations in detail and describe them in class. Similarly ask another group to observe during afternoon when school gets over.
- Collect data for one week and find out the common problems and discuss possible solutions with them.
- Ask them to present their findings and possible solutions during occasions such as school assembly, road safety week celebration, parents-teachers meet etc.

### ***Activity completion criteria***

- All students of the class have observed and collected data.

### ***Assessment criteria***

- Students are able to identify the major road safety problems in the school zone and are able to distinguish between problems arising due to conditions out of their control (such as broken roads, footpaths etc.) and those within their control (following road rules).



### ***Assessment method***

- Questioning of students

### ***Supporting rationale***

- This activity helps students to reflect on their own behaviour.
- It also inculcates in them a solution based approach for road safety problems

### ***General safety notes, comments***

- This activity is appropriate for students of age group 12-16 years old
- The activity should be conducted in groups in presence of an adult.
- Students should not go to the road for doing the activity.



**EXTENSION – VARIATIONS:**

The activities given here are all suggestive. These are suggested keeping in mind the conditions of schools in Assam, types of resources available and the amount of time available in an academic year. There are many other possible activities on road safety, which the SRSC project team will be happy to discuss with the respective schools on a later date. Based on the age and mental growth of the children and resource availability, some of these activities may be done in more sophisticated way or less sophisticated way. For example, the role play can be slightly modified to make a street play or a stage drama.

**Nelson Mandela said, “There can be no keener revelation of a society’s soul than the way in which it treats its children.”**



## ANNEXURE 1 :

## Some Common Traffic Signs :

## MANDATORY ROAD SIGNS



GIVE WAY



STOP SIGN



NO ENTRY



HORN PROHIBITED



GIVE WAY

LEFT TURN  
PROHIBITEDRIGHT TURN  
PROHIBITEDOVERTAKING  
PROHIBITEDU-TURN  
PROHIBITED

NO PARKING



NO ENTRY



NO PARKING



SPEED LIMIT

COMPULSORY  
TURN RIGHTCOMPULSORY  
TURN LEFTPEDESTRIAN  
ONLYSIDE ROAD  
RIGHTSIDE ROAD  
LEFT

## CAUTIONARY WARNING SIGNS

LEFT HAND  
CURVERIGHT HAND  
CURVELEFT HAIRPIN  
BENDRIGHT HAIRPIN  
BEND

TRAFFIC SIGNAL

PEDESTRIAN  
CROSSING

SCHOOL AHEAD



ROUND ABOUT

TWO WAY  
OPERATION

RUMBLE STRIP



MEN AT WORK



SPEED BREAKER



Y-INTERSECTION

UNGUARDED RAILWAY  
CROSSINGGUARDED RAILWAY  
CROSSING

GAP IN MEDIAN



ANNEXURE 2 :



**10 killed in road mishaps**  
**BONGAIGAON, DIPHU, Feb 20:** Ten persons were killed in two separate road accidents in the State today. Seven persons, including two women and one child, were killed and one injured when a tempo they were travelling in hit a truck coming from the opposite direction on NH 31 at Goraimari in Bongaigaon district today. The deceased have been identified as Sattar Ali, Mojamnil Haque, Sukur Ali, Bahatan Nesa, Tajuddin (9), Kalpana Khatun and Samsul Ali. Three persons including two women were killed and four others injured in a road accident at Hari Taragonj under Dokmoka police station here today. According to reports, the accident took place when the driver of their vehicle lost control while crossing a road bridge and hit a pillar. — Correspondents



ANNEXURE 3:

REFERENCES

- 1) <sup>1</sup>Global status report on road safety 2015, WHO [https://www.who.int/violence\\_injury\\_prevention/road\\_safety\\_status/2015/en/](https://www.who.int/violence_injury_prevention/road_safety_status/2015/en/)
- 2) <sup>1,3</sup>Road Accidents in India – 2017, MORTH <http://morth.nic.in/showfile.asp?lid=3369>,
- 3) <sup>2</sup>International Road Federation (IRF), 2017 <https://www.irfnet.ch/irfindia.php>
- 4) <sup>3</sup>WHO Factsheet, 2018 <https://www.who.int/news-room/fact-sheets/detail/road-traffic-injuries>
- 5) <sup>4</sup>World Report on Child Injury Prevention [https://www.who.int/violence\\_injury\\_prevention/child/injury/world\\_report/Road\\_traffic\\_injuries\\_english.pdf](https://www.who.int/violence_injury_prevention/child/injury/world_report/Road_traffic_injuries_english.pdf)
- 6) <sup>5</sup>Driving at a Suitable Speed [https://visionzero.lu/wp-content/uploads/2017/09/trajet\\_module\\_6\\_en.pdf](https://visionzero.lu/wp-content/uploads/2017/09/trajet_module_6_en.pdf)
- 7) <sup>6</sup>Motor vehicle act 1988 [https://indiacode.nic.in/handle/123456789/1798?sam\\_handle=123456789/1362](https://indiacode.nic.in/handle/123456789/1798?sam_handle=123456789/1362)
- 8) <sup>7</sup>Motor vehicle amendment act 2019 <https://www.prsindia.org/billtrack/motor-vehicles-amendment-bill-2019>
- 9) <sup>8</sup>Indian Road Congress Guidelines, Code of Practice for Road Signs , Indian Road Congress 2012, Road Safety for Children, Indian Road Congress 1988
- 10) <sup>9</sup>Supreme Court Guidelines <http://cbse.nic.in/newsite/prunit/2017/7.%20Safety%20of%20School%20children%20in%20the%20school%20bus.pdf>,
- 11) <sup>10</sup>Right to Education act 2009, <https://mhrd.gov.in/rte>

### **Centre for Environment Education:**

CEE was established by the then Ministry of Environment and Forests, Govt of India in 1984 as a Centre of Excellence. CEE is a key constituent of the Sustainable Urban Mobility Network, India (SUMNet India) and was one of the lead agencies in developing the Pune Cycle Plan. CEE has recently completed one Walkability Study of Major Roads of Guwahati with support from Tata Institute of Social Sciences and currently implementing another walkability project with SUMNet India. CEE has been working closely with the schools in Assam for about two decades. CEE-UNICEF-Axom SSA Mission school programme *Daily Handwashing for an Ailment-free Life* (DHaAL) bagged the National Social Innovation Award of NITI Aayog-MEA in 2016. CEE is the lead partner for the SRSC project being implemented in Jorhat city.

# CEE

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