

# Ministry of Physical Infrastructure and Transport

## Singhadurbar, Kathmandu



Road Safety Note 5  
**ROAD USERS GUIDE**  
Updated



**Government of Nepal**  
**Ministry of Physical Infrastructure and Transport**  
**National Road Safety Council**

**FINAL (REVISED)**

**ROAD USERS GUIDES**

**Submitted by:**



**Research & Training Unit**  
**Department of Civil Engineering**  
**Pulchowk Campus**  
**Institute of Engineering**  
**Lalitpur**

**June 2024**

## **Acknowledgement**

We extend our heartfelt gratitude to the Ministry of Physical Infrastructure and Transport, National Road Safety Council, Kathmandu, Nepal for granting us the opportunity to conduct the Updating Road Safety Notes (Road Users Guide, Delineation Measures, Designing Safer Side Drains, Identifying and Treating Crash Sites).

We are immensely grateful for the valuable and timely inputs provided by all the researcher namely, Mr. Anil Marsani (Transportation Engineer), Dr. Pradeep Kumar Shrestha (Transportation Engineer), Dr. Rojee Pradhananga (Transportation Engineer), who contributed to this guideline. Their expertise and contributions were instrumental in the successful execution of this project. We are also thankful to the Research Assistant Mr. Sanjan Pandey for his contribution to preparing these guidelines.

We would also like to express our special thanks and appreciation to Joint secretary Mr. Krishna Raj Pant, SDE Suresh Shrestha, Er. Sushant Subedi and Er. Suraksha Pal and all others from National Road Safety Council, MoPIT for their valuable suggestions and support provided during this study. We would also like to extend our gratitude to the then Secretary Mr. Arjun Jung Thapa, and Joint secretary Mr. Prabhat Kumar Jha. Their insights and guidance were immensely helpful in enhancing the quality and depth of our study.

We are equally thankful to all the individuals and organizations who directly or indirectly contributed to the preparation of this road safety note. We sincerely appreciate all of them for their active collaboration for preparing this road safety note.

Research and Training Unit  
Department of Civil Engineering  
Pulchowk Campus, Institute of Engineering

## Table of Content

Acknowledgement .....	ii
Table of Content .....	iii
List of Tables .....	v
List of Figures .....	vi
List of Abbreviations .....	vii
1 INTRODUCTION .....	8
1.1 Background .....	8
2 SAFE DRIVING RULES .....	9
2.1 Using the road .....	9
2.2 Before Start Driving .....	9
2.3 While Driving.....	10
2.3.1 Moving Off the Road.....	10
2.3.2 Using the Road.....	12
2.3.3 Using Mirror .....	12
2.3.4 Overtaking.....	12
2.4 Speed.....	15
2.5 Spacing and Stopping Distance.....	15
2.6 Use of Horn .....	16
2.7 Caring for Pedestrians .....	17
2.8 While Driving Multilane Road.....	18
2.9 Impaired Driving .....	18
2.10 Seat Belts Use.....	18
2.11 Use of Mobile Phones .....	18
2.12 Night Driving and Use of Light .....	19
2.13 Truck and Bus Blind Spots .....	20
2.14 Backing.....	20
2.15 Parking .....	21
2.15.1 While Parking .....	21
2.15.2 Parking on a Hill .....	21
2.16 Right of Way of Emergency Vehicles.....	22
2.17 Intersection (Junction).....	22
2.17.1 Stopping, Give Way and Turning .....	22
2.17.2 Turning Movements at Intersections .....	23
2.17.3 Rules of Right of way .....	25
2.17.4 U- Turn.....	26
2.17.5 At Roundabout .....	27
3 GUIDE TO ROAD USERS .....	29
3.1 Guide for Pedestrian.....	29
3.1.1 Do not Expect Much from Drivers .....	29
3.1.2 Guide for Walking Alongside the Road.....	29
3.1.3 Crossing Road.....	30

3.1.4	While Crossing the Road with Pedestrian Crossing Signal .....	30
3.1.5	Crossing the Road at a Traffic Signal .....	31
3.1.6	Crossing the Road without Pedestrian Crossing .....	31
3.1.7	Crossing/Walking with Children .....	32
3.1.8	Walking at Night.....	33
3.1.9	Walking Under the Influence of Drugs and Alcohol .....	33
3.2	Guidelines for Cyclists .....	33
3.3	Guidelines for Passenger.....	34
3.3.1	While Waiting and Boarding Bus .....	34
3.3.2	While in the Bus or Other Vehicles .....	35
3.4	Guidelines for Motorcyclists.....	35
3.4.1	Guidelines for Motorcyclists for Safe Driving .....	35
3.4.2	Helmets .....	37
3.5	Guideline for Public Vehicle Drivers.....	37
3.5.1	Directives for Public Vehicle Drivers.....	37
3.5.2	Safety Inspection of Vehicle.....	38
3.5.3	Safety of Goods Vehicle .....	39
3.6	Key Points to be Considered by Passenger/Goods Vehicle Drivers .....	39
4	SAFE ROAD USAGE .....	41
4.1	Major cause of Road Crashes in Nepal .....	41
4.2	Safe and Fuel-Efficient Driving Tips .....	42
4.3	Use of Refreshment Centre/Rest Areas.....	43
4.4	While Using Local Road .....	43
4.5	During Vehicle Breakdown.....	44
4.6	During Crashes .....	45
4.7	First Aid.....	46
4.8	Road Signs.....	48
4.8.1	Regulatory Signs.....	48
4.8.2	Warning Signs.....	50
4.8.3	Information Signs.....	53
4.8.4	Supplementary Plates.....	54
4.9	Traffic Light Signals .....	55
4.9.1	Signal for the Control of Vehicles .....	55
4.9.2	Signal for the Control of Pedestrian Crossing Movements .....	56
4.10	Road Markings .....	57
	BiBliography .....	59

## List of Tables

Table 2-1 Recommended speed.....	15
Table 4-1 Phasing of pedestrian signal with traffic signal.....	57

## List of Figures

Figure 2-1 Step to be followed for traffic maneuver .....	11
Figure 2-2 Method of signal (vehicle driver and cyclist) .....	11
Figure 2-3 Method of overtaking .....	14
Figure 2-4 Stopping distances at different speed .....	16
Figure 2-5 Use of light at night driving .....	19
Figure 2-6 Blind spot area.....	20
Figure 2-7 Parking on a hill .....	22
Figure 2-8 Stepwise right (left) turning at intersection.....	24
Figure 2-9 Turning at intersection .....	25
Figure 2-10 Pedestrian right of way at intersection .....	25
Figure 2-11 Vehicular Right of Way at Intersection .....	26
Figure 2-12 Maneuvering a roundabout .....	28
Figure 3-1 Pedestrian Signal.....	31
Figure 3-2 Unsafe place for crossing road.....	32
Figure 4-1 Regulatory (Mandatory) sign .....	49
Figure 4-2 Regulatory (Prohibitory) sign (a) .....	49
Figure 4-3 Regulatory (Prohibitory) sign (b).....	50
Figure 4-4 Warning sign (a).....	51
Figure 4-5 Warning sign (b) .....	52
Figure 4-6 Information sign.....	53
Figure 4-7 Direction sign.....	54
Figure 4-8 Supplementary plates .....	55
Figure 4-9 Traffic signal .....	56
Figure 4-10 Singal for pedestrian .....	57
Figure 4-11 Longitudinal lines.....	58
Figure 4-12 Marking at pedestrian crossing .....	58

## **List of Abbreviations**

DoR	:	Department of Roads
GoN	:	Government of Nepal
MoPIT	:	Ministry of Physical Infrastructure and Transport
NH	:	National Highway
RTU	:	Research and Training Unit

# 1 INTRODUCTION

## 1.1 Background

The causes of road crashes are complex and varied. Poor road conditions, difficult road geometry, and poor vehicle conditions are contributing factors for some road crashes, but in most cases road users are at fault. The inadequate skill and knowledge of road users regarding traffic safety can be a prime cause of road crashes. The Road Users Guide details the basic required knowledge for all kinds of road users, such as drivers, motorcyclists, passengers, pedestrians, cyclists etc. It provides practical information on road rules as well as road safety tips. This guideline stresses that road user should be careful, concentrated and obey traffic rules for enhanced road safety. Also, this guide provides essential road safety advice to help reduce the number of fatalities and serious injuries on Nepalese roads.

This guide includes four chapters as:

Chapter 1: Introduction

Chapter 2: Safe Driving Rules

Chapter 3: Guide to Road Users

Chapter 4: Safe Road Usages

## 2 SAFE DRIVING RULES

### 2.1 Using the road

The major behavioral factors that contribute to deaths on the road are speeding, drink driving, drug driving, fatigue, and not wearing seatbelts. Upon analysis of crash records of Nepal Police for last four fiscal years (2076/77, 2077/78, 2078/79 and 2079/80), it is found that the majority of crashes (92.4%) are attributed to driver's fault, followed by passengers' fault (3.8%). The highest number of driver's fault incidents occurred in the fiscal year 2078/79, with a total of 11,472 cases (52.9% with average of 40.5% during last four fiscal years) attributed to high speed. Other major factors contributing to driver's fault included drivers sleep (9.9%), violation of traffic rules (5.2%), drink driving (5.4%), and overtaking (2.7%). Around 3.7% of drivers involved in crashes did not have driving licenses, whereas in more than 32% of crashes, no definitive factors attributed to the driver's fault were mentioned in the traffic police crash records. Over the last four fiscal years, there has been an average increase of more than 100% in road traffic crashes where passengers were found at fault. Among all passengers-related factors, the rate of pedestrians crossing roads has consistently increased over the last four years, whereas most other factors have shown decreasing trends. It is crucial for drivers to understand and adhere to safe driving behaviors and road rules. While driving a vehicle:

- Driver should possess a valid driving license.
- They should be healthy, not tired, visually unimpaired.
- Adhere to posted speed limits.
- Do not drink or take drugs and drive.
- Ensure everyone wears a seatbelt.
- Wear helmet and fasten it properly.
- Do not use mobile phone while driving.
- Proper use of high beam during night driving.
- Be aware of blind spots, especially for heavy vehicle drivers.
- Children in the back seat of a vehicle should be accompanied by an adult.

### 2.2 Before Start Driving

Before starting a journey, it is crucial to perform a thorough vehicle inspection to ensure safety and optimal performance. Regular maintenance and attention to these details help

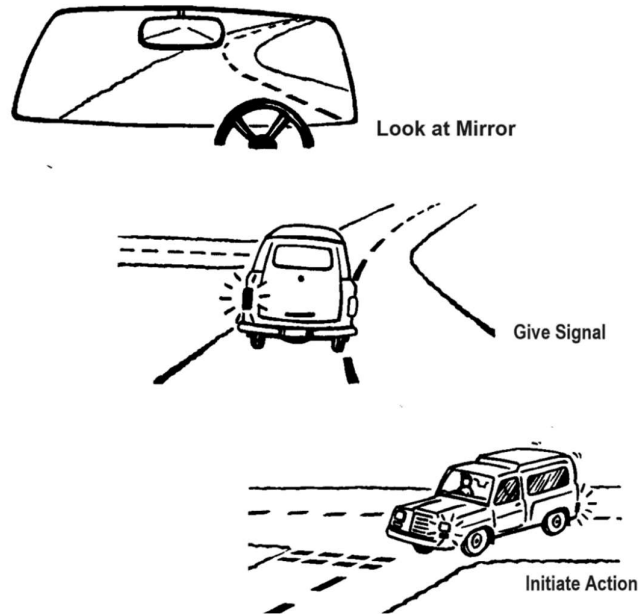
prevent breakdowns and ensure a smooth and secure driving experience. The following checks should be performed before each journey:

- Check the tire pressure and ensure it meets the manufacturer's recommendations.
- Examine the tires for any signs of wear, cuts, or bulges.
- Verify that the spare tire is in good condition and properly inflated.
- Inspect the condition of nuts and bolts on all wheels to ensure they are securely fastened.
- Check the fuel level to ensure it is sufficient for the journey, and verify that the vehicle's coolant and water levels are adequate.
- Inspect all exterior lights, including headlights, taillights, brake lights, and turn signals, as well as the condition of indicator lights on the dashboard.
- Test the horn to ensure it is functioning properly.
- Clean all mirrors, windshield, and windows for optimal visibility.
- Verify the presence and condition of emergency tools, including a jack, lug wrench, and spare tire.
- Inspect the fan belt for signs of wear or damage. Ensure it is properly tensioned.
- Check the undercarriage of the vehicle for any visible leaks or abnormalities.

## **2.3 While Driving**

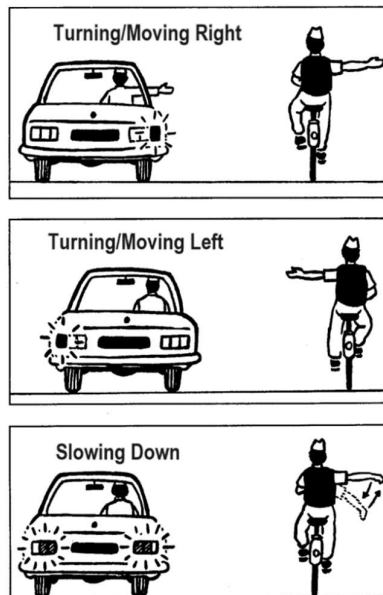
### **2.3.1 Moving Off the Road**

The driver should initiate actions such as starting, changing lanes, overtaking, turning, reducing speed, and moving to the road edge only when it is safe to do so. Follow the step of Mirror, Signal and Action, as shown in Figure 2-1.



**Figure 2-1 Step to be followed for traffic maneuver**

- Utilize all mirrors to verify road clearance.
- Perform a visual check around your vehicle to assess blind spots, areas not visible in mirrors.
- Give signal before proceeding (Figure 2-2).
- Conduct a final visual check to confirm the immediate surroundings are clear.



**Figure 2-2 Method of signal (vehicle driver and cyclist)**

### **2.3.2 Using the Road**

When travelling on the road, the driver must:

- Stay on the left, unless guided otherwise by road signs or markings.
- Keep left on right-hand bends to enhance visibility and minimize the risk of colliding with oncoming traffic.
- Drive the vehicle with both hands on the wheel to ensure optimal control of the vehicle at all times.
- Be attentive to other road users, especially cyclists and motorcyclists who may be filtering through traffic.
- Downshift to a lower gear before descending.
- When towing, consider the increased length and weight of the load.

### **2.3.3 Using Mirror**

Mirrors are essential tools that provide crucial information about the traffic around the vehicle. Neglecting to use mirrors while driving is a dangerous practice that significantly increases the risk of crashes. Therefore, the driver must:

- Regularly look at all mirrors to be aware of the surroundings.
- Use mirrors well in advance of signaling or changing the direction.
- As mirrors do not cover the blind spots, look around and be careful about these areas.
- The sequence shall be to look at the mirror, then give the signal, and finally maneuver.

### **2.3.4 Overtaking**

While overtaking, drivers should exercise caution, follow traffic rules, and only overtake when it is safe and legal to do so to minimize the risk of crashes. The following points should be kept in mind while overtaking:

- Do not get too close to the vehicle you intend to overtake.
- Do not assume that you can simply follow a vehicle ahead that is overtaking; there may only be enough room for one vehicle.
- Take extra care at night and in poor visibility when it is harder to judge speed and distance.
- Give way to oncoming vehicles before passing parked vehicles or other obstructions on your side of the road.

- Only overtake on the left if the vehicle in front is signaling to turn right, and there is room to do so or when moving up in a queue. Otherwise, always overtake from right side.
- If a problem develops, drivers may abort overtaking and pull back in. Make sure you have sufficient room before committing.
- If a driver is trying to overtake you, maintain a steady course and speed, slowing down if necessary to let the vehicle pass. Never obstruct drivers who wish to pass. Speeding up or driving unpredictably while someone is overtaking you is dangerous.

#### **a) Position to Overtake**

Always overtake from the right (Figure 2-3), meaning that when passing another vehicle, you should do so on the right side, keeping overtaken vehicle on left. The overtaking from left can be done on the following situation:

- When front vehicle is signaling to turn right, and overtaking from left is safe to do.
- When front vehicles are queuing, and vehicles on the right are moving at slow speed.

#### **b) Where Not to Overtake**

Drivers should not overtake:

- At approaching road junction, curves, grades, pedestrian crossings, schools, hospitals and at narrow roads.
- In areas indicated as “No Overtaking Zones” through traffic signs or road markings.
- If drivers have to cross or straddle double white lines with a solid line nearest to them.
- When a road user is indicating right, even if the drivers believe the signal should have been cancelled. They should not take a risk; and should wait for the signal to be cancelled.

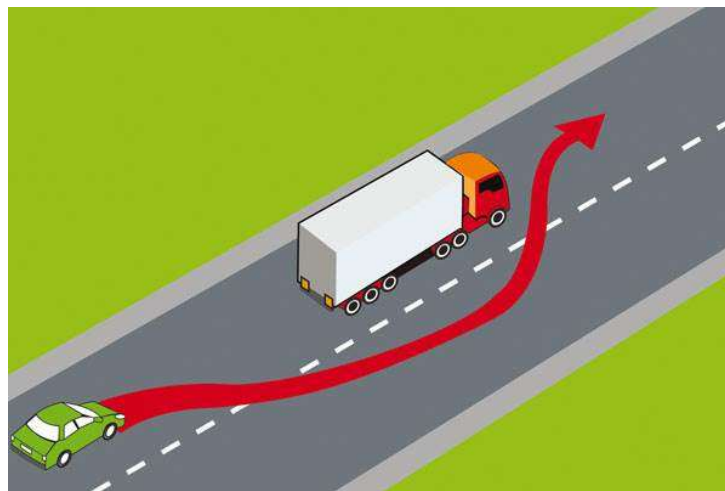
#### **c) Sequences of Overtaking**

Overtaking should be conducted in the following sequences to minimize the risk of crashes:

- **Check for Clear Space:** Before initiating an overtaking maneuver, the driver should use mirrors to ensure there is sufficient clear space behind and in the lane, they intend to move into.
- **Assess Traffic Conditions:** Understanding the traffic conditions such as the speed and proximity of vehicle behind is essential to determine when it is safe to overtake.
- **Signal Intentions:** When it is safe to overtake, the driver should use the light indicator to signal the intention to the drivers behind.
- **Monitor Ongoing Traffic:** While overtaking, the driver should continue to use the mirrors to monitor the traffic situation and be aware of any vehicles approaching from behind and front.
- **Return to Lane Safely:** The driver should move back to the left as soon as possible but should not cut in. Use mirrors to check for a safe gap before returning to the original lane.

#### d) While Being Overtaken

The driver should not increase speed while being overtaken. If required, speed reduction can be carried out to facilitate the overtaking process for safety. When a driver attempts to overtake, the driver of vehicle being overtaken should maintain a steady course and speed, slowing down if necessary, to let the overtaking vehicle to pass. Never obstruct drivers who wish to pass. Speeding up or driving unpredictably while someone is overtaking is dangerous.



**Figure 2-3 Method of overtaking**

(Source: <https://www.broughtonschoolofmotoring.com/how-to-overtake-safely>)

## 2.4 Speed

It is recommended to drive at a speed that allows the driver to stop the vehicle within the safe sight distance ahead. The driver should always reduce speed when:

- The road layout or conditions presents hazards such as bends, narrow bridges and road junctions.
- Sharing the road with pedestrians, cyclists and horse riders, particularly children and motorcyclists.
- Weather conditions like fog, storms, rain, snow or when the road is wet.
- Driving at night, as it is more difficult to see other road users such as pedestrians, cyclists, stray animals etc.

Driver must not exceed the speed limits indicated by road sign. Speed limit sign shows the maximum speed drivers can drive under good weather conditions. On roads where there is no speed limit sign, drivers are recommended not to drive faster than the speed shown below in Table 2-1.

**Table 2-1 Recommended speed**

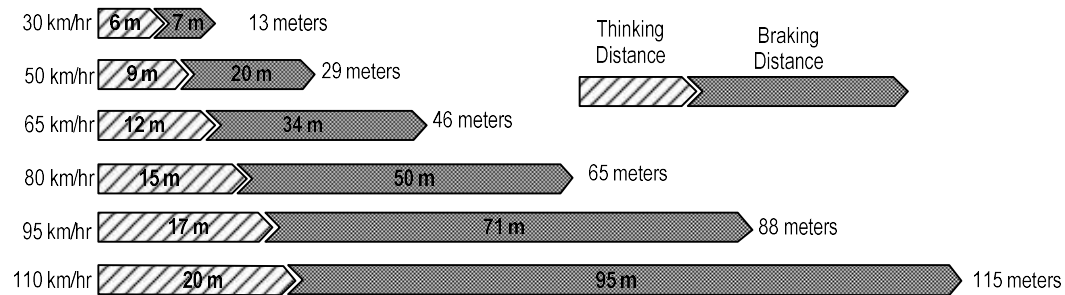
Vehicle Type	Recommended Speed (km/hr)		
	Residential area	Rural Road	
		Hill	Plain
Tempo, Tractor	40	40	40
Motorcycle, Scooter	40	40	40
Car, Jeep, Van, Pick up,	40	60	80
Minibus Mini-Truck, Pickup Truck (more than 4 tonne)	40	50	70
Bus, Truck (more than 10 tonne)	40	50	70

*(Source: Road Users Guide, DoR, Nepal, 1996)*

## 2.5 Spacing and Stopping Distance

Driver should maintain a proper spacing with the vehicle ahead, allowing for a safe stopping distance in the event that the vehicle ahead slows down or stops suddenly. Figure 2-4 shows the recommended spacing, which is the sum of thinking and braking distances at different speeds. The thinking distance was calculated considering 0.64 sec reaction time

for normal driver (AASHTO, 2001). The braking distance was calculated considering dry pavement with coefficient of friction 0.55. This spacing should be increased in adverse weather conditions or on wet roads.



**Figure 2-4 Stopping distances at different speed**

## 2.6 Use of Horn

The use of a horn while driving is an important aspect of communication on the road. The responsible use of the horn is essential for maintaining a safe and considerate driving environment. It should be employed to enhance safety and communication rather than causing unnecessary disturbance.

- The horn should be used to alert other road users of the driver’s presence, especially in situations where visibility is limited.
- The driver should sound the horn when necessary to prevent potential collisions, such as when another driver is unaware of their vehicle's presence.
- The horn should be used as a warning signal in emergency situations to alert pedestrians or other drivers to potential danger.
- The horn should be used to warn animals on the road and encourage them to move away from the vehicle.
- The driver should avoid unnecessary or excessive honking, as it can be a source of noise pollution and may disturb others.
- The driver should refrain from using the horn to express frustration, anger, or impatience.
- The driver should avoid using horn at places like schools, hospitals etc.
- Minimize horn usage in residential areas, especially during late hours,
- Do not use the horn unnecessarily or aggressively at pedestrians.

## 2.7 Caring for Pedestrians

Crashes involving pedestrians can have severe consequences leading to the death of pedestrian. Pedestrians, particularly children are often unaware of traffic activities and potential dangers. To ensure the safety of all road users, drivers must exercise extra caution in various situations:

- Drive with heightened awareness in urban areas, near bus stops, and pedestrian zones where pedestrian traffic is more prevalent.
- Be prepared for unexpected pedestrian movements, especially in busy city environments.
- Exercise caution near parked and stopped vehicles, as pedestrians may emerge suddenly from these areas without warning.
- Anticipate the possibility of pedestrians crossing the road from between parked cars.
- Drive with extreme care in school zones, as children may be present and are often unpredictable in their movements.
- Always yield to pedestrians at marked crosswalks and pedestrian crossings.
- Exercise caution even when traffic signals are not present, as pedestrians may be crossing.
- Reduce speed significantly when driving near schools and hospitals, where the vulnerability of pedestrians is higher.
- Adhere to posted speed limits and be prepared to stop quickly if needed.
- Exercise extra caution and patience when encountering elderly pedestrians or those with disabilities.
- As drivers approach a zebra crossing, they should be ready to slow down or stop if there are pedestrians waiting to cross.
- If pedestrians have already started crossing the road at the zebra crossing, it is illegal to proceed with the vehicle.
- It is strictly prohibited to overtake other vehicles at or near a zebra crossing.
- Maintain a safe following distance and be prepared to stop if the vehicle in front of does so.
- Do not park vehicle within 15 meters on either side of a zebra crossing.
- Always give pedestrians the right of way at zebra crossings.
- Stop your vehicle behind the marked stop line at the zebra crossing.

## **2.8 While Driving Multilane Road**

Drivers should in particular consider following while driving roads with multiple lanes:

- Maintain lane discipline and avoid unnecessary lane changes.
- Stay in the left lane when speed is slow than the flow of traffic.
- Use only the right lane for overtaking.
- Always turn signals to indicate your intentions well in advance of merging or changing lanes.
- Maintain a safe following distance from the vehicle in front.
- If you need to stop, pull over to the shoulder or an emergency lane safely.

## **2.9 Impaired Driving**

Alcohol and drug affect the driving by reducing a driver's ability to concentrate, to correctly assess unexpected situations, and to react quickly enough. As the level of alcohol in the blood increases, drivers will have trouble judging distances and the vision will become blurred. This puts safety of the driver, passengers and other road users at risk. Driving under influence is one of the major causes of death on the roads. The drivers must not drive vehicle while under the influence of alcohol or any drugs. The punishment for being under the influence of alcohol/drug while driving in Nepal is a fine of Rs 1000 and a mandatory attendance in an awareness class.

## **2.10 Seat Belts Use**

Deaths and injuries resulting from road crashes can be prevented by wearing a seatbelt properly. Drivers must wear seatbelt while driving, and they are also responsible for ensuring that each passenger is wearing a seat belt. Additionally, the use of child restraint seats is strongly advised and should be regulated.

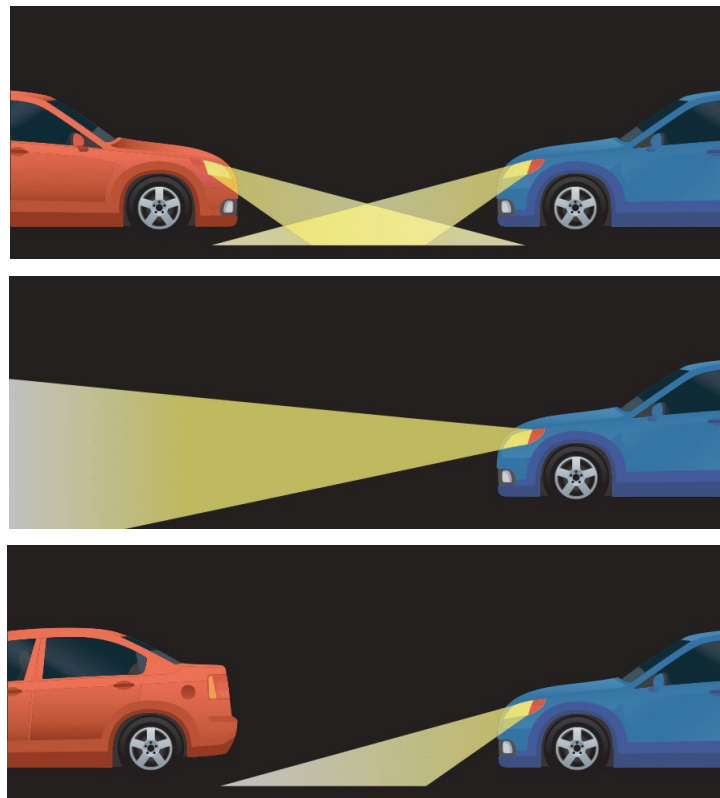
## **2.11 Use of Mobile Phones**

In 2018, 400,000 people were injured and 2,800 people died in distracted driving motor vehicle crashes (NHTSA,2020). The use of mobile phones while driving, particularly with the prevalence of ride-sharing apps, has becoming a national problem. The likelihood of being involved in a road crash increases with distraction in drive. Studies show that drivers using a mobile phone are slower at recognizing and reacting to hazards, with a 37%

reduction in spatial processing in the part of the brain used for driving. Therefore, drivers are advised not to use mobile phones while driving.

## 2.12 Night Driving and Use of Light

Lights are required from half an hour before sunset to half an hour after sunrise and at any time when visibility prevents drivers from seeing persons and vehicles clearly at a distance of 150 m or less. It is advisable to use headlights at all these times. High beams should only be used at night in open road without another vehicle nearby. High beam lights should not be used while within 150 m of an oncoming vehicle. Similarly, when following other cars, driver should not use high beams when you are within 150 m of the rear of the vehicle ahead (Figure 2-5). Additionally, avoid using high beam lights on fog, rain or snow. When meeting oncoming traffic or overtaking vehicles, it is required to dim lights when within 150 m of that vehicle. Drivers should avoid driving parking light on (Figure 2-5). Driver should never drive so fast that they cannot stop within the distance illuminated by their head lights; otherwise, they are “overdriving their headlights”, meaning they would not see an obstacle in time to avoid hitting it.

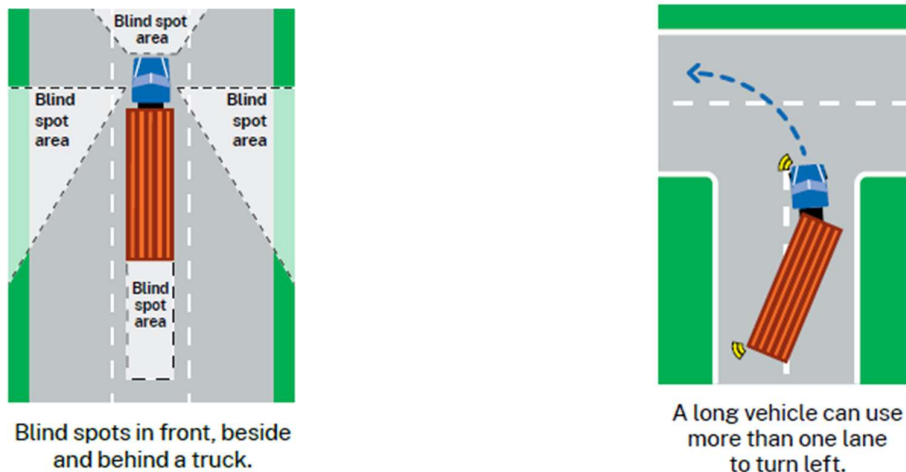


**Figure 2-5 Use of light at night driving**

*(Source: Road user Handbook, NSW)*

### 2.13 Truck and Bus Blind Spots

Truck or bus drivers may not be able to see a vehicle and they may use more than one lane when making turns. This may lead to potentially fatal crashes for small vehicles, especially motorcyclists. Therefore, adequate space should be given when turning and caution should be exercised when driving alongside or behind them. Awareness of blind spots in front, beside, and behind a truck and long vehicles making turns (Figure 2-6) is crucial.



**Figure 2-6 Blind spot area**

*(Source: Road user Handbook, NSW)*

### 2.14 Backing

Many traffic collisions occur when motorists are backing up. Backing up is permitted only when the maneuver can be made safely.

- Never back a vehicle without checking behind it from the outside first as children, bicycles, stray animals, and other small objects may not always be visible from inside the car.
- Once seated in the vehicle, check both sides of the road to make sure that the way is clear.
- From the normal seating position, always turn and look behind while backing up.
- Use the back light while maneuvering the vehicle in reverse.
- Never back onto the main road from a branch road

## **2.15 Parking**

Driver should park vehicles only where it is safe and legal to do so. Signs and pavement markings usually indicate where parking is allowed.

- Do not park just after uphill and start of downhill, near sharp curves, or at entrance to building etc.
- Do not block a sidewalk, intersection, traffic lane, driveway, or emergency exit.
- Do not park in front of an authorized loading door, on a bridge or in a tunnel.
- Do not double park (parking on the right side of a vehicle already stopped on the side of the road).
- Do not park obstruct the free flow of traffic.
- Do not park when within:
  - 10 m of a stop sign or other traffic control signals
    - 15 m of a crosswalk
    - 20 m of a bus stop
    - 15 m of a railway crossing
    - 10 m of the entrance to a fire station, public building (school, hospitals, temple, etc.), other residential building.

### **2.15.1 While Parking**

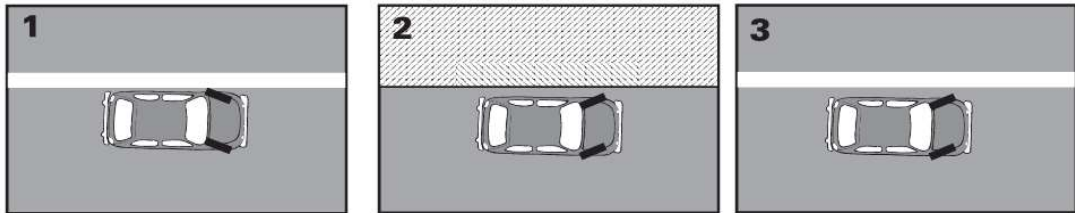
While parking, driver should:

- Position a vehicle on the highway, by pulling over onto the left shoulder, parallel to the roadway, ensuring visibility from a distance of 60 m in either direction.
- Ensure that ignition is locked, the key is removed, and the vehicle is properly braked.
- In case of an emergency, pull over to the left side of the roadway and use emergency indicators or flares to alert other motorists.
- Before moving the vehicle from a parked position, check traffic, signal and pull from the kerb when it is safe to do so.

### **2.15.2 Parking on a Hill**

When parking on a hill, turn the wheels so that if the vehicle rolls away, it will not roll into the path of other traffic but away from it.

- When parking facing uphill on a road with a kerb turn the wheels toward the center of the street (Figure 2-7(1)).
- When parking facing uphill road without a kerb, turn the wheels towards the edge of the street (Figure 2-7(2)).
- When parking downhill, always turn the wheels toward the edge of the street (Figure 2-7(3)).



**Figure 2-7 Parking on a hill**

## 2.16 Right of Way of Emergency Vehicles

Priority is given to all vehicles equipped with emergency equipment displaying flashing red lights or a combination of flashing red and blue lights along with signaling with a bell or siren.

- Put on a signal and pull over to the right-hand kerb or the edge of the roadway clear of an intersection.
- On a 2-lane highway, pull to whichever side is clear to allow the vehicle to pass.
- Stop and remain stopped until the emergency vehicle has passed.
- Kindly turn off your headlights if driving at night and but leave on parking light to remain visible.

## 2.17 Intersection (Junction)

### 2.17.1 Stopping, Give Way and Turning

Signs, road markings, traffic lights and roundabouts play a crucial role in ensuring everyone can share the road safely. They make it clear that who has the right of way. Signs showing stop, give way or turn are regulatory signs and must be obeyed by law. In situations where there are no signs or traffic lights, specific rules apply on who must give way in different scenarios.

### a) Stop Signs and Stop Lines



While approaching a ‘Stop’ sign and ‘Stop’ line (single continuous line), the vehicle must come to a complete stop before the line, and as close as possible to the line. The vehicle must remain at a complete stop, until it is safe to proceed.

- At a pedestrian crossing with a ‘Stop’ sign or line, stop and give way to pedestrians entering or crossing.
- At a railway level crossing with a ‘Stop’ sign or line, the driver must stop, and give way to a train or tram on, approaching or entering the crossing.

### b) Give Way Signs and Give Way Lines



When approaching a ‘Give way’ sign or ‘Give way’ line (single broken line), the vehicle must slow down and prepare to stop. There are different rules for giving way at ‘Give way’ signs and ‘Give way’ lines at intersections, narrow bridges and roads, and pedestrian crossings. At other locations with a ‘Give way’ sign or line, the driver must give way to any vehicle or pedestrian at or near the sign or line.

## 2.17.2 Turning Movements at Intersections

Turning right (left) while driving involves several steps (Figure 2-8 and Figure 2-9). To ensure a safe and smooth maneuver, follow this step-by-step guide:

**Check Mirrors:** Before initiating the turn, check rearview mirror and the right (left) side mirror to be aware of the traffic behind and to right (left). This is crucial to ensure there are no nearby vehicles that may be affected by the turn.

**Signal the Intent:** Begin by activating the right or left turn signal well in advance of the intersection or where the turn is planned. Signaling communicates the intention to other road users.

**Position the Vehicle:** Steer the vehicle to the right lane, if not already in that lane, and position it closer to the right side of the road. Make sure to be in the proper lane for a turn.

**Approach the Intersection:** Approach the intersection or the location where the right (left) turn is intended at a safe and controlled speed. Be prepared to come to a complete stop if there is a stop sign or a red traffic signal.

**Look and Check for Pedestrians:** Prior to making the turn, check for pedestrians in the crosswalk and on the sidewalks. Ensure there are no pedestrians crossing the road, and yield to them if necessary.

**Yield to Oncoming Traffic:** If there is oncoming traffic, yield the right of way. Wait for a safe gap in traffic before initiating the turn. Obey traffic signals (red signal) and signs (stop sign) governing the right of way.

**Check for Cross Traffic:** Ensure that no vehicles are approaching from the left (right) that may pose a hazard during the right (left) turn.

**Complete the Turn:** Once it is safe to proceed, smoothly turn the steering wheel to the right (left) and enter the intersecting road. Maintain a consistent speed throughout the turn.

**Deactivate Turn Signal:** After completing the turn and merging into the new road, deactivate the turn signal to inform other drivers that the maneuver is finished.

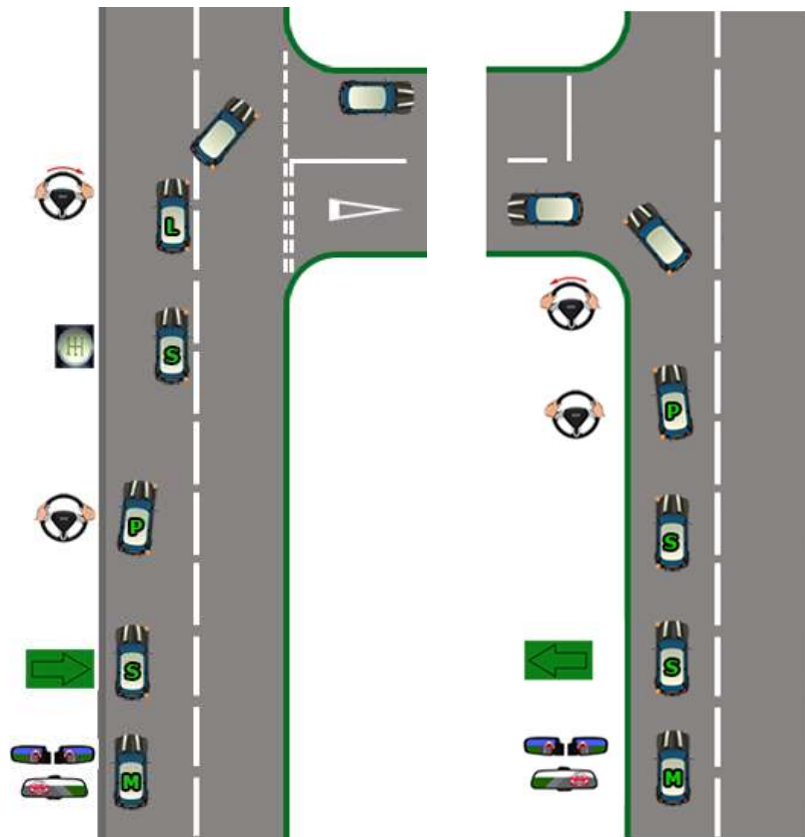
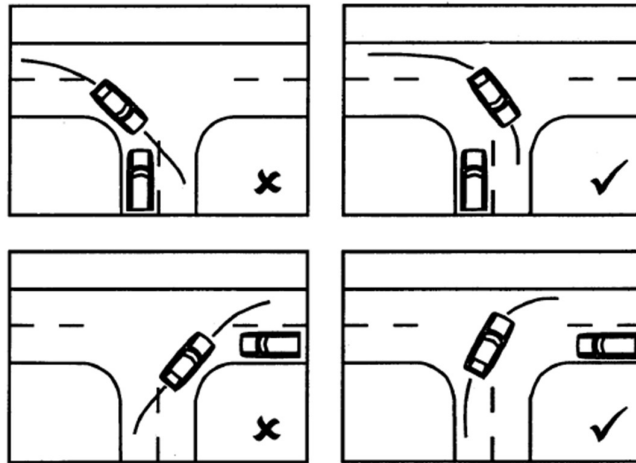


Figure 2-8 Stepwise right (left) turning at intersection



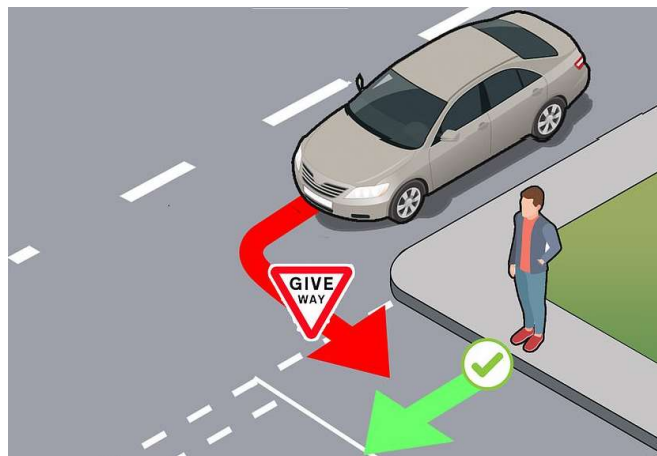
**Figure 2-9 Turning at intersection**

(Source: DoR, 1999)

### 2.17.3 Rules of Right of way

Following are the rules of right of way at intersection in all situations.

- Pedestrians have the right of way at intersections in all situations as shown in Figure 2-10.

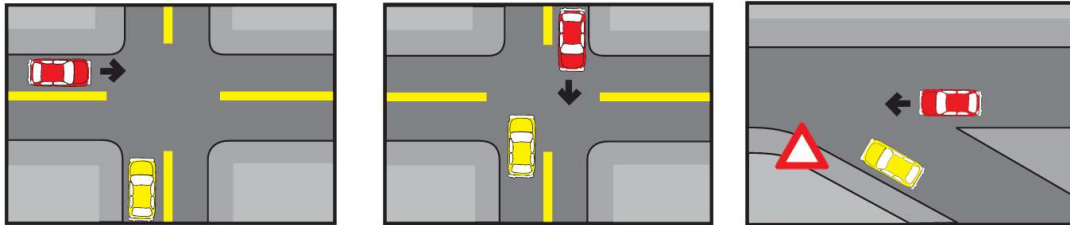


**Figure 2-10 Pedestrian right of way at intersection**

(Source: Road user Handbook, NSW)

- When approaching an intersection not controlled by traffic lights, stop or yield signs, or a police officer, the driver must yield right of way to traffic on left-hand side (Figure 2-11).
- When turning right at an intersection, the driver must yield right of way to any vehicles coming toward them before proceeding.

- When entering a main highway from any side road or driveway, the driver must always yield the right of way to traffic on the main highway, and to pedestrians about to cross. On a highway with a passing lane, traffic in the through lane has the right of way when both lanes merge.



**Figure 2-11 Vehicular Right of Way at Intersection**

- At an intersection where stop signs are located on all four corners, the first vehicle to come to a full stop should be allowed to proceed first.
- When two vehicles arrive at such an intersection at the same time, the vehicle on the left-hand side has the right of way and should proceed through the intersection first.
- If behind a vehicle that has stopped at the stop sign, come to a complete stop at the stop sign when that vehicle has moved on.
- If uncertain about who has the right of way, it is safer to yield the right of way to the other driver.
- Never pass a vehicle which has stopped at a stop sign, traffic light or crosswalk.
- Always yield right of way to emergency vehicles when they have their lights flashing and the siren on. Pull to the left as far as possible and stop. Remain stopped until the emergency vehicle has passed.
- When a traffic light is not working, treat it as a 4-way stop.

#### **2.17.4 U- Turn**

Avoid making U-turn:

- At an intersection
- Near the top of a hill
- On a curve or bend in the road
- Where you would interfere with other traffic

- Where a sign prohibits such a turn.

### **2.17.5 At Roundabout**

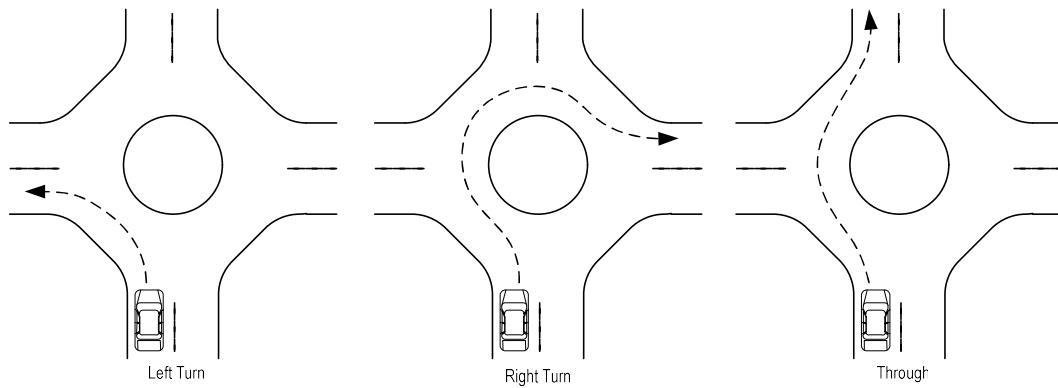
When navigating a roundabout (see Figure 2-12), it is important to follow specific rules to ensure smooth traffic flow and safety. Yield to vehicles that are already inside the roundabout as they have the right of way. Exercise caution and be attentive to cyclists and motorcyclists when entering, navigating, and exiting the roundabout.

#### **a) Turning Left at Roundabout**

- Activate the left turn indicator to signal the intention to other road users.
- Approach the roundabout in the left lane if planning to turn left, ensuring a smooth and predictable flow of traffic.
- Yield the right of way to the vehicles already in the left lane of the roundabout before entering.
- Once the right of way is given and it is safe to proceed, move to the left lane within the roundabout and make the left turn.
- In roundabouts with multiple lanes, choose the appropriate lane based on the intended exit, and follow the road markings accordingly.

#### **b) Going Straight Through a Roundabout:**

- When approaching a roundabout, observe road signs and markings to determine the correct lane for going straight, typically using the left lane.
- Yield to vehicles already in the roundabout, as those in the circular path have the right of way.
- Merge gradually with the flow of vehicles already circulating in the roundabout.
- Activate the right turn indicator when approaching the exit just before the intended exit point.
- After passing the exit just before the intended exit, switch on the left turn indicator to exit the roundabout.



**Figure 2-12 Maneuvering a roundabout**

**c) Turning Right or Full Circling Roundabout**

- When approaching a roundabout with the intention of turning right or completing a full circuit, activate your right turn indicator to signal the intent.
- Yield the right of way to vehicles already circulating within the roundabout, allowing them to proceed before entering.
- Stay in the right lane while approaching the roundabout, maintaining the indicator
- Gradually merge into the roundabout, ensuring a smooth and safe entry.
- Stay in the right lane while navigating the roundabout.
- Give left Indicator upon approaching the exit point and exit.

## **3 GUIDE TO ROAD USERS**

### **3.1 Guide for Pedestrian**

The primary safety recommendation to minimize pedestrian injuries and fatalities is to remain attentive. The risk of collisions with motor vehicles significantly reduces by adhering to traffic regulations and staying vigilant to potential dangers posed by nearby vehicles.

#### **3.1.1 Do not Expect Much from Drivers**

While drivers should prioritize pedestrian safety, pedestrians should not solely rely on drivers to ensure their well-being on the road. Pedestrians should avoid assuming that drivers can see them and should make efforts to be visible, especially at night or in adverse weather conditions. It is challenging for drivers to see pedestrians from a far distance, and it is also difficult for them to stop or maneuver their vehicle easily. Like pedestrians, drivers are human and can make mistakes. Misjudgments, lapses in attention, or other errors can occur, leading to crashes even when drivers are well-intentioned. Drivers may have difficulty seeing pedestrians in certain areas around their vehicles, such as behind A-pillars or around large vehicles. Pedestrians should be cautious around these blind spots. It is important for pedestrians to take responsibility for their own safety. This includes obeying traffic signals, using crosswalks, avoiding distractions, and being vigilant about their surroundings.

#### **3.1.2 Guide for Walking Alongside the Road**

Following are guidelines for pedestrians when walking along the road:

- Never walk on motorways or slip roads, except in emergencies. Avoid walking on the main carriageway as it can be fatal.
- Where there is pedestrian footpath, always walk on the footpath and not on the main road.
- Where there is no footpath, walk on the right-side margin of the road to observe the oncoming traffic. Avoid walking alongside the kerb with your back to traffic.
- Walk in a single file alongside a road especially on narrow roads, poor lighting and when there are no footpaths. This ensures enough room for both pedestrians and vehicular traffic, making pedestrians more visible to oncoming traffic.

- Carry a flashlight or wear bright clothing, if possible, when walking at nighttime.
- Avoid distractions such as reading newspapers or using mobile phones while walking on the road. Keep greetings and conversations on the footpath or side margin.

### 3.1.3 Crossing Road

Following are guidelines for pedestrians when crossing the road:

- When stepping into the road, carefully check both ways and allow time for driver to stop.
- Whenever possible, use of zebra crossings, and overhead bridges. Locations with traffic signal, zebra crossing, overhead bridges are safe places for road crossing.
- All drivers need ample time to notice presence of the pedestrian.
- Always ensure that traffic has come to stop before crossing or pushing a pram onto any type of crossing.
- Avoiding loitering on zebra, pelican, or puffin crossings. Never cross at the side of the crossing or on zig-zag lines, as it can be hazardous.

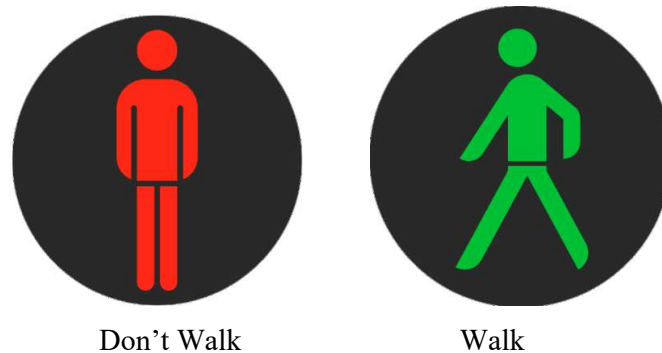
### 3.1.4 While Crossing the Road with Pedestrian Crossing Signal

A pedestrian crossing signal, also known as a pedestrian traffic signal or crosswalk signal (Figure 3-1), is a device specifically designed to manage the safe movement of pedestrians across roadways. These signals are typically installed at intersections or designated crossing points to regulate the flow of both vehicular and pedestrian traffic. Here is an explanation of key aspects of pedestrian crossing signals:

**Walk Signal (Green):** This signal is usually represented by a white symbol of a walking person. When illuminated, it indicates that pedestrians have the right of way to cross the road.

**Flashing Don't Walk Signal:** Following the "Walk" signal, a flashing or steady "Don't Walk" signal warns pedestrians that they should not begin crossing the road, as the signal is about to change. That means that pedestrians who have already started crossing should complete their crossing, but others should not start.

**Don't Walk Signal (Red):** When illuminated, often represented by a standing person (Red), this signal indicates that pedestrians should not start or continue crossing the road.



**Figure 3-1 Pedestrian Signal**

### **3.1.5 Crossing the Road at a Traffic Signal**

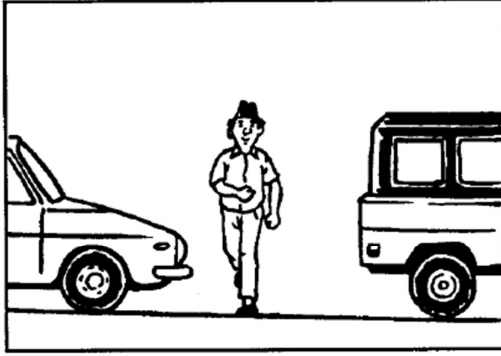
In the absence of a pedestrian signal, pedestrians may proceed to cross the road when vehicles have come to a complete stop at a red signal. Pedestrians should be vigilant and aware that while the traffic signal indicates a red light for the general flow of traffic, it may simultaneously allow movement for vehicles in specific lanes, such as those turning right or left. Before crossing, pedestrians should ensure that the path is clear, paying special attention to any vehicles making left turns, as they might not always anticipate or immediately notice pedestrians. It is crucial to make eye contact with drivers if possible and be prepared for unexpected movements.

### **3.1.6 Crossing the Road without Pedestrian Crossing**

In the absence of pedestrian crossing:

- Choose a clearly visible location from both directions.
- Avoid crossing behind stopped vehicles, at curves, or busy intersections, in between stopped vehicles, near ridge point of the road etc., as these situations can lead to crashes (Figure 3-2).

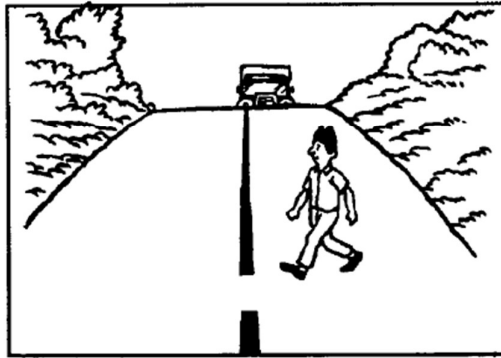
## बाटो काट्न असुरक्षित स्थानहरू



रोकि राखेका सवारीहरू बीचबाट



मोडु नजीक



उकालोको सबभन्दा उच्च भाग नजीक



व्यस्त जंशानमा

Figure 3-2 Unsafe place for crossing road

- Choose for a straight-line crossing to minimize the time spent walking on the road, ensuring a quicker and safer journey to the other side. Be sure to reach the sidewalk before walking alongside the road.
- When barriers or railings are present, use designated gaps for pedestrians to cross. Avoid climbing over barriers or walking between them and the road.
- Be prepared to adjust your pace if necessary and remain vigilant for any unexpected vehicle movements.

### 3.1.7 Crossing/Walking with Children

While crossing or walking with children:

- Supervise young children to prevent them from being alone on sidewalks or roads.
- When walking alongside children, make sure handholding. When walking with children, place yourself between them and the traffic, holding their hands securely.

- While crossing the road, follow the rules as children learn from the parents.
- For very young children, ensure they are safely strapped into strollers or secured with reins.
- Supervise young children to prevent them from playing on the road or run behind the moving vehicles.
- Do not let young children (primarily below 10 years) to walk by themselves in busy roads or run behind a moving vehicle.

### **3.1.8 Walking at Night**

While walking at night:

- Choose for retro-reflective outdoor clothing or shoes and use lights to enhance visibility. Avoid dark clothing.
- In darkness, use reflective materials such as armbands, sashes, waistcoats, or jackets, which are visible to drivers using headlights up to three times farther than non-reflective materials.

### **3.1.9 Walking Under the Influence of Drugs and Alcohol**

Avoid "Drink and Walk" situations. If you have consumed alcohol, opt for a cab, bus, or have a sober person drive your home. Do not expect much from drivers and vehicles.

## **3.2 Guidelines for Cyclists**

Safe and responsible cycling is essential for both cyclist's well-being and the overall harmony of shared road spaces. The cyclists can significantly enhance their safety on the road, contribute to smoother traffic flow, and reduce the risk of crashes by following the following guidelines.

- Keep advance information about the condition of the bicycle.
- Regularly inspect your bicycle to ensure it is in good working condition. Check the brakes, tires, gears, and overall structural integrity before each ride.
- Adjust the height of the bicycle seat to suit you.
- Set the seat at a height that allows for a slight bend in your knee when the pedal is at its lowest point. This promotes comfortable and efficient pedaling.
- Ride the bicycle straight and at the same speed.

- Maintain a straight and steady path while cycling. Avoid sudden movements or erratic speed changes and do not enter between vehicles.
- For safety reasons, bicycles are designed for a single rider. Avoid carrying passengers to maintain control and balance.
- Follow the same direction as traffic, riding on the left side of the road. This enhances visibility and allows you to follow the flow of traffic.
- Follow traffic rules.
- Obey traffic signals, stop at stop signs, and yield the right of way when required.
- Use hand signals to indicate your intention to turn left or right. This informs drivers and other cyclists about your movements, enhancing overall road safety.
- When cycling at night, wear bright or reflective clothing. This helps motorists and pedestrians see you more easily.
- Place lights and reflectors on the bicycle.
- Install front and rear lights as well as reflectors on your bicycle. This is essential for visibility in low-light conditions, improving safety on the road.
- Always wear a helmet to protect your head in the event of a fall or collision. Helmets significantly reduce the risk of head injuries.
- Choose breathable and comfortable clothing suitable for cycling. This ensures a more enjoyable and relaxed riding experience.
- Maintain control of the bicycle by always holding onto the handlebars. This allows you to steer effectively and respond to changes in the road.
- Do not ride by holding onto another moving vehicle.
- Do not cycle under influence of drugs and alcohol.

### **3.3 Guidelines for Passenger**

#### **3.3.1 While Waiting and Boarding Bus**

Passenger should:

- Wait for buses on the footpath at designated bus stops rather than on the main road. Follow safety rules to prevent crashes.
- Refrain from chasing after a moving bus.
- Do not attempt to board or hold onto a moving vehicle.
- Always board the vehicles in their respective stops.

- Board or exit vehicles only after they have stopped completely and do not push other passengers while doing so.

### 3.3.2 While in the Bus or Other Vehicles

Passenger should:

- Avoid disturbing the vehicle driver.
- Refrain from crowding around the driver.
- Do not project any body parts outside the vehicle as injuries may occur from the incoming vehicles.
- Do not encourage the driver to speed and take dangerous actions.
- Strictly prohibit polluting the vehicle or the roads while travelling. Keep your waste with you until you find a suitable place to dispose it.
- Avoid traveling on goods vehicles.
- Avoid boarding on crowded vehicles.
- Avoid traveling on the rooftop of buses.

## 3.4 Guidelines for Motorcyclists

### 3.4.1 Guidelines for Motorcyclists for Safe Driving

- **Carrying Documents:** Always carry driving license and vehicle registration certificate to comply with legal requirements.
- **Protect Your Eyes:** Wind and rain can tire your eyes. Dust, bugs and debris can hurt your eyes and make you lose control. Use a helmet with a clear shield but the best eye protectors are goggles. Goggles are less likely to steam up.
- **Wear Gloves:** They protect your hands and give you a better grip on the bars and controls.
- **Pillion Rider Safety:** Limit pillion riders to one person. Carrying a passenger changes everything: steering, acceleration, braking, and balance. Pillion riders should also wear helmet.
- **Wear Proper Clothing:** Both motorcyclist and pillion rider should protect themselves from sun, wind, cold, and be careful with anything else dangling from the clothing especially saree, salwar, which may wind in the wheel. Choose bright colors as they will make you more noticeable.
- **Wear Boots:** Always wear boots. Make sure they cover your ankles.

- **Proper Seating:** Ensure proper seating, with both feet on footrests. This will help you maintain balance and prepare you to use the brake and gearshift if necessary.
- **Visibility Measures:** Wear a white or brightly colored helmet for visibility.
- **Use Fluorescent Clothing or Strips** - Employ dipped headlights, even during daylight, if visibility is poor.
- **Use Mirrors:** Use mirrors to be aware of what is behind and beside you.
- **Night Riding Safety:** Wear reflective clothing or strips for visibility in the dark. Use headlights when riding at night.
- **Follow Traffic rules:** Never drink while driving. Follow traffic signals, lights, and signs. Avoid using a cellphone while driving; move to the left and stop if urgent.
- **Speed Control:** Do not ride at high speeds to maintain control and safety.
- **Helmet Usage:** Always wear a helmet by both driver and pillion riders. Helmets must comply with regulations and be securely fastened. Reflective tape can be applied to the helmet.
- **Footpath and Traffic Etiquette:** Do not ride on the footpath.
- **Traffic Maneuvers:** Avoid abrupt stops; move left and slow down gradually. Do not weave through stationary or slow-moving traffic as it may cause crashes. Do not enter in the small gaps between vehicles and front of large vehicles such as trucks and buses, the driver may not see the motorcyclist resulting crashes.
- **Overtaking:** Do not overtake from left unless vehicle ahead is indicating to turn right.
- **Zebra Crossing:** Slow down and stop, when necessary, at zebra crossings.
- **Proper Riding Posture:** Always ride with both hands on the handlebar, except when signaling.
- **Children Safety:** Do not place children on fuel tanks or in front of the rider. It is crucial to refrain from transporting small children exclusively on the back of a motorcycle.
- **Braking Techniques:** Avoid using brakes excessively during turns; if needed, apply both brakes gently.
- **Carrying Goods:** Refraining from carrying heavy loads on a motorcycle for the safety of both the rider and any passengers. Carrying a heavy load can compromise the stability and balance of the motorcycle, increasing the risk of crashes, especially during turns or sudden maneuvers.

### **3.4.2 Helmets**

A helmet is an essential safety gear designed to protect the head and reduce the risk of severe injury in case of crashes or collisions while riding a motorcycle. Helmets should have a thick padding of at least 20 mm Thermocol, extending to the sides of the head. Full-face helmets are recommended for overall safety. The chinstrap must be tightly fastened and correctly threaded to secure the helmet effectively.

Following are the basic requirement of helmets:

- Helmets should not obstruct vision or impair hearing.
- Helmets should be lightweight and should not cause fatigue leading to crashes.
- Helmets should not cause skin diseases or increase the probability of neck injuries.

### **3.5 Guideline for Public Vehicle Drivers**

Professional drivers operating buses and trucks play a crucial role in ensuring the safety and efficiency of transportation systems. These drivers are responsible for maneuvering vehicles through diverse and often challenging traffic situations. Key considerations for these drivers include:

- Adaptation to various traffic conditions, including heavy congestion, adverse weather, and unexpected road obstacles.
- Ability to quickly assess and respond to changing situations is essential for preventing crashes and maintaining a smooth flow of traffic.
- Analyzing past incidents helps drivers identify potential hazards and adopt preventive measures to reduce the likelihood of similar occurrences.
- Distractions, such as engaging in conversations with others, should be minimized to maintain focus on the road and surrounding conditions.

#### **3.5.1 Directives for Public Vehicle Drivers**

- 1. Left Lane Driving Protocol:** Buses and trucks should stay in the extreme left lane of the road. This helps in providing a clear path for faster-moving vehicles and allows for smoother traffic flow.

2. **Mandatory Speed Governors:** Speed governors are devices installed in vehicles to limit their maximum speed. For buses and trucks, the use of speed governors is mandatory to ensure they adhere to the prescribed speed limits.
3. **Maximum Speed Limit:** The specified maximum speed limit for buses and trucks is 50 kilometers per hour as per Department of Transport Management. Globally, it is common practice to reduce this limit to 30 kmph in urban area for safety reason. This limit is set to enhance road safety, especially considering the size and weight of heavy vehicles.
4. **No Overtaking:** Buses and trucks are prohibited from overtaking other vehicles. This restriction helps maintain a steady and predictable flow of traffic, reducing the risk of crashes and ensuring the safety of all road users.
5. **Bus Lane Usage:** Bus drivers should utilize designated bus lanes when available. These lanes are dedicated to buses, allowing for faster and more efficient transportation, particularly in congested urban areas.
6. **Bus Stop Protocols:** Bus drivers are instructed to stop their buses inside the designated bus box near bus stops. This ensures that buses do not obstruct the regular flow of traffic and allows passengers to board and alight safely.
7. **Queue System for Buses:** Buses arriving at a bus stop should form a queue, with the first bus stopping at the designated bus box. Subsequent buses should align behind the first one, waiting for their turn to approach the bus stop.
8. **No Parallel Stopping or Overtaking at Bus Stops:** Buses coming behind should never stand parallel to the first bus at a bus stop. Overtaking is strictly prohibited at bus stops, maintaining order and preventing confusion for passengers and other road users.

These directives aim to regulate the behavior of heavy vehicles on the road, prioritizing safety, efficiency, and orderliness. Compliance with these rules is essential for the effective and safe operation of heavy vehicles. Contribute to the creation of a smooth and secure transportation system, especially in areas where buses and trucks share the road with other vehicles and pedestrians.

### 3.5.2 Safety Inspection of Vehicle

Performing thorough pre-drive inspections is a crucial aspect of maintaining the safety and reliability of buses and trucks. Prior to driving:

- Inspect the tires for any signs of damage or uneven wear.
- Adequate tread depth is essential for proper braking and handling.
- Check for any visible signs of loose nuts or bolts.
- Inspect the suspension components for signs of damage.
- Check for any signs of loose or damaged brake components.
- Check brake fluid levels and any signs of leakage fluid should be addressed immediately.
- Regularly inspect all exterior lights, including headlights, brake lights, turn signals etc.

### 3.5.3 Safety of Goods Vehicle

Several key practices must be observed to prevent overloading and ensure the secure carriage of goods:

- Check vehicle capacity as outlined by the manufacturer.
- Overloading can lead to significant damage to both the vehicle and the road infrastructure.
- Excessive weight can result in decreased speed, compromised handling, and increased wear and tear.
- While transporting hazardous materials, understand response and communication measures in the event of an incident
- Tightly hold the goods within the vehicle by straps of cargo net to prevent spillage or dislodgment during transit
- Goods should not project beyond 1 meter at the back and 0.5 meters at the sides of the vehicle. Use visible flags to enhance the visibility of the protruding load.

### 3.6 Key Points to be Considered by Passenger/Goods Vehicle Drivers

**Do not exceed capacity:** Public buses often allow to carry standing passengers to accommodate the high demand in urban area and short distance trips with frequent stops. Standing passenger is not allowed in long distance trip as in the unfortunate event of a crash, standing passengers are more vulnerable to severe injuries compared to those seated.

**Do not drive during fatigue:** Driving while fatigued poses a significant risk to road safety. Fatigue can impair a driver's reaction time, decision-making, and overall alertness. It is advisable not to drive continuously for more than 4 hours. Also, it is recommended not to

drive for more than 10 hours within a 24-hour period. If the primary driver is fatigued, it is unsafe to allow a helper or another person to take over the driving responsibilities. When fatigue sets in, it's essential to find a safe parking place and take a break.

**Do not exceed speed limit:** Avoid excessive speeding, as it not only increases the risk of fatal crashes but also leads to higher fuel consumption and a less comfortable journey.

**Keep control of the vehicle:** Maintain constant control over your vehicle and avoid driving at speeds that surpass its braking and turning capabilities. Prioritize safe and comfortable driving by adhering to traffic signs and signals.

**Be careful for children and other pedestrians:** Drive at a reduced speed in residential areas, especially when pedestrians and children are present. Pedestrians and children may not be familiar with traffic rules and can engage in unexpected activities.

**Exercise caution when parking your vehicle on a highway:** Parking at locations like curves and just after corners, where visibility is limited from long distances, increases the risk of collisions. Drivers attempting to avoid or overtake a parked vehicle may inadvertently collide with oncoming traffic from the opposite direction.

**Parking vehicle:** Consider the following guidelines when parking your vehicle:

- Choose for off-road parking when available.
- When parking on the road, choose a location visible from a distance.
- Avoid parking at curves, immediate downslopes of hills, or near restaurants.
- While parking on the road, position your vehicle to the left.
- Activate parking lights when parking at night.

**Vehicle breakdown:** In the event of vehicle breakdown, prioritize the safety of other road users:

- If feasible, move the vehicle off the road.
- Activate hazard warning lights if the vehicle poses an obstruction.
- Place a warning triangle on the road, at least 50 meters behind the vehicle on the same side, or use other permitted warning devices.
- If it is dark or visibility is poor, consider keeping parking light on.
- Clear away any stones that were used to support the vehicle after completing maintenance.

## 4 SAFE ROAD USAGE

### 4.1 Major cause of Road Crashes in Nepal

Following are the major causes of road crashes in Nepal:

- a. **Over Speeding, especially at Curves and Intersections:** Driving at speeds higher than the posted limits, particularly around curves and intersections, increases the risk of losing control and may lead to crashes. Reduced visibility in these areas amplifies the danger.
- b. **Dangerous and Wrong Way of Overtaking:** Engaging in unsafe overtaking maneuvers, especially in prohibited zones or without proper visibility, poses a serious threat. Wrong-way overtaking increases the likelihood of collisions.
- c. **Driving Very Close to Other Vehicles:** Tailgating, or driving too closely to the vehicle in front, reduces reaction time and increases the chances of rear-end collisions. Maintaining a safe following distance is crucial for overall road safety.
- d. **Driving at Speeds Higher Than Headlight Visibility:** Traveling at speeds that exceed the range of your vehicle's headlights compromises reaction time. This is particularly dangerous in low-light conditions, increasing the risk of not seeing obstacles or hazards in time.
- e. **Not Prioritizing Vehicles at Junctions:** Failing to yield the right of way at junctions can result in collisions. It is essential to follow traffic rules and prioritize vehicles as indicated by road signs and signals.
- f. **Turning Vehicles to Save Stray Animals:** Unexpected turns made for saving stray animals leading to crashes.
- g. **Drink and Driving:** Driving a vehicle under the influence of alcohol/drug impairs judgment, coordination, and reaction time. This significantly increases the risk of crashes, posing a danger to the driver, passengers, and others on the road.
- h. **Not Being Careful for Unexpected Events:** Failing to remain vigilant for unforeseen events, such as children suddenly running onto the road, can result in tragic incidents. Drivers should always be prepared for unexpected scenarios.
- i. **Careless Pedestrians, Including Walking on Roads:** Pedestrians walking on roads and not using designated crossings contribute to road hazards. Pedestrians should follow traffic rules, use crosswalks, and be aware of their surroundings to ensure their safety and that of drivers.

## 4.2 Safe and Fuel-Efficient Driving Tips

Responsible driving habits benefit both individual drivers and the larger community in terms of safety, efficiency, and sustainability. By the following practices, the driver can contribute to road safety and reduce fuel consumption and environmental impact.

- a. **Maintain the Condition of the Vehicle:** Regularly service and maintain your vehicle. Ensure that the engine, carburetor, air filter, tires, brakes, and other essential components are in good working condition. Regular maintenance not only ensures safety but also promotes fuel efficiency.
- b. **Drive at Uniform Speed:** Driving at a consistent and moderate speed helps optimize fuel efficiency. Avoid sudden acceleration and deceleration, as frequent speed changes can increase fuel consumption.
- c. **Do Not Overspeed:** Excessive speeding not only poses safety risks but also leads to higher fuel consumption. Driving at speed 80 km/hr consume 30 percent more fuel than driving at 50 km/hr. Adhering to speed limits and driving within a reasonable speed range contributes to both safety and fuel efficiency.
- d. **Do Not Overload the Vehicle:** Carrying excess weight puts additional strain on the engine and increases fuel consumption. Adhere to the vehicle's weight capacity guidelines and avoid unnecessary load to enhance fuel efficiency.
- e. **Avoid Using Air Conditioning and Heater Unnecessarily:** Air conditioning and heater consume additional energy and contribute to increased fuel consumption. Use these systems judiciously and consider other ventilation options when possible.
- f. **Preplan Before Traveling:** Plan your trips in advance to optimize routes and minimize unnecessary detours. Efficient planning can reduce overall travel time, fuel consumption, and environmental impact.
- g. **Turn Off Engine if Need to Stop for More Than 1 Minute:** Idling consumes fuel without providing any mileage. If you anticipate stopping for more than a minute, such as during extended waits or breaks, it is advisable to turn off the engine to conserve fuel and reduce emissions.
- h. **Practice Eco-Friendly Driving Habits:** Adopt eco-friendly driving habits, such as gentle acceleration and braking. Anticipate traffic flow and adjust your driving to minimize the need for sudden stops and starts.

- i. **Check Tire Pressure Regularly:** Properly inflated tires contribute to fuel efficiency. Regularly check and maintain the recommended tire pressure to reduce rolling resistance and improve gas mileage.
- j. **Choose Fuel-Efficient Vehicles:** When possible, opt for fuel-efficient or eco-friendly vehicles. Consider hybrid or electric models that have lower emissions and better fuel economy.

#### 4.3 Use of Refreshment Centre/Rest Areas

##### Recommendations for Use

- a. **Plan Stops:** Encourage drivers to plan their journey with regular stops at refreshment centers to avoid fatigue.
- b. **Use Refreshment Centre to Stay Hydrated and Nourished:** Advise drivers to stay hydrated and eat balanced meals to maintain energy levels.
- c. **Utilize Rest Areas:** Use rest areas for short naps if feeling drowsy.
- d. **Check Vehicle:** Take the opportunity to check the vehicle's condition, such as tire pressure and fuel levels, during stops.

#### 4.4 While Using Local Road

- a. **Follow Posted Speed Limits:** Always adhere to the posted speed limits, which are typically lower on local roads than on highways.
- b. **Adjust Speed for Conditions:** Reduce speed in adverse weather conditions, such as rain, fog, or ice, and in areas with limited visibility.
- c. **Watch for Pedestrians:** Be vigilant in areas with high pedestrian activity, such as near schools, parks, and residential areas.
- d. **Yield at Crosswalks:** Always yield to pedestrians at crosswalks and be prepared to stop if they are waiting to cross.
- e. **Respect Cyclists:** Share the road with cyclists, giving them sufficient space, and exercise caution when passing them.
- f. **Exercise Caution in School Zones:** Slow down and be extra cautious in school zones. Watch for children crossing the street, especially during school hours.
- g. **Be Alert in Residential Areas:** Be mindful of children playing near the road, pets, and other potential hazards.
- h. **Obey Traffic Signs and Signals:** Follow all stop signs and traffic signals, coming to a complete stop and checking for oncoming traffic before proceeding.

- i. **Approach Uncontrolled Intersections with Care:** Yield to traffic from the right and proceed with caution.
- j. **Be Wary of Potholes and Rough Surfaces:** Avoid potholes and rough patches to prevent vehicle damage or loss of control.
- k. **Navigate Narrow Roads Carefully:** Drive cautiously on narrow roads and be prepared to yield to oncoming traffic if necessary.
- l. **Park Legally and Responsibly:** Park only in designated areas, avoiding blocking driveways, fire hydrants, and other critical zones.
- m. **Ensure Visibility:** Park your vehicle in a manner that does not obstruct the view of other drivers, pedestrians, or cyclists.
- n. **Use Proper Lighting:** Utilize your vehicle's lights appropriately in low visibility conditions, using high beams in dark areas and dimming them for oncoming traffic.
- o. **No Mobile Phones:** Refrain from using mobile phones or other devices while driving. If necessary, use a hands-free system.
- p. **Stay Focused:** Keep your attention on the road and avoid distractions from passengers, eating, or other activities.
- q. **Be Aware of Local Road Conditions:** Familiarize yourself with specific local road conditions and common hazards in your area.
- r. **Drive Respectfully:** Consider the impact of your driving on local residents and the community, and drive courteously and respectfully.

#### 4.5 During Vehicle Breakdown

While handling a situation when the vehicle breaks down:

- a. **Move Your Vehicle Off the Road if possible:** When your vehicle breaks down, if it is safe to do so, move it off the road to prevent obstruction and reduce the risk of crashes. Park in a designated area or a safe location away from traffic.
- b. **Activate Hazard Warning Lights if Your Vehicle Poses an Obstruction:** Use your hazard warning lights to alert other drivers that the vehicle is stationary and might pose an obstruction. This is crucial for ensuring the safety of both you and other road users.
- c. **Place a Warning Triangle on the Road, at Least 50 meters Behind the Vehicle:** If you have a warning triangle, place it on the road at a considerable distance (at

least 50 meters) behind the vehicle on the same side. This enhances visibility for oncoming traffic and provides advanced warning.

- d. **Use Other Permitted Warning Devices:** Depending on the situation and local regulations, you may use other permitted warning devices such as flares or reflective markers. Always follow the guidelines to ensure safety.
- e. **If It is Dark or Visibility Is Poor, Consider Keeping Your Parking Light On:** In low-light conditions or poor visibility, keep your parking lights on to make your vehicle more visible to others. This is especially important during nighttime breakdowns or adverse weather conditions.
- f. **Clear Away Any Stones That Were Used to Support the Vehicle After Completing Maintenance:** If you used stones or any other objects to support the vehicle during maintenance, clear them away before resuming travel. Leaving objects on the road can be hazardous for other drivers and may cause crashes.

#### 4.6 During Crashes

Encountering a crash on the road can be a stressful and challenging situation. Remember that each crash is unique, and circumstances may vary. Following these general steps can help ensure a systematic and responsible approach to handling an crash, promoting safety and legal compliance.

- **Ensure Safety:** Prioritize safety for yourself, passengers, and others at the scene. Move to a safe location, away from traffic if possible. Activate hazard lights and set up warning triangles or flares to alert other drivers.
- **Assess Injuries:** Check for injuries among those involved in the crash, including passengers in your own vehicle. Call emergency services immediately if there are injuries that require medical attention.
- **Perform Basic First Aid:** Administer basic first aid techniques for injuries such as bleeding control, CPR (if trained), and stabilization of fractures etc.
- **Call Emergency Services:** Dial the emergency number (such as 100) to report the crash and provide details about the location, number of vehicles involved, and any injuries. Follow the instructions given by emergency operators.

- **Document the Scene:** Take photos of the crash scene, including vehicle damage, license plates, and any relevant road signs. Note the time, date, and weather conditions. This documentation may be valuable for insurance claims.
- **Cooperate with Law Enforcement:** When law enforcement arrives, provide them with accurate and truthful information. Follow their instructions and obtain a copy of the police report.
- **Seek Medical Attention:** Even if injuries seem minor, it is advisable to seek medical attention. Injuries may not be immediately apparent, and documentation of medical evaluations can be crucial for insurance claims.
- **Contact Your Insurance Company:** Notify your insurance company as soon as possible and provide them with the details of the road crash. Follow their guidance on filing a claim and providing necessary documentation.
- **Stay Calm and Collected:** Maintain composure and stay calm throughout the process. Avoid confrontations with other parties involved in the crash. Focus on following proper procedures to ensure a smooth resolution.
- **Cooperate with Investigations:** If an investigation is initiated by authorities or insurance companies, cooperate fully. Provide any requested information and assist in the process.
- **Do Not Make Crowd at Crash Site:** Avoid crowding around the crash site, especially near emergency service access points. Create clear pathways for paramedics and other responders to reach the injured efficiently.

#### 4.7 First Aid

Providing first aid is essential, but it should be done cautiously, and moving injured individuals should only occur when absolutely necessary and with proper consideration for their well-being. Always prioritize the safety of everyone involved.

- **Assess the Situation:** Ensure your safety before approaching the injured. Assess the scene for potential hazards and take necessary precautions.
- **Move with Caution:** Only move injured individuals if there is an immediate danger at the current location (e.g., risk of fire or ongoing traffic). Otherwise, wait for professional help to avoid causing further harm.

- **Call for Help:** Dial emergency services (e.g., 100) immediately. Provide details about the situation, including the location, number of injured individuals, and the nature of injuries.
- **Check for Responsiveness:** Determine if the injured person is conscious and responsive. Gently tap or shake them and ask loudly, "Are you okay?" If there is no response, it may indicate a medical emergency.
- **Open the Airway:** If the person is unresponsive, check for breathing. Tilt their head back slightly, lift the chin, and listen and feel for breaths. If breathing is absent, start CPR if trained.
- **Cardiopulmonary Resuscitation (CPR):** Position the heel of one hand on the center of the victim's chest, just below the nipple line. Place the other hand on top, interlocking the fingers. Keep your elbows straight. Compress the chest at least 2 inches (5 centimeters) deep at a rate of 100-120 compressions per minute. Allow the chest to fully recoil between compressions. Ensure consistent and forceful compressions.
- **Rescue Breaths:** Tilt the victim's head back slightly, pinch the nose shut, and give a breath that makes the chest rise visibly. Repeat this process.
- **Control Bleeding:** Apply direct pressure to any visible wounds using a clean cloth or bandage. Elevate the injured area if possible to help control bleeding.
- **Immobilize Fractures:** If a fracture is suspected, immobilize the injured limb using splints or by securing the limb to a stable object. Avoid unnecessary movement.
- **Keep the Person Warm:** Cover the injured person with a blanket or warm clothing to prevent hypothermia. Maintain body temperature while waiting for professional help.
- **Secure the Scene:** Ensure the safety of the injured and bystanders by securing the crash scene. Turn on hazard lights, set up warning signs, or use flares to alert oncoming traffic.
- **Prevent Further Risks:** Address potential dangers, such as leaking fluids, electrical hazards, or fire risks. Warn others to keep a safe distance from the crash site.
- **Follow Traffic Rules:** If you are involved in a road traffic crash, move vehicles to a safe location if possible. Adhere to traffic rules to prevent secondary crashes.

- **Stay Calm and Collected:** Maintain a calm demeanor while communicating with emergency services. This helps ensure clear and accurate information is relayed.

## **4.8 Road Signs**

A “Traffic Sign” means any object, device, line or mark on the road whose object is to convey to road users, or any specified class of road user, restrictions, prohibitions, warnings or information, of any description. The term Traffic Sign therefore includes not only signs on posts, but also road markings, delineators, road studs, traffic light signals and other traffic control devices. Signs are only effective if:

- They are visible,
- They are legible,
- They are understandable,
- The road users know what they mean, and
- The road user is motivated to behave correctly.

### **4.8.1 Regulatory Signs**

These signs give orders. They tell drivers what they must do (mandatory as shown in Figure 4-1), or what they must not do (prohibitory as shown in Figure 4-2 and Figure 4-3). Most of them take the form of a circular disc, although two signs, the Stop sign and the Give Way sign, have distinctive individual shapes.

The mandatory signs (Figure 4-1) give instructions to drivers about what they must do, the Stop and Give Way sign being examples. Most other mandatory signs such as the Keep Left sign are circular with a white symbol and border on a blue background. The prohibitory signs (Figure 4-2 and Figure 4-3), of which there are many more types, give instructions to drivers about what they must not do, signs banning turns or entry being examples. Speed restriction signs, no stopping sign and signs for waiting restrictions are further examples. Most are circular and have a red border.

## नीलो पृष्ठभूमिमा सेतो प्रतिक



Figure 4-1 Regulatory (Mandatory) sign

## धेरै जसो रातो चक्कामा कालो प्रतिक



Figure 4-2 Regulatory (Prohibitory) sign (a)



**Figure 4-3 Regulatory (Prohibitory) sign (b)**

#### 4.8.2 Warning Signs

These warn drivers of some danger or difficulty on the road ahead. Most of them take the form of an equilateral triangle with its apex uppermost, red boarder and black sign (Figure 4-3 (a) and (b)).

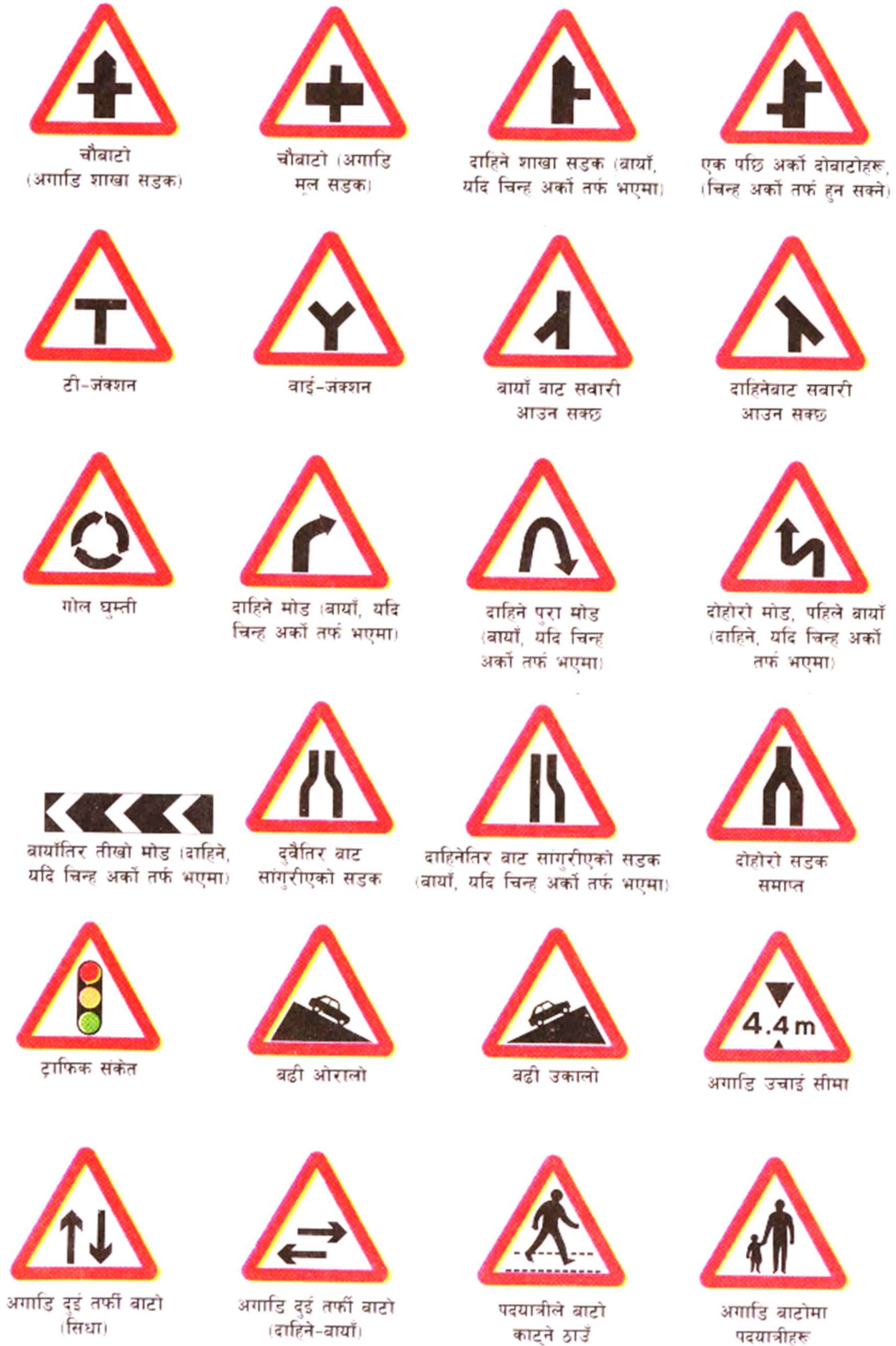


Figure 4-4 Warning sign (a)



Figure 4-5 Warning sign (b)

### 4.8.3 Information Signs

Most of these signs give drivers information to enable them to find their way to their destination. It is a varied group of signs, but they are all either square or rectangular in shape, with blue background (Figure 4.6 and Figure 4.7).

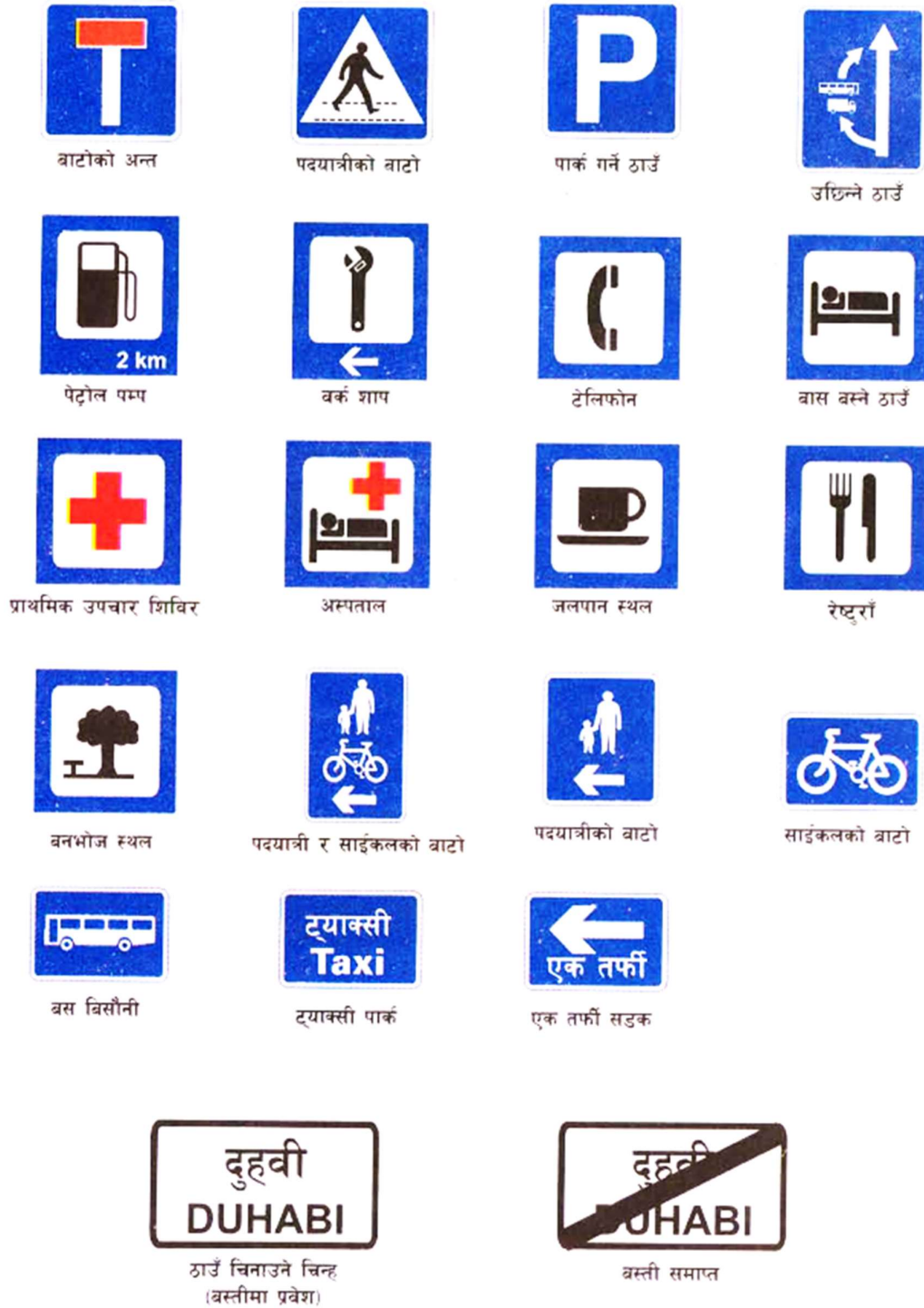
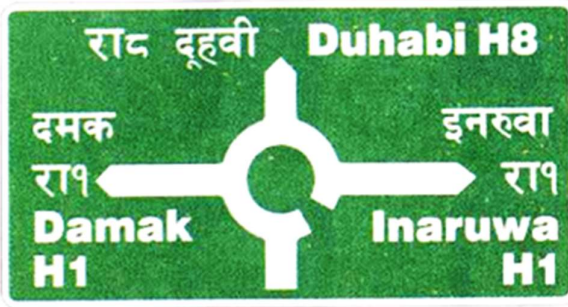


Figure 4-6 Information sign



चोक पुग्नु अगाडि राख्ने



बाटो सहि भनी देखाउने चिन्ह-  
चोक पछि राख्ने



चोक पुग्नु अगाडि राख्ने चिन्ह- राख्ने अर्को तरिका



चोकमा राख्ने

अस्थायी बाटोको चिन्ह (पहेलो बोर्ड)



सहायक मार्ग तथा शहरी सडकहरूमा  
राख्ने चिन्ह (कालो बोर्डर)



चोकमा राख्ने



चोक पुग्नु अगाडि राख्ने

Figure 4-7 Direction sign

#### 4.8.4 Supplementary Plates

Supplementary plates give additional information or clarify the message given by the main signs. They are mostly used with regulatory or warning signs. They are never used on their

own. The supplementary plates are mounted 75mm below the primary sign (Figure 4-8). English text will have a capital letter height of 60mm. The Nepali text will be 25% times larger than the English text.

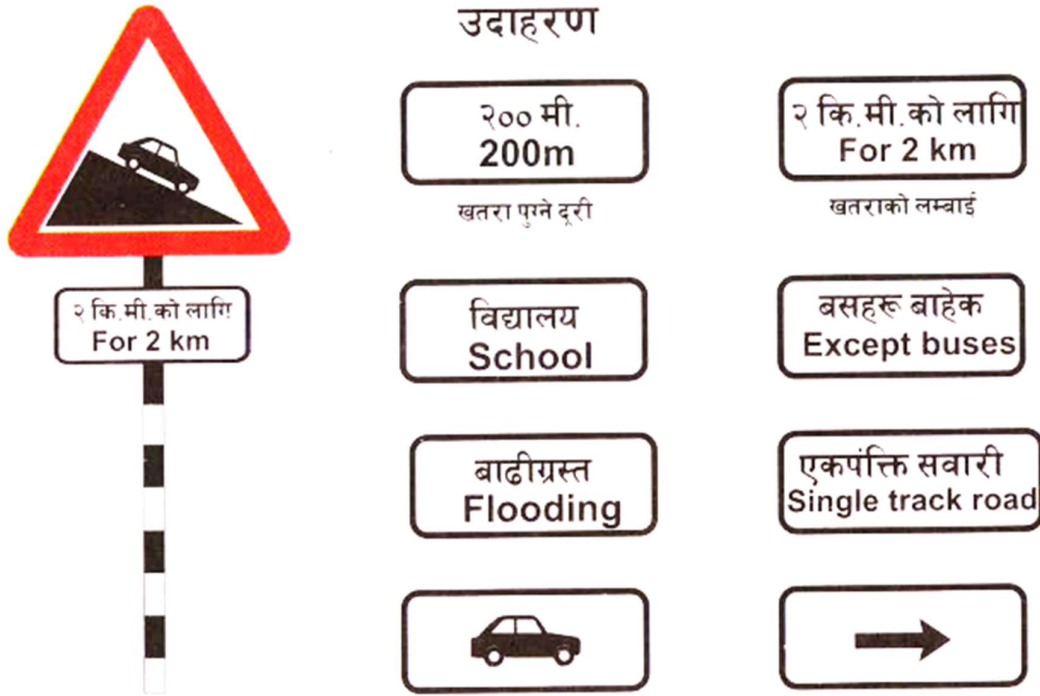


Figure 4-8 Supplementary plates

## 4.9 Traffic Light Signals

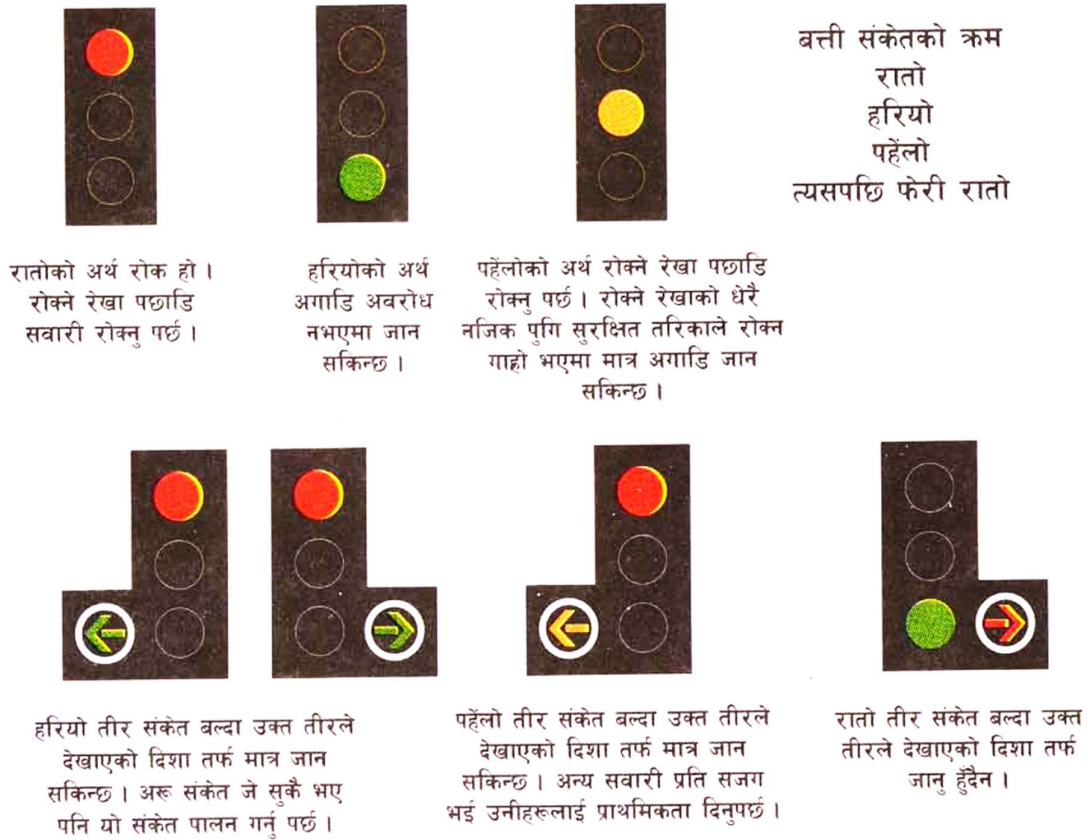
### 4.9.1 Signal for the Control of Vehicles

Traffic control is carried out by means of red, amber and green light signals, supplemented by additional green, amber and red arrow light signals and regulatory signs as necessary.

The instruction conveyed by each colored light signal is defined as:

- **Red Light** - Denotes that traffic is prohibited from proceeding beyond the stop line.
- **Green Light** - Indicates that vehicular traffic may proceed beyond the stop line, and may turn in any direction, subject to the normal priority rules being observed and provided that the turn is not prohibited by a supplementary light signal (red arrow) or a regulatory traffic sign.
- **Amber Light** - Conveys same prohibition as red signal except where vehicles are so close to the stop line that they cannot safely stop before stop line, they should proceed. This phase is usually displayed for three seconds.

- **Additional Green Arrows** - The arrow light may also be lit when the main signal is red to indicate that vehicles may turn along the direction indicated, for e.g. on the left of the three lights display indicating a movement to the left (Figure 4-9).



**Figure 4-9 Traffic signal**

#### 4.9.2 Signal for the Control of Pedestrian Crossing Movements

Signal-controlled pedestrian crossings are appropriate at sites where traffic speeds are high or where pedestrian flow is very heavy. The light signals to be displayed on a pedestrian signal are red, green and flashing green (Figure 4-10) and should be coordinated with signal for vehicular traffic (Table 4-1). The instruction conveyed by each colored pedestrian signals is:

- **Red Standing Man** - Denotes that pedestrian are prohibited from crossing the road.
- **Green Walking Man** - Denotes that pedestrians may cross the road with care.
- **Flashing Green Man** - Denotes that pedestrian are prohibited from crossing the road except where they have started to cross the road, in which case they should continue to cross the road.

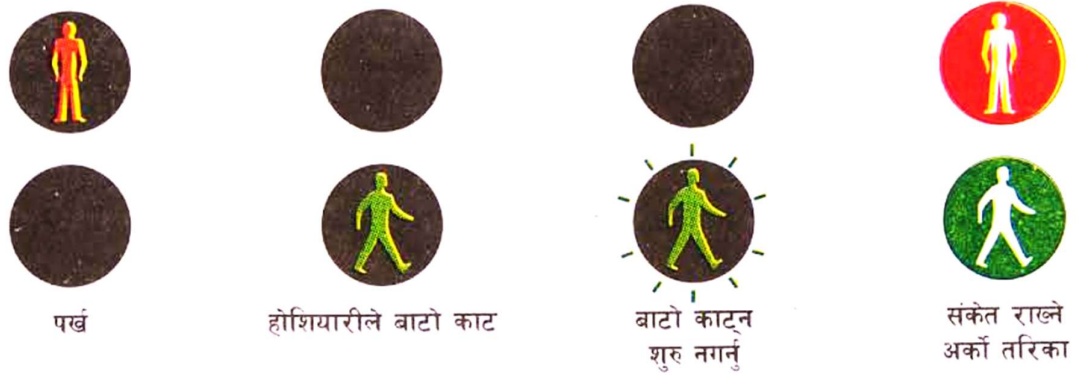


Figure 4-10 Singal for pedestrian

Table 4-1 Phasing of pedestrian signal with traffic signal

Pedestrian Signal		Vehicle Signal
1	Red Standing Man	Green
2	Red Standing Man	Amber
3	Red Standing Man	Red
4	Green Walking Man	Red
5	Flashing Green Man	Red
6	Red Standing Man	Red

#### 4.10 Road Markings

Road Markings are classified into two types:

- a. **Longitudinal Lines:** These lines are laid along the road parallel to the flow of traffic (Figure 4-11). Different types of longitudinal line markings include:
  - Lane Lines
  - Barrier Lines
  - Hazard Lines
  - Traffic Island Markings
  - Edge of Carriageway
  - Marking for Parking Restrictions
  - Traffic Lane Arrows

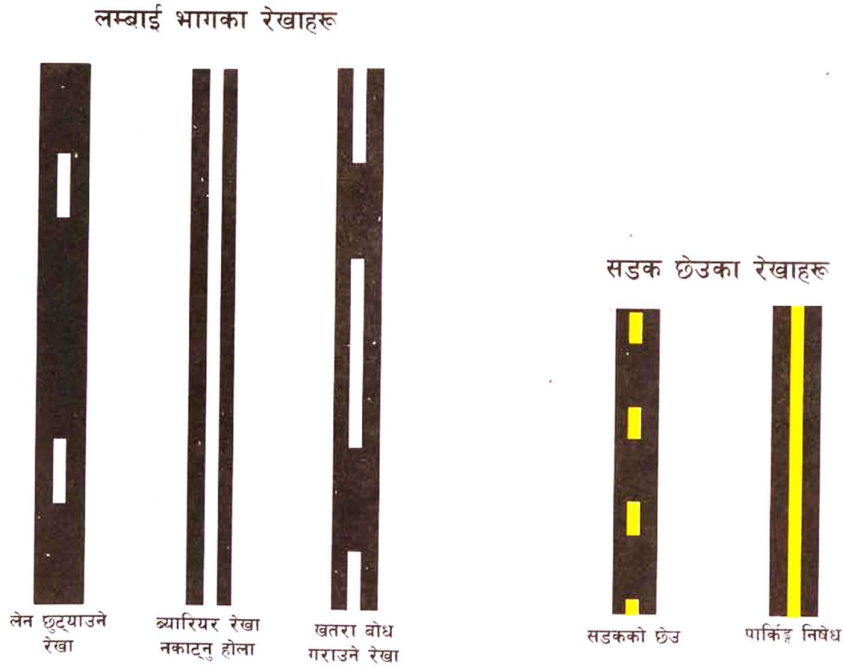


Figure 4-11 Longitudinal lines

b. **Transverse lines:** These lines are laid across the road at right angles to the flow of traffic (Figure 4-12):

- Stop lines
- Give way lines
- Markings at pedestrian crossings

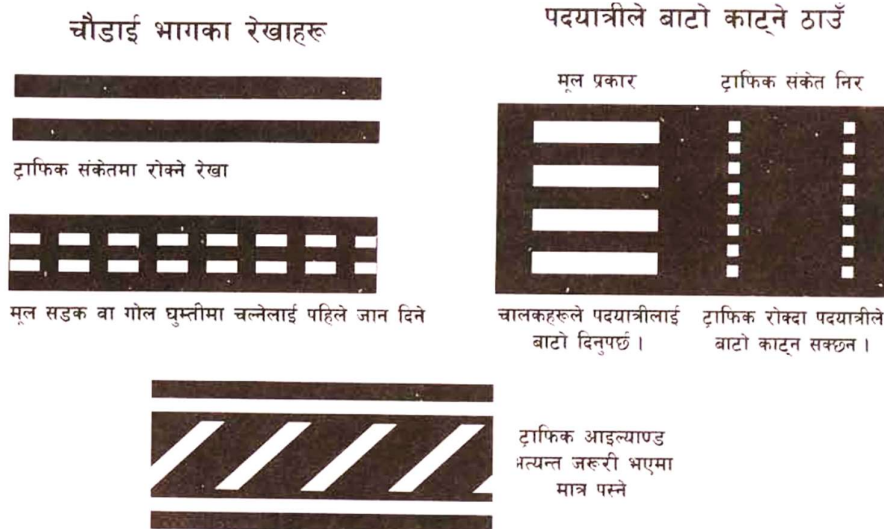


Figure 4-12 Marking at pedestrian crossing

## BIBLIOGRAPHY

- AASHTO (2001), American Association of State Highway and Transport Officials, USA.
- Department for Infrastructure, Northern Ireland (2015). The Highway Code for Northern Ireland <https://www.nidirect.gov.uk/>
- Highway code. Department for Transport, UK) <https://www.gov.uk/guidance/the-highway-code>
- DoR (1999), Sadak Prayog Nirdeshika, Department of Road, Construction and Transport Ministry. Road Note Road user guide.
- NSW Government (2022). Road User Handbook: Transport for NSW. [www.nsw.gov.au](http://www.nsw.gov.au)
- NHTSA (2020), Distracted Driving 2018, Traffic Safety Facts Research Note, (<https://crashstats.nhtsa.dot.gov/Api/Public/Publication/812926> Accessed 09 January, 2024)
- Road User Handbook Transport for NSW, [www.nsw.gov.au](http://www.nsw.gov.au)
- Traffic signs manual Vol. 1, Traffic Engineering And Safety Unit Design Branch, Department Of Roads Ministry Of Works And Transport