

**Unit 5: Transportation, Traffic and Road Safety**

Transportation is the mean of conveyance or travel from one place to another. A good Transportation service contribute to the growth of social, economic and culture of the country. The basic mode of transportation are as follows:

**a) Road Transportation:** Transportation of goods and personnel from one place to the other on roads.

- Most commonly used mode of transportation
- Provide freedom to user to transport from one place to another
- Convenient and economical for short distance.
- Only mode of transportation that provide door to door service.

**b) Railway**

- is a means of transferring of passengers and goods on wheeled vehicles running on rails, also known as tracks.
- It has huge carrying capacity. Moreover, the capacity can be increased by adding wagons.
- Require huge capital investment, but long term serviceability and population of commuters travelling daily make it one of the most profitable revenue generating source, especially in developing country like India.
- is fast and cheapest mode of long distance transportation, hence favored by all class of society.
- It is one of the most dependable mode of transportation, and is least effected by weather condition such as rain , fog etc.
- Routes and time cannot be adjusted as per individual requirement.

**c) Waterways**

- Cheapest and oldest mode of transportation.
- Operates on natural tracks, hence no maintenance cost, except in case of man-made structures like canal where too, the maintenance frequency is lesser compared to other mode of transportation.
- It can carry much larger quantities of heavy and bulky goods such as coal, and, timber etc.
- The risks of accidents and breakdowns, in this form of transport, are minimum as compared to any other form of transport.
- Speed of Inland water transport is very slow and therefore this mode of transport is unsuitable where time is an important factor.
- Rivers and canals cannot be operated for transportation throughout the year as water may freeze during winter or water level may go very much down during summer.
- Suitable for large Shipments and cargo transportation.

**d) Airways**

- It is the fastest mode of transportation and hence It is regarded as best mode of transport for transporting perishable goods.
- Require good capital investment and hence costlier as compare to other mode of transport. The operating cost of aero-planes are higher and it involves a great deal of expenditure on the

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construction of aerodromes and aircraft. Because of this reason the fare of air transport are high that common people can't afford it.

- Air transport is free from physical barriers because it follows the shortest and direct routes where seas, mountains and forests do not obstruct.
- It plays a significant role in the national defense of the country because modern wars are conducted with the help of aero planes. Airways has a upper hand a destroying the enemy in a short period.
- Require frequent quality checks on runway in order to ensure smooth and safe takeoff.

### Road Traffic Signs

Traffic signs are silent speakers of road. These are used to instruct commuters about the rules that should be followed, warn about the conditions ahead of the road and provide with any necessary important information. Based on the aim of the traffic signs, they are classified as

1. **Mandatory Signs:** To ensure easy movement of traffic. If not followed result in penalty. Example: Stop signs, Give way, no overtaking, speed limit signs.





















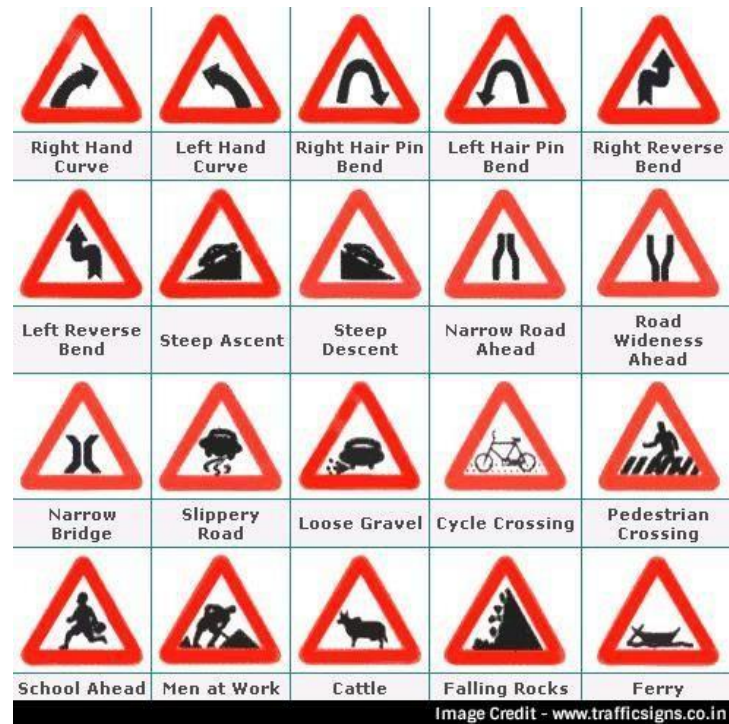
 STOP	 GIVE WAY	 STRAIGHT PROHIBITOR NO ENTRY	 PEDESTRIAN PROHIBITED	 HORN PROHIBITED
 NO PARKING	 NO STOPPING OR STANDING	 SPEED LIMITED	 RIGHT HAND CURVE	 LEFT HAND CURVE
 RIGHT HAIR PIN BEND	 LEFT HAIR PIN BEND	 NARROW ROAD AHEAD	 NARROW BRIDGE	 PEDESTRIAN CROSSING
 SCHOOL AHEAD	 ROUND ABOUT	 DANGEROUS DIP	 HUMP OR ROUGH	 BARRIER AHEAD

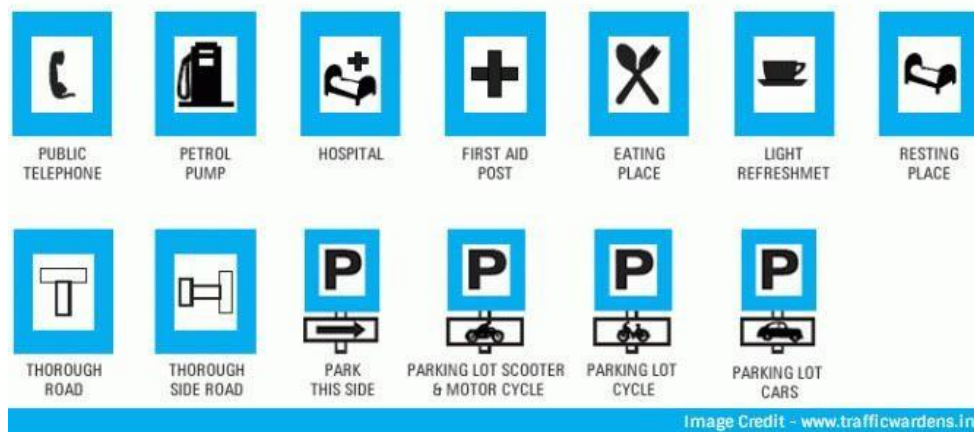
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2. **Cautionary Signs:** Make users conscious of hazardous conditions. If not followed leads to injury, accident and death. Example: landslide sign, narrow road ahead sign, pedestrian crossing sign



3. **Informatory Sign:** Inform user about prominent locations. Example: petrol pump ahead, hospital, food joints etc.



**Cause of Accidents:**

The four elements of Accidents are:

1. **Road users:** A most common and most prominent source of accident is when the user is not careful and is driving recklessly. Over speeding, consuming alcohol while driving make user

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to lose control while driving which leads to accidents. Other prominent example include unsafe lane change, running stop signs. Hence, It is very important for a road user to follow the rules and regulation in order to safeguard his and other commuters life.

2. **Vehicles:** Sudden failure in vehicle is another major cause of accidents. For example, failure of breaks while driving leads to collision. By regular vehicle service and using good quality products, such accidents can easily be avoided.
3. **Road conditions:** Many a time accident might occur due to bad road design or poor road conditions. Due to bad road design, the sight of road user is compromised, especially at intersections, curves, leading to accidents. Due to poor road conditions like pot hole, a speeding vehicle may lose control causing accidents. Such accidents can easily be avoided by proper road designing and using quality material for road construction.
4. **Environment factors:** Bad weather conditions like rain, wind snow hinder the sight of commuters causing sever accidents. The only way such accidents can be avoided is by not using vehicles during such conditions or if necessary, driving carefully at low speed.
5. **Animals:** sudden appearance of animal in the middle of roads make commuter loose control of its vehicle causing accidents. Such case can be avoided by constructing high kerb and regular checkups by concerned authority that no stray animal come near the roads.

**Road Safety Measures:**

**a) Engineering Measures:**

- a. Road design: The design should be such that it should provide proper width, sight distance and set back distance that allow smooth movement of traffic.
- b. Well Maintained Vehicles: To avoid sudden vehicle failure, it should be well maintained and must be equipped with good quality equipment.
- c. Research: A record of accidents and patterns should be maintained and studied. Then hot spot for accident should be identified and necessary measures to counter such accidents should be adopted.
- d. Road lightening: Proper road lightening provide good visibility during night, thus reducing accidents.

**b) Enforcement Measure:**

Another way to minimize the road accidents is by imposing necessary rules and regulations and ensuring they are followed. Some of the common and important rules set by government of India are:

- a. Speed Control: Depending upon the traffic volume and traffic density maximum speed of vehicles is set.

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- b. Traffic Control Device: Traffic signal are installed in the areas subjected to heavy traffic and intersections. Traffic authorities should ensure that traffic signals are followed successfully and if not, user must be awarded with penalty.
- c. Medical Checkup: The road user should regularly checked for vision and reactions to ensure accident free smooth traffic flow.

***c) Educational Control Measures***

The road user should be educated about the importance of safe driving and necessity of following traffic rules. This can be achieved by sticking educational posters, TV advertisement related to traffic and accidents.