

1.5 ACCIDENT STUDIES

The traffic accidents may involve property damages, personal injuries or even casualties. One of the main objective of traffic engineering is to provide safe traffic movements.

Road accident cannot be totally prevented, but suitable traffic engineering and management measures, the accident rate can be considerably decreases. Therefore the traffic engineer has to carryout systematic accident studies to investigate the causes of accidents and to take preventive measures in terms of design and control.

The objective of the accident studies may be listed below:

To study the causes of accidents and to suggest corrective treatment at location,

- ❖ To evaluate the existing design
- ❖ To support the proposed designs
- ❖ To carryout the before and after studies and to demonstrate the improvement inthe problem
- ❖ To make computations of financial loss

There are four basic elements in a traffic accident:

- ❖ The road users
- ❖ The vehicles
- ❖ The roads and its condition and
- ❖ Environmental factor-traffic, weather etc.

Causes of accidents

Road users: excessive speed and rash driving, careless ,violation of rules and regulations, failure to see or understand the traffic situations, signs or signal, temporary effect due to fatigue, sleep or alcohol.

Vehicles defects: Failure of brakes, steering system, and lighting system etc.,

Road condition: Skidding road surface, pot holes, ruts and other damaged conditions of the road surfaces.

Road design: defective geometric design like inadequate sight distance, inadequate width of shoulders, improper curve design, improper lighting and improper control devices.

Environmental factor: unfavorable weather condition like mist, fog, snow, dust, smoke and heavy rainfall which restrict the normal visibility and render driving unsafe.

TYPES OF ACCIDENTS:

- Fatal accident
- Grievous injury accidents
- Slightly injured accidents
- Minor injury accidents
- Non-injury accidents

Fatal accidents: An accident in which one or more persons were killed.

Grievous injury accident: Accidents in which persons were grievously injured. For example permanent disfigurement of head or face.

Slightly injured accidents: Persons who have sustained only minor injuries or bruises or sprains.

Minor injury accidents: Accidents in which persons received only minor injuries.

Non-injury accidents: Accidents in which no one was killed or injured.

COLLISION DIAGRAM:

A collision diagram is the schematic representation of all accidents occurring at a particular location.

Nature of collision:

Different types of collision are,

- ❖ Head on collision
- ❖ Rear end collision
- ❖ Side swipe collision
- ❖ Right angle collision

- ❖ Right turn collision
- ❖ Fixed object collision
- ❖ Out of control collision

