

Traffic Management and Accident Investigation

BRIEF HISTORY

Julius Caesar, the Roman leader ordered the city's central district of Rome off limits to traffic, but there was an exemption that those public officials and high-ranking citizens are allowed to enter.

Semaphores - the first widely used traffic signal. It is a flag like device operated by hand.

Day time - the **Semaphores** had movable panels with the words "stop" and "go".

Night time - the **Semaphores** had green and green lenses illuminated by kerosene lamps.

1914 Cleveland, Ohio - the first electric traffic signal was installed.

1920 - The familiar four-way signal that we see today with its red, yellow, and green light was designed.

1931 - Traffic **actuated signal** was in wide use.

1963 - a **computer system** that controlled up to 1,000 traffic signals was installed in Toronto, Canada. Since then, many cities have installed computer-controlled traffic system to help prevent massive traffic jams in downtown.

PRIMITIVE TRANSPORTATION:

Litter - which may have been the first vehicle, designed to carry people. It is made of animal skin across two poles.

ANIMAL USED:

Middle East - used ox, donkey, and camel that was trained to be a beast of burden.

Cold Arctic Region - dogs and reindeer were used.

India - humped cattle and elephants were the burden bearers.

Horses - which became the most common transport animal was one of the last to be trained.

Ox - Cattle, which were first domesticated in Mesopotamia, were used as draft animals to draw war chariots.

Reindeer - These were first domesticated in Siberia in the beginning of the Christian era.

Dog - The plain Indians sometimes packed light loads on dogs' backs, and piled goods on travels which dogs dragged.

Donkey - The donkey or ass, first domesticated in the Middle East.

Elephant - The Carthaginians used African elephant in their war against Rome, but recent centuries, these animals have not been tamed.

Floating log - may serve as the first boat. It was later found that heavier loads could be carried on rafts made by lashing several logs together. In the Middle East, rafts were kept afloat by sheepskins with air. Wherever people could find trees, they hollowed out logs with fire or chisel and made long, narrow boats called dug out canoes. These boats were propelled by long poles and later with paddles and oars.

THE DEVELOPMENT OF TRANSPORTATION

3,000 B.C. - who lived in Western Asia may have been the first people to use the wheel. The earliest wheels were probably made of wide tree planks held together by crosspieces with a hole in the center for the axle.

Various Ancient Modes of Transportation:

Manpower. Early man, who had domesticated animals, carried his own burdens.

1. **Carrying Pole** - In China and other parts of the Far East, the carrying pole, balanced on one shoulder is a popular carrying device.

2. **Back Load and Tumpline** - In many parts of the world, goods are carried on the back. In Subtemala, pots are carried on a wooden framework supported by a tumpline across the forehead.

3. **Sledge of runners** - A simple sledge, probably man-drawn, was in use at the end of the Old Stone Age in northern Europe.

C. Wind Power:

1. **Ancient Chinese Kite** - Kites have been flown as a popular past time in the Far East since the beginning of the history. Based on a Korean tradition, the kite was first used for transport when a Korean general employed one in bridge building.

2. **Da Vinci's Ornithopter** - The great Renaissance artist, scientist and engineer, Leonardo DA Vinci, made study of the flight of the birds and his notebooks sketched a number of ornithopter (a.k.a. Orthopter) which derives its principal support and propelling from flapping wings like those of a bird.

3. **Montgolfier Balloon** - the Montgolfier brothers of France Joseph Michel and Jacques Entienne have successfully released several balloons when they proposed to use two condemned prisoners for the first ascent with passengers.

4. **Siemen's Rocket Plane** - Ernst Werner Von Siemens who later achieved fame as an electric industrialist, in 1847 designed a rocket plane, which was to be propelled by the explosive force of gunpowder.

ROADS AND VEHICLES HISTORY

Wheel - was invented probably in Western Asia, such as invention was a milestone and a great step forward in transportation. As the wheel was perfected, crude carts and wagons began to appear in TIGRIS-EUPHRATES VALLEY about 3500 B.C. and later CRETE, EGYPT AND CHINA.

Solid wheels on fixed axle - this ancient cart represents an early step in the evolution of wheeled vehicles.

Sumerian chariot with flank wheels - this chariot, of about 2400 B.C. had solid wheels built up of three pieces, and so was more durable than the one-piece wheel.

Greek quadrica with spoked wheels - drawn by four horses was a light and elegant vehicle for gentleman about 250 B.C.

Italian Cocchio. 1268 - a traveling wagon in which the passengers were protected by a covering of leather or cloth fixed over a wooden framework.

1675 – wheeled vehicles were in general use in Egypt.

Hyksos – brought to the Egyptians a vehicle named Chariot. A horse draws this type of vehicle.

HISTORICAL ACCOUNT ON THE DEVELOPMENT OF TRAFFIC

John Macadamme - designed the first road made of bricks. In 1815 the first road was named in England, the Macadamme Street in recognition of his efforts. In the Industrial Revolution, John Loudon McAdam (1756–1836) designed the first modern highways, using inexpensive paving material of soil and stone aggregate and he embanked roads a few feet higher than the surrounding terrain to cause water to drain away from the surface. With the development of motor transport there was an increased need for hard-topped roads to reduce washaway, bogging and dust on both urban and rural roads, originally using cobblestones and wooden paving in major western cities and in the early 20th century tar-bound macadam (tarmac) and concrete paving were extended into the countryside.

William Murdock and Richard Trevithick - developed early types of locomotives in 1800. Murdoch was the inventor of the oscillating cylinder steam engine, and gas lighting is attributed to him in the early 1790s, also the term "gasometer". His most significant contribution of **Trevithick** was to the development of the first high-pressure steam engine. He also built the first full-scale working railway steam locomotive. On 21 February 1804 the world's first locomotive-hauled railway journey took place as Trevithick's unnamed steam locomotive hauled a train along the tramway of the Penydarren Ironworks, in Merthyr Tydfil, Wales.

George Stephenson – made the first of locomotive which was used for hauling in 1814.

1855 – the first railroad was made.

Nicholas Otto and Gatlief Daimler - manufactured the first gas engines

1800 - an engine was invented in France by Ford brothers.

John Boyed Dunlop - invented the first tire in 1888.

Robert Kulton - developed the first steamboat in 1817.

Willbore & Orvil Right - developed the first airplanes.

Etienne Lenoir – initiated the development if the internal combustion engine which pave the way for the development of the automobile.

Henry Ford's assembly-line process further transformed society by putting the public on wheels and was adopted for the mass production of many other goods.

THE NEED TO CONTROL TRAFFIC

1. To promote the safety of motorists and pedestrians.
2. To secure compliance with traffic laws.
3. To expedite the flow of traffic with safety.
4. To provide safe, convenient and orders in transporting persons and goods over traffic facilities.
5. To solve a problem of human in a mechanical age where lives and properties are destroyed.

BASIC OBLIGATION OF THE POLICE IN TRAFFIC TO THE COMMUNITY

1. Protection of life and property.
2. Prevention of accidents
3. Provide effective traffic control
4. Study the characteristics of accident occurrences.

MAIN FUNCTIONS OF POLICE IN TRAFFIC

1. Police traffic direction.
2. Police traffic law enforcement
3. Police traffic accident investigation.

PILLARS IN TRAFFIC MANAGEMENT

1. **Traffic education-** Comprises all means for public information and the safety education of both drivers and pedestrians as to traffic laws and the use of traffic facilities. Also an adequate training programs in traffic control throughout the police unit.
2. **Traffic engineering-** That phase of engineering which deals with the planning and geometric design of streets, highways and abutting lands, and with traffic operation thereon, as their use is related to the safe, convenient and economic transportation of persons and goods. Fact finding surveys and recommendation of traffic rules and regulations. Supervision and maintaining to the application of traffic control devices. Planning of traffic regulations.
3. **Traffic enforcement-** Traffic enforcement is a person or department specially devoted to the enforcement of traffic laws. The main duty of traffic enforcers is to spot vehicles that are driving through stoplights, driving too fast, making illegal turns, or violating other traffic laws.
4. **Traffic Economy** – Study about the impact of the traffic situation and the growth of our economy.
5. **Traffic Environment** – Our Invironment is the first recipient of all pollution cause by our traffic facilities. Focus on how can we reduce the negative effect of increasing the volume of vehicle in the environment.

Traffic Management

Comprises all public surfaces and agencies having responsibility for licensing is approved maintaining or controlling the flow of traffic and the use of these facilities.

ELEMENTS IN HIGHWAY TRAFFIC

1. The road user.
2. The vehicle and its load.
3. The road itself.

REQUIREMENTS IN MOUNTING TRAFFIC CONTROL DEVICES

1. It must be visible that it would compel attention.
2. It must convey a simple, clear meaning at a glance.
3. It must allow time for response.
4. It must command respect.

Traffic signs - a device mounted on a fixed or portable means of words or symbols, officially erected and installed for the purpose of regulating, warning and guiding traffic.

Pavement Markings - are markings in roads and surfaces whereby a message is conveyed by means of words or symbols, officially reflected for the purpose of regulating, warning, and guiding traffic.

PAVEMENT MARKINGS

Lines, symbols, and words painted on a roadway help to direct riders and control traffic flow. White and yellow lines are used along pavement edges and between lanes to keep vehicles in line. These lines may be solid or broken (long dashes), single or double. A solid white or solid yellow line that turns into a dotted line (short dashes) is a continuation of the line through an intersection or a highway interchange.

WHITE LANE LINES

White lane lines separate lanes of traffic moving in the same direction. Single white lines may also mark the right edge of the pavement.

BROKEN WHITE LANE LINE

A broken white lane line separates two lanes traveling in the same direction. Once you have signaled, and if it is safe to do so, you may cross this line when changing lanes.

1. SOLID WHITE LANE LINE

A solid white lane line marks the right edge of the roadway or separates lanes of traffic moving in the same direction. You may travel in the same direction on both sides of this line, but you should not cross the line unless you must do so to avoid a hazard.

2. DOUBLE SOLID WHITE LANE LINE

A double solid white line separates two lanes of traffic going in the same direction. Crossing a double solid white line is prohibited.

YELLOW LANE LINES

Yellow lane lines separate lanes of traffic moving in opposite directions. Single yellow lines may also mark the left edge of the pavement on divided highways and one-way streets.

1. BROKEN YELLOW LANE LINE

A broken yellow lane line separates lanes of traffic moving in opposite directions. Stay to the right of the line, unless you are passing a vehicle in front of you. When passing, you may cross this line temporarily when it is safe to do so.

2. DOUBLE YELLOW LANE LINES: ONE SOLID, ONE BROKEN

As with all yellow lane lines, the one-solid-one-broken combination keeps opposing lanes of traffic separated. If the solid yellow line is closer to you, you may not cross the double yellow line. If the broken line is closer to you, you may cross the line only to pass another vehicle and only when it is safe to do so.

3. DOUBLE YELLOW LANE LINES: BOTH SOLID

Two solid yellow lane lines prohibit vehicles moving in either direction from crossing the lines to pass another vehicle. You may not cross these lines unless turning left when it is safe to do so.

STOP LINES AND CROSSWALKS

An intersection or a pedestrian crossing controlled by a stop sign, yield sign, traffic signal, or traffic officer may have a solid white STOP line painted across it. You must stop your vehicle behind this line.

A crosswalk is a pair of white lines painted across a lane that guides pedestrians from one side of the road to the other. A painted crosswalk is also a warning to drivers that pedestrians are crossing the road at that point. Crosswalks may have diagonal or vertical lines painted between the two main lines for added emphasis.

Traffic Light Signals - is a power operated traffic control device by which traffic is warned or directed to take some specific actions.

1. **Manual Signals** - system is used in which the traffic constable gives the signals by hand.

2. **Electronic signals.**

Electronic signalling system

1. It is fixed to a tall post at the junctions where traffic is heavy.
 2. Three bulbs are fixed in this device to provide light with the help of electricity.
 3. If the red light is on, it is a signal "to stop" the vehicles.
- Amber light is on, it is a signal 'to get ready to start'.
- Green light is on, it is a signal "to start".

A **traffic island** is a solid or painted object in a road that channelises traffic. When traffic islands are longer, they are instead called traffic medians, a strip in the middle of a road. Serving the divider function over a much longer distance. A traffic-control island is a defined area between traffic lanes for control of vehicle movements or for pedestrian refuge.

Within an intersection area, a median or an outer separation is considered to be an island. An island may be designated by paint, raised bars, Mushroom Buttons, curbs, guideposts, pavement edge, or other devices.

- **Rotary Island** - A traffic circle or rotary is a type of intersection that has a generally circular central island. Entering traffic must typically alter direction and speed to avoid the island, creating a circular flow in one direction. In most applications, traffic circles replace the stop lights and traffic signs that regulate flow in other intersections.
- **Refuge Island**- Pedestrian islands are provided to serve as safety zones for the aid and protection of persons on foot. If a divisional island is located in an urban area where pedestrians are present, portions of each island can be considered a refuge island.
- **Channelizing Island**- It is the separation or regulation of conflicting traffic movements into definite paths of travel by traffic islands or pavement marking to facilitate the safe and orderly movements of both vehicles and pedestrians.
- **Divisional Island** - is to separate opposing traffic; also, they may be used to separate traffic in the same direction, e.g., to divide left-turn traffic in a median lane from the through traffic. Divisional islands are used to guide traffic around an obstruction within the roadway (such as a bridge pier), in advance of an intersection to separate opposing traffic and may be located to prevent overtaking and passing at hazardous points, such as sharp curves or narrow underpasses.¹

FUNCTIONS OF TRAFFIC ISLANDS

- To segregate pedestrians and vehicles.
- To control streams of traffic in order to minimize conflicts, and expedite the flow of traffic with measures to increase safety.
- To channelized the flow of traffic and control pedestrian movements.
- Transportation

Traffic Law Enforcement

Comprises all police activities in connection with the direction of traffic, regulation and education of drivers, determine potential offenders, constant patrol, giving of assistance in the prosecution of offenders, investigation of accidents, follow-up complaints, requesting police action, warning summoning or arrest of violators, reporting of road hazards and obstructions.

WARNING SIGNS

warning signs are yellow with black letter/symbols diamond shape and sometimes combined with a rectangular "recommended speed" sign. Warning signs call attention to unexpected conditions on or adjacent to a highway, street, or private roads open to public travel and to situations that might not be readily apparent to road users. Warning signs alert road users to conditions that might call for a reduction of speed or an action in the interest of safety and efficient traffic operations.

DESTINATION SIGNS

green with white lettering, showing distances and directions to various locations. Green signs give highway directions and guide you through highway interchanges.

REGULATION SIGNS

These signs give a direction that must be obeyed. They are usually rectangular or square with a white or black background and black, white or coloured letters. A sign with a green circle means you may or must do the activity shown inside the ring. A red circle with a line through it means the activity shown is not allowed. regulation signs are usually white rectangles with black letters or symbols

SERVICE/INFORMATIVE SIGNS (service signs are blue with white lettering)

Movement of persons and goods over space

A transportation system is an infrastructure that serves to move people and goods *efficiently*. The transportation system consists of fixed facilities, flow entities, and a control component.

THE ROLE OF TRAFFIC ACCIDENT INVESTIGATION

The primary function of police in traffic is the protection of life and property. An accident investigation is very essential in trying to recover the cost of damage in an accident.

Traffic -is a movement of motor vehicles along a route where passengers or cargoes carried by a transportation.

Transportation -a facility or mechanism use in transporting passengers or persons and cargoes.

Motor Vehicles -shall mean a vehicle propelled by any power other than muscular power using the public highways.

Accident - is an event, occurrence or happening, which is unexpected or undesigned which has an element of change or probability and which has undesirable or uncomfortable results.

1. ¹ Road design manual, 2011.

Traffic Accident - any accident occurring in a traffic way involving traffic unit(s) causing death, injury and damage to property.

Traffic Unit - vehicles, pedestrians, animal drawn vehicles, animals herd by persons, etc. using a traffic way for travel or transportation

Traffic Way - area closed between property lines for purpose of traffic. All highways are traffic ways but traffic ways include also some areas on private property such as shopping center.

CAUSES OF TRAFFIC ACCIDENT

Accident Causes - is any behavior, condition, act, or negligence without which the accident would not have occurred.

Direct Cause - any unconventional or hazardous behavior or negligence by a traffic unit that is contributory to the occurrence at the accident at the time.

FOUR FACTORS IN DIRECT CAUSE

1. **Initial Behavior** - any movements, position or failure to signal intent to make a traffic maneuver, that creates a dangerous situation and is either hazardous, illegal, improper and unusual.
2. **Speed** - the nature of the accident and a brief preliminary investigation should indicate whether or not speed was a direct cause of the accident. In three ways speed may be a direct cause. It makes it impossible to follow curve of road. It makes it impossible to apply successful evasive action. Unusual surface action.
1. **Delayed Perception** - is the intention to the major task or operating a motor vehicle and occurs when the driver is distracted by conversation with other occupants of the vehicle, lighting a cigarette, looking at a roadway on some scene or glancing at occupants of nearby vehicle.
2. **Faulty Evasive Action** - occurs after perception and is the reaction of a driver or pedestrian to hazardous situation on the highway.
3. **Mediate Cause** - some irregular or unusual condition of a vehicle, road weather or a driver or pedestrian that directly explains the accident.
4. **Early Cause** - an act or negligence on the part of some persons or organizations that permits the existence of an accident-prone area.

TYPES OF ACCIDENT

Non-collision

Collision

KINDS OF NON-COLLISION ACCIDENT

1. Running off the road
2. Collision on the road
3. Overturning or other non-collision event on the road

THE CHAIN OF EVENTS IN AN ACCIDENT

1. Chain of Events - is the making-up of an accident and are present in every accident.
2. Key Event - one characterizes the manner of occurrence of a traffic accident on the road involving motor vehicles. It determines the time, place, and the type of accident.
3. Possible Perception - is a link in the accident chain dealing with the reaction of a normal person.
4. Prompt- occurs when possible and actual perceptions are very close.
5. Maximum Delayed Perception - occurs when actual perception is delayed until impact shocks or alters the driver.
6. Point of No Escape - is the location and the time after or beyond which the driver or pedestrian cannot prevent an accident.
7. Initial Behavior - is the movements, position, or failure to signal intent of a driver or pedestrian that creates an accident-prone situation and is characterized by unusual, illegal, improper or hazardous behavior by the traffic unit under investigation. It is the beginning of the path of a vehicle or a pedestrian to its position of final rest.
8. Point of Maximum Engagement - is the initial touching of the vehicles in a collision up to its impact.
9. Final Rest - the location of a vehicle or body when it comes to rest after collision.

TRAFFIC ACCIDENT INVESTIGATION

Initial Steps. Prompt arrival at the scene of an accident is essential. Safety, however, should be emphasized at all times. While in route, the officer should maintain contact with the Dispatcher. They should also be on the lookout for any suspicious or damaged vehicles fleeing the general area.

Arrival at the Scene. The following steps should be taken upon arrival at the scene of the accident. While enroute to the scene, the officer should obtain as much preliminary information as possible concerning the accident. Such information includes:

1. Location
2. Time of notification
3. Who notified the officer and how
4. Weather and visibility conditions
5. General information as to seriousness of the accident--injuries, hit and run, amount of traffic congestion, etc.
6. Whether or not additional support is proceeding to the scene, such as wrecker, ambulance, or additional Police patrols
7. By obtaining such information prior to arrival at the scene, the investigators may more quickly and efficiently respond to the needs of the situation.

Care for injured and protect the scene.

The investigators should determine the extent of injuries, if any, to accident victims; render first aid; and request medical assistance, if necessary. Severely injured persons should not be moved, except to preserve their safety. The position of all victims should be noted for report purposes and, if on the road, the positions outlined in chalk or road paint. A doctor/coroner or justice of the peace makes final determination of death. After caring for the injured, the scene should be secured to protect property and preserve evidence. Personal property of accident victims must be protected. In case of accidents involving fatalities or felonies, Explorers should request appropriate specialized accident investigators.

Securing Facts at Scene. After completing the initial steps and securing the scene of the accident, the investigator obtains and records facts needed to complete their reports to arrive at logical and objective conclusions. The main thrust of the investigation is to determine whether or not there was a violation of the law; and if so, to prove each element of the offense. Explorers should issue a traffic ticket when appropriate.

Moving Vehicle And Marking Wheels The decision to move a vehicle from its final position must often be made by the police patrol arriving at the scene. When this is done, the positions of the wheels should be marked on the ground so they can be relocated for investigative purposes.

Under the following conditions, a vehicle must be moved immediately:

1. When an injured person is trapped in the wreckage and cannot be treated there.
2. When a person is trapped in wreckage near burning material, or an area of potential fire hazard.
3. When a vehicle position is an immediate hazard to oncoming traffic and adequate traffic control cannot be established.

TIRE PRINTS/MARKS

-the marks left on a surface by a rotating wheel. They can be found in dirt, mud, snow, and sometimes are left on pavement by tires that have passed through liquid debris. Tire prints can be an essential element in an accident investigation.

SKID MARKS a skid mark is defined as a friction mark left on a surface by a tire that has limited rotation or is locked and sliding.

Skid marks may be broken down into many different categories or types.

Impending Skid (shadow) skid mark left by a wheel that is still rotating, but at a reduced rate.

Locked Wheel Skid (skid mark) A skid mark that is left on a surface by a tire that is sliding without rotation. This type of skid is less efficient at stopping a vehicle than an impending skid.

Gap Skid (intermittent skid marks) – A braking skid mark which is interrupted by the release and reapplication of the brakes.

Skip Skid (bounce skids) A braking skid mark interrupted at frequent, regular intervals.

Centrifugal Skid (yaw mark) The mark left on the surface by a rotating tire that is slipping or sliding. Also known as a SCUFF MARK.

Acceleration Skid (acceleration scuff) Vehicles may leave these skids when drivers apply sufficient power to the driving wheels to cause them to skid on the road surface (i.e. lose adhesion with the road surface). The beginning portion of the mark is very dark, from the weight transfer of the vehicle (inertia). Tire tread rib marks may be visible.

Offset Skid (bends, crooks) Skid mark that changes direction due to an outside force.

Identify and Preserve Fragile Evidence Any fragile evidence that can be damaged, altered, destroyed or removed from the scene by any willful or negligent act must be identified and secured. Prior to removal, its position should be noted, sketched, photographed and/or marked in chalk. Examples of such evidence are puddles of gasoline, oil, blood or pieces of broken glass. The position of turn signal levers should be checked; although this is not a positive indicator of whether a turn signal was in use it can be helpful. Alcoholic beverage containers inside a vehicle should also be secured. Evidence should be tagged, marked, and secured in accordance with proper evidence gathering procedures prior to its removal from the scene.

Vehicle Search and Inspection

A careful inspection of vehicle equipment and contents is necessary. Items affecting vehicle control should be particularly checked, such as tires, brakes, lights, steering, signals and safety equipment. For example, it is important to know whether a tire blew out as a result of the accident, or whether a tire blowout was a possible contributing factor of the accident. This fact can be determined by analyzing skid and scuff marks. Contents of the vehicle may also give important information concerning the identity, residence, occupation, destination and position of vehicle occupants.

Sketches

Depending on the type and severity of an accident, sketches are made, which may range from a simple sketch on the ST-3 accident form, to detailed scaled drawings on separate sheets. Sketches serve four purposes:

1. Help explain the accident.
2. Help the investigator reveal facts.
3. Locate any given point at the scene.

Serve as the basis for accurate scale drawings.

1. Field sketches are made at the scene and are used to support the officer's original notes. The following information must be placed on sketches and scaled drawings:
2. Time of the accident (date and hour).
3. Names of roads. If on a rural highway, show the distance to the nearest identifiable landmark.

4. Direction of North.
5. Report or case number.
6. References to photographs taken.

Photography Photographs are used to supplement an accident investigation and the written report concerning the accident. When used in court testimony, they help indicate and explain the chain of events. Photographs, however, never take the place of an investigation or a report. The investigator should take as many pictures as necessary to properly depict the accident. They should represent what is actually seen by the investigator, thus scale, angles of view, color and light should be as nearly like what, is seen as possible.

Photographs must be taken as follows (minimum):

1. Establishing Photograph--This picture should show the scene, the approaches to the scene, and a fixed object in the background to establish the scene.
2. 360-Degree Photographs--These pictures should show all four sides of the accident scene, that is, looking north, south, east and west.
3. Damage Photographs--Close-up pictures of damage to all vehicles and items struck by vehicles involved, to include contact and induced damage.

Photographs in Court

To be admissible in court, the investigator taking and using photographs should follow these four steps:

1. *Authentication*--Photographic evidence will be authenticated in court by the officer who takes the pictures. A summary describing the incident should be annotated and attached to the negative film packet or recorded on the reverse side of the hard copies soon after the photographs are taken. This will assist in authentication.

2. *Marking*--Each roll of film or film pack must be marked with the name of the individual who took the photographs, date, time and location of the incident, type of incident, a control number, and the sequence in which the film was used. If it is desirable to point out a specific area of a photograph, an acetate overlay should be used. Never mark directly on the print.

3. *Relevancy*--All pictures must be clear, sharp and free of distortion. They must be relevant to the investigation. Photographs support the testimony. They must not be inflammatory or provide for shock value; particularly photographs of injuries. Photographs of bodies in relation to the vehicles' position are not, however, considered inflammatory if relevant to support a point of testimony.

4. *Supportive Only*--Photographs alone do not substantiate facts--they must be supported by testimony. The investigator or photographer must be able to testify that the photos reflect a true representation of the scene.

Special Considerations

Alcohol Use of alcohol by drivers is a factor in over half of all fatal traffic accidents. The investigator may suspect a participant in an accident was under the influence of an intoxicant or drug during the course of the investigation. Should such a suspicion exist, the investigator must follow through to the extent allowed by law, to determine whether or not these suspicions are justified. This will be in the form of chemical tests, or tests of the suspect's blood, breath or urine, to determine alcoholic content. In addition to testing the suspect, inspection and search of the vehicle may be used to gather additional information.

Approved methods include:

Plain view search of vehicle for intoxicants.

1. Detection of odors of intoxicants or other unusual odors.
2. Observation of individual's actions.
3. Search of the vehicle with permission of driver.
4. Search with a search warrant, based on probable cause.

Medical

Medical statements may be required to reflect expert opinions as to whether medical reasons contributed to an accident. The investigator must obtain medical information for the following: Personal injuries--Determine the extent of injuries received by all involved in an accident and any injuries that existed prior to the accident. Fatal injuries--In case of deaths, obtain estimated time and cause of death. Tests--Obtain any information concerning the results of alcohol, drugs or medicine used. The accident investigator should recommend to all persons involved in serious accidents that they see a physician immediately.

REPUBLIC ACT No. 4136

AN ACT TO COMPILE THE LAWS RELATIVE TO LAND TRANSPORTATION AND TRAFFIC RULES, TO CREATE A LAND TRANSPORTATION COMMISSION AND FOR OTHER PURPOSES

Section 5. **All motor vehicles and other vehicles must be registered.**

(a) No motor vehicle shall be used or operated on or upon any public highway of the Philippines unless the same is properly registered for the current year in accordance with the provisions of this Act.

(b) Any registration of motor vehicles not renewed on or before the date fixed for different classifications, as provided hereunder shall become delinquent and invalid:

1. For hire motor vehicles - on or before the last working day of February.
2. Privately-owned motor vehicles - from March one to the last working day of May.

3. All other motor vehicles - from June one to the last working day of June; except when the plates of such motor vehicles are returned to the Commission in Quezon City or to the Office of the Motor Vehicles Registrar in the provincial or city agency of the Commission on or before the last working day of December of the year of issue.

Section 7. **Registration Classification**

1. Private
2. Public utility
3. Dealers
4. Government
5. Tourists (not after ninety days of their sojourn)
6. Special

Protocol/High-ranking government plates

1/PANGULO - President

2 - Vice President

3 - Senate President

4 - Speaker of the House of Representatives

5 - Chief Justice of the Supreme Court

6 - Cabinet Secretaries

7 - Senators

8 - Representatives (Congressmen)

9 - Associate Justices of the Supreme Court

10 - Presiding Justice and other Justices of the Court of Appeals, Solicitor General (President Arroyo abolished the OSG's protocol plate number '13' by virtue of Executive Order No. 400-A)

11 - Chairman of the Commission on Elections

12 - Cabinet Undersecretary

14 - Chief of Staff, Armed Forces of the Philippines and Chief, Philippine National Police

16 - Regional Trial Court Judges

17 - First Level Courts (Metropolitan Trial Court, Municipal Trial Court, Municipal Trial Court in Cities and Shari'ah Circuit courts), added by Memorandum Order No. 297 signed by President Gloria Macapagal-Arroyo on March 2, 2009

Section 16. **Suspension of registration certificate**

any motor vehicle is found to be unsightly, unsafe, overloaded, improperly marked or equipped, or otherwise unfit to be operated, or capable of causing excessive damage to the highways, or not conforming to minimum standards and specifications, the Commissioner may refuse to register the said motor vehicle, or if already registered, may require the number plates thereof to be surrendered to him, and upon seventy-two hours notice to the owner of the motor vehicle, suspend such registration until the defects of the vehicle are corrected and/or the minimum standards and specifications fully complied with.

After two such suspension, re-registration of the vehicle concerned for one year may be denied.

Section 19. **Duty to procure license**

Except as otherwise specifically provided in this Act, no person shall operate any motor vehicle without first procuring a license to drive a motor vehicle for the current year, nor while such license is delinquent, invalid, suspended or revoked. The license shall be carried by the driver at all times when operating a motor vehicle, and shall be shown and/or surrendered for cause and upon demand to any person with authority under this Act to confiscate the same.

Section 30. **Student-driver's permit**

the Commissioner or his deputy may issue student-driver's permits, valid for six months to persons not under eighteen years of age, who desire to learn to operate motor vehicles. No application for driver's license shall be received unless the applicant has undergone instruction in the operation of motor vehicles for at least a month and has a valid student-driver's permit: Provided, however, That any person who has a license to operate vehicles in other countries may, upon presentation of appropriate evidence of such license, be allowed to pay for a driver's license without presenting a student driver's permit.

ARTICLE

IV

Accessories of Motor Vehicles

(a) Tires of motor vehicles. - No motor vehicle with metallic tires shall be operated

(b) Brakes

(b-1) Horns

(c) Headlights. which, not later than one-half hour after sunset and until at least one-half four before sunrise and whenever weather conditions so require, shall both be lighted.

(d) Taillights

(e) Stop lights. - with a lamp at least twelve centimeters in diameter with the word "stop" inscribed in the center.

(f) Use of red flag. - there shall be displayed at every projecting end of such load a red flag not less than thirty centimeters both in length and width, except that during the hours fixed under subsection (c), there shall be displayed, in lieu of the required red flags, red lights visible at least fifty meters away.

(j) Mufflers. - Every motor vehicle propelled by an internal combustion engine shall be equipped with a muffler, and whenever said motor vehicle passes through a street of any city, municipality, or thickly populated district or barrio, the muffler shall not be cut out or disconnected. No motor vehicle shall be operated in such a manner as to cause it to emit or make any unnecessary or disagreeable odor, smoke or noise.

Restriction as to speed

(c) The rates of speed hereinabove prescribed shall not apply to the following:

- (1) A physician or his driver when the former responds to emergency calls;
- (2) The driver of a hospital ambulance on the way to and from the place of accident or other emergency;
- (3) Any driver bringing a wounded or sick person for emergency treatment to a hospital, clinic, or any other similar place;
- (4) The driver of a motor vehicle belonging to the Armed Forces while in use for official purposes in times of riot, insurrection or invasion;

- (5) The driver of a vehicle, when he or his passengers are in pursuit of a criminal;
- (6) A law-enforcement officer who is trying to overtake a violator of traffic laws; and
- (7) The driver officially operating a motor vehicle of any fire department, provided that exemption shall not be construed to allow unless or unnecessary fast driving of drivers aforementioned.

Section 46. **Parking prohibited in specified places**

- (a) Within an intersection
- (b) On a crosswalk
- (c) Within six meters of the intersection of curb lines.
- (d) Within four meters of the driveway entrance to and fire station.
- (e) Within four meters of fire hydrant
- (f) In front of a private driveway
- (g) On the roadway side of any vehicle stopped or parked at the curb or edge of the highway
- (h) At any place where official signs have been erected prohibiting parking.

Section 51. **Hitching to a vehicle**

No person shall hang on to, ride on, the outside or the rear end of any vehicle, and no person on a bicycle, roller skate or other similar device, shall hold fast to or hitch on to any moving vehicle, and no driver shall knowingly permit any person to hang on to or ride, the outside or rear end of his vehicle or allow any person on a bicycle, roller skate or other similar device to hold fast or hitch to his vehicle.

Section 54. **Obstruction of traffic**

No person shall drive his motor vehicle in such a manner as to obstruct or impede the passage of any vehicle, nor, while discharging or taking on passengers or loading or unloading freight, obstruct the free passage of other vehicles on the highway.

Section 55. **Duty of driver in case of accident**

No driver of a motor vehicle concerned in a vehicular accident shall leave the scene of the accident without aiding the victim, except under any of the following circumstances:

1. If he is in imminent danger of being seriously harmed by any person or persons by reason of the accident;
2. If he reports the accident to the nearest officer of the law; or
3. If he has to summon a physician or nurse to aid the victim.

Republic Act No. 10054 – Motorcycle Helmet Act

All motorcycle riders, including drivers and back riders, are required to wear standard protective motorcycle helmets at all times while driving, whether long or short drive. Any person caught not wearing the standard protective motorcycle helmet will be punished with a fine of P1,500.00 for the first offense, P3,000.00 for the second offense, P5,000.00 for the third offense, and P10,000.00 plus confiscation of the driver's license for the fourth and succeeding offenses, in any type of road and highway.

PRESIDENTIAL DECREE NO. 1911

Authorizing the disposal of unclaimed recovered and impounded carnapped motor vehicles amending for the purpose republic act numbered six thousand five hundred thirty-nine otherwise known as "the anti-carnapping act of 1972"

"Sec. 12-A. All carnapped or stolen motor vehicle, recovered and impound by law enforcement agencies which after a period of three (3) months from the date of its seizure/recovery have remained unclaimed or whose real owners could no longer be determined or established because the original numbers of the motor engine or chassis numbers could no longer be determined and restored, are considered as abandoned motor vehicles and shall be sold and disposed of by the Chief of Constabulary of his authorized representative in a public auction; Provided, That, in all cases before any public auction is effected, there shall be published once a week for three (3) consecutive weeks in a newspaper of general circulation in the Philippines or in the place where it was recovered or found, a description of the motor vehicles intended to be auctioned with a notice that after the lapse of one month from the date of the last publication, should no person file a claim for the recovery of the same, said motor vehicles will be sold at public auction; Provided, Finally that the date and place of the public auction to be conducted by the Chief of Constabulary or his authorized representative shall already be fixed in the last publication aforementioned.

Doctrine of last clear chance

The doctrine of last clear chance states that **where both parties are negligent** but the negligent act of one is appreciably later than that of the other, or where it is impossible to determine whose fault or negligence caused the loss, the one who had the last clear opportunity to avoid the loss but failed to do so, is chargeable with the loss. Stated differently, the antecedent negligence of plaintiff does not preclude him from recovering damages caused by the supervening negligence of defendant, who had the last fair chance to prevent the impending harm by the exercise of due diligence (*Philippine National Railways v. Brunty supra note 68*).

State of Necessity

Any person who, in order to avoid an evil or injury, does not act which causes damage to another, provided that the following requisites are present;

First. That the evil sought to be avoided actually exists; Second. That the injury feared be greater than that done to avoid it;

Third. That there be no other practical and less harmful means of preventing it.

Example: While driving his car, Juan sees Pedro carelessly crossing the street. Juan swerves to avoid him, thus hitting a motorbike with 2 passengers, killing them instantly. Not all requisites to justify act were present because harm done to avoid injury is greater. Considered as mitigating.

Accident

Art. 12. *Circumstances which exempt from criminal liability*

4. Any person who, while performing a lawful act with due care, causes an injury by mere accident without fault or intention of causing it.

FORTUITOUS EVENT

A **fortuitous event** is an unforeseen event or, if foreseen, inevitable. It is also called an act of God (if due to a natural occurrence, like an earthquake) and **force majeure** if caused by man, such as war. There are ordinary fortuitous events, which are events that normally happen, reasonable foreseeable and inevitable (like flooding during a typhoon) and extraordinary fortuitous events, which can't be foreseen/reasonably foreseen and don't usually happen (like war.) The requisites of a fortuitous event are the following:

- 1.) The cause is independent of the debtor/obligor's will (read: he didn't cause it)
- 2.) It was an unforeseen or unavoidable event
- 3.) The happening of the event made it impossible for the debtor/obligor to fulfill his obligation in a normal manner
- 4.) The debtor didn't take advantage of the event to aggravate the injury to the creditor/obligee

The general rule is that there is no liability in case of a fortuitous event. The exceptions are the following:

- 1.) When the law itself expressly declares so (ex. Arts. 552(2,) 1165(3,) 1268, 1942, 2147 and 2159 of the Civil Code)
- 2.) When expressly stated in the contract
- 3.) When the obligation's nature requires the assumption of risk (Art. 1174)
- 4.) When the obligor/debtor is in default or has promised to deliver the same thing to 2 or more persons who don't have the same interest

A **fortuitous** effect will not affect a generic obligation, because a generic object can always be replaced by another. It will, however, affect a determinate/specific obligation because the object of the obligation is specified -but the exceptions must still be observed.

Some other exceptions are listed here:

- 1.) When it's expressly stipulated that the obligor/debtor is liable even if non-performance is due to a fortuitous event (Art. 1174, Civil Code)
- 2.) The obligor/debtor is in delay (Art. 1165)
- 3.) The possessor is in bad faith and the thing is lost or deteriorates because of the fortuitous event (Art. 552)
- 4.) The obligor/debtor contributed to the loss of the thing (Tan vs Inchausti, 22 Phil 152)
- 5.) The obligor/debtor is guilty of fraud, negligence or delay or if he violated the tenor of the obligation (144 SCRA 596, 160 SCRA 334)

Common carriers must pay heed to the following:

- 1.) Mechanical defects in vehicles or vessels are not fortuitous events (Sweet Lines vs. CA 121 SCRA 769, Necesito vs. Paras 104 Phil 75)
- 2.) Blowout of a passenger bus tire is not a fortuitous event (La Mallorca vs. de Jesus 123 Phil 875, Juntilla vs. Fontanar 136 SCRA 624)
- 3.) Defective brakes of the vehicle do not constitute a fortuitous event (Vergara vs. CA 154 SCRA 564)