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SAFETY AND HIGHWAY CODES

A Guide to Motor Vehicle Driving



NO PALE INTERSECTION

STOP POLICE

NO LEFT TURN

NO RIGHT TURN

IDRIS, A. M. & MUSTAFA, A.





STOP AT INTERSECTION



STOP POLICE



NO LEFT TURN



NO RIGHT TURN

SAFETY AND HIGHWAY CODES

A GUIDE TO MOTOR VEHICLE DRIVING

IDRIS, Abubakar Mohammed
Industrial and Technology Education Department
Federal University of Technology, Minna

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Preface

A comprehensive knowledge of Nigeria road signs and pavement markings is compulsory for all road users to ensure a smooth and safe traffic flow. This book titled “SAFETY AND HIGHWAY CODES: A GUIDE TO MOTOR VEHICLE DRIVING” is intended to serve as a guide to meet the desperate needs and expectations of all road users, highway patrol bodies, Vehicle Inspection Officers (VIO), Federal Road Safety Corps (FRSC) officers, mechanical/automobile engineers, teachers, technicians, technologists and students in the Colleges of Education, Monotechnics, Polytechnics and Universities. It is assumed that these users have the requisite educational and engineering experiences necessary to properly implement motor vehicle driving procedures, guidelines and criteria. This book utilizes established analysis techniques and design standards from recognized technical associations that are listed as references in the relevant sections. Four companion documents listed below were used for the compilation, viz: Nigeria Highway Code (2017), Consultant Procedure Manual (2014); Standard Drawings (2014); Traffic Control Devices Manual (2014) and Standard Specifications (2014). This book therefore contributes towards providing all road users with a practical companion with respect to motor vehicle driving. It is expected that by the help of this book, there should be a reduction in the number of road traffic crashes/ accidents.

The scope of the “SAFETY AND HIGHWAY CODES: A GUIDE TO MOTOR VEHICLE DRIVING” is comprehensive and divided into four parts which are further divided into chapters and each with appropriate sub-headings. The parts are: Part 1: Driving foundation; Part 2: Roads; Part 3: Traffic and Part 4: Road traffic accidents/crashes.

Part 1 discussed the driving techniques, motor vehicle controls and starting operations and qualities of a good driver. Part 2 also discussed the road signs, road markings, road junctions, lane and lane rules, lane discipline, carriageways and carriageways rules and driving under special conditions. Part 3 treated the traffic control and other relevant institutional bodies, traffic regulations and road

traffic light signals. Road traffic accidents/ crashes: causes and prevention and general duties for drivers were discussed in Part 4. Review activities were included for personal evaluation while most discussions were of practical nature.

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While working on the completion of this book, we appreciate all the lecturers in the Department of Industrial and Technology Education, especially those in Automobile Technology: Dr. Rufai Audu, Dr. Abdulkadir Mohammed, Mr. Abutu Francis and Mr. Benjamin Ekhalia Joseph. The authors offer their heartfelt gratitude for aiding to keep the wheels of automobiles in motion.

We are extremely grateful to Malam Nma Abdullahi Sallah for his extensive proofreading and Muhammad Nura Jimada for his worthy photographic works. Our profound appreciation is also extended to the Staff of Usmanu Danfodiyo University Sokoto University Press LTD.

It would be great injustice to miss out our families for providing a comforting and supportive environment to ease the pressures of work on the manuscript.

Finally, all praise be to Almighty God, Who grant the strength to accomplish this task.

Forward

“SAFETY AND HIGHWAY CODES: A GUIDE TO MOTOR VEHICLE DRIVING” is made a superb and understandable presentation of defensive motor vehicle driving, road signs and markings, traffic and vehicle maintenance laws, traffic control, other relevant institutional bodies, road traffic crashes/accidents: causes and prevention.

Most road users are wanting of serious traffic offenses whereby drivers of vehicles disregards the rules of the road, driving very dangerously, causing accidents and/ or damages of lives and properties. As a result of this, therefore, the authors have enormously put in words of one single syllable the techniques and laws regarding vehicle driving by chewing over in details the vital steps for a defensive driving.

This book is a valid material, in face and content, for the students and lecturers in the Colleges of Education, Monotechnics, Polytechnics and Universities as well as engineers, technicians, technologists; Vehicle Inspection officers (VIOs); Federal Road Safety Corps (FRSC) officers and all road users who want to have a good understanding of defensive motor vehicle driving. Finally, and most importantly, presentation and coherent exploration of the contents make the book very distinctive and user friendly.

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PART ONE: DRIVING FOUNDATION

Chapter 1: Driving Techniques

Chapter 2: Motor Vehicle Controls and Starting Operations

Chapter 3: Qualities of a Good Driver

CHAPTER ONE

DRIVING TECHNIQUES

Introduction

Driving is the process of operating and controlling the direction and speed of a motor vehicle from origin to destination. The ways or procedures that is effective in carrying out the driving tasks is termed techniques. Thus, driving techniques refers to the effective procedures used in operating and controlling the direction and speed of a motor vehicle. These techniques include among others, driving to save lives, time and money in spite of the conditions around the driver and the actions of passengers and other road users.

Techniques in Driving

Opening of Car Doors

In opening the car doors, check that it is safe before open the car doors. If this check is neglected, it could be hazardous for the driver, passengers and other road users to open the doors carelessly. Imagine what might happen if a car was passing at the same time as the driver's side door is opened! *NB: Always look in the side mirrors and glance over your shoulder into the blind spot to make sure it is safe before opening the doors.*

Closing of Car Doors

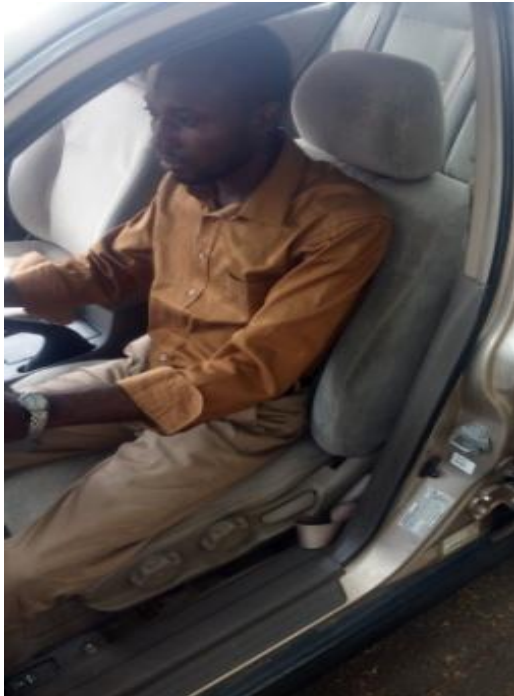
It is the duty of the driver to make certain that all the doors are properly closed. Imagine how dangerous it would be if the car doors were to fly open when the driver start driving. *NB: Listen to hear the passengers close their doors and look in the exterior mirrors to check that the doors are flush with the sides of the car.*

Driving Posture

Posture is the way in which a person holds their body in a particular position. Many drivers do not position themselves correctly in their cars and therefore seriously lack control and comfort while driving. A good driving position can actually help prevent accidents, improve safety and driving comfort. The following are the tips to adjust the proper seating position:

- i. **Wear proper clothing:** Driving should be done with clothing that does not limit the driver. For instance, in the winter; coats can interfere with proper steering as well as with proper adjustment of the seat and the operation of seat belts. *NB: Choose light and comfortable clothes!*

- ii. **Position yourself correctly in the seat itself:** Sit straight that your buttocks and back are square and completely squeezed into the seat. This helps to avoid backaches, possible back injuries and maintains awareness during long drives. Keep the thigh in full contact with the seat. Avoid too much reclining which will create pressure behind your knees, or interfere with strong braking. *NB: do not apply pressure against the seat.*



- iii. **Adjust the seat distance:** After the driver has positioned correctly in the seat itself, the seat should always be positioned with regard to the pedals. That is, press the brake pedal fully with the right foot and/ or fully depress the clutch (in a manual transmission car) or dead pedal (in an automatic transmission car). The distance should be adjusted so that with fully depressed pedals, the knees should remain slightly bent (about 120 degrees). For drivers with lumbar problems without such an adjustment (lumbar support), you can use one or two rolled towels to provide equal pressure across the whole length of the back.



- iv. **Adjust the rake of the seat:** The rake is the term used to describe the angle of the back of the seat. The back of the seat needs to be properly adjusted so that the driver can reach the steering wheel comfortably. *NB: Imagine how tiring would be if the driver always had to stretch to reach the steering wheel! This should be as parallel as possible to the steering. Though, it is impossible to reach a perfect adjustment and sometimes also not really necessary, but by adjusting the rake of the seat to an upright angle of about 110-95 degrees, a suitable adjustment will be reached. NB: To adjust the rake use the small wheel, this is located on the left hand side of the seat.*



- v. **Adjust the steering height:** Where adjustable, the steering height should be adjusted to as parallel to back angle, and with a clear view of the dashboard through the rim. *NB: The ideal adjustment should allow a grip on the wheel properly, with the palms just lower than the shoulders.*



- vi. **Adjust the steering distance:** Where adjustable, this should be adjusted to the steering wheel height, to as parallel to the back as possible. While gripping the wheel properly, the elbows should be bent at about 120 degrees. There should be a minimal clearance of 10" (and preferably 30 cm) between the center of the steering hub and the base of the breastbone (sternum). It should also not be further away that 45 centimeter (17.7 in).



- vii. **Adjust the seat height:** This allows seeing forward clearly, while still having a clear view of the dashboard, and proper height relative to the wheel and pedals. In most cars, the proper height for forward vision should allow the driver to place five fingers (a hand width) between the driver's head and the ceiling.



- viii. **Adjust the Head Restraints:** The head restraint “the head rest” is a safety device “not somewhere to rest the head only”, but to reduce the risk of injury to the head

and neck in the event of an accident or brake in an emergency. Imagine how unsafe it could be if in an accident and the head restraint did not prevent us suffering from whiplash! *NB: If the driver reach backwards over his/her head and hold the top of the head restraint now pull it towards you and you will be able to adjust it up and down to the correct position.*

It should be adjusted so that the top of the restraint is level with your eyes or ears and should be as close to your head as is comfortable. Place the headrest to a height just above the driver's eyelids, and more importantly as close to the head as possible (2-3 cm). A head-restraint further than 7 centimeter (2.8 in) increases the risk of whiplash. Keep in mind that while driving the head bends forward a bit more. If the head-restraint is not adjustable to the proper distance, the driver need need to compensate by increasing the backrest tilt.



- ix. **Position of hands properly:** The driver's hands should both be on the steering wheel to increase the leverage on the wheel to a maximum. The palms should be placed against the outer diameter of the wheel and the thumbs should be lightly hooked on the cross-brace of the wheel.



- x. **Checking of visibility:** With these positions, the eyes should be placed in front of the center or the upper half of the glass for improved visibility. The driver should also keep the eyes relaxed to see more and further away, while still being aware of the surrounding with peripheral vision.
- xi. **Keep objects in the car low and on the floor, preferably at the front seat:** Do not keep anything around the driver's seat, because it might slip under the pedals.



xii. **Adjust the rear-view mirrors to a minimal overlap and maximal visibility.**

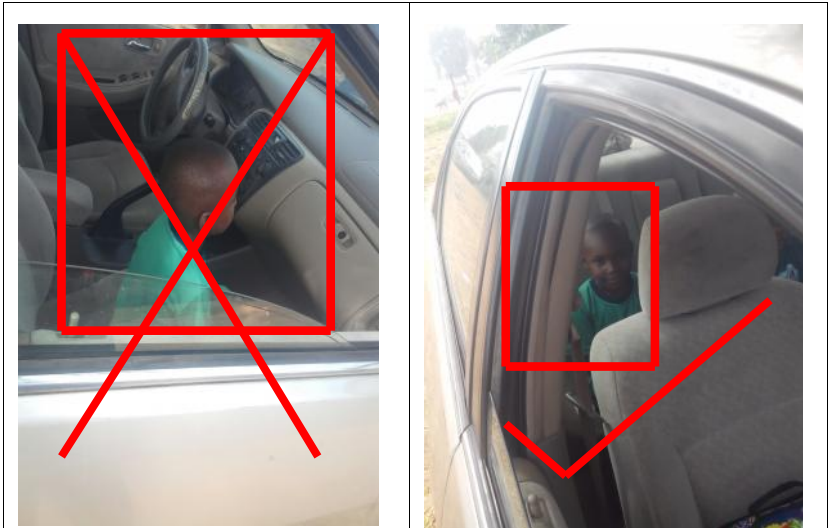
There are normally 3 mirrors in a car; the interior mirror and 2 exterior mirrors. The interior mirror is made of flat glass; the door mirrors are slightly curved or convex. *NB: the exterior mirrors give a wider view to the rear and sides; this makes a following car to be slightly further away when seen in the exterior mirrors.* The mirrors need to be set correctly because they need to be checked often to keep up to date with what is going on, behind and sideways. *NB: Imagine how dangerous it could be if we adjusted our position on the road and had not seen that another car had come alongside us!* When adjusting the interior mirror, the driver should hold it to prevent smudging the mirror which would distort the driver's view. It should be adjusted so that the driver can see at least 3 sides of the frame of the rear window in the mirror from the driver's normal driving position and it should give a clear view to the road behind.

While it is possible to fit a quality, vacuum-adhesive interior mirror to view the back seat, in long drives with the whole family, it's best for the front passenger to be the one in charge of the inside of the car, and for the driver to

have focus on the road. *NB: Do not adjust the stock interior mirror to see the back seat and do not use wide-angle convex mirrors as well.*



- xiii.* **Avoid placing a child in the front seat, regardless of child restraints or air bags.**



- xiv. **Use the air-conditioning to demist fumes on the windshields, and to provide a comfortable environment.**

It is better to use the car heat in the winter instead of driving with heavy clothing that interferes with the steering and with the function of the seat belt. Keep one window slightly open for fresh air, both in the summer (for oxygen) and winter (for fresh cold air).

- xv. **Blind Spots**

Blind spots are areas of road that cannot be seen unless the driver look over his/her shoulders. Some of these blind spots are caused by the vehicle pillars which could be dangerous in any area of the road that cannot be seen. Always keep the windows clean and free from any obstructions to your view such as things on the parcel shelf. *NB: Whenever the driver has intended moving off, always check in the mirrors and then double check by looking over your shoulder to make sure it is safe.* Imagine how dangerous it would be if another car was

overtaking the vehicle just as the driver is moving off and had not seen the oncoming vehicle, they were in the driver's blind spot!

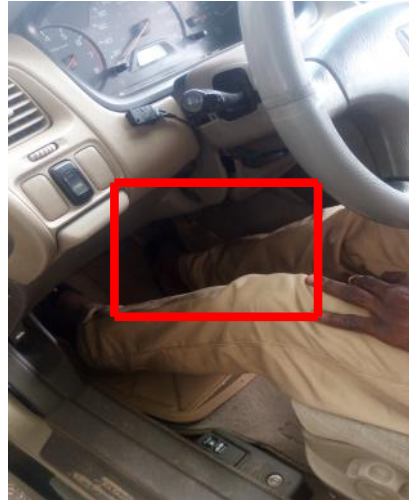
Braking Technique

A brake is a mechanical device that inhibits the motion by absorbing energy from a moving system. It is used for slowing or stopping a moving vehicle, wheel, axle, or to prevent its motion, most often accomplished by means of friction. *NB: Braking hard and fast can cause skidding and a loss of control, especially on gravel or wet roads.* A two stage process should be used when braking:

- i. First put some light pressure on the brake
- ii. Then progressively increase pressure to bring the vehicle to a stop.



Stage I



Stage II

Steering Technique

The function of a steering system is to convert the rotary movement of the steering wheel in the driver's hand into the angular turn of the front wheels on the road.

Below are some handy techniques in steering when driving

- i. Steer the car smoothly and, try to avoid sudden movements
- ii. Slow down before turning and wait until the car starts to straighten before accelerating
- iii. When steering, keep both hands on the outside of the steering wheel, and place your thumbs along the seam of the wheel.

Seat Belt

The seat belt is another safety device that is designed to protect the driver and passenger(s) in the event of an accident or braking in an emergency. *NB: everyone travelling in the vehicle is legally required to wear a seat belt except in certain circumstances (holder of a medical exemption certificate). NB: When putting on the seat belt, a check is needed to twist and the belt is not threadbare or damaged. When releasing it, always ensure it returns to the seat belt housing under control so that there is no danger of it, causing injury or damage to the driver/ passenger(s) and car window. This can be done by using both hands to put the belt on and take it off (one hand keeps the belt under control and the other guides it to the locking simply position by the seat or the seat belt housing).* Adjust the lap-belt as comfortably as possible over the waist. The belt should be physically tightened and placed as low as possible, on the pelvic bones, rather than the soft belly. *NB: Wear your seat belt Low, Flat and Firm (LFF).*

- i. **Low:** When you connect your seat belt, make sure it is below your waist, this is to make sure your body weight is fully secure
- ii. **Flat:** The belt must be kept flat and there should not be any twists, turns or folds
- iii. **Firm:** Every now and then, pull the seat belt so as to remove any slack.



Air Bag

Airbags can be life savers, however, by not adjusting the seat and steering wheel to suit the body, the airbag will become a lot less effective if you are involved in a crash. *NB: To get the most benefit from the driver's airbag, the steering wheel should be adjusted to face the driver's chest rather than face.*

CHAPTER TWO

MOTOR VEHICLE CONTROLS AND STARTING OPERATIONS

Hand Controls

Hand-brake

The hand-brake is used to keep the car stationary when in a static position for more than 3 or 4 second (for example, when waiting at traffic lights or a pedestrian crossing). Since the hand-brake operates the brakes without pressing the brake pedal, it prevents the car rolling out of control when parking on a hill. *NB: Imagine what could happen if the driver is stopped in a queue of traffic and someone collided with the driver's vehicle from the rear and the hand-brake did not prevent the vehicle from moving forward unexpectedly! At the moment the hand-brake is on, if you take hold of the lever and pull it up slightly, you will be able to release the hand-brake by pressing the button in and pushing the hand-brake to the floor.*



Gears

The gear lever is used to select different gears while driving. The gears are laid in the shape of a capital “H” and the position on the crossbar of the “H” is called neutral. The gears are used to help the engine work efficiently for instance, when moving off uphill or on level ground the 1st gear is needed because it has a high power output at low engine speed. Addendum, when the car is moving even on a steep hill, it is also used when manoeuvring in a confined space when moving the car very slowly. Once the car is moving, the driver will be selecting 2nd gear which will drive the car comfortably up to about 20mph, the 3rd gear will take up to 30mph and change into 4th gear up to the 5th gear. *NB: Gear 1 is used to move the vehicle, gear 2 and 3 are used to gather momentum while gear 4 and 5 are used for smooth drive.*

NB: To select 1st gear press the clutch pedal down to the floor, then takes hold of the gear lever, palm facing away from you and move the gear lever across to the left as far as it will go then push it forward into 1st gear. Then it is hand back to the steering wheel and allows the clutch to come up smoothly. To move into 2nd gear, depress the clutch pedal and hold the gear lever with the palm facing away from you and move the gear lever straight back. For 3rd gear, position your hand so that your palm is towards you, gently move the gear lever into neutral and then to the right and forward again into 3rd gear, hand back to the wheel again and allow the clutch to come up smoothly. For 4th gear depress the clutch pedal, hold the gear lever with the palm towards you and move the gear lever straight back, hand back to the wheel and clutch up smoothly. Remember, the driver needs not to check mirrors before changing the gear because gear changes always result in a change of speed.



Steering

The steering wheel is used to change the position or direction of a vehicle. Apart from situations like changing gear, both hands should be kept on the steering wheel when driving so as to maintain full control of the car all the time. Imagine if we needed to change position quickly in an emergency and only had one hand on the steering wheel to make the adjustment! *NB: Small adjustments can be made without moving the hand position on the wheel (simply turn the wheel slightly and then return it when the adjustment has been made). When you need to turn the steering wheel more such as when turning a corner, then pass the wheel through your hands without crossing your hands or arms or letting the wheel slip (this is called a pull – push method of steering). Avoid turning the steering wheel when the car is stationary (this is called dry steering) and can damage the steering system.*



Direction Indicators

The indicators warn other road users of the driver's intention to change position or direction. The driver needs to give signals to other road users so they can plan their own actions. Imagine how dangerous it would be if everyone drove around without knowing what other drivers intentions were! *NB: The indicators are operated by your finger without taking your hand from the steering wheel. If you push it up, then orange lights flash to the front and rear of the car on the right hand side which warns of our intention to move or turn to the right. Pushing the lever down makes the lights flash on the left of the vehicle which warns of our intention to move or turn to the left. Signals are designed to be self canceling, but if the driver only made a small adjustment to the steering wheel, the driver has to do it himself! Always check that the signal has been canceled once you have made steering adjustments.*



Legs Controls

Accelerator

The right hand pedal is the accelerator. Pressing the accelerator down will allow more fuel to get to the engine and this makes the car go faster, if the driver eases off the accelerator the car will slow down.

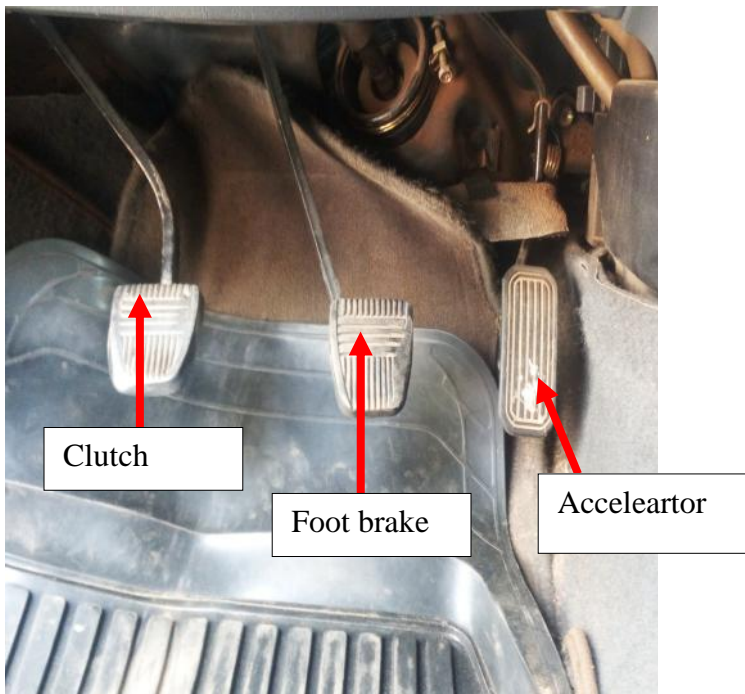
Footbrake

The middle pedal is the foot brake which is normally called the “brake”. It is operated by the right foot (that is, the right foot is the one that generally controls the vehicle’s speed). The brake operates on all 4 wheels so the driver can stop the vehicle efficiently and in a straight line. *NB: whenever you press the brake 2 red lights show from the rear of the vehicle, which warn following road users that you are slowing down or stopping.*

Clutch

The clutch is the left hand pedal and is operated by the left foot. The clutch is a mechanism that consists of 2 metal plates which is used to connect and disconnect the engine from the drive wheels

of the car when the car is in gear. The clutch is important because it allows the vehicle to move off and select the correct gear for the vehicle driving speed without causing damage to the gear mechanism. *NB: The clutch is pressed down to disconnect the engine power quickly, but when the driver brings it back up to engage the gear, the driver must also bring it up smoothly to avoid the car jerking when the gears engage.* As the speed of the car changes, the driver needs to select different gears and to carry out this operation without causing damage to the gears, the driver also needs to disconnect the clutch plates by pressing the clutch to the floor. Bringing the clutch back up, re-connects the clutch plates and finally re-connects the engine power to the wheels.



Starting the Vehicle Engine

Before starting the engine, two (2) safety checks need to be carried out so that the car will not roll or jerk forward unexpectedly when the engine is start;

1. Check that the handbrake is on and
2. The gear lever is in neutral.

NB: Imagine if the vehicle is in gear with the handbrake off when the engine is started, the vehicle moves forward and risk an accident if there was another road user nearby. *NB: Once the safety checks are done, start the engine by turning the ignition key which is put into the ignition switch. Take hold of the key and turn it forward until it clicks, that is the 1st stage of the ignition, some of the car accessories are now operational; turn the key until it clicks again, three (3) red warning lights will be seen; One is the brake light which shows the handbrake is on while the others are the oil pressure warning light and the ignition light. The oil pressure warning and ignition lights should go out within a few seconds of starting the engine and the brake light when the handbrake is released. If any of these lights come on while driving, the driver should seek professional assistance as soon as possible.*

When the driver next turn the ignition key, the engine will start, at this point the key is spring loaded so that when the engine starts, the driver can let go of the ignition key and will automatically release.

Precautions Before Moving Off

Before the driver move off from a parked position, effective observations must be made because the driver need to know that it is safe before making any manoeuvre. *NB: Imagine how dangerous it would be if the driver moved off from the side of the road and had not noticed a vehicle passing! Make the observations by checking all round the vehicle, first by looking into the interior mirror to see what is happening behind, then*

looking over the left shoulder into the nearside blind spot, then checking the nearside mirror, keep turning the head and look ahead through the windscreen to assess the situation ahead, look into the rear view mirror again and then look into the offside mirror, and finally look into the offside blind spot over the right shoulder and finally, then ask yourself “is it safe?” before I actually make the car move.

Normal Use of Mirrors Signal Manoeuvre (MSM)

The driver check the mirrors to see if it is safe to change speed or direction, after that, the driver then consider making a signal to inform other road users what the driver intend doing and then if it is safe the driver complete the manoeuvre. *NB: Imagine driving around and making manoeuvre without knowing it was safe or other drivers not being able to tell what the driver intentions was!*

Normal Stop Control

At this point, the driver has to bring the car to a stop accurately and under full control. *NB: Imagine how dangerous it would be if the driver was unable to stop accurately and brought the car to a stop in an unsafe place! Or how dangerous it would be for following traffic if the driver stopped very suddenly because of the inability to use the foot controls effectively! Once a safe, legal and convenient place to stop is selected, used the MSM routine to make sure it is safe and begin to brake gently and progressively, depress the clutch just before stopping to prevent the engine from stalling.*

CHAPTER THREE

QUALITIES OF A GOOD DRIVER

Introduction

Are you the shy, cautious or the aggressive driver? Many people reveal their personalities in the way they drive while others take on an entirely different personality when driving. Knowing what personality is at work when we hit the road helps make us better drivers. Which of the following driving styles most closely describes your driving? The distracted, the timid driver, the aggressor, the sleepy driver, the indecisive driver, the automatic, the speeder or the good driver

Who is a driver?

A driver refers to a person that controlled operation and movement of a motorized vehicle such as a car, truck, or bus. The process is termed driving. Driving is a technique whereby the automobile driver “speaks out” all his/her observations, interpretations, evaluations, and intentions, which he/she believes are related to the road traffic situation, that have developed or are developing while driving. In a nutshell, it is simply a “reading” of the traffic picture aloud including a running commentary or driving tactics to be employed. Thus, a good driver tries to be aware of these tendencies and balance the road traffic situation with extra caution and common sense.

Requirements/ Qualities of a good driver

The qualities of a good driver are the same characteristics that apply to many aspects of our lives. The following are important requirements for a good and defensive driving.

- i. **Knowledge:** Good drivers take time to educate themselves about safe driving techniques. They know how to recognize hazards and avoid collisions. They

know the traffic laws in their area. This knowledge helps them know how to act correctly and quickly in traffic situations. They also know how to properly maintain their vehicles in a safe operating condition.

- ii. **Alertness:** Good drivers are alert, both to traffic conditions and how their own mental and physical conditions may affect their driving. They pay attention to the traffic situation to the front, sides and rear, glancing in rear- and side view mirrors many times a minute. They give all their attention to the task of driving.
- iii. **Foresight:** Good drivers know that their worst enemy is the unexpected. They never assume the other driver will do the right thing. They anticipate hazards by scanning the road to size up the traffic situation as far ahead as possible. In this way they are able to prepare for hazards rather than simply react to them. They practice long-range foresight by keeping their vehicles well-maintained, by checking them before driving, and by always wearing a safety belt.
- iv. **Judgment:** Good drivers use clear thinking and knowledge to make decisions wisely and quickly. They maintain control of their behaviour, resisting the temptation to make risky manoeuvre to get somewhere faster or to outmanoeuvre other drivers. They pass only when it is safe, and always look for the safest, rather than the speediest, alternatives in any traffic situation. They are courteous, even when other drivers are not.
- v. **Skill:** Good drivers develop the skills necessary to operate a vehicle properly and safely. They know the safe and legal way to make turns, change gears, brake and pads. They can “listen” to their cars for signs of engine trouble, and they can perform simple emergency repairs, such as changing a tyre.

According to the Federal Road Safety Corps (FRSC) every good driver must possess the following;

- i. A driver is bound by two laws; Traffic laws and Vehicle maintenance laws.
- ii. Must perform at least five actions at a time.
- iii. Must think fast on what is ahead to avoid danger.
- iv. Must sense or hear every movement or noise around.
- v. Must be able to feel a new change from any component of the vehicle.
- vi. Must have good knowledge of traffic rules and regulations.
- vii. Must be on alert for full concentration.
- viii. Must have good foresight to be able to identify a potential danger.
- ix. Must have good skills to be able to handle his vehicle.
- x. Must be able to judge positively.

ACTIVITY 1:

- i. How important do you think it is to adjust your seat and the controls in your car to suit your height and build?
- ii. What is driving technique?
- iii. Describe the following as related to driving technique
 - a. Braking technique
 - b. Steering technique
 - c. Air bag
 - d. Seat belt
 - e. Driving posture

ACTIVITY 2:

- i. Highlight two (2) safety checks needed to be carried out so that the car will not roll or jerk forward unexpectedly when the engine is start

- ii. Why do you need effective observations before the driver move off from a parked position?

ACTIVITY 3:

- i. Who is a good driver?
- ii. List and explain the qualities of a good driver
- iii. Describe briefly the qualities of a good driver
- iv. Ever wondered if you are a good driver?

PART TWO: ROADS

Chapter 4: Road Signs

Chapter 5: Road Markings

Chapter 6: Road Junctions

Chapter 7: Lane and Lane Rules

Chapter 8: Lane Discipline

Chapter 9: Carriageways and Carriageway Rules

Chapter 10: Driving under Special Conditions

CHAPTER FOUR

ROAD SIGNS

Introduction


A thorough knowledge of road (traffic) signs is compulsory for all drivers to know about traffic regulations such as special hazards and other road conditions, construction areas speed limits. Road signs by authorized traffic officers are to ensure a smooth and safe traffic flow. You must know them and be able to recognize them immediately. In the case of signs you must obey them without hesitation.

NB: The driver should not only be familiar with each of the signs but to also recognize the special shapes and colours. The signs are:

- 1. Regulatory (Prohibitive) Signs:** These are information telling us about what we are not suppose to do on the road. These signs are mostly circular in shape and are red & yellow circles.
- 2. Regulatory (Mandatory) Signs:** These are information telling us about what we are suppose to do on the road. These signs are mostly circular in shape and are with blue circles, but no red border.
- 3. Informative Signs:** These are information telling us about important places of help or assistance ahead of us. These signs are usually rectangular in shape and provide guidance information.
- 4. Warning Signs:** These are information telling us about dangers ahead of us on the road. These signs are usually triangular in shape, with red perimeter. The only one warning sign with inverted triangle means “YIELD” or “GIVE Way”.

REGULATORY SIGNS (Prohibitory)

| | |
|--|---|
|  <p>STOP AT INTERSECTION</p> |  <p>STOP POLICE</p> |
|  <p>NO LEFT TURN</p> |  <p>NO RIGHT TURN</p> |
|  <p>NO "U" TURN</p> |  <p>OVERTAKING PROHIBITED</p> |
|  <p>NO ENTRY FOR VEHICLES HAVING AXLE LOAD EXCEEDING 8 METRIC TONNES</p> |  <p>NO ENTRY FOR VEHICLES HAVING OVERALL WIDTH EXCEEDING 2M</p> |

| | | |
|---|--|---|
|  <p>SPEED LIMIT (MAXIMUM)</p> |  <p>GIVE-WAY TO TRAFFIC ON YOUR LEFT</p> |  <p>DERESTRICTION SIGN</p> |
|  <p>CLOSE TO ALL VEHICLES IN BOTH DIRECTIONS</p> |  <p>NO ENTRY TO PEDAL CYCLES</p> | |
|  <p>NO ENTRY FOR ALL VEHICLES</p> |  <p>NO ENTRY FOR VEHICLES HAVING OVERALL HEIGHT EXCEEDING 3.5M</p> | |



NO ENTRY FOR VEHICLES
EXCEEDING 12 METRIC TONNES
LADEN LOAD



STOP CUSTOMS INSCRIPTION
VARIED TO SUIT OTHER
OBLIGATIONS TO STOP



PARKING PROHIBITED
8.30AM TO 5.30PM


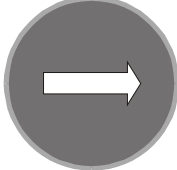
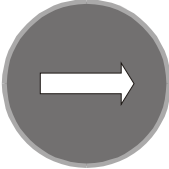
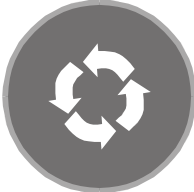


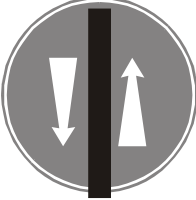
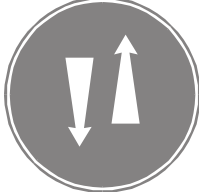
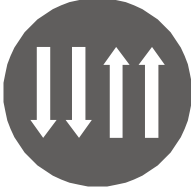




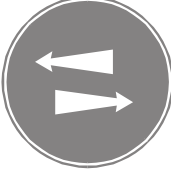
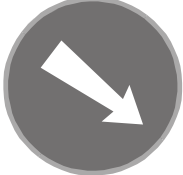

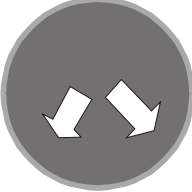



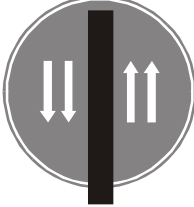


NO STOPPING



LITTER
PROHIBITED

REGULATORY SIGNS (Mandatory)

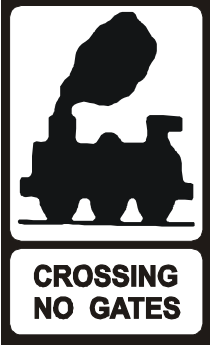

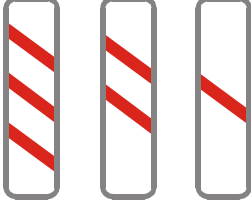






| | |
|--|--|
|  <p>DIRECTION TO BE FOLLOWED</p> |  <p>DIVERSION DIVERSION</p> |
|  <p>ONE WAY ONE WAY</p> |  <p>ROUNDBABOUT</p> |
|  <p>COMPULSORY CYCLE TRACK</p> |  <p>PEDESTRIAN TRACK</p> |
|  <p>DIVIDED 2-LANES 2-WAY AHEAD</p> |  <p>UNDIVIDED 2-LANE-2 WAY AHEAD</p> |
|  <p>4-LANES UNDIVIDED 2-WAY AHEAD</p> |  <p>PRIORITY TO APPROACHING VEHICLE</p> |

| | | |
|--|--|---|
|  <p>TWO WAY</p> |  <p>TWO WAY</p> | |
|  <p>KEEP RIGHT</p> |  <p>END DIVERSION</p> | |
|  <p>PASS EITHER SIDE</p> |  <p>BUS STOP</p> |  <p>EXPRESSWAY NO STOPPING NO L-drivers. NO Motorcycles under 50c.c. NO Mopeds, Pedal-Cycles. NO Invalid-carriages Prams NO Pedestrians NO Hand Pushed Trucks Beware of Animals</p> <p>EXPRESS-WAY</p> |
|  <p>SPEED LIMIT (MINIMUM)</p> |  <p>DIVIDED 4-LANES 2-WAY AHEAD</p> | |
|  <p>SIGN FOR TEMPORARY TRAFFIC CONTROL</p> |  <p>SIGN FOR TEMPORARY TRAFFIC CONTROL</p> | |

INFORMATIVE SIGNS

| | | | |
|---------------------------------------|--|---|------------------------|
| | | | |
| PARKING | HOSPITAL | FIRST AID STATION | MECHANICAL HELP |
| | | | |
| TELEPHONE | FILLING STATION | ADVANCE DIRECTION SIGN | |
| | | | |
| PLACE NAME | ROUTE ASSURANCE SIGN | ROUTE SIGN | RESTAURANT |
| | | | |
| DIRECTION SIGN 74 KMS TO OKENE | DIRECTION SIGN 45 KMS TO KADUNA | | |
| | | | |
| DIRECTION SIGN TO AIRPORT | DIRECTION SIGN TO TRAIN STATION | END CONSTRUCTION PROJECT THANK YOU | |
| | | | |
| DIRECTION SIGN | | | |

WARNING SIGNS

| | | |
|--|--|--|
|  <p>CROSSING NO GATES</p> <p>RAILWAY LEVEL CROSSING WITHOUT GATE</p> |  <p>RAILWAY LEVEL CROSSING WITH GATE</p> |  <p>SUPPLEMENTARY INTERMEDIATE LEVEL CROSSING SIGNS OR COUNTDOWN SIGN</p> |
|  <p>GEN ERAL DANGER SIGN</p> |  <p>"Y" JUNCTION</p> | |
|  <p>CARRIAGEWAY NARROWS</p> |  <p>CARRIAGEWAY WIDENS</p> | |
|  <p>NARROW BRIDGE</p> |  <p>DANGEROUS DOUBLE BEND (FIRST TO LEFT)</p> | |



PEDESTRIAN CROSSING



CHILDREN CROSSING



BEWARE OF ANIMALS



WORK

ROAD



BLIND PEOPLE DRIVE CAREFULLY



**GIVE WAY TO THE TRAFFIC ON
THE RIGHT OR GIVE WAY TO
TRAFFIC ON THE LEFT**



CROSS-ROAD



ROAD "T" JUNCTION

MINOR



MAJOR ROAD "T" JUNCTION



"T" JUNCTION



"Y" JUNCTION



JUNCTION

"Y"



LONG GRADE DANGEROUS HILL



DANGEROUS BEND RIGHT



DANGEROUS BEND LEFT



**DANGEROUS DOUBLE BEND
(FIRST TO RIGHT)**



ROUNDBOUT



SLIPPERY SURFACE



FERRY



FALLING ROCKS



UNEVEN ROAD



LOOSE CHIPPINGS

CHAPTER FIVE

ROAD MARKINGS

Introduction

A thorough knowledge of the road signs, signals, roads and pavement markings is compulsory for all drivers. Road markings ensure a smooth and safe traffic flow with minor or no interference.

Road Marking

Road markings are conventional lines and symbols on the road which are meant to show the alignment of the roads. Ideally these markings are reflective so that they may be visible and drive safely even at night. Road markings indicate the number of lanes on the road, when to and not to overtake other vehicles, which lane to use for turning, and where to stop for signs or other traffic signals.

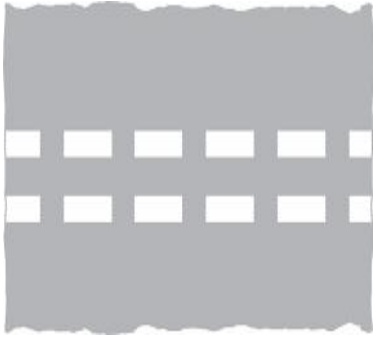
Types of Road Markings

Road markings are basically of four major types these include; center lines, edge lines, cross walks and pavement messages.

Centre Lines

These are lines in the center of the road to separate traffic proceeding in opposite directions. Broken lines are used in areas where there are no restrictions on overtaking. In areas where there are no restrictions, a solid line is painted alongside the broken line. Overtaking for traffic in both directions is strictly forbidden where the center is marked by double solid lines.

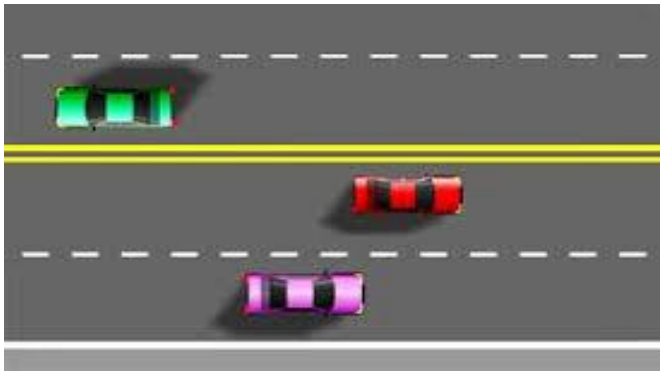
NB: Do not overtake unless you can see the road ahead is clear.



Broken Centre Lines



Solid Centre Line



solid line painted alongside the broken line

Edge lines

These are solid lines along the side of the road. They indicate where the edge is and can be used also as traffic guidance. An edge line which slants towards the centre of the road forewarns that the road is narrowed ahead. An edge line may be crossed only by traffic moving to and from the shoulder of the road.



solid lines along the side of the road



solid lines along the side of the road



An edge line which slants towards the centre of the road forewarns that the road is narrowed ahead



An edge line crossed only by traffic moving to and from the shoulder of the road.

Cross Walk

White solid lines across the road are usually used to denote pedestrian's crosswalks commonly at intersections. A solid white line across the road, usually at intersection, show where you **MUST STOP** for a GIVE WAY sign STOP sign or for red traffic light signal. *NB: the driver must stop for pedestrians at cross walk.*



Give way

Give way means to slow down and, if necessary, stop in order to prevent a crash from happening. Give way signs are placed at intersections and other places where other vehicles have priority. *NB: the driver must always give way at a GIVE WAY SIGN and check if it is safe to continue. Furthermore, there are lots of situations on the road where the driver must give way even if there is no sign, these include:*

- i. the rules say that you must
- ii. There is a give way or stop sign
- iii. there are stop or give way lines on the road
- iv. The driver is turning right across the path of an oncoming vehicle at an intersection
- v. The driver is turning left or right at a T-intersection
- vi. The driver is moving onto a road from a driveway or land next to a road

- vii. The driver is moving off from being stopped on the side of the road
- viii. The driver is doing a U-turn
- ix. The driver is turning left at an intersection with a 'left turn on red after stopping' sign.

Pavement Messages

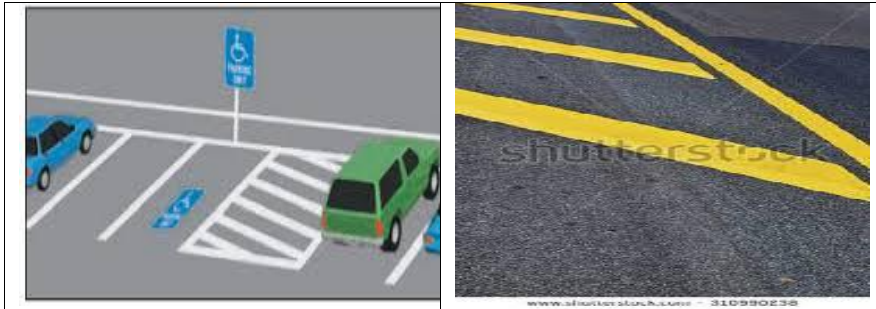
These are messages or symbols which are lettered or painted on the roads pavement to warn of conditions ahead.



Pavement Messages

Diagonal Lines

These are painted on the road for protection, to separate traffic or to prevent traffic from turning left. *NB: Do not drive on these areas if you can avoid doing so.*



Diagonal Lines

Zebra Lines

These are used to indicate where pedestrians can cross the roads. You **MUST STOP** for pedestrians that have stepped on the lines. In traffic queues leaves pedestrian crossing clear.



Zebra Lines

CHAPTER SIX

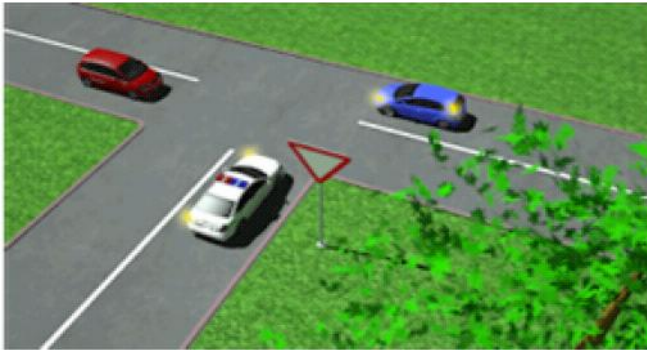
ROAD JUNCTIONS

Introduction

A junction is the place where two or more roads meet.

Types of Road Junctions

T –Junction: This is a place where two roads meet in the shape of letter T.



T- Junction

Y-Junction: This is a place where two roads meet in the form of letter Y.



Y- Junction

Cross Road

A cross road is the place where two roads meet and cross each other. It could be in the form of:

- i. A major road crossing a minor road; or
- ii. Two equal roads crossing each other.

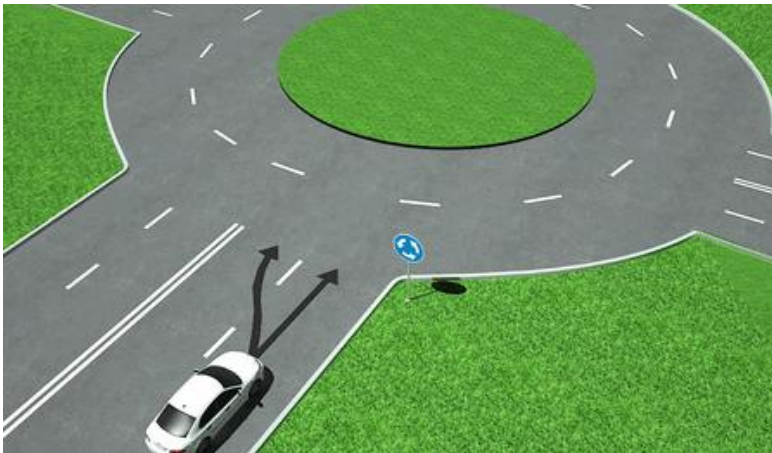
Roundabout

A place where two or more roads meet, forming a circle that ensures that all traffic must go around in the same direction.

Rules of Using Round-about

When approaching a roundabout:

- i. Watch out for traffic already on it
- ii. Take special care to look out for cyclist or motorcyclist ahead or to the side
- iii. Give way to traffic on your left unless road marking indicates otherwise
- iv. Keep moving if the way is clear



Round-about

How to Negotiate a Round-about

When turning right:

Approach on the right-hand lane; keep to that lane in the roundabout and leave by the lane. Use the right turn indicator on approach and through the roundabout.

When going straight:

Approach on the right-hand lane; keep on that lane in the roundabout. Use the right turn indicator *at the exit before the one to be taken*.

If conditions dictate that the right lane is blocked, approach in the left hand lane, keep to that lane in the roundabout. *NB: at this junction, the driver must signal intention to turn right. Enter with the left signal on.*

When turning left:

Approach in the left hand lane; use the left turn indicator before entering the roundabout and maintain this signal while keeping to the left-hand lane. On approaching a round-about, maintain it until you leave the area.

When making a U-turn:

Enter with the left signal on and keep going before exit, change the signal to right

Leaving the roundabout

When going forward or turning left, always leave the roundabout in the left-hand lane of the exit road, unless conditions dictate the use of right-hand lane.

Mind Other Vehicles

When in a roundabout, look out for vehicles crossing in front of you to leave by the next exit.

Going Through Intersection

Give way to traffic on the major road and drive through safely obeying posted signals like STOP or YIELD. Even if you are on the major road, always drive through the intersection even if other vehicles may be crossing or approaching. *NB: “Hazard lights” also known as “Emergency lights” or “double trafficking” are not meant to signify going straight or crossing intersection and should not be used as such. They are STRICTLY for emergencies!*

CHAPTER SEVEN

LANES AND LANE RULES

Introduction

Lanes are spaces on the road demarcated by lines to guide traffic flow moving in the same or opposite direction. *NB: For moving traffic in the same direction, the lines are normally yellow lines while traffic moving in opposite directions are usually white lines.* The lines may be broken or solid, indicating whether or not they may be crossed. Usually broken lines may be crossed while solid lines are not expected to be crossed. *NB: Some roads do not have any marking. Yet the lanes exist. The lanes and lines are easily accessed by the road user (Look with your eyes and see with your mind)*

Lane Rules

Keep between the traffic lane markings. Stay on the right-hand lane unless you are ready to overtake, to turn left or pass parked vehicles.

Changing Lanes

Do not wander unnecessarily from lane to lane. If you need to move into another lane, first use your mirror to check if it is safe to move over and signal before doing so. *NB: Making sure you will not force another driver to swerve or slow down.*

Island

Where there is a traffic island on the road, pass on the right of it unless signs or road markings indicate otherwise.

At Junctions

When coming to junctions, obey the lane indication arrows marked on the road.

Traffic Hold-up

In traffic holdup or so called "traffic jams" do not try to "jump the queue" by the cutting into another lane or unauthorized use of siren by overtaking the vehicles waiting in front of you.

Traffic Lights at Junctions

Although green light means you may go, do not go forward if other vehicles ahead are held at a junction. It is pointless, as you will only contribute towards a solid jam. *NB: When the red and amber lights are showing together, you MUST STOP.* It is an offence to pass a junction when the red and amber lights are shown. Make sure you stop at a distance to see the lights or before the double lines across the road.

Rail crossing

Level Crossing Space

Never drive "nose to tail" over any level crossing. Never drive on to one unless you can see that the road is clear on the rail and on the other side. *NB: never stop on or immediately after any level crossing.*

Level Crossing with Gates

Some level crossings have gates, or barriers that are operated automatically or by attendant. Some also have flashing red warning lights. *NB: do not cross the railway once the lights have started to flash or when the gates are being closed.*

Level Crossing without Gates

At level crossing with no gates, or attendants or warning light, you must stop, look both ways, listen, and make sure there is no train coming before you cross. *NB: always give way to trains*

Unmanned Level Crossing

Some level crossings without gates or attendant have flashing red "stop light". When the red lights flash, you must stop and wait. *NB: do not cross the railway as train will reach the crossing*

soon after the lights begin to flash, the lights will go off when it is safe to cross.

Stopping on a Crossing

If your vehicle stalls or breaks down, or if you have an accident on the crossing; the following steps are considered:

- i. First: Get passengers out of vehicle and away from the level crossing as quickly as possible.
- ii. Second: Listen carefully for the approach of railway traffic, try and push the vehicle clear of the crossing and stand well clear of the crossing.
- iii. Third: If the above attempt proves impossible, making phone call or get in contact with the Signalman.

NB: common sense dictates that where there are sufficient hands around, some could be used to push the vehicle off the tracks while someone tries to contact the signalman.

Level Crossing Alarm

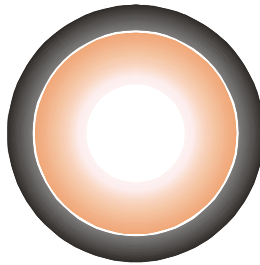
If you are already crossing when the red light comes on, ashes and bell starts ringing, "keep going".

Work Zone Devices

The lives of highway construction workers depend on drivers who are expected to obey speed limits in work zones. If you are convicted of exceeding the speed limit in a highway work zone, the penalty carries heavy fine. *NB: do not forget, the color orange marks a work zone and means slow down, you would also see this sign "slow, men at work" at such places.*

Flaggers

Flaggers show signs to drivers in work zone areas They wear orange or yellow vest, yellow - green shirt or jacket. They use "STOP/SHOW" paddles/red flag to direct motorists and to let workers or construction vehicle to cross the road.



MEN AT WORK

Slow Vehicle Moving Over

Slow moving vehicles on a single carriage way must ensure that four or more vehicles do not queue behind them. They should move over immediately they notice this as failure to move over carries a heavy penalty. On a dual carriageway, failure to move over to the slow lane for all categories of vehicles constitutes an offence.

CHAPTER EIGHT

LANE DISCIPLINE

Introduction

After joining the highway, stay on the inside lane long enough to get used to the speed or traffic before trying to overtake. However, traffic lane will continue to mitigate the risks of vehicular collisions and helping to ensure the safety of both drivers and other road users.

Reasons for Lanes

The main reasons for road are as follows:

1. Define a road whether single, dual or express
2. Control and guide traffic
3. Remove traffic delay/ congestion
4. Increase traffic flow
5. Increase vehicle speed
6. Increase road capacity

Two Lanes

Drive in the red light hand lane on a two-lane carriageway, except when overtaking.

Three Lanes

On a three lane carriageway you must stay in the middle lane when traffic is slower on the inside lane, but you should return to the inside lane when you have passed them. The outside lane is for overtaking only. If the driver use it always, move back into the middle lane and then into the inside lane as soon as you can,

but without cutting in. *NB: failure to observe this rule may lead to multiple accidents.*

Overtaking

Overtake only on the left, unless traffic is moving in queues in all lanes and you have no choice but to keep moving forward where you are. *NB: never move to a lane on your right to overtake, hard shoulders is meant for maneuvering during emergencies.*

Overtaking Rules

- i. Do not overtake unless you are sure that it is safe for yourself and other road users. *NB: before you start to overtake, make sure that the road ahead and behind is clear; look out properly and use the mirrors and glance behind if possible. You must signal before you start to move out. Be particularly careful at dusk and in mist or dusty environment when it is more difficult to judge vehicle speed and distance.*
- ii. On fast roads, vehicles may be coming up behind much more quickly than you think. *NB: Make sure that the lane you will be going into is clear for good distance behind.*
- iii. Once you have started to overtake move past the vehicle you are overtaking very quickly and leave it plenty of room. Then move back to the right side of the road as soon as you can but without cutting in. *NB: do not accelerate against the rear of the vehicles in front, cutting to the left at the last moment. The vehicle in front of you may have cause to slow down abruptly. NB: always move out from a safe distance.*
- iv. Do not accelerate when you are being overtaken, *NB: Slow down if necessary to let the overtaking vehicle pass.*

- v. On any ordinary two lane roads, give way to vehicles coming towards you before you overtake. Parked vehicles or other obstruction on your right side of the road.
- vi. Sometimes two vehicles are nearly double parked. *NB: this is an illegal act in itself or other impediments such as road works, broken bottles, potholes or mountain of garbage on both side of the road.* Drivers approaching such obstacles are usually unable to determine which of them should give way to the other. *NB: the general rule is that the vehicle further away from the stationary should slow down or stop to allow the nearer vehicle to go fast.*
- vii. Overtake only on the left except:
 - a. *When the driver in front has signaled that he intends to turn left and you can overtake on the right side. Watch out in case the driver in front abruptly changes his mind or has wrongly left his signal on.*
 - b. *When you want to turn to the right at a junction and signaled to do so.*
 - c. *When traffic is moving slowly in queues and vehicles in the left lane are moving slower than you are*
 - d. *In one-way street but not carriageways where vehicle can pass on either side*
- viii. Do not overtake at or when coming to a Bus stop, crest of a hill, level crossing, narrow bridge, corner or bend, road junction and pedestrian crossing
- ix. Do not overtake when the road is narrow, when to do so forcing another driver to swerve or brake suddenly. If you would have to cross double solid white lines, if the solid line of the center lines is nearer to the driver and when the driver see no overtaking.

Warning signals

When you come into expressways which have flashing amber light signal at their entrances or intervals, the lights warn of danger ahead. When lights are flashing, keep your speed under 50 km/h. When you see the danger sign, slow down still further to a crawl if need be. *NB: Do not exceed 50 km/h!*

NB: do not stay or park on:

- i. The carriage-way itself
- ii. The slip roads
- iii. The hard shoulders or diagonally stripped lane
- iv. The central reserve

CHAPTER NINE

CARRIAGEWAYS AND CARRIAGEWAYS RULES

Introduction

Lines not only serve to divide the roads into lanes but also to delimit part of the road specifying the carriageways. Carriageway is one side of a road on which traffic travelling in opposite or same directions is separated by a barrier. The following are types of carriageways:

Single Carriageway

This is a road with normally only two lanes, each allows traffic in opposite directions. The single carriageways, however, have three (3) lanes, the two outside lanes for traffic moving in opposite directions and the third, middle lane for overtaking.

Single Carriageway Rules

On a two-lane single carriageway, overtake only when it is safe to do so. Do not overtake where there are prohibited road markings. On a three-lane single carriageway, use the middle lane only for overtaking and turning left. *NB: you have no more right to use the middle lane than a driver coming in the opposite direction.*

Dual Carriageway

This is a road which has four –lanes with two-lanes each for traffic going in opposite directions. Dual carriageways may or may not be physically separated by non-passable dividers such as concrete barriers, grass, flowers or other materials. *NB: when a dual carriageway is physically divided with a barrier, that makes crossing to the other side impossible, it is known as divided dual carriageway. The traffic in opposite directions is completely*

separated from each other. This is sometimes termed expressway, otherwise also known as undivided dual carriageway.

Undivided Dual Carriageway/ Expressway

In an undivided dual carriageway/ expressway, traffic moving in opposite directions is kept apart by a single broken line, a combination of broken and solid lines or two solid lines traffic may or may not cross the lines to overtake, except where the lines are broken. In areas where there are restrictions, on overtaking, a solid line is painted alongside the broken line. Left turns should be guided by road signs and pavement marking.

Dual Carriageway Rules

On a three-lane dual carriageway, you may stay in the middle lane as long as there is slower traffic on the side right-hand lane but you return to the inside right lane. When you have cleared the traffic on that lane, the outside left-hand lane is for overtaking only if you use it move back into a middle lane and then into the inside lane as soon as you can but without cutting across traffic dangerously.

Single Track Roads

The single track road are only wide enough for one line of vehicles at a time. They may have special passing sectors. When the driver see a vehicle coming towards you, or the driver behind you wants to overtake, you should stop at a passing sector. *NB: Give way to vehicles coming up hill whenever possible.*

Single Track Road Rules

A single track road normally has more than one lane, marked or unmarked. Choose the correct lane for your exit as soon as you can.

***NB:** Never change lanes suddenly unless road markings indicate otherwise, choose the right hand lane when going to right and*

left hand lane when going to the left; choose any lane when going straight.

CHAPTER TEN

DRIVING UNDER SPECIAL CONDITIONS

Introduction

Driving under special conditions involves driving under unusual or emergency situations. This requires extra care, concentration, discipline and consideration.

Special driving conditions include the following:

- i. Night driving
- ii. Driving in the rain
- iii. Driving in Harmattan haze
- iv. Driving in Misty/Foggy weather
- v. Driving in a convoy

Night Driving

Night driving is two to three times more dangerous than daytime driving due to sharply reduced visibility. Since we cannot see well at night, extra care is required. The following measures are recommended:

- i. Lower the beams of the headlamps for both the oncoming and vehicle in front.
- ii. Reduce speed and lower the beam in foggy weather
- iii. Use high-beam when it is safe to do so, especially when there is no approaching vehicle.
- iv. Avoid looking directly into the lights of oncoming vehicles, watch the right hand edge of the road.
- v. Keep the headlamps properly adjusted/focused.
- vi. Keep the windscreen clean; and Slow down when facing glare from oncoming headlights

Night driving is discouraged because of the following reasons:

- i. The road user cannot see far ahead unlike in daylight
- ii. In the event of emergency, help is not readily available
- iii. Security is uncertain
- iv. The driver may easily fall asleep

The following are precautions needed in night driving

- i. Motorists are advised to avoid night journeys;
- ii. Plan your journey ahead;
- iii. Ensure that your vehicle is in good condition;
- iv. Ensure that the driver is healthy;
- v. Drivers should not drive under the influence of drug/alcohol;

NB: If the driver is dazzled by the high beam of an oncoming vehicle, the driver should:

- i. Do not do the same
- ii. Avoid looking directly at the bright lights
- iii. Slow down and keep an eye on the right side of the road
- iv. Stay close to the right side of the road
- v. Look quickly ahead intermittently to determine the other vehicle's position, continue until you have passed the other vehicle

NB: At best, stop until the vehicle with dazzling lights passes you

While driving in the dark, the driver should:

- i. reduce the speed of the vehicle by at least half
- ii. never drive at night with only one headlamp or with parking lights
- iii. see and be seen clearly
- iv. Dim the head light while facing an oncoming vehicle

Driving in the Rain/ Harmattan/ Misty and Foggy Weather Conditions:

Driving when rain is falling, the road surfaces become wet and slippery, also driving when there is a strong wind, dust, mist, fog, thunderstorm, and other related conditions. The driver should perform the following operations:

- i. Put on the wipers;
- ii. Reduce the vehicle speed;
- iii. Ensure that the demister is functional;
- iv. Put on the vehicle headlights;
- v. Dim the headlights in order to see and be seen;
- vi. Put on the hazard lights;
- vii. If visibility is poor, move off the road and park safely, make sure you leave the parking lights on
- viii. Keep a safe distance from the vehicle in front

Driving in a Convoy

This means driving in a group of vehicles travelling together, often with an escort for protection. While driving in a convoy, the following should strictly be observed the driver must:

- i. obey the recommended speed limits
- ii. observe common sense following distance
- iii. not constitute hazards to other road users
- iv. drive on straight line
- v. not drive on straight line, the vehicle should be in alternate position to one another
- vi. not get excited about being in a convoy
- vii. have full, total and undivided attention and concentration

ACTIVITY 4:

- i. What are road signs?
- ii. Describe the following road signs with sketches
 - a. Regulatory (Prohibitive) signs
 - b. Regulatory (mandatory) signs
 - c. Informative signs
 - d. Warning signs
- iii. Why are road signs important on the roads?

ACTIVITY 5:

- i. What are road markings?
- ii. List and describe the types of road markings with sketches
- iii. State the reason why road markings need to be reflective
- iv. Do you think road markings are important on the road?
Discuss

ACTIVITY 6:

- i. What is road junction?
- ii. With the aid of neat sketches, describe the types of road junctions?
- iii. Explain the principles involved when approaching a roundabout
- iv. Why are road junctions important on the road?

ACTIVITY 7:

- i. What are lanes?
- ii. Differentiate between lane and lane rules?
- iii. Explain the principles involved in stopping on a crossing

- iv. Are rules on the road made to be obeyed or broken?
Substantiate your claim

ACTIVITY 8:

- i. What is lane discipline?
- ii. Differentiate between two and three lanes with skteche
- iii. Describe the rules involved in overtaking

ACTIVITY 9:

- i. What are carriageways?
- ii. Differentiate between single and dual carriageways with skteche
- iii. Describe the rules involved in;
 - a. Single carriageways
 - b. Dual carriageways

ACTIVITY 10:

- i. What are the precautions involved in;
 - a. Driving when it is dark
 - b. Driving in the rain
 - c. Driving in harmattan/ misty/ foggy condition
 - d. Driving in a convoy

PART THREE : TRAFFIC

Chapter 11: Traffic control and institutional bodies

Chapter 12: Traffic regulations

Chapter 13: Road Traffic Light Signals

CHAPTER ELEVEN

TRAFFIC CONTROL AND INSTITUTIONAL BODIES

Introduction

Enhancing road safety necessitates the involvement of different institutional bodies. No one body working alone can effectively reduce the number of road casualties. In Nigeria, the Vehicle Inspection Officers (VIOs), the Federal Road Safety Commission (FRSC), the police force, highway patrol among other institutional bodies are saddled with the responsibility of not only promote free traffic, but will also ensure safety and security on the roads.

Improvement in traffic control has done in the establishment of VIO, FRSC police force, highway patrol among other institutional bodies could reduce the menace of road accidents to a barest minimum. It should be noted that traffic control is everybody's business and should not be left alone in the hands of government.

Duties of a Vehicle Inspection Officer (VIO)

The following are the duties of a Vehicle Inspection Officer (VIO):

- i. Carrying out inspection on accident vehicle
- ii. Certification of driving schools
- iii. Training and testing of drivers for drivers' license
- iv. Training and testing of riders for riders' card
- v. Inspection and issuance of road worthiness certificate of all types of vehicle
- vi. Organizing seminars and public lectures for road users

Duties of the Federal Road Safety Commission (FRSC)

The functions of the commission generally relate to the following:

- i. Making the highway safe for motorists and other road users
- ii. Recommending works and devices designed to eliminate or minimize accidents on the highways and advising the federal and state governments, including the Federal Capital Territory administration and relevant governmental agencies on the localities where such works and devices are required
- iii. Educating motorists and members of the public on the importance of discipline on the highway.
- iv. Preventing or minimising accidents on the highway
- v. Clearing obstructions on any part of the highway
- vi. Educating drivers, motorists and other members of the public generally about the proper use of highways
- vii. Designing and producing driver's licence to be used by various categories of vehicle operators
- viii. Determining, from time to time, the requirements to be satisfied by an applicant for a driver's licence
- ix. Designing and producing vehicle number plates
- x. The standardization of highway traffic codes
- xi. Clearing obstructions on any part of the highway
- xii. Educating drivers, motorists and other members of the public on the proper use of the highways
- xiii. Giving prompt attention and care to accident victims

- xiv. Conducting researches into the causes of motor accidents and methods of preventing them and putting into use the result of such researches
- xv. Determining and enforcing speed limits for all categories of roads and vehicles and controlling the use of speed limiting devices.
- xvi. Cooperating with bodies or agencies or groups on road safety activities or on prevention of accidents on the highways
- xvii. Making regulations in pursuance of any of the functions assigned to the corps by or under this Act
- xviii. Regulating the use of sirens flashers and beacon lights on vehicles other than ambulances and vehicles belonging to the Armed Forces, Nigeria Police, Fire Service and other paramilitary agencies
- xix. Providing roadside and mobile clinics for the treatment of accident victims free of charge
- xx. Regulating the use of mobile phones by motorists
- xxi. Regulating the use of seat belts and other safety devices
- xxii. Regulating the use of motorcycles on the highways
- xxiii. Maintaining the validity period for driver's licenses, which shall be three years subject to removal at the expiration of the validity period.

For the commission to carry out these functions, members of the commission shall have power to arrest and prosecute persons reasonably suspected of having committed any traffic offences.

Duties of the Police Force and Highway Patrol

One of the first things that a person needs to do in a car accident is to call the police. At the scene of the accident, the police officer's duty is to make sure everyone is safe and to manage the logistics like the vehicle removal, traffic movement and to document the accident. After the accident, however, the police may also have a role in helping to determine fault.

As stated by the police Act of 1967, the Nigerian Police Force is a body charged with the following duties;

- i. The prevention and detection of crime
- ii. The apprehension of traffic offenders
- iii. The protection of property
- iv. The preservation of law and order
- v. Arrest suspected stolen vehicles

A traffic police officer, on witnessing an accident or on receiving information about an accident must immediately:

- i. Stop the vehicle involved in the accident (the police officer must not be below the rank of a Sub Inspector)
- ii. Take the injured person to the nearest doctor or hospital or call for an ambulance
- iii. Note down the name and address of the driver, his/her license and the name and contact details of the owner of the vehicle. The police must also get the name and details of the person/s affected by the accident
- iv. If a person refuses to stop when asked to or give information as required he/she can be punished.

- v. A police officer can also inspect any vehicle which is involved in an accident, if the inspection is done at a reasonable time and only if the police officer proves his authority to do so. If the vehicle is moved to another place for inspection, it must be returned to the owner within 24 hours after completing the formalities.

CHAPTER TWELVE

TRAFFIC REGULATIONS

Introduction

Traffic on roads may consist of pedestrians, ridden or herded animals, vehicles, buses and other conveyances, either singly or together, while using the public way for purposes of travel. Traffic laws are the laws which govern traffic and regulate vehicles, while rules of the road are both the laws and the informal rules that may have developed over time to facilitate the orderly and timely flow of traffic.

Traffic regulation, control of the movement of vehicles and pedestrians, chiefly on city streets in order to avoid accidents, hold-up and traffic congestion.

Meaning of Traffic Regulations

Traffic regulations are rules that are made to control the movement of vehicles and human beings on the roads in order to avoid accidents. Traffic regulations may also refer to Motor vehicle traffic regulations that is, rules of the road

Traffic Rules

The following are the rules that needs to be observed on the traffic:

- i. Motor vehicles are not expected to pass through the pedestrian road
- ii. Use a seat belt while driving
- iii. Do not overtake vehicles on the right side of the road
- iv. Do not make or receive calls while driving
- v. Motor vehicles are expected to stop for pedestrians to pass on a zebra crossing

- vi. Strict adherence to traffic light (Red means stop, yellow means ready to go/ stop and green means go)

Importance of Traffic Regulations

- i. It helps to maintain order on the road
- ii. It reduces traffic jams
- iii. It also helps to prevent accidents
- iv. Increase road capacity
- v. Increase vehicular speed
- vi. Increase traffic flow
- vii. Reduce traffic congestion
- viii. Increase travel time

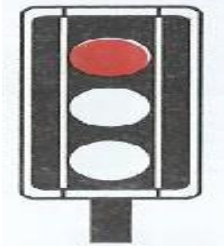
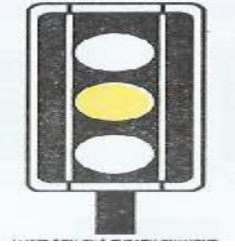
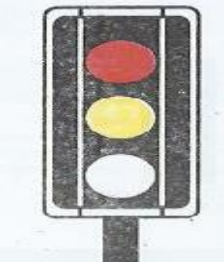

Consequences of Disobeying Traffic Rules

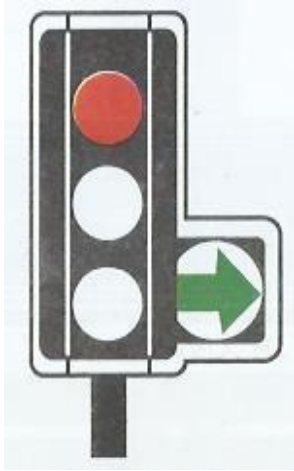
- i. Traffic hold-up
- ii. Loss of life and some parts of the body
- iii. Damage to the vehicle

CHAPTER THIRTEEN

ROAD TRAFFIC LIGHT SIGNALS

Road traffic light signals play a big role in the reduction of road traffic accidents/ crashes among drivers and other road users plying Nigeria roads. It is important for the drivers and other road users to be familiar with the signs and colours of the road traffic light signals. To achieve this effectively, one needs to be educated on the road traffic light signals.

| | |
|---|---|
|  |  <p>The Amber (Yellow) Light means that Drivers/ Riders should stop At the stop line, Drivers/ Riders can only GO if the Yellow light appears after the Drivers/ Riders have crossed the Stop Line</p> |
| <p>The Red Light means that Drivers/ Riders should STOP before the stop line on the road</p> | |
|  <p>Red and Amber (Yellow) the red and yellow lights means that Drivers/ Riders Should STOP before the stop line</p> |  <p>Green Light means that Drivers/ Riders MAY GO Or DRIVE if the road is safe to do so</p> |



Red and Green arrow means that Drivers/ Riders MAY GO Or DRIVE in the direction of the arrow shown



The RED MAN means that pedestrians or people walking SHOULD NOT CROSS the road until the GREEN MAN APPEARS



The GREEN MAN means that Drivers/ Riders SHOULD GIVE RIGHT OF WAY to pedestrians and the pedestrians MAY ONLY CROSS if the road is safe to do so

ACTIVITY 11:

- i. State the duties of a vehicle inspection officer (VIO)
- ii. State the duties of the Federal Road Safety Commission (FRSC)
- iii. State the duties of the police force and highway patrol

ACTIVITY 12:

- i. Differentiate between traffic regulations and traffic rules
- ii. State the importance of traffic regulations
- iii. State the consequences of disobeying traffic rules

PART FOUR : ROAD TRAFFIC ACCIDENTS/ CRASHES

Chapter 14: Road Traffic Accidents/ Crashes: Types, Causes and Prevention

Chapter 15: General Guides for Drivers

CHAPTER FOURTEEN

ROAD TRAFFIC ACCIDENTS/ CRASHES: TYPES, CAUSES AND PREVENTION

Introduction

An accident is a sudden event that is not planned or intended which results to injury, loss of lives and properties than major communicable diseases and sundry ailments put together. It is caused as a result of human (driver and/or passengers), mechanical and environmental factors. Thus, road traffic accidents/ crashes can be prevented by defensive driving.

Meaning of Road Accidents/ Crashes?

An accident, also known as an unintentional injury, is an undesirable, incidental and unplanned event that could have been prevented had circumstances leading up to the accident been recognized, and acted upon, prior to its occurrence on the road.

Types of Accident/ Crashes

Accident can be classified into four (4) ways namely;

- iv. By degree of severity
- v. By type of collision
- vi. By causes
- vii. By phases of crash

By Degree of Severity

Here, accident is classified into fatal, serious and minor injuries. The classification allow the computation of various accident indices such as the severity index (casualties) and fatality index (fatalities/ accident).

By Type of Collision

This allow the classification into nose/ tail, side head-on, hit pedestrian/ animal or obstacle collision.

By Causes

The cause may be by human (including pedestrian fault), mechanical, road and environmental factor.

By Phases of Road Traffic Crash

The phases of road traffic crash are classified as follows:

Pre-Crash Phase: These are elements that cause people and property to move into the crash phase. This phase is concerned with the actions or measures that are preventive and it affects the human, vehicle and equipment and environment.

Crash Phase: The crash phase involves the actual crashing of vehicles and the focus is injury prevention.

Post-Crash Phase: This phase is concerned with the life sustenance after the occurrence of the crash.

Causes of Road Traffic Accidents/ Crashes

Researches conducted on road traffic crashes have shown that there are three major causes of these crashes, namely:

- i. Human Factor
- ii. Mechanical Factor
- iii. Environmental Factor

Human Factor

This constitutes about 90% of road traffic crashes. Out of this percentage, drivers' action or reaction makes up 90%. Studies have shown clearly that the single most important contributing factor to road traffic accidents in Nigeria is the attitude of the driver to driving codes and etiquette's. Driver related issues include among others, sleepiness, fatigue, faulty preparation, ignorance of highway codes or traffic orders, driving under the influence of drugs and/or alcohol and inexperience.

Human factor can further be classified under the following:

Driver:

- i. **Overconfidence:** Drivers often feel that they are masters of the vehicle and the road. However, the tyres, brakes and the engine control the motion of the vehicle. Drivers merely operate these controls. Failure to ensure good working condition, as well as observing safe driving measures while on the road will result in road traffic crashes.

- ii. **Speeding:** Drivers believe that the faster they drive, the more they impress themselves and others. They however forget that anything can happen to the vehicle, such as tyre burst, brake failure or pedestrian running across the road. More disasters and casualties are recorded when vehicles travel at higher speed than what obtains at low speed. At 100 Km/hr, a vehicle moves at 28 meters per second. *NB: Imagine where the driver would be if this vehicle veers off the road for 1 second, bearing in mind that the road is usually 12 meters wide!* Drivers forget that they cannot control the road, weather conditions and the environment. On-coming vehicles or vehicles being overtaken may do the unexpected such as swerving, stopping or trying to avoid pot holes. Furthermore, some of the roads have narrow bridges hidden around the corner.

- iii. **Lack of Concentration:** Drivers often engage in things that distract their attention while driving. Such things include among others, discussions with passengers, answering phone calls, eating, gesticulating, changing radio stations or cassette. Lack of concentration is very dangerous as it takes only a moment for crashes to occur. The vehicle in front may stop abruptly or a child may run into the road suddenly; hence anything can happen. *NB: Be alert, always anticipate danger!*

- iv. **Tiredness:** Some drivers drive long distances without even stretching their legs and improving their blood circulation to the brain. This makes the drivers feel tired and sleepy. It is a frightening experience to be driven by a driver who sleeps while driving. Sudden awakening of the driver may result in a crash. Again driving after a heavy meal can also be hazardous as the blood concentrates in the stomach to absorb the food, thus depriving the brain of oxygen which can cause the driver to fall asleep. Overworking also causes fatigue. Some articulated vehicle drivers work an average of 9 to 12 hours per day which is dangerous.
- v. **Driving under the influence of alcohol:** Alcohol can cause over confidence, poor judgement, lack of coordination and recklessness. In many countries, it is one of the major cause of road traffic crashes. This is the reason why special tests are conducted to detect those who are drunk prior to driving.
- vi. **Driving under the influence of drugs:** Drugs can interfere with the ability to drive. Sometimes, drugs that are prescribed by doctors have sedative (That is, sleep inducing) effect on the driver. Coffee and kolanut are stimulants that tend to increase the alertness of drivers. Another stimulant popularly taken by these drivers is Indian hemp, which is a street drug and sometimes cocaine. Such stimulants may work for some time and then tiredness and sleep come suddenly while driving, resulting in road traffic crashes. Some drivers have been known to use chewing sticks to keep their mouths active, with the aim of staying awake. *NB: Remember, these drugs are no substitute for rest!*
- vii. **Poor vehicle care:** Drivers often do not check their vehicles to ensure it is in good condition for the road before setting out on a journey. Tyres, tyre pressure,

brake fluids, trafficator and brake lights are often neglected, These also lead to road traffic crashes.

- viii. **Indiscriminate Parking:** Parking a vehicle in the middle of the road just to change a tyre or because of engine trouble is among the causes of road traffic crashes, especially at night or around a sharp bend or close to the crest of a hill where the vehicle cannot be seen far off by other road users. Some drivers of broken down vehicles do not give adequate warning signs to approaching vehicles and as such, others run into these vehicles. In some cases, hazardous obstacles placed on the road to warn or divert traffic, are left behind when the vehicles move on after repairs. This endangers other road users and may result in crashes.
- ix. **Dangerous overtaking:** This is responsible for about 45% of all crashes. The combination of careless overtaking and poor judgement constitutes the major cause of road traffic crashes. *NB: If in doubt about your judgement don't overtake!*

Passenger:

- i. **Distraction:** Passengers contribute to road traffic crashes by engaging the driver in discussions and arguments. Sometimes the passengers show the driver interesting things inside and outside the vehicle. These distracts drivers from total concentration.
- ii. **Non-Chalant Attitude:** Passengers board buses, taxis and private vehicles without even taking a look at the tyres to see if they are worn out. They often encourage speeding and reckless driving. Overtaking on corners and other dangerous practices by either cheering on the driver or keeping quiet. This can be reported to the driver's employer or to the traffic authorities encountered on the road, or demand to be set down at the next convenient

spot if the driver persists on driving recklessly, before the driver drives the passengers to death. *NB: Remember, crashes claim the lives of more passengers than drivers. On the average, eight passengers are killed along with only one driver!*

- iii. **Pedestrians:** Pedestrians also contribute to road traffic crashes by not observing road traffic rules and regulations. Some pedestrians walk or run across the road without looking and ensuring the road is safe to do so, while others do not wear reflective dresses or clothes at night so that drivers could easily see them. These behaviours contribute to road traffic crashes.

Mechanical Factor

The vehicle component such as tyres, engines, braking and lighting system are among vehicle subsystems which when malfunction can cause road traffic accidents. Consequently, its reliability is positively correlated with accident causation on the road network it plies. Irregular and poor maintenance of vehicle can lead to crashes which may manifest while the vehicle is in motion. This constitutes about 10% of road crashes. Such irregular maintenance may lead to stoppage of the vehicle or development of other faults that affects the control of the vehicle, especially when the vehicle is on high speed, this could lead to crashes. The choice of preventive servicing and routine maintenance is between the road mechanics and approved motor dealers. The road side mechanics are the most popular because they attend to the problem immediately and are less expensive.

However, they may cause more danger to the vehicles due to lack of adequate knowledge and equipment. In essence, crashes due to mechanical factors have to do with malfunction of the vehicle, which eventually leads to loss of control of the vehicle and invariably to road traffic crashes. Factors contributing to this include the following:

- i. Absence of rear mirror

- ii. Brake failure
- iii. Defective horn
- iv. Defective lighting system
- v. Electrical fault
- vi. Exhaust fumes or smokes leading to temporary road blindness
- vii. Failed wipers during rainy season
- viii. Faulty security gadgets
- ix. Faulty wheel balancing and alignment
- x. Incompetent wheel nuts
- xi. Inconsistency in vehicle load design
- xii. Lack of reflective triangle
- xiii. Lack of seat belt
- xiv. Leaking fuel that may result to fire outbreak
- xv. Malfunction of engine
- xvi. Poor steering mechanism
- xvii. Spilled oil leading to crashes
- xviii. Tyre burst

Environmental Factor

Some of the well known factors which fall under this category include fog, sun rays, mist and rain. These in no small measure to contribute greatly to the rate of road traffic accident in Nigeria today. In particular, it is expected that the operator who is the master 'on board' should be able to exercise sufficient control over the vehicle. A significant number of vehicle accidents are traceable to the road. It is believed that bad road causes more crashes than best road. However, it has been observed that with

the construction of new roads, crashes are known to be on the increase.

Other elements constituting environmental factor include:

- i. Absence of road markings
- ii. Bad roads (Narrow, rough, dusty and winding roads)
- iii. Collapsed bridges
- iv. Fallen trees on the road
- v. Harmattan Haze
- vi. Heavy rain
- vii. Hot sun on roads in desert/ savannah area
- viii. Improperly placed or absence of road signs
- ix. Pot holes on our roads
- x. River overflow
- xi. Slippery surface; (oil spill on the road)

Prevention of Road Accidents

- i. **Drive according to road conditions:** Drive slower when the weather is bad. Road surfaces deteriorate in rain, ice or snow. The ability to stop quickly greatly reduces when the roads are not dry.
- ii. **Keep the vehicle in good mechanical order:** Replace worn tyres and brakes as needed. Keep windshield washer fluid full and change out windshield wipers on a regular basis.
- iii. **Wear your seat belt:** Not only do seat belts keep you safe in an accident, it will help to avoid accidents as well. Seat belts will hold you in place during an aggressive maneuver. If you make an abrupt maneuver, you may find

yourself thrown to the passenger side of the vehicle. *NB: Remember to make your passengers buckle up, too!*

- iv. **Avoid other vehicles:** Back off and do not tailgate or allow others to tailgate you. Try to avoid driving next to another vehicle in case it has to swerve to avoid an animal or debris that may be in the road.
- v. **Watch out at intersections as many accidents happen here:** Always slow down and look both ways at intersections. *NB: Do not assume that other vehicles will stop just because the light is red. There is always someone trying to get through the intersection during a yellow light!*
- vi. **Stay away from 18-wheelers:** These large tractor trailer rigs require extra space when making wide right turns. Therefore, avoid the right side of one, especially if you think the driver will turn right. *NB: Do not drive behind an 18-wheeler on the highway!*
- vii. **Turn your head to check for traffic before changing lanes:** Do not rely on your mirrors when making a lane change. All vehicles have “blind spots” in which your mirrors cannot see. *NB: Do not ride in the blind spots of other vehicles!*
- viii. **Look extra carefully in parking lots or parking areas:** Many fender-benders happen in these areas. Follow the rules set up in parking areas. These rules are for the safety for all drivers.
- ix. **Slow down:** Obey the speed limit even if every other car is surpassing it. Remember that police officers often stay hidden from view while looking for speeders. If you are caught driving too fast, they will not hesitate to give you a ticket.

- x. **Let others pass you:** Defensive driving means letting others go ahead not defending your position in traffic. Avoid the urge to be a vigilante. Accept the fact that someone is always going to think they are in more of a hurry than you.
- xi. **Try to avoid driving in bad weather:** Always keep your windshield wipers going in the rain or snow. Defrost your windshield to keep it from fogging up. Turn on the headlights to help others to see you. If possible, try to avoid driving in the snow at all, especially if your car is rear wheel drive. If you must go out in the snow, drive extra slow, use the brakes and gas pedal gently and maintain an increased stopping distance.
- xii. **Never get into a car with a drunk driver:** It is always best to have a “designated driver”. Never drive after you have had alcoholic beverages. Even a bottle/ can of beer can alter the driver’s ability to drive safely.
- xiii. **Wear a seat belt:** By law in many countries, all cars must have a safety restraint. Buckling up only takes a second and can save lives in an accident. Children should always be in a booster seat or car seat until they are tall enough and heavy enough to sit by themselves. This generally includes children age of 8 years and under. *NB: Never put a child in a car or booster seat in the front passenger seat or other seat with airbags. Children should generally be 12 years and older when sitting in the front passenger seat. This is a must!*
- xiv. **Keep the car and its accessories in good condition:** Keep the tyres properly inflated, the brakes adjusted and the windshields and windows clean. Replace windshield wiper blades when they begin to strike, and all make sure all the lights are working properly.

- xv. **Use the signals properly:** Always use the signal, even if if no one is there. When changing lanes on the freeway, do not signal as an afterthought or during the lane change. Signal at least a couple of seconds in advance so that others will know what you are going to do before you do it.
- xvi. **Do not tailgate:** No matter how slowly traffic is moving, keep at least two seconds of following distance between you and the car ahead. *NB: Any less and you will not be able to stop in time if the driver ahead slams on the brakes!*
- xvii. **Keep the eyes moving:** Do not get in the habit of staring at the back of the car ahead of you. Periodically, shift your eyes to the side-view mirrors, the rear-view mirror, and ahead to where you will be in 10-15 seconds. Doing this, can spot potentially dangerous situation before it happens.

Driving Hours

There is time for everything. Many have embarked on journeys without adequate planning and management. This has caused much avoidable crashes as drivers are prone to sleep on steering while driving.

NB: A driver must rest for 15minutes after every 4 hours of driving. no single driver should drive more than 10 hours in 24 hours(or a day)

CHAPTER FIFTEEN

GENERAL GUIDES FOR DRIVERS

BEFORE DRIVING

Before driving, make sure that:

- i. the vehicle is properly licensed and insured
- ii. you have a valid and correctly classified drivers license
- iii. You have an updated road worthiness certificate
- iv. Your eyesight can pass the test required for safe driving
- v. The condition of your vehicle is such that no danger is likely to be caused to yourself, passengers and other road users.
- vi. Your vehicle is fitted with clean windscreen, properly inflated tyres, good brake, mirrors, seat belts, wipers and head lamps
- vii. The load on your vehicle is not illegal, excessive or unevenly distributed as to be dangerous. The load should be properly labelled.

WHEN DRIVING

When driving, you must:

- i. Be in proper posture so as to exercise control over your vehicle and retain a full view of the road traffic ahead.
- ii. Give precedence to a pedestrian on a zebra crossing; push-button controlled crossing when an amber light is flashing.

- iii. Observe speed limits on highway or determined by weather and/or road conditions.
- iv. Drive on carriage ways only and observe lane rules.
- v. Observe traffic signs and signals and the directions of a traffic officer controlling traffic.
- vi. Stop when required to do so by a traffic officer or an authorized traffic control officer such as road marshal or by a volunteer school crossing patrol officer.
- vii. Ensure that the front, side and rear lamp are on at night.

SAFE DRIVING

You must not:

- i. Drive recklessly in a manner which is dangerous to the public and other road users.
- ii. Drive without reasonable attention and consideration for others road users.
- iii. Drive under the influence of alcohol or drugs.
- iv. Drive a vehicle that emits excessive noise, fumes and smoke that the maximum limits laid down.
- v. Sound your horn at night especially in a built-up area, except in emergency.
- vi. Allow passenger to alight from your vehicle in such a manner that is likely to cause danger.
- vii. Use an expressway if you are a learner.
- viii. Reverse on the expressway.
- ix. Overload your vehicle.

STOPPING

When you stop, you must:

- i. Stop the engine and set the hand brake before leaving the vehicle.
- ii. Switch off your headlamps at night but leave the side and rear lamps on unless unlit parking is allowed.
- iii. When required by the traffic control and institutional bodies to produce your driving license, certificate of insurance and if your vehicle is subject to compulsory testing and road worthiness certificate for inspection.

You must not:

- i. Stop your vehicle within the limits of any type of pedestrian crossing except in circumstances beyond your control or to avoid an accident.
- ii. Park your vehicle on the road in a way to cause obstruction.
- iii. Open any door of your vehicle so as to cause injury or danger to anyone.
- iv. Sound your horn while stationary.

ACCIDENTS

If you are involved in an accident which causes damage or injury to any other person or other vehicle, you must:

- i. Stop and get help.
- ii. Report the details of the accident including casualties and other vehicle involved to the nearest police, road marshal or emergency service.

- iii. Give details of your name, address and vehicle documents to traffic officers, road marshals or anyone having reasonable grounds for enquiry.

ACTIVITY 13:

- i. What is road accident?
- ii. List and explain the causes of road accident
- iii. List and explain the ways of preventing road accidents

ACTIVITY 14:

- i. State the precautions involved;
 - a. before driving
 - b. when driving
 - c. stopping

BIBLIOGRAPHY

- Anushanth, B. (2012). Steps To Prevent Road Accidents. Accessed October 15th, 2016 Retrieved from <https://roadrulesblog.wordpress.com/2012/02/23/steps-to-prevent-road-accidents/>
- Bhandari, V. B. (2010). *Design of machine elements*. New York: Tata McGraw-Hill Education.
- Giri, N. K. (2012). *Automobile technology*. India: Khanna Publishers.
- Jankaro, S. A. (2016). *A guide to drivers*. Niger State: Experience Printing Press.
- Narang, G. B. S. (2009). *Automobile engineering*. India: Khanna Publishers.
- Nigeria Highway Code (2016). The Revised Highway Code. Retrieved from <http://www.highwaycode.com.ng> accessed October 17th, 2016.
- Ojumu, B. (2016). Traffic regulations. Retrieved from <http://passnownow.com/classwork-series-exercises-civic-education-jss1-traffic-regulations/> accessed October 15th, 2016.
- Othong, J. G. (1997). Road accident and traffic education in Nigeria. *The role of Government, the Police and the Public* in Ona komaiya and Ekanam eds. University Press Ltd.
- Oyadiran P. A. & Aregbesola, A. M. (2008). Road transport policy and traffic management in Nigeria. *Journal of Research in National Development* 6 (1)
- Udodiong, I. (2016). 11 characteristics of a good driver. Retrieved from <http://pulse.ng/traffic/frsc-11-characteristics->

of-a-good-driver-id4594499.html assessed October 13th,
2016