

# Causes of Road Traffic Accidents among Motorcycle Riders in Yenagoa, Bayelsa State, Nigeria

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## Abstract

This study investigates determinant factors responsible for road accidents in Nigeria. However, unlike developed or high-income countries, many developing countries have made very little progress towards addressing this problem. Nonetheless, there are ways to strengthen the reduction of injured persons due to elucidate ways to accomplish these goals in the context of Nigeria. From research it was reported that due to reckless driving by some road users many lives, properties and human resources have been lost to road accidents in Nigeria. It was also observed that lack of routine maintenance checks and repairs, mechanical failure, drug abuse, violation of traffics signs and the existence of potholes are responsible for crashes on the highway. It was recommended that the relevant ministry and its agencies should always be strengthened and enforced to compliance for proper driving habits and law enforcement agency responsible for checkmating road offenders should sit up to their responsibility to secure lives and properties on the road and possibly arrest any road user that goes against traffic laws.

**Keywords:** Accident, Traffic, Motor Cycle, Yenagoa, Road

## 1. Introduction

Accident can be defined as unplanned or unintended occurrence that interrupts or interferes with a work activity. Many accidents,

in fact, the great majority, yield no injury and receive only passing attention, if any, unless do considerable damage or are otherwise costly, [1]. Motor vehicle crashes are the leading cause of death in adolescents and young adults, [4] and of the estimated 10,000 road deaths occurring annually worldwide, 74% are in developing countries,

In Nigeria, road traffic accidents are a leading cause of death and injury, with over 10,000 deaths recorded annually, [3]. The Amasoma/Yenagoa Road in Bayelsa State, Southern Nigeria, is a major route that connects the towns of Amasoma and Yenagoa and notorious for its high rate of road traffic accidents. This study aims to appraise the determinants of road traffic accidents between automobile road users on the Amasoma /Yenagoa Road.

## 2. Statement of Research Problem

Despite advancements in automotive technology and traffic management systems, road traffic accidents persist as a significant challenge. The specific nuances surrounding accidents involving automobile road users demand focused attention. Identifying the precise determinants that contribute to these incidents remains a critical research problem. This project aims to elucidate the mechanical factors influencing accidents among automobile road users, providing a nuanced understanding of the underlying issues

### 3.Road Accidents

Road accidents appear to occur regularly at some flash points such as where there are sharp bends, potholes and at bad sections of the highways. At such points over speeding and reckless drivers usually find it very difficult to control their cars, which then result to fatal traffic accidents, especially at night, [5]. Different cases of fatal road traffic accidents are reported on daily basis on Nigeria roads especially highways. Various categories of vehicular traffic law violations are also involved in these fatal road traffic accidents in Nigeria. In Nigeria, road traffic accident situation over the last three decades has been particularly disturbing. In 1976, there were 53,897 road traffic accidents resulting in 7,717 deaths. Although in 1981, the magnitude reduced to 5,114 accidents, but the fatality increased to 10,236 which means that there was an average of 96 accidents and 28 deaths for everyday of that year, [2]. The situation in subsequent years has not been any better. The number of people killed in road accidents between 1990 and 2005 rose from 28,253, and the fatality rate remains consistently high (Atubi, 2012).

A good transportation system is very essential for rapid economic, industrial and cultural growth of any country. The five modes of transportation are road, rail, water, air and pipeline and complement one another. The role of transport in spatial and economic development has been recognized in advanced and developing countries. The various modes of transport have specific roles and service functions. In most cases, however, serve complementary roles (FRSC, 2010). Road transport in particular has played a prominent role in bridging the gap between producers and consumers, and production zones and consumption zones.

Thirty-eight studies described casualties by the category of road-user. Pedestrian fatalities were highest in 75% of the studies accounting for between 41% and 75%, followed by passengers (38%-51%) in 62% of the studies. Drivers were third in 55% of the studies, and never ranked first in any country. Pedal and motorcyclists killed ranked first in India, [2, 3, 5]

### 4.Causes of road traffic accident

#### Over Speeding:

Over speeding is responsible for some of the fatal accidents that occur on the road. Research has shown that increase in speed multiplies the risk of accident and severity of injury during accident. Faster vehicles are more prone to accident than the slower one and the severity of accident. Most vehicles on high speed are very difficult to control and needed greater distance to stop or even fail brake when the brake is applied appropriately while a moderate speeding vehicle or slower vehicle comes to halt immediately brake is applied, [3]. An over speeding vehicle will have greater impact during the crash and hence will cause more death and injuries to road users.

#### Drinking and Driving:

Many drivers who drive on the influence of alcohol and drugs are prompt to road accident especially if the alcohol or drug is abused. Drugs and Alcohol abuse may cause dizziness and reduces concentration while driving. Overdose of alcohol always decreases reaction time of a human body due to the configuration of the human brain that controls the functions of the human body. Some human parts like the Limbs react more to the instructions from human brain. It hampers vision due to dizziness. Overdose of alcohol dampens fear and incite humans to take risks.

### 1. Road safety measure in Nigeria and ethical consideration

Citizens should be compassionate the citizens should have the social responsibility and help others in need. They should attend to the casualties and take immediate action. They should inform the police force about the road accidents and also call for an ambulance in case of an emergency. They should have the social responsibility to help elders, disabled and small children when in need, for example, crossing the road. Also, they should have the courtesy to always leave way for an ambulance.

### Maintenance of vehicles

The vehicle owners and drivers should always maintain their vehicles in top condition. The brakes, tires and other components of the vehicle should be replaced and services as when necessary.

### **Purchase of safe vehicles**

During the purchase of a vehicle, the buyer should give a great deal of importance to the safety aspects. The vehicle should have power steering, air bags, seatbelts, four-wheel drive, good braking systems and similar safety features.

### **2.Study area description**

The study area is the Amasoma-Yenagoa road, approximately 20km long, in Bayelsa State, Southern Nigeria. The road connects the towns of Amasoma and Yenagoa and is a major transportation route for commuters and goods transportation, providing access to various communities, markets and economic centers in the region. It is situated in the Niger Delta region, which is known by its flat, low-lying terrain with numerous creeks and rivers. The climate is tropical, with high temperature and humidity levels throughout the year.

The Amasoma-Yenagoa Road is a single carriageway road with two lanes, one for each direction of travel. The road surface is predominantly asphalt, with some sections being concrete. It has few intersections and junctions, with no traffic lights or pedestrian crossings. The road is flanked by residential and commercial buildings, with some sections having sidewalks and drainage systems.

The study area experiences moderate to high traffic volumes, with a mix of passenger and commercial vehicles, including cars, buses, trucks, and motorcycles. The road is prone to congestion, particularly during peak hours of 7-9am, and between 4-6pm and market days. Speed limit is not strictly enforced and followed, and drivers' behavior is often aggressive, with frequent overtaking and speeding.

The study area has a limited safety feature, including:

- No pedestrian crossing or traffic lights.
- Inadequate road signage and markings.
- No crash barriers or guardrails

### **5.Discussions**

#### Descriptive statistics

Descriptive statistics was used to summarize and describe the data. The results are presented below:

- age of drivers: The majority of drivers (60%) were between 25-40 years old;
- gender of drivers: Male drivers (80%) outnumbered female drivers (20%);
- type of vehicle: Cars (40%) and motorcycles (30%) were the most common types of vehicles involved in accidents;
- Time of day: Accidents occurred most frequently (50%) during peak hours (7-9 am and 4-6 pm); and
- day of the week: Accidents occurred most frequently (40%) on market days (Wednesdays and Saturdays).

### **Spatial analysis**

Spatial analysis was used to identify clusters of accidents along the road. The results are presented below:

- Accident clusters: Accidents were clustered at intersections and curves along the road; and
- Hotspots: The sections of the road with the highest frequency of accidents were identified as hotspots.

### **6.Results**

- The main determinants of road traffic accidents on the Amasoma/Yenagoa Road are speeding, reckless driving, and poor road conditions;
- There is a significant relationship between road user behavior and road traffic accidents;
- Accidents are clustered at intersections and curves along the road.

### **7.Conclusion**

Certainly, drivers need to be vigilant with safety in their plans because traffic accident injuries and fatalities are a serious problem. There should be quarterly and annually training for safety officers and Federal Road Safety

Commission (FRSC) in other to implement public enlightenment and road accident management campaigns to prevent and minimize accident. These work helps to know some mechanical causes and how to handle and go about it.

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