

## OVERVIEW AND STATISTICAL ANALYSIS OF ROAD ACCIDENT IN OGUN STATE, NIGERIA

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**Abstract:** *The research design used for this study was the descriptive research design. The secondary data includes information obtained through the review of literature that is journals, monographs, textbooks and other periodicals. In order to determine the reliability and validity of the study, the test-retest method was used. To have a valid instrument, the questions in the questionnaire were free from ambiguity (i.e the questions will not be too complex). To have reliable instrument, the questionnaire were followed with interview of sample of respondents to know whether their view on the subject. Suggestions were made to reduce and or prevent traffic accident occurrence in the country.*

**Key Word:** *Road Accident, Transportation, Traffic, Causes, Suggestions*

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### Introduction

It was estimated that the total number of registered vehicles in Nigeria rose to between 1990 and 2006 from 700,000 to 6,000,000. The above problem has been the chief motivators in undertaking this statistical research work. Heinrich domino theory was propounded by H. W. Heinrich. It is a theory of accident causation which was the first guidelines in industrial safety. The Swiss Cheese Model hypothesis that in any system there are many levels of defense. Each of these levels of defense has little 'holes' in it which are caused by poor design, senior management decision-making, procedures, lack of training, limited resources etc. These holes are known as 'latent conditions'. Following are just some of the different ways that systems can fail, according to Petersen's theory: management does not establish a comprehensive safety policy; responsibility and authority with regard to safety are not clearly defined; safety procedures such as measurement, inspection, correction, and investigation are ignored or given insufficient attention; employees do not receive proper orientation and employees are not given sufficient safety training. The epidemiology theory studies the relationship between environmental factors and disease. Industrial hygiene concerns environmental factors that can lead to sickness, disease, or other forms of impaired health. The key components are pre-dispositional characteristics and situational characteristics. For example, if an employee who is particularly susceptible to peer pressure (pre-dispositional characteristic) is pressured by his coworkers (situational characteristic) to speed up his operation, the result will be an increased probability of an accident. Road traffic accidents is an event leading to personal injury or damage to property that has taken place in an area intended for public transport or generally used for transport and in which at least one of the involved parties has been in a moving vehicle. It is pertinent to know that Nigeria has the highest road accidents rate as well as the largest number of death per 10,000 vehicles. The issue of road traffic accidents is one that requires great care in handling as it is hydra headed in nature. The major causes of road traffic accidents could be classified under the following sub-headings namely vehicle related factors, human related factors and environment-related factors. Tires, engines, braking system and lights system are among vehicle subsystems which malfunction can cause road accidents. The vehicle itself is a component of the road traffic system. The reliability of the vehicle is itself a function of the condition of vehicle. Every vehicle is designed for a specific maximum load in all its ramifications. It is therefore, not surprising that when subjected to stress over and above the provisions of the design specifications, accelerated wear and tear set in on the vehicles. The net effect of this could result in deterioration for the condition of the vehicle. Design defects affect the subsequent condition of the vehicle once it is put on the road and operated either normally or otherwise which may result to possible road accidents. The body attribute to some measure in causing road traffic accidents; though less prominent is the firmness of the structure of the vehicle. The brake subsystem, working jointly with the accelerator is the main synchronizer of the speeds of vehicles. The tire is a dominant factor in determining the safety of automobiles on the road. Tire related causes of road accidents could be due to one or a combination of tire(s) (are) overinflated, thread are thoroughly worn-out, tire(s) is (are) 'pregnant' and tire(s) is (are) rear peel-off. Light failure (e.g. of one headlight) has a tendency to misinform and mislead other road users thereby providing a good opportunity for an accident to occur. Similarly, a failed trafficator light will not normally provide the usual warning to the rest of the followers that the vehicle is about to undertake a turning maenovour, for instance. The engine sub-system may be considered the head of the vehicle and one who's sudden failure on a highway is more likely to cause an accident if the volume of traffic is sufficiently high. Even when the traffic is reasonably low, mis-management of the failure by an experienced operator could cause an accident. In particular, it is expected that the operator who is the master should be able to exercise sufficient control over the vehicle.

**Empirical Review**

This measure is the only means of ensuring that operators entering or remaining in action in the system are first endowed with the necessary skills. Engineering will normally focus on those elements which deal with safer vehicles and improved vehicle design. The real point here is that engineering as a counter measure is that it ensures that a high reliability is achieved at the design stage and consequently the occurrence of failure of the vehicle while in operation is absolutely maintained. Education is another means of effectively reducing road traffic accidents, although Nigerian are well aware of the factors that could cause road traffic accidents. Experience has shown that in countries where enforcement has been adequately provided for in all its ramifications, those road traffic accidents have been well reduced. Evaluation is a proven means of providing a basis for remedial actions. Consequently, this serves as another effective means of knowing when and what kind of further actions needed to be taken in order to achieve a visible reduction in accident tallies. The hypothesis here is that a driver who is aware that the extent of his fault is an accident would be revealed by a thorough investigation is more likely to be careful. Maintenance in all its ramifications is one of the most effective preventive measures that any individual or organization can take to maximize the output of his, its accident reduction / prevention programme. Any maintenance programme which is expected to make a meaningful and sufficient impact must of necessity, address three major aspects namely, the road network, the vehicle and the driver. Budgeting is a major nuisance factors as it is not within the control of the average road user. Any maintenance programs without an adequate budget back-up are as good as the ‘do nothing’ solution option of the system approach. Therefore a remote way of ensuring accident reduction/prevention is for the government, which is charged with the responsibility for good maintenance to draw up and implement to the later on regular basis, budgets that match the demands of the road network and its infrastructure. The driver himself is subject to physiological wear and tear. Being the main actor in control of the factors responsible for accidents, it is absolutely that he or she be both physically and mentally alert when operating the vehicle. Consequently, the driver requires adequate maintenance which may come in the form of welfare scheme, health service programme retraining.

**Methodology**

The research design used for this study was the descriptive research design. The secondary data includes information obtained through the review of literature that is journals, monographs, textbooks and other periodicals. In order to determine the reliability and validity of the study, the test-retest method was used. To have a valid instrument, the questions in the questionnaire were free from ambiguity (i.e the questions will not be too complex). To have reliable instrument, the questionnaire were followed with interview of sample of respondents to know whether their view on the subject.

**Results and Discussion**

As reported for other low-and-middle income countries, the main victims are pedestrians, cyclists and public transport passengers (Downing, 1991). The number of people killed in road accidents between 2003 and 2022 rose from 28,253 and the fatality rate remains consistently high. Accident do not just happen, they are caused. In other words, a good awareness and knowledge of causes of road traffic accidents will help in reducing it. Annually, about 1.24 million people die each year as a result of road traffic crashes. About 91% of the world's fatalities on the roads occur in low income and middle-income countries, even though these countries have approximately half of the world's vehicles. Without action, road traffic crashes are predicted to result in the deaths of around 1.9 million people annually by 2020. One may be tempted to believe that the level of awareness on the causes of road traffic accidents is reasonably low among Nigerians. Prior to the discovery of oil in Nigeria, road accidents were rather rare. Available data of road traffic accident (RTA) statistics in Nigeria between 2008 and 2022 as well as the results of reported road crash in Ogun State between 2013 and 2022 are presented in Tables 1 and 2 respectively. In addition to these, the total case of injured and road crash in Ogun State, Nigeria are graphically prevented in Figures 1 and 2 respectively

Table 1: Road Traffic Accident (RTA) Statistics in Nigeria 2008 - 2022

Year	Fatal	Serious	Minor	Total case	No Died	No injured	Total Casualty
2008	826	9065	4239	14130	1083	10216	11299
2009	193	2674	7923	10790	2483	5264	7747
2010	1263	6382	7862	15507	2383	4923	7306
2011	967	3759	3422	8148	3894	8633	12527
2012	911	2781	8723	12415	4865	7632	12497
2013	1029	3456	6732	11217	6740	3562	10302
2014	1680	6918	8941	17539	5421	4851	10272
2015	1560	7762	5609	14931	8423	5413	13836
2016	458	5200	5822	11480	7659	9854	17513
2017	1559	8098	7061	16718	6232	1211	7443

2018	129	8113	2098	10340	7652	7521	15173
2019	2781	6230	6734	15745	2765	2361	5126
2020	905	5690	7362	13957	9671	7412	17083
2021	4451	9275	6831	20557	6523	3421	9944
2022	3853	6664	8091	18608	7632	4852	12484

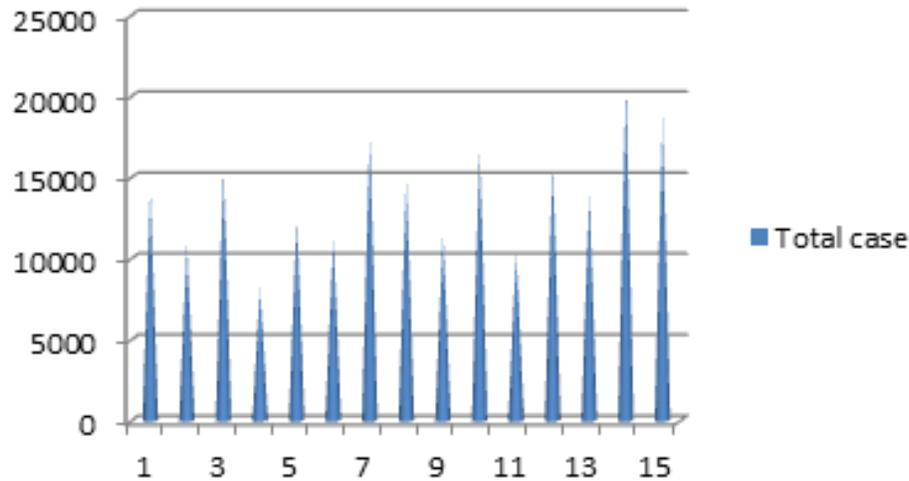


Figure 1: Total case of injured

Table 2: Reported road crash in Ogun State between 2013 – 2022

Month	Reported Crash in Ogun State 2008 – 2022									
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Jan	51	36	23	34	35	34	43	34	46	87
Feb	40	64	78	45	57	67	64	68	35	31
March	52	50	57	32	87	45	57	79	53	65
April	51	61	34	45	25	87	53	87	57	78
May	32	58	34	46	83	34	78	53	22	57
June	37	78	95	48	73	67	87	13	98	54
July	52	32	54	26	43	56	24	89	24	32
August	43	23	57	54	25	87	34	45	64	36
Sept	40	45	24	23	98	23	53	67	54	35
Oct	28	43	73	79	34	67	23	34	97	67
Nov	30	65	78	26	56	89	76	78	12	80
Dec	36	33	69	87	58	34	24	25	56	96
Total	492	588	676	545	674	690	616	672	618	718

Table 2 present a general pattern of road traffic accident in Ogun State, Nigeria between 2013 to 2022. A total of six thousand, two hundred and eighty nine (6289) roads traffic accidents were recorded in Ogun State within the period of investigation.

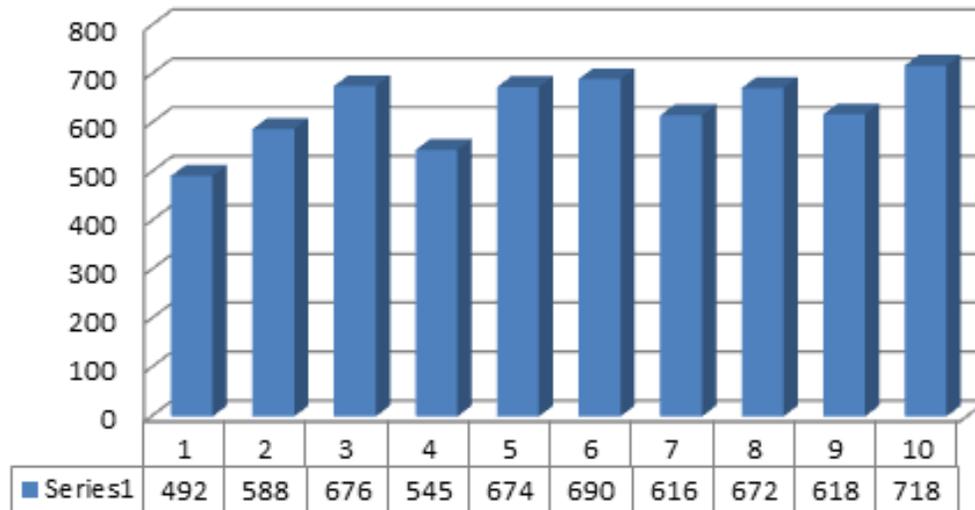


Figure 2: Road crash in Ogun State

### Socio- economic effect of Road Traffic Crashes

Apart from the humanitarian aspects of its effects on lives and fatalities, which occur as a result of road accidents, have serious social and economic consequences, which has made prospective travelers to develop phobia for spatial interaction. Ogun state has one of the worst scenarios of accident occurrence as it ranked high with high incidence of road traffic accidents.

### Conclusion

It is of the opinion that the major strategy toward reducing road traffic incidence cannot be found in a policy approach but rather through a combination of measures capable of mitigating the excesses of the causative factors. However, whether at the global, national level or state level, human and material resources vital for development process are destroyed in road crashes. Effective intervention should also include designing safer infrastructure and incorporating road safety features into land use and transport planning; improving the safety features of vehicles to a very large extent. There is need for involvement of stakeholders to reduce the incidences of Road Traffic Crash..

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