



Intensive Survey on the use of Road Traffic Signs and Observance of Traffic Rules and Regulations by Commercial Motorists in Jimeta and Yola Metropolitan, Adamawa State, Nigeria

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Abstract

The study surveyed the use of road traffic signs and observance of traffic rules and regulations by commercial motorists in Jimeta and Yola metropolitan, Adamawa State, Nigeria. Three (3) research questions were raised to guide the study. Five hundred and twenty seven (527) drivers form the population of the study. Random sampling technique was used, where 10% of the entire population was taken which gave a sample population of 53. Structured questionnaire was used as instrument for data collection. The questionnaire comprised of three (3) sections and eighteen (18) items. Data collected from the respondents were analyzed by computing frequency, mean, and standard deviation of the responses. The analysis showed that the road traffic rules and signs have been effective as safety components in prevention of avoidable accidents. It also reveals that most of the road accident occurring within Jimeta and Yola metropolitan are mainly as a result of human error (ignorance, non-compliance with traffic rules such as over speeding, reckless driving, overloading etc.). However, recommendations were proffered on how to educate and encourage the commercial drivers on the use of road traffic signs, following traffic rules willingly and to have a good relationship with the road traffic agencies.

1. Introduction

Road traffic signs are signs that are erected by the side or above the road to give information or instructions to road users. Road safety is a multi-sectored and multidimensional issue that requires combination of various parameters such as development and management of road infrastructure, provision of safer vehicles, legislation and law enforcement, affordable health care services, and awareness about road safety measures among the users [1]. The World Health Organization (WHO) attributes roughly 1.2 million deaths and 39 million injuries to traffic accident each year [2]. Thus, Motor vehicle crashes has almost become the leading causes of death in adolescents and young adults [3]. From the estimated 856,000 road deaths occurring annually worldwide, 74% are in developing countries [4]. Today, more use is being made of new technology to provide better information to drivers on hazards, delays and diversions. Researchers in the field of road and transport engineering have undertaken various researches to help understand user's comprehension of various traffic control devices. For instance, a study was conducted in Ekiti, Nigeria to assess the effect of traffic signs understanding of local sample taking into account socio-economic factors such

as age, gender, marital status and educational background. It was discovered that drivers had a low comprehension level of traffic signs. The study found from statistical test that level of education and traffic comprehension are dependent on each other [5]. Similarly, a driver survey was used to assess traffic signs understanding of various guide, warning, and regulatory signs in Dhaka city [6]. The study revealed poor understanding of traffic signs by road users in Dhaka city with average correctness score of 50%. A study by [7] also investigated comprehension levels of traffic signs by road users in Canada, Poland, Finland and Israel. The sample comprised of 1,000 respondents categorized into five groups as novice drivers, tourists, older drivers, older drivers, problem drivers and university students. Results showed a significant difference in comprehension level and such a difference was found among specific sign messages, different countries, and different driver populations. Another study by [8] compared traffic control device comprehension between domestic and international drivers in Florida. From the analysis of 740 respondents, it was found that international drivers performed below domestic drivers in understanding traffic signs, markings and traffic signal indications.

However, in spite of all the technological advances, and the efforts put together by the Federal and State Governments in Nigeria, it seems a sustainable solution for all classes of road traffic accidents have not yet been identified. Thus, road traffic injuries and deaths continued to remain an important public health problem at global, regional and national levels. While steps are being taken in many countries to improve road safety, much still need to be done if the rising trend in road traffic deaths is to be halted or reversed [9, 10]. There are few literatures demonstrating the effective use of traffic signs on local roads in Nigeria. It is to this end, this study is set forth to survey the use of road traffic signs and observance of safety rules and regulations by commercial motorists in Jimeta and Yola metropolitan.

2. Methodology

The study area covers Jimeta and Yola metropolitan, which comprises of two (2) local governments: Yola North (Jimeta) and Yola South (Yola metropolitan) in Adamawa State of Nigeria. Jimeta, the headquarter of Yola North local government area of Adamawa state Nigeria lies along the bank of river Benue and is located between latitude $9^{\circ} 16' 45'' N$ and $9^{\circ} 27' 9'' N$ and longitude $12^{\circ} 44' 58'' E$. Jimeta occupies an area of 4562km. The town is at the point where the river carves its valley through the eastern highland. Jimeta is one of the twin settlements that form the capital of Adamawa state. Its twin sister town is Yola town, the traditional seat of Adamawa state traditional council.

The target population for this study was made up of drivers from two commercial motor parks in Jimeta metropolitan. These branches have 527 registered commercial vehicles, which mean that 527 drivers were used as the population for the study which serves as the source for collecting data. Three (3) research questions were proposed to guide the study. Random sampling technique was used. 10% of the entire population was taken which gave a sample population of 53. Structured questionnaire was used as instrument for data collection. The questionnaire comprises of three (3) sections and eighteen (18) items. The instrument was administered on the respondents and recovered all in thirteen (13) days by the researcher. The data collected from the respondents were analyzed by computing frequency, mean, and standard deviation of the responses. 3.50 was chosen at random as the cut-off point, an item was regarded as agreed if its weighted mean was up to 3.50 and above and was considered disagreed, if the mean ratings was below 3.50.

2.1. Research Question one

How efficacious are the road traffic rules and signs in prevention of avoidable accidents?

Table 1: Mean response of respondents on efficacy of Road Traffic Rules and Signs in prevention of avoidable accident.

| S/N | Item statement | X | SD | Remark |
|-----|---|-------------|------|---------------|
| 1 | Traffic signs have positive effect on my driving attitude | 4.95 | 0.32 | Agreed |
| 2 | Lack of Road Traffic Signs in many locations has affected a lot of drivers in Adamawa State. | 4.67 | 0.93 | Agreed |
| 3 | Accidents will still occur even if drivers observed Traffic Rules and Regulations | 3.44 | 1.48 | Disagreed |
| 4 | The roads in Yola and Jimeta metropolitan have enough road signs placed in proper positions. | 2.89 | 1.55 | Disagreed |
| 5 | All the commercial Motorists that work within Yola and Jimeta Metropolitan drive within the approved speed limit. | 3.16 | 1.56 | Disagreed |
| 6 | Drivers only use their Seatbelts when they sight Road Safety Personnel on the highway | 4.40 | 1.35 | Agreed |
| 7 | Non-compliance with loading regulation is almost the habit of most drivers in Yola and Jimeta metropolis. | 3.72 | 1.61 | Agreed |
| | Grand Mean | 3.84 | | Agreed |

Key: \bar{X} =Mean response of the respondents, SD=Standard Deviation.

Table 2, shows the efficacy of road traffic rules and signs. The items 1, 2, 6 and 7 were agreed with their respective mean above 3.50 while items, 3, 4, and 5 were disagreed because their respective mean fall below 3.49, respectively.

2.2. Research Question two

What are the problems of motorists in using road traffic signs and observing road traffic rules and regulations?

Table two: Mean response of motorists in using traffic signs and adhering to Road Traffic Rules.

| S/N | Item statement | \bar{X} | SD | Remark |
|-----|---|-------------|------|---------------|
| 8 | Most Drivers obey traffic rules only when they see Officers on patrol | 2.96 | 1.88 | Disagreed |
| 9 | Most commercial Motorists can differentiate between regulatory sign, mandatory sign and informative sign. | 3.45 | 1.56 | Disagreed |
| 10 | Drivers Don't Usually Adhere To Warning Signs Such As 'Stop', 'No U-Turn', 'No Overtaking' 'No Packing' etc when they are in a hurry. | 3.68 | 1.79 | Agreed |
| 11 | Most Drivers are confused about colors and shapes of road traffic signs. | 3.53 | 1.43 | Agreed |
| 12 | The road safety officers are doing their best in educating and enlighten drivers concerning the uses of traffic signs and consequences of violating them. | 3.12 | 1.75 | Disagreed |
| 13 | As a driver I can read and write. | 4.45 | 1.22 | Agreed |
| 14 | The entire road signs place on Jimeta and Yola metropolitan roads are visible. | 3.62 | 1.67 | Agreed |
| | Grand Mean | 3.50 | | Agreed |

Key: \bar{X} =Mean response of the respondents, SD=Standard Deviation

The respondents agreed with items 10, 11, 13, and 14 with their respective mean above 3.49. However, item number 8, 9 and 12 were disagreed.

2.3. Research Question Three

What other strategies could be used to motivate motorists to use the traffic signs effectively and observe the road traffic rules willingly? **Table 3:** Mean response of respondents on effective strategies that could motivates motorist.

| | Item Statement | \bar{X} | SD | Remark |
|----|--|-----------|------|---------------|
| 15 | I will like to know more on the uses of Road Traffic Signs. | 4.71 | 0.74 | Agreed |
| 16 | I will like to belong to any drivers' safety club if there is any | 5.00 | 0.00 | Agreed |
| 17 | I wish traffic officers could embark on mobile patrol rather than standing in one place. | 4.89 | 0.53 | Agreed |
| 18 | I wish drivers can freely access the FRSC publications all the time. | 5 | 0.00 | Agreed |
| | Grand Mean | 4.99 | | Agreed |

Key: \bar{X} =Mean response of the respondents, SD=Standard Deviation.

Table 3, shows all the items being agreed by the respondents as correct strategies that can motivate commercial motorists use and observe the road traffic rules and signs willingly.

3. Results and Discussion

The items in Table one shows that road traffic rules and signs are effective in prevention of avoidable accidents. Even though not sufficiently placed, it has effect on drivers' attitude. This means that breaking any of the rules or not adhering to signs as shown in the analysis has landed many drivers in a ditch. This finding is consistent with the assertion of [11] and "exceeding speed limit" was a contributory factor in 5% of all casualty crashes. (14% of all fatal crashes), and that travelling too fast for conditions "was a contributory factor in 11% of all casualty crashes" Item number 8 in Table 1 has clearly defined the fact that most of the commercial motorists are traffic law breakers in terms of speed limit; which has resulted into several car crashes. The analysis in Table 2 suggests that most of the accidents occurring and the severe injuries are as a result of driver's ignorance, carelessness and nonreplaced worn out safety sign posts, traffic lights etc. This result agreed with findings by [12] in his study where it was found that more than 90% of road traffic accidents in Lagos state could be attributed to recklessness on the part of the driver's ignorance of highway codes, over speeding etc. A driver who couldn't replace his worn out safety components (such as speedometer, tyre, horn or brake light etc), or is ignorant of some highway codes or why certain traffic sign is placed in a particular location, is liken to a blind man who thinks he can lead another. The efficiency and efficacy of the traffic signs and regulations solely depends on the driver's knowledge and attitude. The results, from Table 3 show a grand mean of 4.99, which means that none of the items suggested was rejected by the respondents. Thus, the analysis reveals that if more improved awareness are done on the use of traffic signs and traffic regulations and establishing drivers' safety clubs across the motor packs, embarking on rigorous "mobile patrol" rather than standing only on highways and given the drivers free access to FRSC publications etc, these can go a long way in motivating and improving the drivers attitude in using the road traffic signs as well as observing the road traffic rules and regulations willingly.

4. Conclusion

Today, the Federal Road Safety Corps no longer use the word 'Accident' instead, they prefer using 'Road Crashes'. This is because; it is believed that to some extent, traffic accidents can be avoided. Thus, if it can be avoided, it is no longer an accident if it occurs. In order to reduce the number of

lives being lost on daily bases on Nigerian roads, the knowledge of traffic signs, traffic rules and regulations among drivers, and all road users can never be over emphasized. This study is carried out in order to ascertain amongst commercial drivers, the extent to which the use of safety rules and signs have achieved in accident prevention in Jimeta and Yola metropolitan. It is believed that the knowledge of these findings can be used to increase the fight against road crashes in Nigeria. This study also recommends the following in order to ensure safety on Jimeta and Yola Metropolitan's roads:

- Ensuring that drivers are constantly trained to ensure that they operate vehicles safely and comply with traffic regulations at all times.
- Regularly patrolling the highways and side streets
- Drivers' safety club should be encouraged, this will enable the drivers create safety consciousness among themselves
- Free access to FRSC publications and constant distribution should be encouraged. This will foster good relationship between drivers and road traffic law enforcement agencies.
- Ensuring that all faded or removed road signs are replaced.

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