THE INTERNATIONAL JOURNAL OF HUMANITIES & SOCIAL STUDIES

Tackling the Menace of Speed Violation among Motorcyclists in Nigeria: A Policy Brief

Funom Theophilus Makama
Human Rights Researcher, Department of Politics and International Relations, University of Leicester, United Kingdom
Nengi Sophia Boyle
Post graduate Student, Nuffield Centre for International Health and Development, Leeds Institute of Health Sciences, University of Leeds, United Kingdom
Ellisa Umukoro
Postgraduate Student, Nuffield Centre for International Health and Development, Leeds Institute of Health Sciences, United Kingdom
Attahiru Dan-Ali Mustapha
Postgraduate Student, Nuffield Centre for International Health and Development, Leeds Institute of Health Sciences, University of Leeds, United Kingdom
Ava Bawa
Postgraduate Student, Nuffield Centre for International Health and Development, Leeds Institute of Health Sciences, University of Leeds, United Kingdom

Abstract:
Motorcycle accidents in Nigeria are of particular concern because they rank among the top two vehicle causes of road traffic accidents in the country. Also, the motorcycle plies every road type in the country, and over-speeding tops its causes of accidents, a cause that also ranks top in the human causes of all accidents in all vehicle types. The partial or complete ban on the use of motorcycles has proven to be ineffective in various regions of the country due to its role in sustaining the livelihood of many Nigerians. However, on a policy level, motorcycle accidents have been neglected in Nigeria despite changing policies and intervention programmes since the pre-1939 era of Road Traffic Management. Currently, it is paramount to investigate Motorcycle accidents, emphasizing over-speeding as an emergency. Therefore, the aim of this review is to investigate any existing policy that tackles motorcycle accidents, whether at the national or regional level and develop it to make recommendations for an independent policy that should urgently regulate the motorcycle means of transportation and subsequently tackle motorcycle accidents in Nigeria.

Keywords: *Motorcycle accident, road traffic accident, Nigerian transportation system, road traffic laws, road traffic policy, federal road safety commission*

1. Introduction

Road Traffic crashes are the 10th leading cause of death in Nigeria, and one in every four road accident deaths in Africa occurs in Nigeria, making it one of the most dangerous places to ply the road in the Continent and the world at large. Human factors, vehicular types and environmental factors are responsible for these accidents, which also cause huge economic losses in billions of US dollars on a yearly basis. The Motorcycle crash is the second most common cause of road traffic accidents based on vehicular types of causes, and yet, not enough attention has been given to it in terms of interventions and policies. The actions or interventions already carried out are the creation of the following policies: the Federal Road Safety Commission Establishment Act, Lagos State Transport Sector Reform and the Nigerian Road Safety Strategy for 2014 to 2018. Through their strengths and weaknesses, appropriate adjustments are needed to adequately tackle road accidents on account of motorcycle use. The Nigerian Road Safety Strategy for years 2014 to 2018, being the most recent policy, is not tailored towards vehicular types of causes and hence is not specific in its approaches. Recommendations on specific stakeholders, compliance strategy, regulatory initiatives on speed limits, speed detection devices, engine capacity requirement, penalties for offenders, capacity building and collaborations are stated to draft a vehicle-specific policy tailored towards tackling the mortality rate on account of overspeeding by motorcyclists. Table 1 shows an overview of road traffic accidents in Nigeria.

Nigeria has been consistently ranked over the years as having one of the highest rates of road accidents in the world (NBS, 2022).
Road traffic accidents are the 10th leading cause of death in Nigeria (WHO, 2020).
Nigeria loses about 100 million dollars annually to RTA (5% Loss to GDP) (WHO, 2018).
Death due to RTA in Nigeria is more than that caused by all communicable diseases combined, including HIV/AIDS, with a Mortality rate of 33.7 per 100,000 (WHO, 2018).
Nigeria has also been identified as the most dangerous country in Africa, with 75% of all accidents on Nigerian roads involving fatalities, and one in every four accident deaths in Africa occurs in Nigeria (FRSC, 2021).

Table 1: Overview of Road Traffic Accidents in Nigeria

2. Methods and Data

The five keywords, 'Accidents in Nigeria', 'Motorcycle Accidents in Nigeria', 'Road Traffic Laws in Nigeria', 'Transportation policy in Nigeria' and 'Regulation of Motorcycle Transportation in Nigeria' were searched across eight academic databases that have a significant number of articles with the same research topic. These sources are: Academia.edu, African Journal Online, Elsevier, Google Scholar, Google Search Engine, Hindawi, National Library of Medicine and Researchgate. A total of 171 articles were searched based on related titles. 54 of these 171 articles were duplicates, and another 28 were unrelated to the theme of study, based on a quick look at the abstract, introduction and conclusion of these articles. Of the 89 left, 27 were published not in English, leaving a total of 62 articles finally included in this study. Table 2 summarizes the search methodology and results, while table 3 shows the inclusion and exclusion criteria used for the selection of articles.

Keywords	Article Sources	Searched Articles	Included
Accidents in Nigeria Motorcycle Accidents in Nigeria Road Traffic Laws in Nigeria Transportation Policy in Nigeria Regulation of Motorcycle Transportation in Nigeria	Academia.edu	18	7
	African Journal Online	32	7
	Elsevier	12	3
	Google Scholar	30	9
	Google Search Engine	26	24
	Hindawi	14	1
	National Library of Medicine	21	3
	Researchgate	18	8
Total		171	62

Table 2: Search Methodology and Result

Inclusion Criteria	✓ Articles written in English ✓ Titles + Abstracts + Introduction + Conclusion must relate to the topic of study.
Exclusion Criteria	✓ Articles not written in English ✓ Duplicates ✓ Monetized articles ✓ Not available as full-texted articles ✓ Articles of which, any of the following: Title, Abstract, Introduction or Conclusion does not relate to the topic of study

Table 3: Inclusion and Exclusion Criteria

3. Limitations of This Study

3.1. Reliability and Data Availability

- In 2021, the total number of deaths reported among the male gender (4997) was inconsistent with the 5721 deaths reported after distributing the data by age (NBS)
- Similarly, In 2017, the total number of deaths reported among the male gender (4751) is inconsistent with the 4020 deaths reported after distributing the data by age (NBS)
- Absence of national data on age-group distribution, type of injuries and disabilities, and category of persons involved in RTA

4. Discussion

4.1. Causes & Determinants

The causes of road accidents in Nigeria can be classified into human factors (80%), vehicle factors (15%) and environmental factors (5%) as shown in figures 1 to 4. Accidents are more common during the weekends, for festive reasons, and in urban areas.

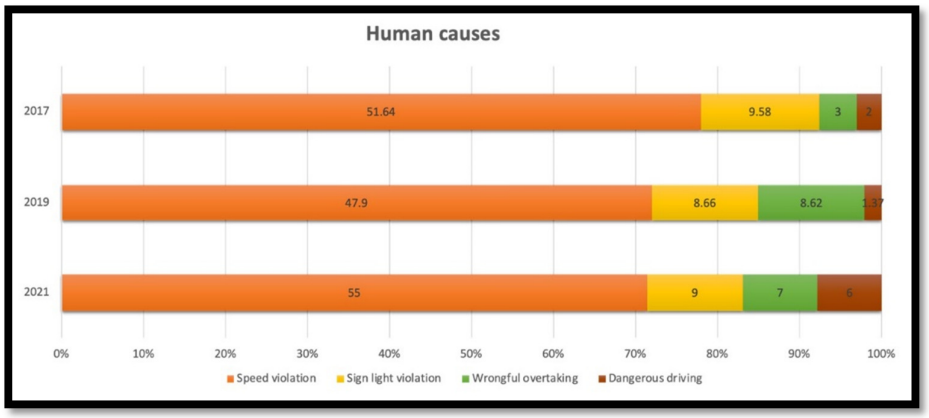

Figure 1: Human Causes of RTAs in Nigeria

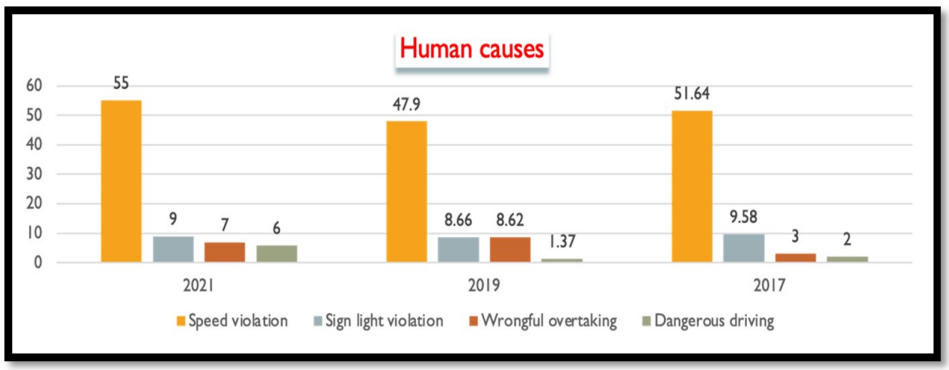

Figure 2: Bar Chart Showing the Human Causes of RTAs in Nigeria

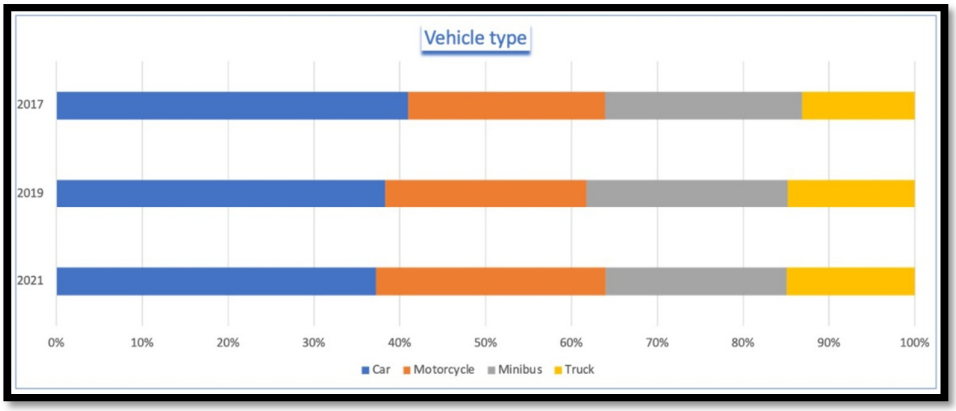

Figure 3: Vehicle-Type Causes of RTAs in Nigeria

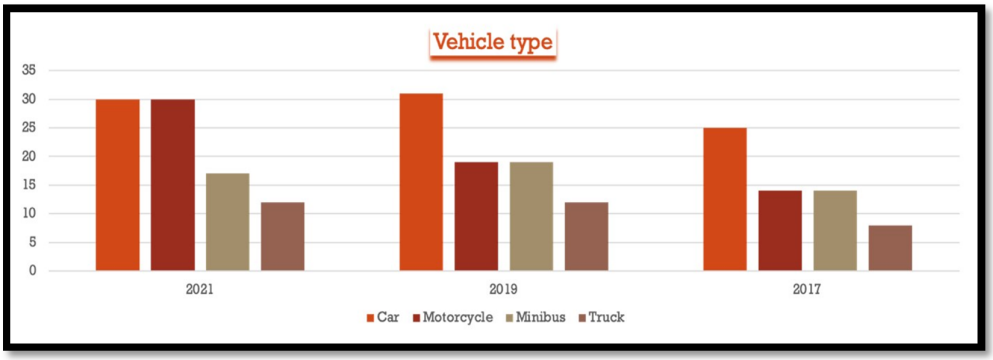

Figure 4: Bar Chart Showing Vehicle-Type Causes of RTAs in Nigeria

In current times, the main causes of road traffic accidents in Nigeria are: speed violations, wrongful overtaking, dangerous driving, tyre bursts and brake failure (Editorial-Premium Times, 2012). In 2019, speed violation alone amassed 47% of all road traffic accidents, closely followed by wrongful overtaking at 10%. Dangerous driving, tyre bursts, and brake failure all together accounted for the remaining 43% of road traffic accidents (Editorial-Premium Times, 2012). This was similar for the year 2021 as the National Bureau of Statistics (NBS) in collaboration with the Federal Road Safety Corps (FRSC) released the data on the causes of road traffic accidents, putting speed limits violations at 59.79%, wrongful overtaking at 6.77%, sign light violation at 5.67%, dangerous driving at 5.35%, tyre burst at 5.21% and others at 17.21% (Benjamin, 2022). This is very similar to the causes of road traffic accidents in the Western States of Nigeria in the 1970s, the region of the country with a significant gap in road users to other parts of the country. Between 1970 and 1975, 23 causes of road accidents were investigated, 16 of which were human causes, amounting to 73.7% of causes, and the top 5 being: recklessness or negligence of drivers (35.79%), excessive speed (9.81%), pedestrians' fault (6.19%), careless Adult crossing (4.99%) and improper overtaking (4.22%) (Oyebanji, 1984).

Since other causes have been highlighted, it is important to put the particular bad roads into the equation since their effect on RTAs is huge. There are 7 most prevalent routes that are aetiological factors to road traffic accidents in Nigeria, as shown in table 4 (Editorial-Premium Times, 2012).

Kaduna-Abuja expressway
Lagos-Ibadan expressway
Abuja-Lokoja expressway
Kaduna-Zaria expressway
Enugu-Awka-Onitsha road
Lagos-Sagamu-Ore-Benin road
Otukpo-Otukpa road

Table 4: Prevalent Routes Causing RTAs in Nigeria

Also, it is paramount to know the vehicle type involved in road traffic Accidents in Nigeria. According to Statista (2022), in the 4th quarter of 2021, the vehicle types involved in RTAs are as follows: private car, 1,494 at 28.2%, motorcycle, 1,146 at 21.6%, minibus, 976 at 18.4%, Truck, 689 at 13.0%, Trailer, 261 at 4.9%, Tricycle, 218 at 4.1%, SUV (Jeep), 174 at 3.3%, Pick-up, 150 at 2.8%, Tanker, 95 at 1.8%, others, 81 at 1.5% and Van, 19 at 0.4%. This statistic, therefore, pits private cars, motorcycles, minibuses and Trucks as the top four vehicle involvements in road traffic accidents at a whopping 71.2% out of 11 vehicle types, as summarized in Figure 5 below. Also, Adults significantly suffer more from RTAs than children, just as men are significantly more victims of RTAs than women, as shown in both figures 6 and 7.

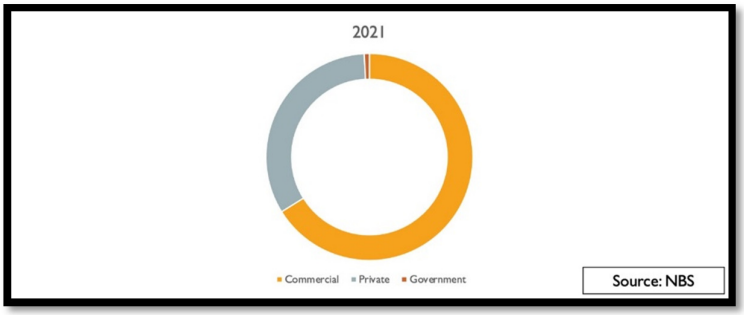

Figure 5: Categories of Vehicles Involved in RTAs in Nigeria

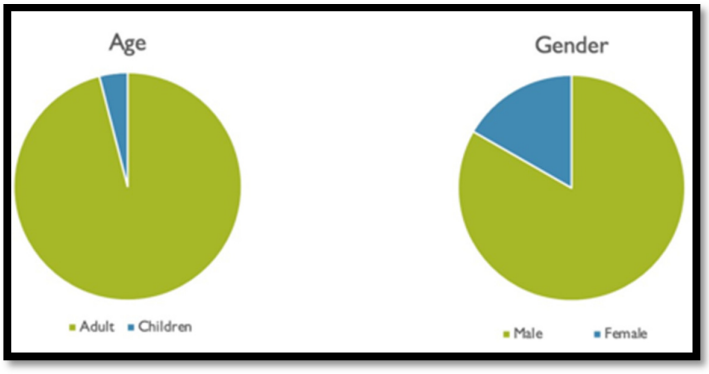

Figure 6: Age and Gender Involved in RTAs in Nigeria

Finally, when mentioning road traffic accidents, time is also very important. The popularised 'Ember' months period, which is from September to December, is always a crucial time for road users in Nigeria as it is the most dangerous time to travel in the country (Okeafor, 2019; Daily Trust, 2016; Ogunbiyi, 2020). This is largely due to the impatience of drivers and their quest to make fast money for the Yuletide period, graced with festivities (Editorial-Premium Times, 2021). Sometimes, the months that follow, which are January and February, are caught up with the trend and a good example is the period between December 2018 and February 2019, which experienced 1,618 lives lost to RTAs (Editorial-Premium Times, 2012).

All these Accidents amount to huge losses and waste of human resources, destruction of our roads, and heavy economic impact on infrastructural, machine and business losses. It was reported that N9.8 billion was lost in 2018 to Tanker accidents alone (ICIR, 2018). Taking into consideration that the Tanker vehicle is the 9th out of 11 vehicle types that are involved in RTAs on Nigerian roads at 1.8% involvement, the perceived economic impact on the nation is significantly negative.

4.2. What Has the Government Done?

- Up until 1939, the Directorate of Works was responsible for vehicle inspection in Nigeria, while the motor licensing officer under the Federal Ministry of Finance was responsible for motor licensing. The Directorate of Works stopped Vehicle inspection because of the 2nd World War, during which Officers of the Directorate were drafted into the Army (Likman, 2018).
- On 01 January 1949, the Road Traffic Act was drafted by the Colonial administration and enacted or adopted by most British colonies, including Nigeria. This act regulated and controlled vehicular traffic on highways and vehicle licensing. In this act, the Inspector General of Police was given the responsibility of both the inspection and the Licensing of Vehicles, together with the enforcement of traffic rules and regulations; all duties were termed 'Vehicle Administration' (Ebele, 2018); this lasted until 1958 when the Nigerian constitution was created.
- In 1958, the Nigerian constitution conferred on the regional governments the power to enact their own traffic laws, but the Inspector General of the Police was still the principal licensing officer (Ebele, 2018).
- In April 1963, the Mechanical departments of the Ministry of Works created inspection units in the various regions of the country to be responsible for vehicle administration. This was a gradual process as the promulgation of Road Traffic Laws Cap 116 of 1963 for Eastern Nigeria, Cap 118 of 1963 for Northern Nigeria, Cap 113 of 1959 for Western Nigeria, Cap 184 of the Federation of Nigeria and Lagos (which later became Cap 124 of 1973 for Lagos State and Cap 548 of 1990 for Abuja) were all established. This also prompted the creation of Vehicle Inspection Officers, also known as VIO, and it was recorded that Nigeria witnessed a remarkable change in Motor vehicle Administration, and drivers were properly tested and licensed at that time (Okolo, 2017),

Also, the government created and implemented programs by funding them to try to curb road traffic accidents in the country. Here are some of the programmes.

- The Economic Program on Road Development in Nigeria (1955 to 1961). The colonial masters, in tandem with representatives of the Nigerian region, funded this program with N292.6 million, out of which 93.4 million was allocated to the Ministry of Transportation, from which 27.2 Million was invested in road construction and maintenance, which was a mere 9% of total funding, (Olivier, 1957).
- First National Development Plan for 1962 to 1968. This plan was termed 'the first' because it was the first initiative when Nigeria was, at this time, independent from British rule. This program was funded with N1.35 billion, out of which N288 million went to the Transport Ministry and N150.6 million for the construction and Maintenance of Roads, which was an improvement from the last as this was 11% of total funding (Federal Republic of Nigeria, 1961).
- The second National Development Plan covered the years 1970 to 1974. This was funded with N2.05 billion, and N485 million was allocated from it to the Transport Ministry, out of which N332.7 Million was invested in Road construction and maintenance, experiencing an increase in percentage allocation to 16% (Federal Republic of Nigeria, 1970).
- The third and final National Development Plan on road development in Nigeria targeted the years 1975 to 1980. N43 billion was allocated, and the Ministry of Transport got N9.7 billion, out of which N7.04 billion was allocated for Road construction and Maintenance, which was 16% of the total funding (Federal Republic of Nigeria, 1977),

The big questions are: Did these programs work? Were road traffic accidents reduced after 1980? The answer to both questions is: No, to a significant extent. Despite focusing on road construction and maintenance, as the above report and the name of the program implied, a maximum of 16% allocation was delivered for this purpose, and one would wonder what the remaining 84%, at minimum, was used for in championing 'road development'. This then suggests that there are other highly significant causes of road traffic accidents on Nigerian roads, considering the allocation they swallow from these programs.

- The 1970s experienced an epidemic rate of RTAs (Oyebanji, 1984), and by 1988, by virtue of Decree 45 as amended by Decree 35 of 1992, the Federal Road Safety Commission (FRSC) was established, and subsequently, the Federal Road Safety Commission (Establishment) Act 2007, No.22 was created (Okolo, 2017).

So, while the Federal Road Safety Commission (Establishment) Act 2007 is the only existing policy that is close to fighting RTAs in Nigeria to date, two sets of road user enforcement authorities have been established through this entire process of policy-making and amendment. The Federal Road Safety Corp (FRSC) is more of the human factor regulator, and

the Vehicle Inspection Officer (VIO) is more of the Vehicle administrator. When looking into the policy, the FRSC will be understood better, but for now, the VIO is responsible for the following (Onamusi, 2011; Ehikhamenor et al., 2006):

- Inspection and certification of Vehicles before registration and renewal of particulars
- Sensitization through public education and advocacy
- Routine checks and the enforcement of compliance on road users via patrols of roads and highways
- Periodic training of officers via seminars and conferences.

If, after all these, Nigeria still ranks as one of the most dangerous places to drive, then there is a fundamental issue, and the existing policies need to be visited to critically examine how we can bring about a lasting solution.

4.3. Problem Focus- Speed Violation among Motorists in Nigeria

There is evidence to show that motorcycles were used in pre-colonial times but for private use only. In the 1970s, during the population boom of the nation and economic depression, which continued until the 1980s, massive unemployment happened, and the purchase of motorcycles as a means of transportation became popular (Olubomehin, 2012). The population rise contributed to the total collapse of the intra-city and national transportation system in Nigeria (Nwadiaro, 2011). This rise led to more purchases of motorcycles and, hence, the rise in motorcycle accidents (Ogunsanya & Galtima, 1993).

Motorcycle accidents account for the second largest group of vehicles involved in RTAs and the second most common cause of road traffic injuries in Nigeria (FRSC, 2013; Oluwadiya et al., 2009). Also, WHO reported the rate of RTA in Nigeria at 21.4 per 100,000 in 2016. This translates to millions of lives in a population of over 200 million people (WHO, 2018a; NPC, 2022). Motorcycles account for over 50% RTI. At least 1 out of 2 deaths from RTIs involve motorcycles (Labinjo et al., 2009). As shown in figure 7 below, speed violation accounts for over 55% of RTA in Nigeria in 2021 and is identified as the main cause of RTA in Nigeria (NBS, 2021). This correlates with a study conducted among commercial motorcycles in Nigeria, which ranked over-speeding as the highest cause of accidents among motorcyclists at 44% (Gboyega et al., 2012). See appendix 1 for an example of the human factor responsible for motorcycle accidents in Nigeria and appendix 2 for an example of a fatal motorcycle accident (viewers' discretion advised).

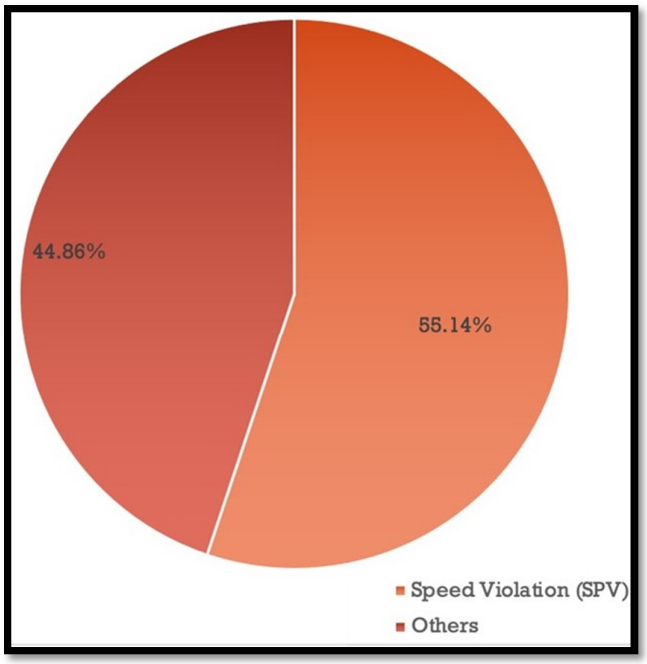

Figure 7: Causes of Death in Percentage Due to RTAs in Nigeria in 2021

4.4. Why Motorcycles?

Figure 8 shows the major injury types caused by motorcycle accidents. Table 5 shows some facts about motorcycle accidents in Nigeria, while table 6 shows the most common reasons for such accidents.

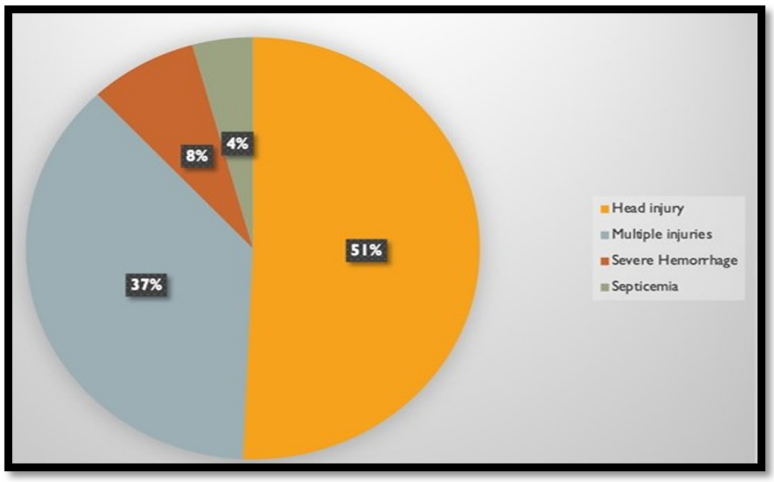

Figure 8: Proportion of Injuries Following Motorcycle Accidents
Source: Faduyile Et Al. 2017

For every 10 RTAs in Nigeria, at least 2 involve motorcycles and motorcyclists (NBS, 2021).
Motorcycle crashes accounted for 54% of all RTIs in a population-based survey conducted across selected states in Nigeria (Labinjo et al., 2009).
Motorcycles ply and cause RTAs on all road types, including inter and intra-city roads such as federal, state and local roads (Olubomehin, 2012).
A review of the current Nigerian Road Safety policies, including the FRSC Act 2007 and FRSC 2013, revealed a more generic response to all vehicles with no special considerations for vulnerable road users, which include motorcyclists (WHO, 2018).
Nigeria, in 2015, created a policy to intervene in Tanker-Road Traffic Accidents. Hence, it is not the first time an RTA intervention has been based on vehicle type (Oyeyemi, 2018).

Table 5: General Facts about Motorcycle Accidents in Nigeria

Over 60% of motorcycles on Nigerian roads are for commercial purposes. Hence, the number of trips influences the profit made (NBS, 2021; Yunusa et al., 2014).
Owners invest in the smaller and cheaper version, which weigh less and have a lower balance in speed, thereby increasing severity in case of crashes (Emiogun et al., 2016; Adebisi et al., 2020).
Motorcyclists can manoeuvre through traffic congestion and narrow roads and tend to misuse this advantage, resulting in crashes (Olubomehin, 2012).
Motorcyclists' carefree attitude, inadequate training and illegal possession of driving licenses (Adetunji & Aloba, 2014),

Table 6: Reasons for Overspeeding among Motorcyclists

Based on the UN framework plan of action for road safety 2018 (WHO, 2018), this review aims to achieve safer vehicles and users with a focus on motorcycles and motorcyclists in Nigeria.

4.5. Critiquing the Previous Policies

Prior to 1988, there was no recorded policy for motorcycle accidents due to over-speeding in Nigeria. But there was the crash Helmet Legislation created in 1975 (Asogwa, 1980). This legislation had the characteristics highlighted in table 7.

The 1975 Crash Helmet Law
Globally, the most rampant cause of death in motorcycle accidents is brain injury (Cairns, 1941), and it is the same in Nigeria (Falope, 1991).
There is strong evidence that there is a correlation between the wearing of crash helmets and a reduction in the severity of brain injury (Cairns, 1946; Lewin & Kennedy, 1956; Chandler & Thompson, 1962).
However, this law proved to be a massive flop as there was no nationwide compliance with it (Asogwa, 1980). Under strict compliance, it was a huge success in New Zealand, when introduced in 1961, Luxemburg, when introduced in 1959 and France when introduced in 1961, after it was made compulsory to wear by motorcyclists in these countries (Bothwell, 1960), but not in Nigeria.

Table 7: Characteristics of the Crash Helmet Policy in Nigeria

Besides this policy, which was not successful, the three other policies which were in one way or the other targeted towards curbing motorcycle speeding as a cause of road traffic accidents are:

- Federal Road Safety Commission Establishment Act of 1990,
- Regulation 15 of the Lagos State Transport Sector Reform Law and
- The Nigeria Road Safety Strategy (NRSS) for 2014 to 2018, as shown in figure 9 below.

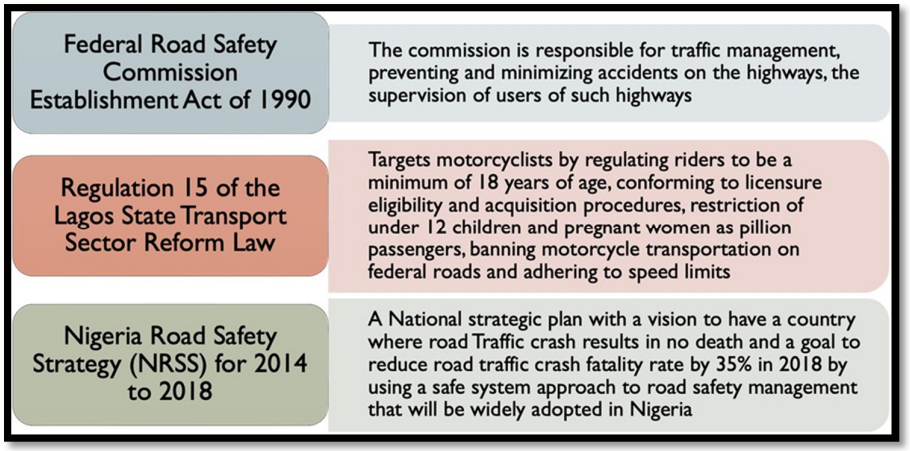

Figure 9: Policies in Place That Are Close to Tackling Motorcycle Accidents

4.6. Federal Road Safety Commission (Establishment) Act 2007, No.22

Features: Managing traffic, preventing and minimizing accidents on the highways through supervising road users, regulating traffic and educating drivers, motorists and members of the public.

Strength: It is not under any government ministry or department but under the federal government, hence having the power to initiate, implement, and enforce any law while partnering with any organization that may propagate their projects or programs. Secondly, bureaucratic bottlenecks in implementing projects and programs are greatly reduced. Finally, the Road Safety Corps are in charge of motorcycle safety management, which is the bone of contention here, and policies such as highway codes and road restrictions contribute to reducing overspeeding by motorcyclists.

Weakness: There is too much focus on cars and large vehicles and less focus on motorcycles. A good example is the licensure of motorcycles, which still record at 0 on the FRSC data to date. Another weakness is: Since the Road Safety Corps have enormous powers, a lot of programs and projects have been initiated but not successfully implemented, as no feasible result is present to show success. Further weaknesses are: There is no clear strategy to tackle the issue of compliance, which is significant in the implementation and enforcement of policies and Road Traffic Crashes in general and, more specifically, on account of motorcycle accidents are still a national issue to date.

4.7. Regulation 15 of the Lagos State Transport Sector Reform Law (Road Traffic)

Features: Motorcycle accidents became endemic in the second decade of the millennium to the point that 20 out of the 36 states of Nigeria partially or completely banned the use of motorcycles within their regions between 2010 and January 2016 alone (Nzeadibe, 2016). Lagos state is one of these states, and this law enforces the obedience to traffic laws stated concisely according to human factors and vehicle type.

Strength: Firstly, Section 46 of this law is specific to motorcycle laws. Secondly, the highway code restricting motorcycles to 50 km/hour speed and banning them from expressways was enacted. Thirdly, banning motorcycles below 200cc engine capacity was also part of this law, which is also significant in regulating speed (Rob, 2022; Child, 2020). Further strengths are: It was not narrowed only to stopping overspeed in motorcyclists as there were other laws to reduce the risk of mortality on account of motorcycle accidents. Also, there was strict enforcement of this law in the state of Lagos. Furthermore, Festus Emiogun and three other scholars proved its efficacy of a 3-fold decrease in mortality from motorcycle crashes due to its enforcement. And lastly, a massive awareness campaign was a factor in making its compliance a success.

Weakness: Non-compliance gradually became an issue again as motorcycle crashes and deaths surged in the state, especially from 2018 until another partial ban was ensured in 2020 (Orjinmo, 2020; Orji, 2020).

Nigerian Road Safety Strategy (NRSS) for 2014 to 2018

Feature: It is a strategic plan that targets a 35% reduction in road accidents in 5 years in response to the 2011-2020 Decade of Action for Road Safety by the United Nations. It has a clear vision of a country where road traffic crashes result in no death.

Strengths: A significant portion of this plan is clear, concise, specific and largely measurable, especially in stakeholder analysis and financial planning. Also, a clear framework of road infrastructures, road users, Road vehicles, and post-crash response is in line with achieving objectives. Furthermore, this plan was coined out of extensive research investigating approaches from 10 historic conventions (NRSS, 2022, p.10). Finally, it also made a good attempt to meet global standards while being astute to what is applicable to the context. For example, while system approaches were adopted from Canada, Scotland, Sweden, Ghana, Singapore and Australia, the UK's 3E framework (Engineering, Education and Enforcement) was ignored because it did not cover motorcyclists and pedestrians (NRSS, 2022, p.21).

Weakness: Firstly, the 35% target in 5 years is unrealistic. Secondly, the specificity of some approaches was lacking because of too many big words while using a 'manifesto' approach, which hampered the actual situational analysis of what is on the ground, what has worked, what has not worked and what can be done to make it work. Jargons such as 'increased investment in infrastructure,' 'creation of NV20:2020 Transformation Agenda,' 'National integrated infrastructural Master plan,' etc., were not clearly defined and allocated specific responsibilities. Thirdly, the performance indicators were good, but strategies were not specific. Also, there was too much emphasis on international standards and no reference was made to the Lagos State Transport Reform, which was effective for some years. Local context is paramount as, for instance, in Canada, the most common cause of death by motorcycle is alcohol, and the most involvements are a single motorcycle (Cummings, 2022). In Nigeria, over-speeding is the most common cause, and collisions with a moving vehicle are the most common (Oluwadiya et al., 2009). Furthermore, the policy is not tailored towards vehicle-type crashes; hence, many specific content and approaches are missing, especially the motorcycle associations, which are very crucial and powerful stakeholders of the motorcycle transport system in Nigeria (Olubomehin, 2012). Compliance was systematically ignored, which should not be. Nigeria ranks 113 out of 140 countries in terms of compliance with its laws by its citizens, according to the WJP Rule of Law Index (2022). This must be considered if international systems must be adopted. From the same ranking, Sweden (4), Canada (12), Australia (13), United Kingdom (15), Singapore (17) and Ghana (58) are far ahead of Nigeria. Finally, in 2016, this plan was extended to 2020. Nothing was stated about strides, achievements, outputs, outcomes, or evidence-based reasons for the extension. Already, plans are underway to have a new plan for 2021 to 2030, yet there is nothing to show why this template should be used for the next plan.

4.8. Policy Recommendations

- Regulating the use of motorcycles for commercial purposes – type of motorcycle, engine capacity requirement, motorcyclist driving license
- Training law enforcement officers on efficient means of identifying offenders, evidence collection, and the various tools for sanctioning.
- Motorcycle speed limit signs should be on all roads.
- Provision of motorcycle-automated speed detection devices such as speed cameras and speed guns.
- Penalties should include short-term suspension of driver's licenses, motorcycle impounding, and community service or jail term in addition to the current fine system.
- To strengthen the already existing laws, Nigeria has existing urban and rural speed limit laws (WHO, 2018). Also, the Nigeria Highway Code shows that the speed limits are further disaggregated for various vehicles. Motorcycles have a buildup and highway speed of 50km/h but are not expected on the expressway (FRSC, 2015 - 2021). Despite these laws being present, the rate of enforcement for urban and rural speed limits as of 2018 is moderate, with only a manual type of enforcement (WHO, 2018). Although it is currently an offence to violate traffic laws in Nigeria, penalties however are limited to monetary value (FRSC, 2015 - 2021). Hence, there is a need to strengthen the enforcement of these laws and modify the enforcement measures.

4.9. Evidence of Good Practice

The European Union proposed several measures to enforce traffic laws in the Road Safety Action Plan 2001 – 2010 and Road Safety Policy Orientation 2011 – 2020. These measures were emphasized by the European Transport Safety Council in their publication on 'traffic law enforcement across the EU' (ETSC, 2011), and this is being practised in all European Union countries. Currently, Finland has the lowest fatalities in the world, with 4.7 per 100,000 people (WHO, 2018). We can, therefore, emulate or adopt some of their policies or practices that will be effective in the Nigerian context.

4.9.1. Actors

A group of different actors are necessary for the implementation of the recommended policy as the safety of the roads and road users cuts across several sectors. Table 8 below summarizes these actors and their roles in effecting the implementation of the policy on motorcycle transportation.

Actors	Responsibilities
Federal Road Safety Corps (FRSC)	The regulatory and governing body on behalf of the government of the Federation.
	Road safety administration targeted speed limit laws and enforcement.
	Research and data collation.
Ministry of Finance, Budget & National Planning	Financing of the project and policy implementation
Ministry of Transportation	To develop and administer regulatory framework to the transport sector partnering through different agencies.
Vehicle Inspection	Ensuring roadworthy vehicles via their officers (Vehicle Inspection Officers)
	Inspection and certification of Vehicles
	Sensitization through public education and advocacy

Service (VIS)	Routine checks and the enforcement of compliance on road users via patrols of roads and highways
Ministry of Works & Housing (Federal Roads Maintenance Agency (FERMA)	Provision of social amenities – road construction, improvement and connectivity between the states in Nigeria
	Provision and installation of speed limit on the constructed roads.
Ministry of Information and Culture	Sensitization of the public via media broadcast on all available platforms (television and radio stations, social media) to ensure information about safer roads is well disseminated.
Ministry of Education	Inclusion of basic road safety rules and regulations into the academic calendar at every stage of the curriculum
Nigerian Police Force	Enforcement of traffic laws targeted at speed limit control and checks.
Ministry of Justice	Prosecution of traffic offenders
Ministry of Health	Creating Healthy Public Policies with respect to overspeeding and its associated dangers.
	Response to accidents
	Rehabilitative services for victims
Nigerian Road Safety Partnership (NRSP)	To improve the current road and driving situation in the country, they provide a common platform, promote support and coordinate data-driven programs and projects in support of the road safety action plan of the Nigerian Government.
	Global Road Safety Partnership (GRSP): Provide funding
	NGOs: Arrive Alive Road Safety Initiative, Road Safety Officers Wives' Association, etc.: Provide funding
	Private Donors: United Bank for Africa, Shell Petroleum Limited, Dangote group, etc.: Provide funding
State Agencies	They are state-specific bodies created by the individual states to maintain law and order on the roads alongside safer roads. They include:
	TIMARIV (Rivers State)
	LASTMA (Lagos State)
	KASTELLA (Kaduna State)
Motorcycle Riders Association	Amalgamated Commercial Motorcycle Riders Association (ACOMORAN)
	Motorcycle Owners & Riders Association (ANACOWA)
	Motorcycle Riders Association, Lokoja

Table 8: Actors and Their Responsibilities

4.9.2. Resources

Figure 10 below highlights some of the resources needed to effectively execute this policy.

Figure 10: Resources Needed To Enhance the Policy on Motorcycle Transportation

4.9.3. Role of the Health Sector

Despite the fact that recommendations have been put in place to curb RTA accidents in Nigeria, there is still the likelihood of these occurrences happening, though at a reduced rate. Therefore, the response and management executed when these RTAs occur are key for better prognosis. When RTAs occur, the health sector – Ministry of Health becomes a key player because of its role in the management of the victims, from evacuation at the accident site to definitive management and rehabilitation. Hence, activities to support the policy have been summarized in figure 11.

Figure 11: Planned Interventional Approach on Motorcycle Accident

This policy may take time to come into observable effectiveness. Nevertheless, the urgency of the need to do something against the motorcycle accident epidemic in the country requires all stakeholders to be on deck to start doing something about it. Tackling the menace of over-speeding among motorcyclists through adopting the highlighted policy recommendations with adequate implementation and enforcement will go a long way in reducing the burden of RTA in Nigeria.

5. Conclusion

For the past few decades, Nigeria has been one of the worst-ranked countries in Road traffic accident rates in the world, making it one of the most dangerous places to travel by road in the world. Human factors account for more than five times the causes of road traffic accidents as compared to vehicle- and environmental factors combined. Also, weekends and festive seasons are periods of the most frequent road traffic accidents throughout the year. Among the human factors, speed violation tops the list of causes, while motorcycles are among the top two causes of road traffic accidents by vehicle causes. The motorcycle is singled out in this review because it is widely used on all road types in the country and ignored in terms of policies enacted and implemented despite being in the top two causes of road traffic accidents in the country.

From the pre-1939 Directorate of Works responsibility to the 1949 Road Traffic Act, 1958 regional road traffic laws, 1963 Road Traffic Laws, the various Economic programmes and National development plans from 1955 to 1980 and finally, the Establishment of the Federal Road Safety Commission in 1988 which also led to the Federal Road Safety Establishment Act in 2007; the Motorcycle means of transportation and accidents have been given very little attention. The closest to anything motorcycle is the Crash Helmet Legislation in 1975, which proved to be a massive flop. Also, banning motorcycles as a means of transportation, whether partially or completely, has not worked both at the national and regional levels of the country. This is because the motorcycle, as a means of transportation, immensely contributes to the livelihoods of ordinary Nigerians and cannot just be taken away from them.

Currently, there are three policies in Place which slightly consider Motorcycle accidents, and they are the Federal Road Safety Commission Establishment Act of 1990, Regulation 15 of the Lagos State Transport Sector Reform Law and the Nigerian Road Safety Strategy (NRSS) for 2014 to 2018. These policies have been critically analyzed through the identification of their strengths and weaknesses, which helped in developing the recommendations that cut across evidence of good practice, actors, and needed resources that will serve as the building blocks to a new and effective policy that should curb the menace of motorcycle accidents in Nigeria.

6. References

i. Adetunji, M.A. and Aloba, O. (2014). The level of compliance of commercial motorcyclists to traffic rules on urban roads in Southwestern Nigeria. *Journal of Educational and Social Research.* **4**(3), p345.
ii. Asogwa, S.E. (1980). *The Crash Helmet Legislation in Nigeria: A before-and-after study*. Great Britain. Pergamon Press Ltd. Vol. 12 (213-216). 0001-4575/80/0901-0213/102.00/0
iii. Awoniyi, O., Hart, A., Argote-Aramendiz, K., Voskanyan, A., Sarin, R., Molloy, M.S. and Ciottone, G.R. (2022). Trend Analysis on Road Traffic Collision Occurrence in Nigeria. *Disaster Med Public Health Prep.* **16**(4), pp.1517–1523.
iv. Benjamin, I. (2022). *Are Ember Months banned from road accidents in Nigeria? Leadership Nigeria.* Leadership Nigeria. https://www.leadership.ng/are-ember-months-bane-of-road-accidents-in-nigeria/ Accessed: 19 November, 2022.
v. Bothwell, P.W. (1960). *Motorcycle accidents: protection from crash injuries*. Lancet 807–809.
vi. Cairns, H. (1941). *Head Injuries in motorcycles: the importance of Crash Helmets.* Brits. Med. J. 1, 465, 1941.
vii. Cairns, H. (1946). *Crash Helmets*. Brits. Med. J. 2, 322, 1946.
viii. Chandler, K.N., and Thompson, J.K.L. (1962). *The practitioner*. 188. 474. 1962.
ix. Child, AC (2020). *Weight Watchers - How much does weight really matter in racing?* Bike Social. https://www.bennetts.com/ Accessed: 13. December. 2022.
x. Daily Trust. (2016). *Driving safely into 2016. Daily Trust.* Daily Trust. https://www.dailytrust.com/driving-safely-into-2016/ Accessed: 22 November, 2022.

xi. Ebele. (2018). *The Official DTS Website: vehicle inspection schedule in Nigeria*. Directorate of Road Traffic Service. https://www.drts.gov.ng/the-official-drts-website-vehicle-inspectioj-schedule-in-nigeria/

xii. Editorial. (2019). *Nigeria records 1,618 deaths from road accidents in three months*. Premium Times. https://www.premiumtimesng.com/news/more-news/333519-nigeria-records-1618-deaths-from-road-accidents-in-three-moaths.html Accessed: 18. November. 2022.

xiii. Editorial. (2021). *Why Road Accidents Increase in Ember months - FRSC. Premium Times Nigeria*. https://www.premiumtimes.ng.com/regional/ssouth-east/487526-why-road-accidents-increase-in-ember-months-frsc.html Accessed: 18. November. 2022.

xiv. Ehikhamenor, O. O., Elusoji, S. O., Ighedosa, S. U., Iribhogbe, P. E., Oludiran, P. E., and Osime, O. C. (2006). Road traffic trend in Nigeria, International Journal of Injury Control and Safety Promotion 1–3.

xv. Emiogun, F. E., Faduyile, F. A., Soyemi, S.S., Olyewole, O.O. (2016). Motorcycle accident mortality in Lagos, Nigeria: Impact of a traffic Law. African Journal of Trauma. Vol. 5(12). July. December. 2016.

xvi. European Transport Safety Council. (2011). *Traffic Law Enforcement across the EU Tackling the Three Main Killers on Europe's Roads.*

xvii. Faduyile, F., Emiogun, F., Soyemi, S., Oyewole, O., Okeke, U., and Williams, O. (2017). Pattern of Injuries in Fatal Motorcycle Accidents Seen in Lagos State University Teaching Hospitals: An Autopsy-based Study. *Open Access Macedonian Journal of Medical Sciences*. 5(2), p.112.

xviii. Falope, I.A. (1991). *Motorcycle Accidents in Nigeria*. *A new group at risk*. West African Journal of Medicine. 10(2), 187–189.

xix. Federal Republic of Nigeria. (1961). National Development Plan, 1962-1968. Lagos, Federal Ministry of Economic Development. PDF.

xx. Federal Republic of Nigeria. (1970). Second National Development Plan, 1970-1974. Lagos, Federal Ministry of Information, 1970. PDF.

xxi. Federal Republic of Nigeria. (1977). Third National Development Plan 1975-1980, Vol.11, revised March 1977. Lagos, Federal Ministry of Economic Development, 1977. PDF.

xxii. Gboyega, A., Ebijuwa, A.S., Oyetola, S.O. and Akinola, J.O. (2012). Factors influencing the high rate of commercial motorcycle accidents in Nigeria. *American International Journal of Contemporary Research*, *2*(11), pp.130–40.

xxiii. ICIR. (2018). *Nigeria lost N9.8 Billion to Tanker Accidents in 2018, says Road Safety Corps*. International Centre for Investigative Reporting. https://www.icirnigeria.org/nigeria-cost-n9-8-billion-to-tanker-accidents-in-2018-says-road-safety-corps/ Accessed: 22 November, 2022.

xxiv. Labinjo, M., Juillard, C., Kobusingye, O.C. and Hyder, A.A. (2009). The burden of road traffic injuries in Nigeria: results of a population-based survey. *Injury Prevention.* **15**(3), pp. 157–162.

xxv. Lewin, W. and Kennedy, W.F.C. (1956). *Motorcyclists, crash helmets and head injuries*. Brit. Med. J. 1, 1253, 1956.

xxvi. Lukman, J. (2018). *Vehicle Inspection Office VIO Abuja: Contact Details Address* about Nigerians. https://www.aboutnigerians.com/amp/vehicle-inpection-office-vio-abuja-contact-details-address/ Accessed: 20 November, 2022.

xxvii. National Assembly, N. (2007). *Federal Road Safety Commission Establishment Act.*

xxviii. NBS, N.B.o.S., Nigeria. (2021). *Road Transport Data.* [Online]. Available from: nigerianstat.gov.ng/elibrary/read/1241112

xxix. NBS. (2021). *Road Transport Data.* Nigerian Bureau of Statistics. https://www.nigerianstat.gov.ng/elibrary/read/1241112

xxx. NDLS. (n.d.) *Licensing categories*. *National Driver License service*. https://www.ndls.i.e/about/motorcycles.html/ Accessed: 07. November. 2022.

xxxi. NPC. (2022). *Nigeria's Population Statistics.* http://nationalpopulation.gov.ng/statistics/

xxxii. Nwadiaro, H.C., Ekwe, K.K., Akpayak, I.C., Shitta, H. (2011). *Motorcycle Injuries in North-Central Nigeria*. Niger J. Clin Pract. 14:186–189.

xxxiii. Nzeadibe, C. (2021). *Nigeria's Okada motorcycles have a bad image, but banning them solves nothing.* The Conversation. https://www.theconversation.com/ Accessed: 22 November, 2022.

xxxiv. Ogunbiyi, T. (2020). *Unraveling the Ember months' myths*. Vanguard Nigeria. https://www.vanguardngr.com/2020/09/unraveling-the-ember-months-myth/

xxxv. Ogunsanya, A. A., and Galtima, M., (1993). Motorcycle in Public Transport Service in Nigeria: Case Study of Yola Town; in Ikoya, J.S. (ed.). *Urban Passenger Transportation in Nigeria*. Ibadan: Heinemann; 191–207.

xxxvi. Okeafor, J. P. (2019). *Safe driving tips during Ember months in Nigeria*. Naijauto. https://www.naijauto.com/safe-driving/safe-driving-distance-2309 Accessed: 23 November. 2022.

xxxvii. Okolo, E. (2017). *Issues in Traffic Law Administration in Nigeria*. Invest Advocate. https://investadvocate.com.ng/2017/01/26/issues-yraffic-law-administration-nigeria/ Accessed: 20 November, 2022.

xxxviii. Oliver, E. I. (1957). Overseas Economic Surveys: Nigeria. London, HNSO, 1957.

xxxix. Olubomehin, O.O. (2012). *The development and impact of Motorcycles as Means of Commercial Transportation in Nigeria.* Research on Humanities and Social Sciences. Vol. 2 (6). 2012. ISSN 2224–5766 (paper). ISSN 2225–0485 (online)

xl. Oluwadiya, K., Kolawole, I., Adegbehingbe, O.O., Olasinde, A., Agodirin, O. and Uwaezuoke, S. (2009). Motorcycle crash characteristics in Nigeria: implication for control. *Accident Analysis & Prevention.* **41**(2), pp.294–298.

xli. Onamusi, R. (2011). Contemporary Road Safety Practices in Nigeria, Issues & Restoration, published by Expand Press Limited.

xlii. Orji, S. (2020). *Anger as Lagos residents protest against motorcycle ban*. Aljezeera. https://www.aljezeera.com/economy/2020/2/8/anger-as-residents-protests-against-motorcycle-ban/

xliii. Orjinmo, N. (2020). *Lagos motorbike taxi ban; chaos as Nigerian city removes Okadas*. BBC. https://www.bbc.co.uk/news/world-africa-51353665 Accessed: 07 December, 2022.

xliv. Oyebanji, O. I. (1984). Road Traffic Accidents and wastage of human resources in Nigeria. Ekistics. Transportation and movement II: Human dimensions and Settlement patterns (May/June/1984), Vol. 51, No. 306, pp. 242–250. Athens Centre of Ekistics.

xlv. Oyeyemi, B. (2018). Articulated Vehicle Crashes in Nigeria: Concrete and Sustainable Mitigation Measures. *2018 Haulage Operators Stakeholders Summit*. 09. July. 2018. PDF.

xlvi. Rob. (2020). *Motorcycle Weight: Why it Matters & Affects Performance*. RX Riders Place. https://rxridersplace.com/does-a-motorcycle-weight-matter-why-it-so-important-does-the-weight-of-a-motorcycle-effect-performance/ Accessed: 13 December, 2022.

xlvii. Statista. (2022). *Number of Vehicles involved in road traffic accidents in Nigeria as of 4th quarter 2021 by type*. Statista. https://www.statista.com/statistics/1296296/number-of-vehicles-involved-in-road-accidents-in-nigeria-by-type/ Accessed: 19 November, 2022.

xlviii. WHO (2018a). *Global Status Report on Road Safety.* World Health Organization. https://apps.who.int/iris/bitstream/handle/10665/44122/9789241563840_eng.pdf

xlix. WHO (2018a). *Global Status Report on Road Safety.* https://apps.who.int/iris/bitstream/handle/10665/44122/9789241563840_eng.pdf

l. WHO (2018b). *Road Traffic Accidents.* [Online]. Available from: www.who.int/news-room/facts-sheets/detail/road-traffic-injuries.

li. WHO (2018b). *Road Traffic Accidents.* [Online]. Available from: www.who.int/news-room/facts-sheets/detail/road-traffic-injuries.

lii. WHO. (2018). [Online]. [Accessed 25th November, 2022]. Available from: www.who.int/news-room/fact-sheets/detail/road-traffic-injuries.

liii. WHO. (2018). *Deaths on the roads based on the WHO Global Status Report on Road Safety 2018*. https://extranet-who.int/roadsafety/death-on-the-roads/#deaths/per_100k Accessed: 18. November. 2022.

liv. WHO. (2022). *Road Traffic accidents.* [Online]. [Accessed 3rd December]. Available from: www.who.int/news-room/fact-sheets/detail/road-traffic-injuries.

lv. WJP (2022). *Rule of Law Index/global*. World Justice Project. https://www.worldjustice project.org/rule-of-law-index/global/ Accessed: 11. December. 2022.

lvi. World Health Organization. (2018). *Global status report on road safety.* [Online]. Geneva. https://www.who.int/publications/i/item/9789241565684

lvii. Yunusa, U., Lawal, U.B., Idris, A. and Garba, SN (2014). Occupational health hazards among commercial motorcyclists in Ahmadu Bello University, Zaria. *IOSR-JNHS*, *3*(17), pp.46–52.

lviii. Yusuff, M.A. (2015). Impact assessment of road traffic accidents on the Nigerian economy. *Journal of Research in Humanities and Social Science.* **3**(12), pp.8–16.