

Facilitation Services for Consultation on Motorcycles Operations in Ghana

Final Report



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Abstract

Motorcycle and tricycle taxis have, in recent years, become an important public transport service option in Ghana. Nonetheless, the road traffic regulations (LI 2180) in the country forbid the use of Powered Two- or Three-Wheelers (PTWs) to offer fare-paying passenger services. The Ministry of Transport (MoT) is reviewing the transport regulations including the Legislative Instrument (LI) 2180, which proscribes the use of PTWs for fare-paying passenger services. Consequently, a nationwide consultation was commissioned to elicit perspectives of all transport stakeholders from the ten previous regional capitals on the current legislation, which bans the use of PTWs to offer fare-paying passenger services. It was unequivocally established that participants wanted the current legislation to be revised to enable PTWs to offer fare-paying passenger services. Most participants were of the view that, for some communities, PTWs are the only available public transport modes; their operations offer employment for the youth, and their services are cheap, flexible, convenient and fast. They usually will go to areas where trotro and taxis find difficult to go because of the bad nature of roads. Though some stakeholders acknowledged some negative externalities like road traffic crashes, noise and violent crimes to be associated with PTWs use, they emphasised that these are preventable through effective policing. To improve the safety and operations of PTW services, participants stressed the need to regulate commercial use of PTWs through stringent licensing regime, training, enforcement of minimum age limit for operators and allowing operators to form identifiable riders' associations. The long-term goal for the transport ministry should be to provide standard public transport services that are amenable to the needs of all communities in Ghana.

Key words

Powered Two- (or Three)-Wheelers (PTWs), motorcycle taxis, tricycle taxis, fare-paying services, public transport, stakeholder consultations, road traffic crashes, legislative instrument (LI 2180)

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Research for Community Access Partnership (ReCAP)

Safe and sustainable transport for rural communities

ReCAP is a research programme, funded by UK Aid, with the aim of promoting safe and sustainable transport for rural communities in Africa and Asia. ReCAP comprises the Africa Community Access Partnership (AfCAP) and the Asia Community Access Partnership (AsCAP). These partnerships support knowledge sharing between participating countries in order to enhance the uptake of low cost, proven solutions for rural access that maximise the use of local resources. The ReCAP programme is managed by Cardno Emerging Markets (UK) Ltd.

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Acronyms, Units and Currencies

ANPR	Automatic Number Plate Recognition
BRR	Building & Road Research Institute
BRT	Bus Rapid Transit
CH ₄	Methane
CDU	Clinical Decision Unit
CO	Carbon monoxide
DVLA	Driver and Vehicle Licensing Authority
EPTW	Electric Powered Two Wheels
ERF	European Union Road Federation
FEMA	Federation of European Motorcyclists' Association
GBP	Great Britain Pound
ITS	Intelligent Transport System
KATH	Komfo Anokye Teaching Hospital
KBTH	Korle-Bu Teaching Hospital
LI	Legislative Instrument
MASLOC	Microfinance and Small Loans Centre
MMDA	Metropolitan, Municipal and District Assemblies
MMDCE	Metropolitan, Municipal and District Chief Executives
MoT	Ministry of Transport
MTTD	Motor Traffic and Transport Department
NMVOC	Non-Methane Volatile Organic Compounds
NRSC	National Road Safety Commission
PMU	Project Management Unit
PROTOA	Progressive Transport Owners Association
PTW	Powered Two Wheels or Powered Three Wheels
ReCAP	Research for Community Access Partnership
SO ₂	Sulphur Dioxide
STC	State Transport Corporation
TTH	Tamale Teaching Hospital

Executive Summary

Motorcycle and tricycle taxis have, in recent years, become an important public transport mode in Ghana. These modes of transport have emerged largely due to the paucity of public transport in the country. While users of these transport modes emphasise the indispensability of the modes in their communities, the current road traffic regulations proscribe the use of motorcycles and tricycles in transporting passengers for fare-paying in Ghana. This situation presents a challenge to law enforcement agencies like the police and authorities of the Metropolitan, Municipal and District Assemblies (MMDAs), since for some communities in Ghana, motorcycle taxis are the only means of public transport, and without them the people resort to walking and head loading.

The objective of the regional motorcycles stakeholder consultations was to elicit the perspectives of a broad spectrum of transport users, transport operators, transport unions, policy-makers and the like from the grassroots on the current legislative instrument (LI 2180) which bans the use of motorcycles and tricycles for fare-paying passenger services. The goal was to collate, synthesise and report on stakeholders' opinions on the current road traffic regulations (LI 2180) and see how best to feed the outcomes on the consultations into the review of the regulations (LI 2180) being carried out by the Ministry of Transport.

The overwhelming majority of stakeholders were of the opinion that the current LI 2180, which prohibits the use of motorcycles and tricycles for fare-paying passenger transport services should be revised. They argued that in some communities, the use of motorcycle and tricycle taxis is inevitable because the services of conventional public transport modes such as *trotro* and shared taxis are unavailable. They emphasised that motorcycle and tricycle operations offer employment to the teeming youth, and that services offered are cheap, flexible, convenient, fast and available. The motorcycles and tricycles offer door-to-door services and usually will go to areas where *trotro* and taxis find difficult to go because of the bad nature of roads.

However, some stakeholders bemoaned the current increasing spates of road traffic crashes and violent crimes such as armed robberies, murder and hit-and-runs involving motorcycle and tricycle taxis. A section of the stakeholders, particularly motorcycle taxi operators, however, argued that there is no evidence to substantiate the claim that the road crashes and violent crimes associated with motorcycles and tricycles involve mostly commercial operators.

Stakeholders held the view that a strong regulatory regime will facilitate commercial operations of motorcycles and tricycles in the country. They suggested the need for training and licensing of operators, need to organize the operators into unions for them to be provided unique identifications (e.g. distinguishable colours), protective clothing, and that the operators must have a minimum motorcycle riding experience to qualify as commercial riders. It was emphasised that the Metropolitan, Municipal and District Assemblies (MMDAs) should be empowered to promulgate bylaws to regulate the activities of motorcycles and tricycles in their areas to address their peculiar, local circumstances. For example, it was observed that whereas the use of two-wheeler motorcycles for commercial passenger

transport was not common in the three previous northern regions, the situation was completely different in the Volta and Greater Accra regions.

In conclusion, all the ten previous regional capitals have been visited to hold motorcycle stakeholder consultation workshops. The overwhelming majority of the participants indicated that the current ban of the use of motorcycles and tricycles for fare-paying passenger transport services should be revised. A strong regulatory regime and enforcement is required to help address the challenges of road safety and violent crimes purported to be associated with commercial motorcycle users. It was also recommended that there should be no interference with police enforcement of traffic regulations from politicians, traditional and religious leaders. It is further recommended that in the long-term, the Ministry of Transport should find suitable alternative public transport solutions amenable to the needs of Ghanaian communities to edge out commercial passenger motorcycle and tricycle operations in Ghana.

1. Background

Powered Two- or Three-Wheelers (PTWs) use has become increasingly important in developing countries. Vehicles' registry figures over the recent decade has seen an astronomical increase in PTWs registration in Ghana. For example, in 2011, nearly 60,000 motorcycles and tricycles were registered in the country (Republic of Ghana, 2012). Currently, motorcycle registration translates into 20% of all registered vehicles in Western, Greater Accra, Eastern and Central Regions, and about 90% in Volta, Upper West, Upper East and Northern Regions (Driver and Vehicle Licensing Authority, 2019). During the same period, motorcycle and tricycle related fatalities have nearly quadrupled, increasing from 94 deaths in 2005 to 368 deaths in 2016 (Building & Road Research Institute, 2018). The massive increase in PTWs ownership has come about as a result of improved socio-economic development of Ghana. In Northern Ghana where bicycles constituted over 60% of the traffic mix in the 1990s (Salifu, 1993), motorcycle use has literally replaced bicycle use in contemporary times.

Due to the inadequacies and inefficiencies of public transport in Ghana, the people have found a new use for PTWs in this country i.e., *using PTWs for fare-paying passenger services*. This practice is however in contravention of the current road traffic regulations (LI 2180). The legislative instrument (LI 2180) proscribes the use of motorcycle and tricycle to carry passengers for a fee (Republic of Ghana, 2012). According to this law, the operator (rider), the passenger or the officer who licenses this type of vehicle for fare-paying passenger purposes violates this regulation and are liable to various punishments.

It is important to indicate that motorcycle and tricycle taxis are widespread in many cities across the globe. Even in countries such as Australia (Russo, 2018), England, Sweden, and USA (Wikipedia, 2019) where public transport services are highly developed, some motorcycle taxis are allowed to complement the traditional services. In London for example, the motorcycle (Limobike) services started in 1995 to enable *Virgin Atlantic Upper Class* passengers beat traffic congestion on their way to and from the airport (Lomobike, 2019). Consequent upon swift services, Limobike began offering services to commuters, trips to business meetings, and many destinations across London.

Motorcycle taxis are operating safely elsewhere. Why can't this be in Ghana? Therefore, the stakeholder consultation workshops were organised to elicit grassroots information about stakeholders' perceptions on the ban of motorcycles and tricycles for fare-paying passenger services. Despite the prohibition, motorcycles and tricycles are being used for commercial purposes everywhere in the country. In some cities like Wa, Tamale and Bolgatanga, tricycle taxis have completely taken over the intra-city shared taxi services. This prohibition appears to have relapsed into oblivion and generated enforcement challenges over the country.

1.1 Objectives

The Ministry of Transport is undertaking a review of the Road Traffic Regulations L.I. 2180, which prohibits the use of motorcycles and tricycles for transporting persons for fare paying purposes. Following a technical review of a proposed amendment, it became necessary to organise stakeholder consultations with people from the grassroots to collate and synthesise views of the stakeholders on the regulation as it currently stands or the direction to go if there is a need to revise the legislation in order to attain an effective policy review.

This report has been prepared in fulfilment of the requirements for the Building and Research Institute to provide a completion report on the regional motorcycles stakeholder consultation workshops for the Ministry of Transport, Accra, and then for the Funding Agency, UKAid, managed under ReCAP by Cardno Emerging Markets (UK) Ltd.

1.2 Funding of the Consultation Workshops

Greater portion of funding for the National Stakeholder Consultation exercise was provided by UKAid through the Research for Community Access Partnership (ReCAP), managed by Cardno Emerging Markets (UK) Ltd. ReCAP's funding component covered mainly;

- Accommodation and transport for the resource persons and support staff constituting the project team for the regional workshops, and
- Conference facilities and refreshments.

There was also a counterpart funding from the Ministry of Transport (MoT) to cater for other ancillary expenditure.

1.3 Deliverables

The Building & Road Research Institute (BRRI) was required to;

- Provide facilitation support and to make reimbursable payments to all the resource personnel and supporting staff for approved travels, accommodation and conference facilities for the consultation workshops.
- Retain receipts and provide proofs of expenditure to ReCAP for the reimbursable expenses.
- Provide technical support for smooth running of the regional consultation workshops in all the ten (10) previous regions of Ghana.
- Prepare and submit brief progress reports and then a completion report to ReCAP and MoT summarizing the consultation process and feedback, and indicating the outcomes of the review of the Road Traffic Regulations (LI2180), particularly regarding commercial motorcycle and tricycle operations.

1.4 Timeline

The project was scheduled to commence on 4th March, 2019 and end on 31st May, 2019, but the planned consultation workshops for the three northern regions were temporarily suspended to enable the resource personnel from MoT undertake some urgent official assignments. Formal approval for time extension was sought by BRRI from ReCAP Project Management Unit (PMU) and the latter granted the extension of time for the project to end on 31st July, 2019. A draft completion report was, however, to be prepared by BRRI and submitted to ReCAP PMU by 30th June, 2019.

1.5 Definitions and Characteristics of PTWs in Ghana

According to Haworth (2012), the term *Powered Two Wheelers (PTWs)* refers to mopeds, scooters, motorcycles; and commonly extended to include three-wheeled vehicles. Also, mopeds and scooters are PTWs of 'step-through' design and usually have automatic transmissions, while motorcycles must

generally be *straddled* by the rider and have manual transmission (Haworth, 2012). Characteristically, motorcycles and scooters being used in developing countries and particularly in Ghana are of low and medium engine capacities (Rogers, 2008). Generally, in Ghana, the '*step-through*' motorcycles are predominantly used by females because they are easy to mount. This type of motorcycles are generally not used for commercial (fare paying) purposes in Ghana. Therefore, in this report, PTWs refers to motorcycles that have to be *straddled* by the riders and tricycles.

1.5.1 The motorcycle Taxis (*Okada*) in Ghana

Motorcycle Taxi (*Okada*), appears to have emerged the first time in 2001 in Accra as an informal intervention for transporting commuters from the Korleena area across a collapsed bridge on the *Odaw River* on the Guggisberg Avenue (Tuffour & Nkrumah, 2014). After the bridge was repaired, the services of *Okada* persisted in the national capital due to the inefficiency in the transport system; *gridlocks*, *expensive* and *unpredictable*. Other suburbs in Greater Accra which enjoyed from the early services of motorcycle taxis due to traffic congestion were Ashiaman and Tema (Nelson, 2016). Figures 2 and 3 illustrate typical *Okadas* being used in Ghana.

Figure 1: A Motorcycle taxi carrying a woman with luggage on the Avenorpeme-Abor road in the Volta region



Figure 2: A Motorcycle Taxi carrying two persons with some luggage near Abor, in the Volta region



1.5.2 Motor tricycle taxis

There are two main types of tricycles in use in Ghana: the open bucket type (*Motor King*) and roofed tricycle 'yellow-yellow'.

i. The Motor King

The *Motor King* operation in Ghana preceded the '*Mahama Can Do*'. The Motor King Ltd was established in January, 2007 through a Ghanaian and British joint venture. This firm was the first that brought motorized tricycles into Ghana and has been the market leader of the intermediate means of transport branded the MOTORKING (Motorking, 2007). The purpose of this initiative was to help cart small to medium agricultural and other goods to their destinations. Importantly, these means of transport has also become an important mode of public transport for fare-paying passenger services.

Figure 3: A motor king being used for public transport in Wechiau (Upper West region).



Source: Afukaar, et al. (2017)

The practice of using the motor king for transporting goods is supported by the traffic regulation of Ghana. However, the use of this transport mode for transporting persons for fare-paying is in contravention of the traffic regulations (LI 2180) which is the subject of discussion in this report.

ii. The Mahama Can Do (Mahama Camboo) or Yellow-Yellow

In 2015, the government of Ghana distributed the 'roofed tricycles' (yellow-yellow) to some youth in Northern Ghana to ease the transportation bottlenecks in that region and to create jobs for the teeming youth (Tamale Metropolitan Assembly, 2018). The then president, His Excellency, John Mahama initiated this project hence the name 'Mahama can do' or its corrupted version 'Mahama Camboo'. This youth empowerment programme was undertaken through the Microfinance and Small Loans Centre (MASLOC). Since its inception in Tamale, the initiative has spread throughout Ghana and has displaced shared taxi services in the former three northern regions and some other parts of the country. The MASLOC initiative came after promulgation of LI 2180, which proscribes the use of tricycles for fare-paying passenger transport. This has become a challenge for enforcing the road traffic law, which prohibits the use of three-wheelers for fare-paying passenger services.

Figure 4: New yellow-yellow tricycles on sale in Tamale, Ghana



2. Method and Approach

The method and approach of the project was essentially to carry out regional stakeholder consultation workshops across all the ten previous regions (which are currently 16) in Ghana, in order to elicit opinions of stakeholders on the operations of motorcycles and tricycles for transporting passengers for a fee. Use of PTWs for fare-paying passenger service is currently outlawed under the Road Traffic Regulations L.I. 2180 (see Republic of Ghana, 2012 for details).

2.1. Visits to Selected Hospitals

In addition to the stakeholder consultation workshops, the project team visited four major hospitals, one in Tamale in the northern region, one in Kumasi representing the middle belt and the two others in Accra in the Greater Accra region. The purpose of the visits was to gain first-hand information on the toll of motorcycle related injuries on the administration and operations of the emergency care units. A wrap up meeting was also held by the project team on 13th and 14th June, 2019 at Aburi in the Eastern region to discuss the draft completion report prepared by the Building and Road Research Institute.

2.1.1 The Tamale Teaching Hospital (TTH)

The Tamale Teaching Hospital (TTH) was the first hospital that the team visited on 29th May, 2019. Tamale is the regional capital of Northern Region and TTH is a *Level 1 Hospital* and a major referral centre for the northern part of Ghana where motorcycle and tricycle injuries predominate. TTH is the only Public Tertiary hospital in the northern Ghana. The entourage was led by Ing. David Adonteng of the National Road Safety Commission (NRSC). Other resource persons who visited the TTH included Superintendent Alexander Obeng, Ing. Francis Afukaar, Mr. Daniel Essel and Mr. Henry Asomani. The

Medical Director, Dr. Abass welcomed the group to his office and in his briefing, he mentioned the overwhelming effect of the PTWs crash casualties on the resources of the hospital. Dr. Abass indicated that the high frequency of motorcycle and tricycle accident victims has had a toll on the hospital, to the extent that scheduled medical procedures such as surgeries are always disrupted because of the arrival of an emergency. Dr. Abass led the team to the emergency centre to see some of the injured victims from motorcycle and tricycle crashes.

2.1.2 The Ridge Hospital

On Thursday, June 13, 2019, the team visited the *Ridge Hospital* in Accra. The entourage was led jointly by Ing. David Adonteng (NRSC) and Mrs. Irene Messiba, (Director, Policy Planning, Monitoring and Evaluation Directorate) of the Ministry of Transport (MoT). Other resource persons who visited the Accra Ridge Hospital included Mrs. Mabel Sagoe (Ag. Chief Director, MoT), Superintendent Alexander Obeng, Ing. Francis Afukaar, Mr. Daniel Essel and Mr. Henry Asomani. The Medical Director, Dr. Emmanuel Srofemiyoh expressed worry about the frequent traffic crashes involving motorcycle and tricycle users and entreated that something definitive should be done immediately to minimize their occurrence. Dr. Nana Afua Boateng, Head of Emergency Department accentuated Dr. Srofemiyoh assertion that there is an urgent need to address the spate of road crashes associated with the use of motorcycles and tricycles. It was however not readily available in the Hospital whether private or commercial users predominate in the motorcycle casualties.

2.1.3 The Korle Bu Teaching Hospital (KBTH)

On 4th July 2019, Mrs. Irene Messiba, Director of Policy Planning, Monitoring and Evaluation Directorate of the Ministry of Transport led the resource persons and support staff of the stakeholders' consultation group to visit the Korle-Bu Teaching Hospital (KBTH). Among the personnel who visited the hospital were Ing. David Adonteng, Messrs Daniel Essel, Abdul-Rahman, Alex Obeng and Miss Mavis Tei. KBTH is the premier hospital in Ghana located in Accra. It is the only Public Tertiary hospital in Southern Ghana receiving referrals from all over the country and beyond.

Dr Frederick Kwarteng, Head of Department of Trauma and Orthopaedics of Korle-Bu Teaching Hospital and his team of doctors welcomed the visiting officers. In his welcome address, Dr Kwarteng emphasised the overwhelming prevalence of motorcycle related injuries in the facility and that about 50% of surgical cases in the theatre are PTWs related. He also indicated that the recent trend of PTWs injuries are pedestrians' related many of which were hit-and-runs. Dr Kwarteng therefore expressed apprehension that legalization of PTWs for fare-paying passenger services will lead to an increase in these vehicle types and consequently, worsen their accident involvement. This is because PTW riders are less law-abiding. Dr John Alatiiga Abanga, one of the doctors on duty that day led the team to the Trauma Unit of the male recovery ward. It was evident that many of the casualties were pedestrians. It was not immediately available whether the PTWs casualties were more related to commercial (fare-paying) or private operators.

2.1.4 The Komfo Anokye Teaching Hospital (KATH)

The visit to the Komfo Anokye Teaching Hospital took place on Tuesday, the 9th of July, 2019. The team was led by Mr. Daniel Essel, Senior Planning Officer, MoT. Other members of the entourage were Ing. Francis Afukaar, Abdul-Rahman Abdulai, Victor Kwadwo Bilson, Dr James Damsere-Derry and Felix Yirenkyi. KATH is a *level I Teaching Hospital* and the only Public Tertiary hospital in the middle belt of Ghana which receives referrals from all over the country except for Volta and Greater Accra Regions. Dr.

Maxwell Osei-Ampofo, Head of Emergency Medicine together with Mr Oduro Yeboah, Business Manager, Madam Edith Antoh, Biostatistician and Madam Augustina Ampomah a senior nurse, hosted the team in one of the hospital's libraries. Dr. Osei-Ampofo indicated that on the average, 10 motorcycle and tricycle related accident casualties visit the emergency centre each week for treatment. Due to helmet non-use, many of the accident victims go to the accident unit with severe head (brain) injuries, reducing their chances of survival. The team was led to the Clinical Decision Unit (CDU) to see some of the hospitalised PTWs' casualties. Among the victims were a paediatric passenger casualty and a critically injured woman who was crashed by a hit-and-run motorcyclist. On the issue of banning motorcycles and tricycles for fare-paying operations, Dr. Osei-Ampofo indicated that as a medical doctor, the accident cases that come to the emergency unit alone will let everybody support the prohibition at a glance. However, upon consideration of the intrinsic role that PTWs play in the Ghanaian society, it will be expedient to regulate their use by enforcing helmet use law, training of operators and specifying the number of persons allowed on board. Statistics was not readily available at KATH to indicate whether the motorcycle and tricycle related accidents were more prevalent among commercial riders or private riders.

2.2 Stakeholder Workshop Participation

Different personalities from all walks of life were invited for the stakeholder consultation workshops in the ten previous regional capitals of Ghana. Some of the participants and organisations invited to the seminars included Ministers of State, Regional Ministers, Metropolitan, Municipal and District Chief Executives (MMDCEs), Ghana Police Service, National Ambulance Service, Road Transport Organizations, Ghana Health Service, National Road Safety Commission, Coordinating Directors, *Okada Riders Association*, Driver and Vehicle Licensing Authority (DVLA), Civil Society Organizations, Road safety Advocates among others.

Table 1 illustrates the distribution of participants who attended the workshops at each location. In total, 1,200 persons attended the meetings across the entire country. The mean number of participants per location was 120 persons with participation ranging from the least of 86 persons in Wa (Upper west) and Bolgatanga (Upper East Region) to the highest of about 230 persons in Accra. It is important to stress that this list mainly included individuals who participated fully in the workshops. The list usually excluded media personnel who only participated in the opening sessions and left immediately afterwards.

Figure 5: A cross-section of participants in a group photograph at Cape Coast



Table 1: Distribution of participants for the stakeholder consultation on the use of motorcycle and tricycle for commercial purposes

Location	Region	Venue	Date	No. Of Participants
Accra	Greater Accra Region	Ghana Shippers' Authority, Accra	26th March, 2019	228
Ho	Volta Region	Volta Region Conference Room, Ho	2nd April, 2019	114
Koforidua	Eastern Region	Eastern Regional Coordinating Council Conference Room, Koforidua	3rd April, 2019	129
Takoradi	Western Region	SSNIT Conference Hall	9th April, 2019	96
Cape Coast	Central Region	Central Regional Coordinating Council, Banquet Hall, Cape Coast	10th April, 2019	125
Sunyani	BrongAhafo	University of Ghana Learning Hall, Sunyani	16th April, 2019	132

Kumasi	Ashanti Region	Ghana National Association of Teachers (GNAT) Hall, Kumasi	17 th April, 2019	90
Bolgatanga	Upper East	Regional Coordinating Council's Conference Hall, Bolgatanga	28 th May, 2019	86
Tamale	Northern	Radash Conference Hall, Tamale	29 th May, 2019	114
Wa	Upper West	Regional Library Conference Hall, Wa	31 st May, 2019	86

2.3 Sequence of Activities at a Typical Workshop

2.3.1 Opening ceremony

In consonance with Ghanaian practice, the meetings were always preceded by an opening prayer followed by a short self-introduction by the participants. Participants mentioned their names, the districts they came from, the organisation they work for and their designations.

2.3.2 Welcome Address

The welcome address was always delivered by the Minister of Transport or his representative, explaining the current trend of motorcycle increases, their role in socio-economic development, their impact on traffic crashes and crime in Ghana, facts about the road traffic regulations, LI2180, the public transport challenges and the current transport policy review. This always lasted 5 to 10 minutes.

2.3.3 PowerPoint presentation

A PowerPoint presentation lasting between 20 and 30 minutes was always delivered by Ing. David Adonteng on the rationale for the workshops at each location. The presentation always gave a neutral position to enable participants form their own views on the pros and cons of the argument to legalise or not to legalise the use of motorcycles and motor tricycles for commercial passenger transport purpose. Where practicable, the presenter interjected his speech with the local language so that the operators of PTWs whose knowledge in English is limited could understand.

2.3.4 Forming of groups

Depending on the number of persons present, two (2) or three (3) groups were formed but in the case of Accra, four (4) groups were formed after the brief lecture to discuss the arguments for or against legalising the use of motorcycles and motor-tricycles for commercial purpose in Ghana. Typically, each group contained an average of 40 to 70 participants and 2 to 3 moderators. A group leader and a secretary (a rapporteur) were chosen from the group by the members. On average, the group discussions lasted for about 45 minutes followed by 10 minutes group presentation from each group, then followed by questions and clarifications.

The following sub-themes were the subject for discussion among the groups:

- Should Ghana legalise the use of motorcycles and motor-tricycles for commercial purposes and why?
- How can the legalisation be regulated to bring about optimum benefits?
- Should Ghana enforce the ban on the use of motorcycles for commercial purposes and why?
- How can the ban be effectively enforced?

Each group was housed in a syndicate room or adequately separated from each other in the conference room to carry out with the group discussions.

2.3.5 Group Presentations

The group leader nominated one representative to make an oral presentation on the group's position. This was often done by the group secretary. However, there were some instances where people other than the secretaries presented on behalf of their groups. After the presentations, questions and clarifications were allowed for another 10-15 minutes for each group.

Figure 6: A group of Okada riders seated in the front row among participants listening attentively to a resource person in Cape Coast



3. Outcomes of stakeholders' discussions

3.1 Reasons Why Commercial Usage of PTWs Should Be Legalised

The main themes of the meetings were discussed sequentially. However, most participants were of the opinion that the theme: *'how can the ban be effectively enforced?'* has no relevance in the country at the moment. This theme was not discussed because participants were of the perception that any attempt to enforce the ban may create anomie due to the pervasive use and patronage of PTW services. Therefore, only three of the themes were discussed and the outcomes illustrated in Table 2. In this section, some of the sub-themes which were frequently raised in most of the regions have been discussed as follows.

3.1.1 Motorcycles are convenient and flexible to use

One major reason why stakeholders posited that the commercial use of motorcycles and tricycles should be legalised was the fact that these modes of transport are flexible and convenient to use. They have been beneficial to the socio-economic development of most communities. Whereas, the conventional buses, *trotros* and shared taxis rigidly ply on selected fixed routes, the motorcycle taxi (*Okada*) operations are flexible and that *Okadas* tend to provide door-to-door services. Stakeholders further intimated that *Okada* operators are willing to deliver services to users at their doorsteps without charging any extra fare, a service which is not readily available with *trotros* or shared taxis. In addition, *Okada* operators are always ready to offer services to passengers on a timely manner, thereby reducing the waiting time for passengers. Unlike the operators of conventional public transport modes i.e. taxis, *trotro* and buses who seek to get full loads before departing the terminals, the waiting time for motorcycle and tricycle taxi operators is very flexible. For example, whereas *Okada* operators are willing to depart with only one or two passengers, it is not the same for shared taxis and *trotros*. It should however be mentioned that the maximum number of passengers for motorcycle taxis is two and three for tricycle taxis, but in comparison, there are four passengers for shared taxis, twelve to twenty-one for *trotro* (depending on the size) and thirty or more for midi and large buses. In a case where there is a perfect competition between *Okadas* and shared taxis and *trotro* at the same terminal, a spectacle is manifested whereby passengers desert the conventional public transport vehicles they have boarded to join *Okadas* for prompt departures. This practice has always been a source of conflict between drivers of conventional commercial drivers and *Okada* operators.

3.1.2 Source of Employment to the Youth

It was overwhelmingly reported across the country that motorcycle and tricycle taxis provide employment for the youth. Some of the operators indicated that driving a motorcycle or tricycle for a fee has provided them with sustainable livelihoods enabling them to earn decent incomes. Through this occupation, most *Okada* riders have been able to take care of their children, wives and relatives. In some developing countries such as Thailand, motorcycle taxis and tricycles (auto-rickshaws) also employ substantial people which goes a long way to boost socioeconomic activities (Phun, Kato, & Chalermpong, 2019). In Nigeria for example, an average *Okada* rider earns more than a government worker receiving minimum wages in that country (Oyedepo, Fadugba, & Odesanya, 2016). Therefore, legalising PTWs operations might serve as good employment opportunities for low-skilled people thereby solving the high unemployment rate in Ghana.

Okada riders in Ghana are generally of the opinion that riders who violate traffic rules are most likely to be private riders. They argued that operators who commercialise their activities are more likely to be law abiding than those who ride for private purpose. They argued further that unless proven, it remains an untested hypothesis that *Okada* riders are more likely to violate traffic rules and be involved in road traffic crashes than their private counterparts in Ghana.

3.1.3 Cheaper Mode of Transport in Urban and Rural Areas

Participants of the stakeholder consultation workshops argued that PTWs should be regularised to offer commercial transport services to people because their services are cheaper than those offered by the conventional means of transport such as *trotro* and shared taxis. Apart from the relatively shorter waiting time associated with travelling by PTWs, these vehicles are flexible and can offer services at-door-steps. Except when they are chartered (hired), the conventional public transport modes operate strictly on dedicated, fixed routes. If all such ancillary transport activities such as waiting times, loading times are valued in monetary terms, then the relative transport cost for PTWs will be much cheaper.

3.1.4 Their Use is Associated with Reduced Greenhouse Emission

Stakeholders were of the view that the use of motorcycle and tricycle taxis should be regularised simply from the fact that these modes of transport are perceived to be associated with reduced greenhouse gases. This argument is however conjectural in the sense that in countries where some road traffic emission inventory for air quality has been done, motorcycles were the worst offenders of emission pollution. Specifically, in Vietnam, motorcycles contribute 61% of Sulphur dioxide (SO₂), 68% of Non-methane volatile organic compounds (NMVOCs), 94% of carbon monoxide (CO) and 99% of methane (CH₄) (Ho & Clappier, 2011). In the developed countries, particularly in Europe there is pressure for PTWs to become cleaner, greener and quieter (Haworth, 2012). Manufacturers are therefore responding to this challenge by producing electric PTWs. Currently, China is the dominant user and producer of electric motorcycles with about 150 million electric motorcycles in use followed by Europe where over 1 million are sold annually. Also, annual *Electric Powered Two Wheels* (EPTWs) sales are projected to grow to 2.5 million by 2015 and 100 million by 2100 (Jamerson & Benjamin, 2012). The caveat however is that, the cost and rider acceptance may limit the immediate penetration of EPTWs into developing countries like Ghana. The adoption of this innovation, EPTWs may be heralded by encouraging their importation, registration and discouraging the importation of PTWs, which are not environmentally friendly.

3.1.5 Associated with Reduced Travel Time on Bad and Congested Roads

Another argument put forth by the stakeholders in support of the legalisation of motorcycle and tricycle taxis is their ease of manoeuvring in difficult road environments. Many city centres such as Accra and Kumasi in Ghana are characterised by gridlocks during peak periods. Motorcycles are, however, able to weave through the dense traffic jams and get to their destinations faster than conventional four-wheeled vehicles, thus saving travel time. This practice, ensures that strict traffic safety regulations are followed, will foster mobility and eases delays in traffic. Furthermore, on rural unpaved roads, PTWs tend to move faster than the conventional means of public transport such as the shared taxis, trotros and buses.

3.1.6 Potential Source of Revenue to Government

It was also argued that legalisation of commercial use of motorcycles and tricycle taxis in Ghana will bring some revenue to the government. For example, activities such as application for licensing, renewal of licenses, rider testing and application for roadworthy certificates will all generate some revenues for the government. It was evident during the discussions that some districts have gone their way to charge PTW operators for insurance, road worthy certificates and the like.

3.1.7 Only Means of Transport Available in Some Rural Areas

The use of motorcycles and tricycles in the hinterlands is inevitable due to the poor nature of the road networks and general lack of conventional means of public transport. In many rural communities, the frequency of conventional means of public transport i.e., *trotro*, bus and taxi is erratic. In some communities, it takes a week (only on market days) for vehicles to arrive. This is largely because some communities are characterised by steep slippery hills, mushy/muddy terrains which can only be traversed by motorcycles. Therefore, if motorcycles and tricycles are formalised to provide fare-paying services, then such transport services will be available to the countryside communities. Else, such communities will remain isolated and deprived, forcing the people to the use of slow and laborious mode of transport such as walking and head loading for very long distances.

3.1.8 Increases Option of Available Transportation Mode in the Country

Stakeholders were of the view that legalising motorcycles and tricycle taxis will increase the public transport mode options in Ghana. Currently, apart from Accra, the national capital, which enjoys some mass transit services, transport services are generally provided by shared taxis and *trotros*. The *Okada* services when legalised and well-regulated can be an important paratransit to complement the inadequacy of conventional means of transport.

3.1.9 Operation of Motorcycles and Tricycles Engages Youth and Prevents Crime

Stakeholders also argued that *the devil finds work for the idle hands*. Therefore, when the activities of *Okadas* are legalised, the operators will be engaged in gainful employment and lead responsible lives instead of engaging in crimes in society. The potential behaviour of engaging in criminal activities such as robberies may be averted.

3.1.10 Legalisation may Improve International Trade among Neighbouring Countries

Another advantage for Ghana to legalise PTWs is that, it may improve international trade. Commercial motorcycles may be boarded by businessmen to and from neighbouring countries such as Togo, Cote D'Ivoire and Burkina Faso to transact swift businesses.

3.1.11 Can only be Regulated when Use is Legalised

The stakeholders were of the view that the activities of PTWs have not been regulated because the current law bans it under LI 2180. The impression that the use of PTWs for fare paying purposes does not exist in Ghana is false. The wake-up call has been sent to Ghanaians to embrace the challenges wholeheartedly and legalise it to perform optimally. Local transport unions under which these PTWs will be organised will serve as conduits for informal enforcement. Tagging alone will help distinguish

between PTWs taxis and private ones. This way, proper attribution of crime and accidents will be correctly assigned for Ghanaians to know the clear picture. The current perception that PTWs are used to commit crimes and mostly cause traffic crashes is a hypothesis which needs to be verified.

3.2 Reasons why Commercial Use of PTWs should not be legalised

3.2.1 Associated with Noise and Air Pollution

Some stakeholders who wanted the current ban on the use of motorcycle and tricycle taxis for commercial purposes to remain in force pointed out the fact that these modes of transport pollute the environment through their noise and gas emissions. In cities where comparative research has been conducted, PTWs contributed substantially towards atmospheric pollution than conventional vehicles. It is anticipated that, *ceteris paribus*, legalisation will increase the number of powered two and three wheelers which in turn will increase pollution pro rata. This situation can be obviated by encouraging environmentally friendly vehicles such as the electric vehicles, which are cleaner and quieter.

3.2.2 Inadequate Police Personnel and Resources to Manage Increased PTWs

The spontaneous increase in motorcycle and tricycle population in the recent past has been overwhelming. Given their nature and swiftness in traffic, participants were apprehensive of the fact that if they are legalised, their population may increase further and if police personnel, resources and enforcement do not increase correspondingly, the negative externalities associated with the use of PTWs such as crime, traffic crashes and pollution might escalate.

3.2.3 May Increase School Dropouts

Some stakeholders were of the view that if regulations regarding riding are let loose like it is currently the case, legalisation of PTWs might encourage increased truancy among students. Currently, drivers of motorcycle taxis are mainly the youth some of whom are people of school going age. These minors are always aged below eighteen (18) years, the minimum age for acquiring driving license in Ghana. Obviously, strict enforcement of the minimum rider age to operate a motorcycle taxi can avoid such abuses.

3.2.4 PTWs associated with high accidents in Ghana

The single most powerful argument put forth against legalisation of PTWs for commercial use is their bad traffic crash records. Over the previous ten (10) years, PTWs fatalities have nearly quadrupled (Building & Road Research Institute, 2018). In Australia, when motorcycle registration increased astronomically, fatalities related to PTWs actually declined (Haworth, 2012) and in Mexico where motorcycle taxis are regulated, operators' traffic crash frequency is significantly lower than minibus operators (Berrones-Sanz, 2018). Because PTWs users are vulnerable road users and Ghana has not managed their proliferation well, it is rational for road safety advocates to doubt whether the increase in their numbers resulting from legalisation might not worsen the already bad traffic safety situation.

3.2.5 The fact that it is illegal

Discussants who argued that the current ban should be upheld were of the view that the circumstances that led to the ban has not changed. They argued that high crime and traffic crash rates, general disregard for traffic rules including helmet non-use, speeding, drug driving, overloading and jumping the red lights are common behaviours associated with riding PTWs. When the issue of flaunting the traffic rules among these vehicle operators is not properly addressed, legalising PTWs might exacerbate traffic crashes and violent crime situations in Ghana.

3.2.6 Conflict and threat to conventional transport modes

Due to their pervasiveness, PTWs business is pushing conventional intra-city transport modes such as shared-taxis and *trotros* out of business. Thus, traditional drivers in attempt to protect their jobs often clash with operators of PTWs resulting in pandemonium. Already, in some cities such as Wa, Bolgatanga and Tamale, tricycle taxis have wiped out the services of conventional shared taxis. Operators of the later have changed their scope of operation to offer inter-city (medium distance services) rather than the intra-city short distance services they were known for.

Legalisation of PTWs will thus force a false acceptance by operators of shared taxis and *trotros*. This will lead to perpetual tension among these vehicle operators and bring about hatred. The current attitude of conventional commercial vehicles towards PTW operators is disdain and contempt when sharing road space.

3.2.7 Bad experience from neighbouring countries

In West Africa, the use of PTWs taxis started in Nigeria and gradually spread to neighbouring countries like Benin, Togo and eventually Ghana. None of these countries seems to talk well of their activities. Informally, the National Road Safety Commission and police of the country have been forewarned against the potential hazards should the country legalise the use of PTWs for far-paying activities in Ghana. Experiences in the legalisation of PTWs operation has overwhelmed neighbouring countries and has been nothing but obnoxious. Some participants were therefore apprehensive of the legalisation of PTWs for commercial usage due to the bad experiences they have had so far from neighbouring countries.

3.2.8 Disregard for road traffic regulations

Another reason why some stakeholders want the current ban for fare-paying usage of PTWs is that, operators of these vehicle types are fond of violating traffic regulations. As indicated elsewhere, traffic infractions such as speeding, jumping the red light, drink-drunk driving, hit and run, wrong way driving (by facing oncoming vehicles), refusing to yield for pedestrians at crosswalks, etc are common behaviours associated with riding motorcycles and tricycles. Anecdotal evidence however suggests that this argument that traffic violations are committed by commercial PTWs operators is largely untrue.

3.2.9 Inadequate road infrastructure

Motorcyclists and tricycles are unprotected and so are vulnerable road users. Their vulnerability is compounded when they share roadways with fast and heavy vehicles. Further, poor road conditions like

potholes, rutting, improperly constructed speed ramps and debris on pavement may exacerbate the accident situation of PTWs more than an automobile.

3.3 Procedures to Regulate and Improve Commercial Motorcycle Operations

3.3.1 Standardisation of Vehicles for Commercial Motorcycles and Tricycles

It was mentioned at the consultation workshops that various types of motorcycles and tricycles are being used to carry passengers for a fee. These should be standardised to address issues of seating dimensions, vehicle dynamic stability, vehicle safety features and the like. Stringent technical requirements should be enforced to prevent inappropriate, substandard motorcycles being used for commercial passenger operations. It is strongly recommended that motorcycles to be used for Okada services be specified rather than allowing inappropriate ones to be used for commercial passenger services.

3.3.2 Training and Licensing of Operators

Traditionally, learning how to ride a bicycle does not require much training. Training is mostly offered by parents, older siblings or friends. When the individuals are able to balance themselves on the bikes, they think they can ride motorcycles safely. The situation is however completely different when using PTWs in traffic. Stakeholders were of the view that there should be a formal training for the riders more so that they are operating the PTWs commercially. Some of the skills deemed necessary include safety practices such as using of helmet, obeying traffic rules such as speed limits, red light, parking and loading issues, etc. Currently, there are no rider's licenses for commercial motorcycle and tricycle operations. Therefore, prospective commercial operators will be required to undergo the mandatory training before they are issued with commercial riders' licenses.

3.3.3 Specification of Number of Passengers per Trip

Some stakeholders suggested that to improve the operations of PTWs, the maximum number of passengers to be on board the vehicle per trip should be clearly spelt out for each vehicle type and enforced. Currently the only PTW vehicle type which seems to have specific number of passengers is the *roofed tricycle* which takes up to three (3) passengers in addition to the rider. Passenger loading requirements for other forms of motorcycles should be specified to check overloading and improve vehicle stability and safety.

3.3.4 Unique Identification of riders and vehicles

Another way which can improve the commercial use of PTWs in Ghana is by tagging the vehicles and operators. Currently, all motorcycles and tricycles are registered as private. This makes it impossible to distinguish between private and commercial operators. As a result it is also impossible to ascertain whether PTWs vehicles involved in crimes or crashes are operators of commercial or private vehicles. Unique number plates, colours and reflective jackets for operators may help.

3.3.5 Mandatory Minimum Age Limit for Operators

It was also recommended at the stakeholders meetings that a minimum age limit should be set for the operators. Twenty-five (25) years appears to be the modal age recommended for operators. It was argued that when the minimum age for commercial riders is pegged at twenty-five (25) years, many unwanted adolescent behaviours such as sensation-seeking, speeding, jumping red light and helmet non-use may be obviated. Ostensibly, the participants were citing the Road Traffic Regulation 2012 (Republic of Ghana, 2012, p. 29). This minimum age requirement will ensure that *a priori* experience of riding a motorcycle for private use for at least two to three years shall be demanded before a rider could be licensed as a commercial rider.

3.3.6 Operators should belong to associations

Stakeholders were of the view that formation of local riders' unions is an important avenue to disseminate training and government innovations. These motorcycle unions will have leaders who shall represent their interest at local government meetings. The union leaders shall wield some power to dismiss or reprimand recalcitrant operators.

3.3.7 Enforcement of Traffic Law

For the use of PTWs for commercial purposes to be sustainable, traffic laws have to be enforced. Patrons and Operators should be made to wear helmets as life savers. Currently, helmet wearing rate in Ghana is low. Most participants wanted, a new Police Unit to be formed purposely for PTWs operations, under the Motor Traffic and Transport Department (MTTD). This dedicated Unit should be adequately resourced to handle motorcycle related traffic infractions including speeding, jumping of red light, drink and drug driving, overloading, facing oncoming vehicles and general disregard for other road users, particularly pedestrians.

When PTWs operators obey traffic rules it is believed road traffic crashes and wanton disregards for traffic rules and regulations motorcycle users will be duly minimized.

3.3.8 Automated Police Operations

One major setback of Police enforcement in Ghana is interference from traditional, religious and political leaders. Participants therefore proposed the automation of Police and traffic enforcement activities to minimise human interference in policing.

Table 2: Summarized opinions of participants on the legalization of motorcycles and tricycles for commercial use

Location	Reasons why Commercial Usage should be Legalized	Reasons why Commercial Usage should not be Legalized	Procedures to Regulate and Improve Motorcycle and Tricycle Use
Accra	Convenient, reduce travel time, source of employment, potential source of revenue to government, increases mode of transportation options, cheaper mode of transport in rural areas, potential to be law abiding.	Associated with high crime rate, high fatality and injury rates, blatant disregard for road traffic regulations, loss of property through damage of vehicles in crashes, it is illegal.	Use of Digital address system, unique motorcycle registration numbers, training for riders, reflective garments for riders, formation of rider unions, By -Laws for ¹ MMDAs to regulate, training and educating riders, Insurance, infrastructure for motorcycles e.g. lanes, parking space, political will, restricted areas for operation e.g. Urban vs Rural, Highway vs collectors, compliance with DVLA standards, operators should be 18 years or more, restrict use in urban areas to specific roads, requisite engine capacity, electronic enforcement e.g. cameras.
HO	Source of employment, only means of transport in rural areas, high level of flexibility, source of revenue for government eg: income tax, can only be regulated when legalized, affordability.	High injury and fatality rates, inadequate police personnel to handle enforcement due to influx, associated with increase in crime rate, increase in school dropouts, current road infrastructure not suitable for motorcycles.	unique motorcycle registration numbers and colours, restricted areas for operation e.g. Urban vs Rural, Highway vs collectors, decide and enforce appropriate age for operators, helmet use and number of persons, training for riders, strong political will e.g. equipping police with requisite equipment, information to identify operators and owners, empowerment of MMDAs to enforce roadworthiness and safety, visit neighbouring countries to learn best practices, identification by uniform, colour and cards; special unit in ² MTD to enforce rules, standardized type of motorcycles for commercial purposes, commercial motorcycle licensing, dedicated police unit for enforcement, developing Infrastructure e.g. dedicated lanes, automate enforcement, operators should belong to associations.
Koforidua	employment for the youth, increase accessibility in rural areas, cheaper form of transport,	Increase in crime rate, Causes accidents, inadequate security system to control their activities.	Dedicated agency to regulate the activities, Training for operators, Licensing of operators from MMDAs, maximum number of persons per trip should be specified, enforcement of rules, special unit under

	<p>Legalization of commercial use will improve international trade with neighbouring countries, source of revenue for the government eg: income tax, it is convenient, low emission of greenhouse gases,</p>		<p>the police to oversee the enforcement, unique number plates, colour and other identification features for commercial motorcycles, Insurance for operators and passengers, Enforcement of helmet use, Standardization of commercial motorcycles eg: engine capacity, Education for riders, operators should belong to associations e.g.³PROTOA, Operators should be 18 years and above, Speed limit, Requisite Infrastructure e.g. terminals.</p>
Cape Coast	<p>Facilitate movement, source of employment, engages the youth and reduces crime eg: theft, it is convenient and cheaper, accessibility in difficult terrains, it is flexible, reduces travel time, it has become part of us, comparatively reduced emission of greenhouse gases, potential source of revenue for government,</p>	<p>Not safe, Difficult to enforce law, increase road accidents fatalities and injuries, Increase in Crime eg: theft and robbery, Threat to conventional transport such as taxis, might increase poverty through loss of breadwinners, Increase in school dropouts, Recklessness,</p>	<p>Training for operators, Standardization of commercial motorcycles, Unique identification e.g. colour, number plates for motorcycles and reflective jackets, number of passengers allowed per trip should be clear, speed limit for commercial motorcycles and tricycles should be specified, Dedicated police unit for enforcement, Enforcement of the law e.g. helmet use , speed and number of persons should be enforced, Age limit for operators should be 25years or more, appropriate sitting posture (<i>straddling</i>) especially for females, Licensing, revision of legislation (Legalization), should be limited to rural areas, automation of registration to capture operators and owners information, dedicated lanes for motorcycles, Insurance for operators and passengers.</p>
Takoradi	<p>Easy accessibility, source of employment, cheap and fuel efficient, faster, affordability, lower air pollution.</p>	<p>Bad experiences from neighbouring countries, High rate of accidents, enforce as banned, Increased crime rate, Injuries and expensive medical cost, Conflict between Taxis and riders.</p>	<p>Clear identification i.e. number plate, colour and coding, licensing of commercial riders, Specification and standardization of vehicle to be used, Long distance riding not allowed, Training, equip police with requisite resources for enforcement, Special unit of police to carry out the enforcement, Automated police operation, no interference with the police from political and traditional leaders, road safety education, Political will, age limit should be 25 years and above, Passenger limit, operator should belong to association, obey traffic</p>

			rules.
Sunyani	They are affordable, they are easily accessed, it is part of us, potential source of revenue for the country, Fuel efficient and low greenhouse emission, Source of employment, Reduced crime rate.	It is risky, Operators are indisciplined, can cause traffic jam, High Accident fatalities and injuries.	Creating separate lanes, Training, Age limit for operators, Unique identification for commercial motorcycles eg: colour, Licensing and number plate, Operators should belong to association, defined area of operation, MTTDs should be equipped and empowered to carry out enforcement, Dedicated police unit for enforcement, Automated enforcement, Political will, Road safety education, Police should not be interfered, Enforcement of helmet law.
Kumasi	Commercial use of motorcycles has come to stay, it is Affordable, creates employment, very accessible in rural areas, improve travel time in congested areas, Source of revenue for the State, improves mobility, it is convenient, it is another means of transport.	Injuries, deaths, Crimes e.g. robbery, Nuisance, congestion on our roads, inadequate road infrastructure, conflict with taxis, Increased air and noise pollution, difficulty to regulate, Carelessness, no fenders, other countries could not cope with commercial use of motorcycles.	Operators should be 25 years and above, Training for riders, Enforcement of existing traffic laws, Operator licensing to commercial riders, Background check for criminal records, Only Ghanaians should be licensed for commercial purposes, Registration, Unique number plate and Road worthy certificate, Dedicated lanes and routes, Reflective and protective clothing, Riders and passengers should be Insured, Speed control, Political will, Operations should be limited to rural areas, Tracking System for riders, Specified Engine capacity,
Tamale	Affordable, convenient, able to access difficult terrains, Only means of transport in some areas, source of employment, engage the youth and reduce crime. Generate revenue for the assembly.	Frequent accidents, Increased road traffic fatalities, Will encourage school dropout.	Registration, training, operators age limit should be enforced, standardization of vehicle to be used, special unit in the police should be dedicated to enforcing motorcycle regulations, operational limits such as, speed limit(not more than 50km/hr in cities and 60km/hr on the highway), travel radius, number of persons shouldn't be more than 4 persons including the driver on ' <i>Mahama Can-do</i> ', Identification e.g. dress code and Id cards, Licencing, Road safety education, Involvement of community and opinion leaders, Strengthening the police service, Enhancing the independence of the police by reducing interference from opinion leaders, Insurance, Operators should belong to associations.

Bolgatanga	Affordability, Accessibility, Availability, High level of patronage, Source of employment, Source of revenue, It will attract professionals into the sector, will be easy to regulate, widespread therefore stopping may lead to resistance from operators, owners and financiers.	Inadequate road infrastructure, Accidents, no reliable database on owners and operators, insecurity of passengers, nuisance.	Age limit, ensure that 'Mahama can-do' (Yellow yellow) should carry passengers and motor Kings should take goods only, 'Mahama can-do' (Yellow yellow) should carry only three passengers, Registration, stop retrofitting motorcycles, operating radius should be 30km/h, provision of infrastructure eg; lanes and parking area, Training, Licensing, Road safety education, Reduce interference on police enforcement, Automation of police activities, Unique number plate, Enforcement, Operators should belong to an association.
Wa	Accessibility, Affordability, Revenue for the government, employment, major transportation for rural people, engage youth and reduce crime, Provide door to door services.	Motor Kings not designed for current passengers, Unsafe, young operators, operators not trained.	Road safety Education, Licensing, Training, Conditional importation of safety items e.g. helmets, safety clothing, comprehensive records on operators and owners, infrastructure, specified number of persons allowed, Adequate resourcing of police, enforcement, severe punishment, operators should be 18yrs and above, Seatbelts for 'Mahama can-do', Identification e.g. colour for commercial motorcycle, Insurance of vehicles, operators and passengers, Maximum number of persons should be specified for 'Mahama can-do', retrofitting motor king to have seat, Formation of unions, Specifying speed limit e.g. 50km/h for 'Mahama can-do', use of up-to-date safety gadgets e.g. Cameras, Spot fine, operators should belong to an association, should have terminals.

1. *MMDA – Metropolitan Municipal District Assemblies*
2. *MTTD- Motor Traffic and Transport Department*
3. *PROTOA – Progressive Transport Owners Association*

The use of Intelligent Transport System (ITS) will provide some solution to prevent human interference with the Police. For example, speed cameras which utilize the concept of Automatic Number Plates Recognition (ANPR) procedures can be used to monitor speeding, jumping red light, helmet non-use, hit-and-run, wrong overtaking, wrong parking and moving towards oncoming vehicles. This system would work successfully if motorists are required to provide their digital address system during registration to enable enforcement agencies reach their homes to deliver offence notices to violators.

3.3.9 Use should be Limited to Intra-city, Rural and Less Privileged Localities

It was pointed out that the scope of operation of PTWs should be limited to only intra-city travels and that PTWs should not be allowed to operate on the arterial roads and highways. They suggested that PTWs operations should be regulated on the major roads to limit speeding and distances to be covered for a trip. Also, stakeholders were of the view that the use of PTWs for fare-paying purposes should be permitted in localities that are deprived of conventional vehicles such as rural areas and city fringes (*New Sites*) where *Trotros and shared taxis* are unavailable.

3.3.10 Insurance for Operators and Passengers

Just as there are insurance covers for four-wheeled vehicles, drivers and passengers, stakeholders argued that similar benefits should be extended to operators, passengers and the casualties emanating from PTWs collisions. In the advent of traffic crashes, there will be motor insurance to cover the cost of treatment and other related costs.

3.3.11 Provision of Requisite Infrastructure

Stakeholders also pointed out that requisite infrastructure such as lanes, parking place for PTWs, separate lanes for PTWs are very necessary to ensure the safety of their use. Evaluation of dedicated motorcycle lanes in Malaysia illustrates the safety benefits associated with separation of PTWs from other motorized vehicles (Poi, Shabadin, Jamil, Roslan, & Hamidun, 2019). In Europe where there are no dedicated motorcycle lanes, emphasis is placed on cost-effective solutions. European safety advocates place emphasis on proven solutions including protective systems in guardrails, improving skid resistance of pavements and road markings; and ensuring that road surfaces are properly maintained (Federation of European Motorcyclists' Association (FEMA) and European Union Road Federation (ERF), 2018). This solution calls for road surfaces devoid of debris, dust, gravels, pothole and manhole covers on the roads.

3.3.12 Regulation should be decentralized to MMDAs

Most stakeholders suggested that due to the peculiarities of various districts in Ghana, core responsibilities regarding the operation of fare-paying use of PTWs should be decentralised to the Metropolitan, Municipal and District Assemblies (MMDAs). This would be particularly helpful if the various key stakeholders such as DVLA, MTTD and MMDAs pull their resources to streamline the commercial operation of PTWs by developing their own bylaws. The MMDAs should however draw their source of power from the parent regulations.

4. Discussion and Conclusion

The use of motorcycles and tricycles for carrying fare-paying passengers is very prevalent in Ghana. Their use is intricately interwoven into the current public transport system of the country. Any person who thinks that *Okada*, does not operate or exist in Ghana due to the existing law banning their use is pretending.

The overwhelming majority of participants were of the view that the current legislation that prohibits the use of PTWs for fare-paying should be reviewed. Using Abraham Maslow's concept of "hierarchy of needs" to explain, mobility (transport) is a derived human need concerned with satisfying physiological and social purposes. The physiological needs concerned with human needs for survival, such as the need for food, water, sleep and air. Maslow calls these basic physiological needs as essential for survival. Satisfying these needs requires some movement (travelling). After our basic physiological needs are met, we then focus on the need for safety and security (Holt et al., 2012, p. 403). Therefore, safety is not a prerequisite for people who have not met their basic physiological needs (the poor). Thus the operators in pursuit of earning a living engage in driving the PTWs in a country where law enforcement is weak. This has resulted in chaotic situations in the transport system; mainly road traffic crashes and robberies. Patrons of these services, though cognizant of the poor safety implications of boarding PTWs, are forced to use them anyway. There are generally no alternatives and wherever there are, PTWs appear to be flexible, cheap, and convenient.

Mobility need is capital intensive. In many countries, this is mostly provided by the central governments. Public transport services are the preserve of governments to make it affordable, safe, convenient, accessible and available all year round. In Ghana, however, public transport is being provided by the private sector. Attributes of an efficient transport system such as availability, regularity, safety, convenience and affordability are lacking. The central government has attempted to provide some public transport services in the form of Metro-Mass Transit and State Transport Corporation (STC) for inter-city and limited Bus Rapid Transit (BRT) for intra-city travels. It is important to stress that these transport services are woefully inadequate. Motorcycle and tricycle taxis have thrived because of the insufficiency of the conventional means of transport. As indicated elsewhere in this report, in rural settings the conventional public transport such as shared taxis and *trotros* are unavailable, sporadic, expensive or less predictable. In urban environments certain difficult traffic situations such as gridlocks have encouraged the proliferation of motorcycle and tricycles services.

The major argument adduced against the legalisation of motorcycle and tricycle services is the unprecedented accident casualties associated with their use. Stakeholders were apprehensive of the fact that, *ceteris paribus*, legalisation of PTW services without any significant change in enforcement and behavior might exacerbate the accident situation of users. It is important to note that though increase in the vehicle population is an exposure to road accidents, however, if the anticipated increase in the number of PTW vehicles upon legalisation is managed properly, the corresponding increase in crashes may be forestalled. This has been demonstrated in many advanced countries including Australia (Haworth, 2012) and Mexico (Berrones-Sanz, 2018).

A second important point against legalisation of PTWs in Ghana is the argument that these vehicles' are frequently involved in violent crimes such as murder (Citifmonline.com, 2017; Classfmonline.com, 2018; Daily Guide Network, 2019; Graphic.com, 2019), robberies (Daily Guide Network, 2019; GNA, 2017) and kidnapping (Kingdom FM, 2019) is very high and that legalization might increase these crimes *pro rata*.

In their defense, commercial operators of PTWs on their part argued that, the argument that commercial operators are responsible for violent crimes and traffic crashes are unfounded and needs to be verified through an empirical research. Majority of participants supported the notion that the legislative instrument (LI 2180) banning the use of PTWs for fare-paying activities should be reviewed. The law-evading behaviours like speeding, overloading, hit-and-run, helmet non-use; and drink and drug driving among motorcycle riders are enforceable and that the police should do their work. Participants were also of the view that if enforcement in the country were automated, policing would be easier. Automatic Number Plate Recognition cameras will prevent political and religious interferences which is a challenge to police enforcement in Ghana. The police would also have to eschew their acts of corruption which have undermined their role in ensuring road safety in the country (Starr FM, 2015; The Chronicle, 2015).

Other salient activities necessary to improve the safety and operation of commercial PTWs include registration, licensing vehicles and operators' training, tagging (unique number plate and uniform colours of commercial PTWs), organising operators under unions with leaders and defining their operational radius as well as number of persons they can convey per trip. Other relevant operational requirements are to determine the minimum age of the operators (minimum of twenty-five years) and specify the speed limit of the vehicles.

In conclusion, the stakeholders' consultation has revealed that the use of PTWs for fare-paying services is widespread across the country. Countrywide, village and urban dwellers alike use these modes of transport services in contravention of the existing traffic regulations. This practice of illegality has thrived largely because the central government has not been able to provide adequate public transport for the citizenry. This important role of providing public transport services has been relegated to the background and is being provided by private enterprise using *trotros* and shared taxis. Their services are typically characterised by irregularity, rigidity, expensiveness and inaccessibility. The PTWs have explored these loopholes and paucity by filling the voids in the transport system by being accessible, without extra charge, cheap and widespread. The poor people have come to love and patronise them in spite of their apparent poor safety performance and involvement in violent crimes in the country recently. The simple reason is that public transport service is poor in Ghana.

Patronage of these services is inevitable for people living in the rural areas and suburban communities where supply of public transport is erratic or unavailable. An earlier report on motorcycle and tricycle service usage has underscored the fact that these vehicles support the rural economy in diverse ways and proposed revision of the law that bans their use (Bishop et al., 2018). Apart from being a major employment avenue for the youth, PTWs promote mobility for the rural people to enable them access essential services like healthcare, education, markets and farms. In fact, in rural areas transportation means motorcycles or tricycles. Without fare-paying PTW services,

people living in deprived communities may revert to head-loading and walking which are laborious and inefficient transport options. Therefore, stakeholders were of the opinions that the traffic regulations (LI 2180) which ban fare-paying passenger services of PTWs should be reviewed. Participants however acknowledged some of the negative externalities associated with the use of PTWs such as crashes and violent crimes and indicated that these problems can be solved through enforcement, training, education and regulations. Therefore, revision of the existing legislation that bans the use of PTWs for fare-paying services will benefit the country more than enforcing this law.

The caveat for ensuring optimal performance is commensurable enforcement devoid of interferences, training of operators and tagging commercial PTWs. A long term public transport goal should aim at providing transport services to the masses using up-to-date vehicle types like trains, trams and buses. These vehicles are safer and standard across the globe. The country could start planning towards initiating sustainable public transport system that is safe, affordable, flexible and convenient to eventually replace these unorthodox mode of public transport in the long term.

The next expected steps after submission of this report are as follows:

1. BRRRI will make an oral presentation of this report to the ministerial committee by 30th July 2019;
2. The Ministry of Transport will prepare and submit a policy statement to parliament by 30th August 2019.

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Annex 1 Selected Photographs of Stakeholder meetings

Figure A1: Ing David Adonteng making a maiden presentation on the rationale for the workshop in Accra



Figure A2: A resource person-Daniel Essel, outlying group activities to participants in Koforidua



Figure A3: A group awaiting commencement of group discussions in Ho, Volta Region



Figure A4: A group member presenting a group's position in Cape Coast



Figure A5: A group discussion being facilitated by Ing. Afukaar in Cape Coast



Figure A6: A group discussion being led by Superintendent Alexander Obeng and Ing. Adonteng

