

## Unlocking the socio-economic potential of rural Ghana through policy interventions for rural transport services

### Key policy recommendations

- ▶ **The Road Traffic Regulations, LI 2180, banning motorcycles and tricycles from commercial passenger services should be reviewed.** Motorcycles and tricycles (MCTCs) should be permitted to operate for a fee in the rural areas of Ghana to address the paucity of transport services in the countryside, until substantive measures are put in place for efficient rural transportation.
- ▶ **The operation of MCTCs in the rural areas should be regulated** to address under age commercial driving, driver training, tax payments, overloading, licensing for commercial operation, insurance and safety.
- ▶ **The government should introduce 'sleeper bus' services to augment private provision of rural transport services.** The 'sleeper bus' service requires the bus driver to sleep over after close of work in the farthest rural community to ensure a regular, timely transport service for the communities along the route. This will help lower high fares, reduce long passenger waiting times and provide competition and a scheduled rural transport service.
- ▶ **Motorcycle user safety should be intensified.** Helmet use and passenger loading should be regulated and enforced.
- ▶ **Motorcycle operators and other motorists interested in operating rural transport services should be encouraged to form cooperatives for financing.** This will enable the central government to financially assist operators through the existing microcredit facilities, such as the Microfinance and Small Loans Centre (MASLOC), to acquire more vehicles to boost rural transport service provision.
- ▶ **Non transport solutions, such as improved telecommunication services, should be explored.** Poor telephone reception or lack of telecommunication services in some communities tends to prevent people from seeking 'on-demand' transport services.
- ▶ **Problematic localised road sections should be maintained (i.e. spot-improvements) as required.** This will ensure all year round access for rural transport services. Better roads tend to reduce vehicle operating costs and encourage competition.

- ▶ **The District Assemblies should establish rapid response maintenance teams** to quickly deal with localised problem spots to achieve timely results.
- ▶ **The District Assemblies should build their human and capital resource capacity** over the next 5 years, to adequately manage the rural transport systems, both infrastructure and services.
- ▶ **The District Assemblies, liaising with the Department of Feeder Roads (DFR), should plan longer term to pave the major rural road links** to improve surface quality performance, rural accessibility, reduce travel time and cost, and ensure all season access for the rural communities.
- ▶ **Inter-agency-ministerial collaboration** is critical for effective resource allocation.
- ▶ **Regular research is needed** to monitor changes in the rural transport network and corresponding impacts on rural community road users.

### Brief problem summary

Rural mobility in Ghana is generally beset with challenges. Many people do not have a personal means of transport and solely depend on public transport for their travel needs beyond the immediate community where walking predominates. The situation is particularly more critical for households in rural areas where transport infrastructure is generally poor and intermediate means of transport are also lacking (Hine, 2014). In Ghana, central government is arguably preoccupied with the provision of road infrastructure in the urban areas and transport services in the form of *Bus Rapid Transit (BRT)* for intra-city travel, *Metro Mass Transit*, and *State Transport Cooperation (STC)* for inter-city transport to alleviate the transport challenges of urban travellers but not much has been achieved or is being done for rural transport improvement.



Figure 1: Overloaded Midi-bus on Wechiau-Wa road

The bulk of public transport in Ghana is provided by the private sector. Government intervention has been minimal. Meanwhile, operators of conventional public transport services, like the car taxi, midi and mini-buses (called *tro-tro*) are constrained to operate on rural roads. This is due to the poor road condition, high vehicle operating costs, damage to vehicles, and insufficient passenger numbers to make it a commercially viable business. In addition, the majority of rural roads are of earth construction, which are dusty in the dry season, and muddy and slippery in the rainy season.

Access to economic and social services like healthcare, education, businesses and markets by rural dwellers through the use of conventional transport is constrained. Atuoye (2015), for example, points out that a lack of road infrastructure and conventional transport is negatively impacting rural health delivery to the extent that pregnant women use risky transport modes to access obstetric health care in rural Ghana. Transport constraints in the countryside have also created a wide gap between urban and rural educational development. For example, poor roads and inadequate rural transport services adversely affect primary and secondary school attendance, with girls being more likely to suffer high dropout rates if travel and transport are a problem (Starkey et al, 2015; Danso-Wiredu, 2011; IFRTD, 2006). On average, rural students walk for more than 6 km for a round trip to school (Porter and Blausfuss, 2002), leaving children exhausted and unable to perform at school.

In recent years, motorcycles and tricycles have become important modes of transport, constituting about one-tenth of the 2 million registered vehicles in Ghana. According to the official vehicle registry, there is an uneven distribution of motorcycle and tricycle population in the country. For example, these constitute over 90% of all registered vehicles in Northern Ghana but only 15% in Southern Ghana (Driver and Vehicle Licensing Authority, 2014). The increasing numbers of motorcycles, and more recently tricycles, in the country have led to a disproportionate increase in road traffic injuries and deaths among users of these modes of transport. Specifically, motorcycle/tricycle related accident deaths increased from 94 in 2005 to 325 in 2015, representing a 246 percentage increase (Building and Road Research Institute, 2016, p. 31).

Therefore, despite the crucial services that they provide in rural areas, the unfavourable safety performance of motorcycles and tricycles in Ghana has engendered a stringent legislation against their usage for commercial purposes. As a result, the current traffic regulations in Ghana prohibit the use of motorcycles and tricycles for the conveyance of people for a fare. This is enshrined in the Legislative Instrument (LI) 2180, regulation 128 (Republic of Ghana, 2012).

Conventional public transport services such as buses, car taxis, mini- and midi-buses are, however, not always available in the desired quantity and quality in rural areas. Rural households are therefore confronted with a plethora of transport challenges, such as unpredictability of service, delays due to long waiting times for loading, high transport fares and overloading of passengers and goods in and on top of vehicles.

## Most relevant evidence

Low to medium occupancy vehicles such as minibuses, midi-buses, car taxis, tricycles and motorcycle taxis (*okada*) were found to be the most commonly available transport modes providing rural public transport services among the research sites. Their numbers and relative service provisions varied from one rural area to another. As shown in Figures 2 and 3, while car taxis contribute 55% of annual passengers and 64% of annual small freight on Gyasikrom road in the Asunafo North district in the BrongAhafo region, the mini/midi buses were the most significant mode of transport on Wechiau road in Wa West in the Upper West region, accounting for 67% and 59% of the annual share of passengers and small freight respectively.

Together, motorcycles and tricycles were found from the traffic counts to be the most dominant modes of transport constituting over 60% of the traffic mix on the selected study routes. They contributed substantially to transporting goods and passengers in the countryside. It was evident that these intermediate means of transport play a crucial but varying role in providing mobility in rural Ghana. For example, 30% to 70% of the annual share of passenger and freight transport in rural areas are provided by tricycles and motorcycles alone.

As in Figure 2, motorcycles and tricycles transport 31% of the annual share of passengers on the Gyasikrom-Ayomso road and 73% on the Abor-Hatorgodo road, where motorcycles are over 80% of the traffic mix.

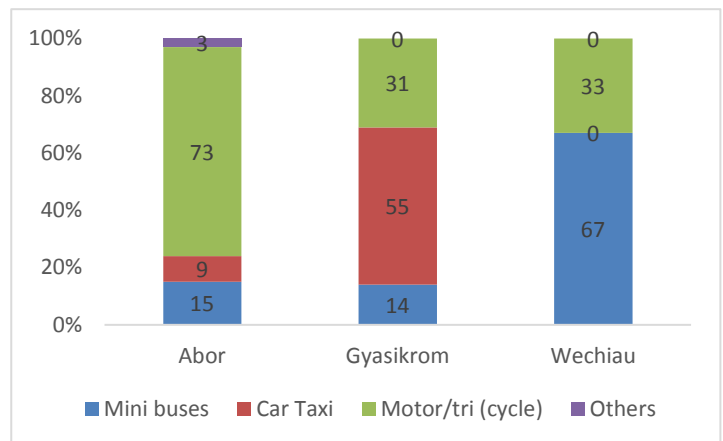


Figure 2: Bar graph showing annual share of passenger transport

Similarly, nonconventional modes play important roles in transporting small freight in rural communities, carrying between 30% and 44% of the annual share of small freight (see Figure 3).

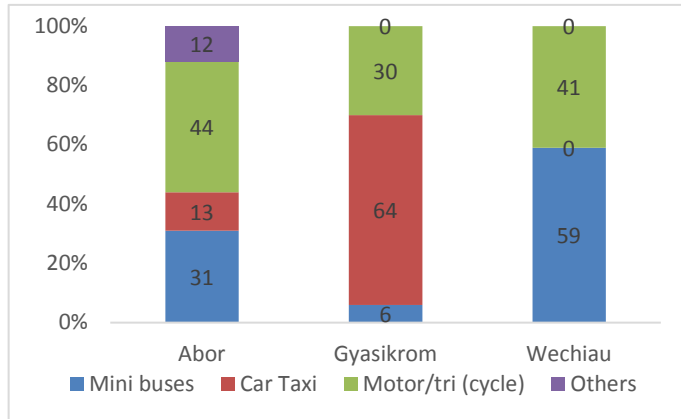


Figure 3: Bar graph showing annual share of small freight transport

Rural dwellers pay a premium for rural transport services. The transport cost per kilometre is generally high in rural areas, but the average transport cost is highest with the use of motorcycle taxi (*okada*) compared with conventional transport modes such as car taxis or minibuses (*tro-tro*). Yet, many travellers use the *okadas* because conventional transport modes are not regular and delay unduly by waiting to fully load with passengers before leaving their stations. A second reason for the popularity of the *okada* is its flexibility and the operators' willingness to provide door-to-door services.

Transport users surveyed were generally not satisfied with passenger fares, service frequency and service predictability in the rural study areas. No scheduled passenger transport services or government owned bus services are available in rural areas. The informal private sector dominates the operation of rural transport services in Ghana. Cartel operation by transport associations is rife. Government intervention is necessary to ensure regular, scheduled and competitive rural transport services.

Rural transport is characterised by long delays. An average passenger waiting time of 2-3 hours is typical in rural areas before the next available means of transport arrives, particularly after the early morning service. Moreover, the arrival of the next available means of transport does not guarantee space in the vehicle. In particular, travellers waiting mid-way along the route make advance payments to the vehicle operators to ensure that a space is reserved.

The general paucity of conventional rural transport services has fostered the development of paratransit transport like the motorcycle taxis and tricycles to transport passengers for a fee. The few conventional means of transport are always overcrowded with some passengers sitting on the roof of vehicles (while paying the same fare as those inside the vehicle). The inside

compartments of the vehicles are always noticeably overloaded with passengers mixed with small goods.

It was observed that a lack of appropriate regulations and enforcement of commercial usage of motorcycles and tricycles to carry passengers has led to children under 18 years illegally operating motorcycles and tricycles. Safety is ostensibly compromised as the youths may lack the requisite safe driving skills because they often carry no license and have no formal driver training.



Figure 4: A fully loaded tricycle being operated by a minor

Furthermore, since there are no regulations regarding the allowable maximum number of passengers an *okada* rider can carry at a time, operators of motorcycle taxis usually carry an unsafe load. Overloading a motorcycle (as illustrated in Figure 4) compromises passenger comfort and safety.

## Best practice based on evidence

There is a strong case in Ghana for government intervention to ensure reliable and sustainable rural transport services are amenable to the needs of rural communities in terms of fares, safety and security, passenger comfort and service reliability. A mix of public and private participation is required to provide the full range of transport services using both conventional means and MCTCs.

The Government of Ghana can learn valuable lessons from other countries that experienced huge growth in MCTCs. Thailand for instance, was one of the earliest countries to regularise the activities of motorcycle taxis in the world. In the Thai motorcycle regulations, the safety for the rider and passengers are of utmost importance, and include the following requirements:

- Setting of fares
- Distinctive number plate (yellow with black fonts)
- Wearing of reflective jackets
- Installing handles for passengers
- Mandatory helmet for passengers
- Annual tax and license fees

Explicit punishment for traffic law violations such as banning/suspension of licences (cited in Oshima et al, 2007) are also specified.



Another practical example of a good use of tricycles was noted in Avenorpeme in the Coastal Savanna Agro Ecological Zone. At the Avenorpeme Community clinic, a retrofitted three wheeled vehicle is being used as the only ambulance in the community. Nevertheless, use of this vehicle currently constitutes a violation of LI 2180, regulation 128, which bans two and three wheeled vehicles being used for passenger services; and therefore such regulations need to be redressed.



Figure 5: A retrofitted tricycle being used as ambulance on Avenorpeme-Abor road

## Summary of Project/Background

The Building and Road Research Institute (BRRI) were commissioned to conduct research into rural transport in Ghana. The overall aim of the research was to better understand and measure the adequacy of rural transport services for meeting the access needs of rural people. In this research, three rural roads were selected for the study, namely: Abor-Avenorpeme-Hatorgodo road located in the Akatsi South District, Ayomso-Gyasikrom road located in Asunafo North District and Tokali-Wechiau-Wa road located in Wa West District.

The 'rapid rural appraisal' method (Starkey, 2007; Starkey, et al., 2013) using in-depth qualitative interview surveys, was used to ascertain stakeholders' perspectives on rural transport services. In addition, the roadside traffic survey method was used to manually count and classify vehicles and pedestrians to determine the origins and destinations of travellers on a market day and a normal non-market day.

Based on the rural transport diagnostic study conducted, it is evident that motorcycles (taxis) and tricycles provide crucial commercial transport services to facilitate rural agriculture, trade, and access to health services in the rural communities. It is recommended that the Road Traffic Regulations (LI 2180) be revised to allow motorcycles and tricycles to offer commercial passenger transport services in rural areas within a regulatory framework that addresses driver training, road safety and enforcement of vehicle loading capacities.

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