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**Operating practice of commercial motorcycle taxis  
in Dar Es Salaam City:  
Challenges and opportunities**

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**Abstract.** This paper is a result of the findings into the study on the operations of commercial motorcycle taxis in Dar es Salaam City (Tanzania). The paper among other key issues examines the daily operations of commercial motorcycle taxis to determine its challenges and sustainability thus providing ways of improving the sector. It also examined challenges and opportunities involved in the sector. The study involved 370 respondents which are operators and commuters. The study found out that there are a number of challenges associated with the daily operations of commercial motorcycle taxis in the city, like long working hours among operators thus affecting safety of the services offered; poor relations among operators and law enforcement officers which in turn has contributed significantly to low level of adherence to the set rules and regulations. The study further revealed that there are no contracts between operators and owners thus denying some basic legal rights of the operators and commuters. Furthermore the study found out that there are no basic facilities in the parking areas for the motor cycle taxi operations. The paper concludes that in spite of the existing challenges and problems in the operations of the commercial motorcycle taxis in the city yet, a good number of commuters depend on it as the mode of transport for different reasons. Thus it is important to address the aforementioned challenges so as to improve the general services offered by this mode of travel.

**Keywords.** Commercial Motorcycle Taxis, Dar Es Salaam City, Challenges, Opportunities.  
JEL. L60, L62, L69.

## **1. Introduction**

**T**ransport plays a significant role in any country's economic and social development, more specifically it has been recognized that the provision of a high quality transport system is a necessary precondition for the full participation of communities in achieving national as well as self social and economic development. Over the years, efficient and effective urban public transport has been viewed not just as a technical issue or question; but as an inevitable need. This is based on the premise that, without adequate consideration of social, economic and political implications of public transport services, sustainable development cannot be realised (Litman, 2005). Effective and efficient transportation systems provide a good link between workers and their working places, enhanced

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delivery of goods to the market place, underpins logistics and supply chain but also it supports local and international trade.

The provision of safe, quality, adequate and sustainable urban transport has been a big challenge all over the world, and developing world countries in particular are hard hit by the situation as compared to the rest of the world. In Dar es Salaam, as in other cities in developing countries, urban public transport is generally poorly organized and operated unprofessionally and hence the general service offered is of low standards and does not meet the needs of the passengers (Mfinanga & Madinda, 2013). Cognizant of the short fall in the urban public transport services the government of Tanzania in 2010 passed a law to allow three wheel and two wheel motorcycle to ferry passengers as a solution to curb the existing challenges in the sector. Using motorcycles as a means of urban and transport is not a new phenomenon within African countries.

The history of motorcycle taxis (*Bodaboda*) can be traced back from 1990s in eastern Uganda, in towns near the Kenya border. It referred to men on bicycles who offered to smuggle goods and individuals across the border and hence the operators were exclusively men. The term *bodaboda* itself is the way Ugandans and Kenyans pronounced the phrase 'border' when offering their services (Howe & Davis, 2002). While *bodaboda* initially existed solely in the form of bicycle transportation, the term soon grew to encompass those who offered motorcycle transportation as well. In Tanzania motorcycle taxis "*bodaboda*" started at the end of 1990s. Although at that particular period of time they were not officially recognized as a means of public transport.

In Tanzania motorcycles are used for different purposes, the most common use of motorcycles found in urban Tanzania is for profit making through being rented to carry passengers or goods, commonly known in Swahili as *bodaboda*. While the second form of use is private or nonprofit making and these motorcycles used in this form are commonly known in Swahili as *Piki-piki* (Bishop & Peter, 2015)

*Motorcycle taxis (Bodaboda)* are found in urban and peri urban areas, where they are used by people of different age groups engaging in different activities. They are also found in the rural areas where they offer the most common form of motorized transport and are used by young and old men and women of all social classes (Bishop & Peter, 2015). *Bodaboda* often operate where more conventional services are uneconomic or physically impossible. They are found in urban and rural areas and often act as feeder services to towns or major public transport routes. They are becoming increasingly available in east Africa due to other conveniences and their ability to meet demands that other services cannot, particularly door to door travel [Retrieved from].

The use of motor cycles for profit in the country started around year 2000 in some few parts of the urban areas and later on spread to other parts of the country to include rural parts as informal means of transportation services. The motorcycle taxis have been increasing every year such that

from May 2003 to October 2016 1,167,633 new motor cycles were registered in Tanzania with the number of registration expecting to increase as time goes by (TRA, 2016). In Dar es Salaam there are about over thirty five thousand (35,000) operating commercial motorcycle taxis and provide service to about seven hundred thousand (700,000) people every day. In the city the sector provides employment to about one hundred thousand youth (Survey, 2016).

In spite of its important role it plays as a means of public transportation, but also as source of employment to the majority of youth in the city, still there are a number of challenges that face this particular mode of transportation ranging from the operating environment to legal and institutional framework that governs it

## **2. Statement of the problem**

Commuter transport services in the city of Dar es salaam have been in acute shortage for quite some time now despite moves by the government to improve the transport sector through infrastructural investment and development, review of policies and legal framework that govern public transportation and increase of scope of participation of private sector in the provision of services. While these efforts are undertaken, both population growth and expansion of area of coverage in the city necessitate the increase in demand for services while infrastructural investment and development is at snails' speed. Cognizant of the shortfall, the government of Tanzania has permitted private commercial motorcycle taxis to operate in urban Dar es Salaam as a way to fill the gap in commuter service provision particularly on the outskirts of the city center and remote location of the city. While motorcycle taxis play such a significant role to fill the existing public transport service gap, there are a number of challenges that still face the public transport sector and commercial motorcycle operators and their commuters in particular thus threatening the future of this mode of transport. There have been a number of studies on motorcycle taxis in several countries and cities including Dar es Salaam yet, most of them have focused on areas like safety, operating characteristics of commercial motorcycle taxis and health related issues of the service. Despite all these studies pertaining to commercial motorcycle taxis facility, challenges associated with the inclusion of motorcycle as a supplement means of urban transportation services and the dynamics involved are still grey areas of research. The current study therefore intended to find out the challenges associated with the daily operations of commercial motorcycle taxis in Dar es Salaam city and hence proved the way forward for improvement.

## **3. Methodology**

The study was conducted in Dar es Salaam region, Tanzania mainland and included all the five municipalities of the region namely Temeke, Ilala,

Kinondoni, Kigamboni and Ubungo. Ten wards ie two wards in each municipal council and seventy five parking sites were randomly selected. Mixed method of data collection were deployed where by qualitative and quantitative data were collected.

This study employed exploratory study design and adopted a case study method to obtain both qualitative and quantitative data from the respondents. Case study method was selected because it provides detailed analysis of a single situation (Kombo & Tromp, 2006).

The population for this study were commuters of different categories from the five municipal councils, Motorcycle taxi Operators, Officials from *Bodaboda* operators associations, officials from Surface and Marine Transport Regulatory Authority (SUMATRA), Officials from the five municipal councils and Traffic police officers.

### 3.1. Sample size

The total number of population in the study area (Dar es Salaam) is 4,364,541 (2012 Tanzania Population and Housing Census Report) and it is projected to reach at 9 million by the year 2017 out of this number approximately 1.4 million people make use of the public transport every day ([Retrieved from]. on 12<sup>th</sup> April 2015).

At this level by using a formula by Genontologija (2006) who describes how to obtain sample size when population is greater than 10,000 the sample size was worked as follows:

$$n = \frac{Z^2 \times p(1 - q)}{d^2}$$

where

n – Sample size when population is greater 10,000.

Z – Standard normal deviation set at 1.96 ( $\approx$  2.0)

p – Proportional in the target population estimate; if not known use 50%

q - 1.0 – p

d – Degree of accuracy desired, set at 0.05 or 0.02

### 3.2. In our case therefore

$$n = 2^2 \times 0.5 \frac{(1 - 0.5)}{(0.05)^2}$$

n =400

Basing on the above indicated formula a total number of 400 commuters (employees from the formal sector and informal sector of the economy and non-employees) and bodaboda owners and operators were selected for the study. The study collected both primary and secondary data. Interviews and Focus group discusiions were used to collect primary data while documentary reviews were used to collect secondary infromations

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Interviews were conducted using interview guide to officials of SUMATRA, Traffic police, Ministry of Transport and Municipal council's officers. Also interviews were conducted using questionnaires to the motorcycle operators and commuters to get their views. Over three hundred (300) respondents were interviewed

Focus Group Discussions were used to collect information from *bodaboda* operators and leaders of the associations. The researcher with the help of the leaders of the *bodaboda* operators Associations organized 16 focus group discussion sessions for all five municipal councils. Discussion sessions were organized within their parking areas and each group involved 10 participant

The reviewed documents provided information on urban public transport in Tanzania. Collection of such information was continuously done for the entire period of data collection. The researcher reviewed various documents among others, urban transport policy, seculars, directives, Regulations and population record reports were thoroughly reviewed. The reviewed documents helped to establish a link between actual services provided and what was supposed to be offered. The reviewed documents were obtained from the Ministry of Transport, National Institute of Transport, Universities' Libraries, The National Library, SUMATRA and from *bodaboda* associations.

### 4. Materials

The global increase of motorization, poorly organized public transport system and inefficient public transport system especially among the low and middle income countries have contributed significantly to the increasing motorcycle use in different parts of the world (Kumar & Barret 2008). Furthermore high level of unemployment among youths especially in the least developing countries also have contributed to the emerging and increasing commercial motorcycle transport (Peden *et al.*, 2004). Studies show that, for instance in South and East Asia, motor cycles are mainly owned and used as personal means of transport and not for commercial purposes. Areas that make use of the motorcycles at the highest level in south and east Asia include; Vietnam with about 95% of all motorcycles in both south and east Asia (Tung, *et. al.*, 2008), followed by Laos (80%) Taiwan (67%) China (63%) and Malaysia (60%). Among the South and East Asian countries Brunei has the lowest number of motorcycles which account for about 31% (Zhang, Norton & Tang, 2004).

In Taiwan also the number of people who make use of motorcycles and the number of motorcycles has been increasing tremendously. In 1977 for instance, there were about 2 million motorcycles and twenty years later ie 1997 the number had grown to 10 million and majority of the people who make use of motor cycles are the low income earners like students but this does not exclude people of different levels of income as potential users. Among other reasons for increasing use of motorcycles include; affordability by different users (Zhang, Newton & Tang 2004). The

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increasing trend of motorcycle use for either commercial or as person means of transport reflect a situation that this is one among the very important means of transport and hence need special attention for its sustainability and efficiency.

In India over 69% of registered motorized transport are motorcycles (Mohan, 2002). Among other reasons for the high level of increasing motorcycles include affordability, availability, flexibility and ability to travel on poor roads.

Over the recent years most of African countries have experienced a dramatic increase of motor cycle taxis use as a means of public transportation. They are very popular in east, west and central African countries. In Kenya, Uganda and Tanzania motorcycles are very common and popular means of public transportation and they are commonly known as *bodaboda* while in Benin and Togo they are commonly known as *Zemidjan* and in Niger they are called *Kabu-Kabu*, in Cameroon *bendskin*, in Nigeria *Okoda* or *alalok* while in Togo *Oleyia* (Kumar & Barret, 2008).

The study by Cervero (2002) identified that the use of *Okoda* in Nigeria is on the increase and the main reason among others is the problem of traffic jam. *Okoda* are used mainly because of its ability to maneuver around, affordability in terms of buying price and transport cost, fuel efficiency and flexible (Cervero, 2002).

In Douala Cameroon increasing unemployment among youth has contributed significantly to the growth of commercial motorcycle taxis (Konings, 2006). In Kampala Uganda inadequacy of existing public transportation, increasing traffic jam resulting from increasing car ownership has resulted to the emergency and development of motorcycle taxis. On the one hand, motorcycle taxis have played a big role in addressing public transportation challenges although on the other hand they have contributed to increasing road traffic accidents (Nakiyimba, 2012).

A research carried out by Muhumuzi (2011) in Uganda on motorcycle taxis found that; despite the challenges associated with the use of motorcycle taxi as means of public transport in Uganda still this mode of travel seems to be the best choice especially among low income earners and those who want to avoid traffic jam. The 2013 report by Standard Bank on the trend of motorcycle importation from India to seven African countries including Nigeria, Angola, Uganda, Egypt, Kenya, Guinea, and Djibout indicated that Nigeria is the largest importer from India followed by Angola then Uganda (Faridah, Kulabako, [Retrieved from] on 19<sup>th</sup> April 2017).

The report further shows that Uganda imported from India motorcycles worth US\$ 113.4 b (\$31M) compared to Nigeria Sh 746.4b (\$204M) and Angola Sh 204.9 b (\$ 59M) in the year 2013. This report puts Uganda ahead of both Kenya and Tanzania. Evidence from Kampala Capital City Authority indicates that Kampala city alone has more than 1200,000



motorcycles the majority of which work as commercial public transport (Kampala Capital City Authority, 2016).

In Kenya the sector has grown to an extent that about 14.4 million people make use of *bodaboda* every day. (Faridah, Kulabako [Retrieved from] on 19<sup>th</sup> April 2017). The Industry has contributed over Ksh 2.2b to the income of the nation through direct taxes with an average of 500,000 motorcycles on Kenya roads.

Growth and development of motorcycle transport can be influenced by several factors; Kumar (2011) divided these factors into several categories as follows:

#### 4.1. Push and pull factors

These include urban sprawls, poor secondary road networks, and poor road quality, absence of safe, secure and affordable alternatives, critical analysis of these factors shows that they all reflect a situation of high level of poverty or low income levels (Kumar, 2011). Poor road networks or undeveloped road networks depict a picture of poverty especially in the country side, while urban sprawl goes hand in hand with poor public transport services.

The low income earners need to have affordable transport services for their mobility and transportation of their goods hence the need for affordable modes of transport like motorcycles. Thus, this has influenced to a great extent the growth of motor cycle transportation in most African countries Tanzania is inclusive (Kumar, 2011).

High unemployment rate and low income earners, among youth in developing countries contribute significantly to the growth of motorcycle transport services among the least developing countries like Tanzania. As such a good number of young men in Africa and Tanzania in particular have resorted to operating motorcycles as a source of employment/ income opportunity

#### 4.2. Laxity among law enforcers

The study by Kyalo & Mulwa (2011) on factors for the growth of motorcycles transport in Kenya indicated that among other factors, laxity among law enforcers has influenced significantly the growth of motorcycles transport in Kenya. This is due to the fact that motorcycle (*boda boda*) business is seen by citizens as a *laissez-faire* endeavor.

The unregulated nature of the motorcycle business in Kenya and other African countries makes it easy for most of the young men who are unemployed to join the business thus increasing the number of motorcycles in different African cities.

#### 4.3. Availability of credit facilities

Other factors include availability and increased credit facilities as well as inefficient urban public transport services (Kumar 2011).

## 5. Findings and discussions

### 5.1. Motivation to operate as commercial motor cycle drivers

The study sought to find out what motivated commercial motorcycle drivers to engage in such employment. This was purposely done to determine the effectiveness and opportunities in this emerging transport sub sector.

Data in table 6.1 indicate that in the ten visited wards of the city, 68(82.9%) of the respondents at Kunduchi and Wazo wards, 40(70.2%) at Temeke and Sandali wards, 35(64.8%) at Manzese and Kibamba wards, 43(44.3%) at Kigamboni and Pemba Mnazi and 21(26.3%) at Vingunguti and Kitunda wards joined Commercial motorcycle taxi business as their only source of employment while 59(73.8%) at Vingunguti and Kitunda wards, 54(55.7%) at Kigamboni and Pemba mnazi wards, 19(35.2%) at Manzese and Kibamba wards, 17(29.8%) at Temeke and Sandali and 14(17.1%) at Kunduchi and Wazo, joined it as an alternative source of income in this category some of the respondents left their previous informal employment and joined it as a strategy for poverty alleviation the attraction for the latter was high income accrued from this business compared to the previous sources. It was further observed that majority of those who joined this sector as their only sources of employment are the young adults, aged between 18-38 years. This is the group of young men who have just completed either their primary or secondary schools education. Response by members of FGD at Tegeta Kibaoni indicated few operators from the Police Force who are also engaged in operation of commercial motorcycle taxis especially during their vacation. These findings relate with findings of other studies on commercial motorcycle taxis in African countries where by most of the operators are the young adults who just depend on operations of commercial motorcycle taxis as their means of survival. For instance the study on Solving transportation problems in Africa Cities: innovative responses by youth in Dual, Cameroon (Konnings 2006) revealed that majority of the operators of commercial motorcycle taxis are un employed youth with exception of some few employees in the government or private sector who mainly engage in this job during vacation as an alternative source of income.

**Table 5.1.** Motivation of the operators to engage in commercial motorcycle taxis busines (N=370)

|                              | Wards               |      |                 |      |                      |      |                  |      |                   |      | Total |
|------------------------------|---------------------|------|-----------------|------|----------------------|------|------------------|------|-------------------|------|-------|
|                              | Kigamboni & P/Mnazi |      | Kunduchi & Wazo |      | Vingunguti & Kitunda |      | Temeke & Sandali |      | Manzese & Kibamba |      |       |
|                              |                     | %    |                 | %    |                      | %    |                  | %    |                   | %    |       |
| Had no other employment      | 43                  | 44.3 | 68              | 82.9 | 21                   | 26.3 | 40               | 70.2 | 35                | 64.8 | 207   |
| Alternative source of income | 54                  | 55.7 | 14              | 17.1 | 59                   | 73.8 | 17               | 29.8 | 19                | 35.2 | 163   |
| Total                        | 97                  | 100  | 82              | 100  | 80                   | 100  | 57               | 100  | 54                | 100  | 370   |

Source: Survey Data 2017.



5.2. Working hours of the commercial motorcycle operators per day

ILO hours of work (Industry) Convention, 1919 (No.1) and hours of work (Commerce and Office) Convention 1930 (No. 30) have set normal standard working hours per day to eight (8) and thus forty eight (48) hours per week. This has been the standard working hours that one can perform his or her duties productively without affecting his or her physical or mental health. With regards to the number of working hours among commercial motorcycle taxi operators the study established that, 47(87%) of the respondents at Manzese and Kibamba wards, 48(84.2%) at Temeke and Sandali wards, 68(82.9%) at Kunduchi and Wazo wards, 70(72.2%) at Kigamboni and Pemba Mnazi wards and 42(52.5%) at Vingunguti and Kiunda wards worked between 11-15 hours a day while about, 33(41.3%) of the respondents at Vingunguti and Kitunda wards, 7(10.9%) of the respondents at Kunduchi and Wazo wards, 8(8.2%) at Kigamboni and Pemba mnazi wards, 3(5.3%) at Temeke and Sandali wards worked for 16-20 hours a day and 40(10.8%) of the total respondents in all visited wards worked for 5-10 hours. The study established that there was no significant difference in terms of working hours of the operators across the districts ie Kigamboni, kinondoni, Ilala, Temeke and Ubungo. Comparing owners and non owner's operators it is evident that they both work for many hours contrary to the ILO set standards of eight hours a day. However, in general non owners worked slightly more hours as compared to the owners.

These findings concur with the study by Gradys (2015) on socio-cultural and economic determinants of bodaboda motorcycle transport safety in Kisumu county, whereby more than half (53.7%) worked for between 16-18 hours a day and about 19.75% worked for 10-12 hour while 17.28% worked for between 13-15 hours. While on the side of non owners it was revealed out that three quarter (74.03%) worked between 16-18 hours a day.

The noted difference in terms of the working hours between owners and non owners is a result of the set financial target by the owners that non-owners had to meet beyond earning their daily wages, while on the side of the owners especially those with loans had to work many hours to repay the loans and remain with something for their survival.

Long working hours have negative implication to the quality of the services offered but also may lead to health problems to the operators. For instance with regards to fatigue caused by long working hours one is likely to fall into accidents, thus causing death, injuries or loss of properties. This compares well with Mahlstein, (2009) in Calabar-Nigeria reported that Okada riders work for between 5-18 hour a day, thus threatening their health conditions.

The study by Kumar (2011) in Duala, Kampala and Lagos, revealed that commercial motorcycle taxi riders worked for very long hours where on average they work for an average of 12 hours day a situation which threaten their health conditions as well as conditions of the services offered.

Furthermore long working hours without resting may cause health problems among operators such as mental problems and heart problems, thus threatening their life in general. Kumar (2011) observes that *Alalok* riders in Kenya worked for between 5 to 15 hours this implies that they are always fatigued and thus may compromise their safety, that of passengers and other road users.

These findings suggest that working hours as an element of operating environment has to be worked on so as to make commercial motorcycle taxis more effective and efficient and thus commuter friendly. This can only be achieved if all key stakeholders in the transport sector are fully involved. That is the government sector (Public) has to lay down laws and regulations by involving other stakeholders like owners, operators and passengers and make sure that they are enforced accordingly, while private sector for that case the operators have to adhere to the set laws and regulations since they will be fully involved. Currently there is no binding law or regulation specifically for commercial motorcycle taxis operators on the proposed number of working hours.

The findings of the operators working hours are presented in the table 5.2 here under.

**Table 5.2.** *Summary of the working hours by operators with districts*

| Working Hours | Wards               |      |                 |      |                      |      |                  |      |                   |      |       |
|---------------|---------------------|------|-----------------|------|----------------------|------|------------------|------|-------------------|------|-------|
|               | Kigamboni & P/Mnazi |      | Kunduchi & Wazo |      | Vingunguti & Kitunda |      | Temeke & Sandali |      | Manzese & Kibamba |      | Total |
| 5-10          | 19                  | 19.6 | 7               | 8.5  | 5                    | 6.3  | 6                | 10.5 | 3                 | 5.6  |       |
| 11-15         | 70                  | 72.2 | 68              | 82.9 | 42                   | 52.5 | 48               | 84.2 | 47                | 87.0 |       |
| 16-20         | 8                   | 8.2  | 7               | 10.9 | 33                   | 41.3 | 3                | 5.3  | 4                 | 7.4  |       |
| Total         | 97                  | 100  | 82              | 100  | 80                   | 100  | 57               | 100  | 54                | 100  | 370   |

**Source:** Survey Data; 2017.

### 5.3. Employment contracts between operators and owners of commercial motorcycle taxis

Under Transport Licensing (Motor cycles and Tricycle) 2010 part ii section 5 (h) procedures for application for road services license, one of the basic requirements is employment contract between owner and driver of the motorcycle. Thus in the course of assessing operators' awareness and knowledge on the existing laws and regulations governing commercial motorcycle taxis operation in the city it was important to assess if there are legal contract between the operators and the owners as the laws requires.

This study found out that a bigger number of the respondents in the studied wards have no contracts for instance 49(59.8%) at Kunduchi and Wazo wards, 32(56.1%) at Temeke and Sandali wards 29(53.7%) Manzese and Kibamba wards and 15(15.5%) at Kigamboni and Pemba mnazi wards have no contract. On the other side 68(85%) from Vingunguti and Kitunda wards, 82(84.5%) from Kigamboni and Pemba mnazi wards, 25(46.3%) from Manzese and Kibamba wards, 25(43.9%) from Temeke and Sandali and 33(40.2%) from Kunduchi and Wazo wards acknowledged to have

contracts with the owners. Most of these contracts are just verbal agreement between owners and operators on the amount of money to be submitted to the owner for a particular period of time then after the motorcycle remain to be the property of the operator. The study established that such contract provide a room for the operators to own their motorcycle after a certain period of time but also on the side of the owner it guarantee them to get back their invested money and the profit. Table 5.3 provides a summary of the findings.

**Table 5.3.** *Operators with employment contracts (N=370)*

|       | Wards               |      |                 |      |                      |     |                  |      |                   |      | Total |
|-------|---------------------|------|-----------------|------|----------------------|-----|------------------|------|-------------------|------|-------|
|       | Kigamboni & P/Mnazi |      | Kunduchi & Wazo |      | Vingunguti & Kitunda |     | Temeke & Sandali |      | Manzese & Kibamba |      |       |
|       |                     | %    |                 | %    |                      | %   |                  | %    |                   | %    |       |
| YES   | 82                  | 84.5 | 33              | 40.2 | 68                   | 85  | 25               | 43.9 | 25                | 46.3 |       |
| NO    | 15                  | 15.5 | 49              | 59.8 | 12                   | 15  | 32               | 56.1 | 29                | 53.7 |       |
| Total | 97                  | 100  | 82              | 100  | 80                   | 100 | 57               | 100  | 54                | 100  | 370   |

Source: Survey Data 2017

The study established that most of the operators do not have legal contracts because owners tend to give operators whom they have some kind of relationship or just have some trust on the people they opt to give their motorcycle for business purposes

On the other hand it was revealed that some operators do not want to have written contracts because they believe these contracts usually tend to suppress them especially when any problem arises so they prefer not to have formal contracts.

The study also revealed that even operators with contracts do not have the chance to negotiate good terms of the contracts with the owners of the motorcycles. In a Focus Group Discussion with operators at Vingunguti, Temeke, Kigamboni, and Tegeta members revealed that they have no chance to negotiate the conditions given by the owners of the motorcycles. The only verbal agreement between the two is that the operator has to send a daily remittance of a specific amount of money to the owner regardless of whether he fetches more or less than the agreed amount.

What is evidently clear from the findings is that lack of the official employment contract between the operators and the motorcycle owners' leads to the failure of the owners to register for motorcycle transport business. This is obviously a disadvantage to the government because it loses the revenue that would be obtained as a registration and parking fees respectively.

#### 5.4. Income submitted to the owner per day

One of the challenge with regards to daily operations of commercial motorcycle taxis is accidents, thus the researcher assessed the amount of income that operators are required to submit to the owners per day, and if it has any contribution to different challenges like accidents.

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The study established that 67(83.8%) of the respondents at Vingunguti and Kitunda wards, 50(51.5%) at Kigamboni and Pembamnazi wards, 25(46.3%) at Manzese and Kibamba wards, 13(22.8%) at Temeke and Sandali wards, 7(8.5%) at Kunduchi and Wazo wards submit an average of Tshs 7000/= to the owners per day while 208(56.2%) of all respondents in all visited wards submit Tshs10,000/= per day. These findings imply that operators have to work throughout the day without rest to collect money for themselves and for the owners. The amount submitted also varies from one municipal council to another. For instance in Ilala more than half 67 (40.1%), submit an average of 7,000/= per day, while Kigamboni 50(29.9%) submit an average of 7,000/=, Ubungo, 25(6.8%) submit an average of 7,000/=, Temeke 44(77.2%) submit an average of 10,000/= per day, and Kinondoni 75(91.5%). These findings may signify income difference within these municipal but also purchasing power of the residents of the areas. Kinondoni have noted to have the lowest number of operators who are required to submit 7000/- per day while Ilala and Kigamboni have the highest number of operators who are required to submit 7000/- per day. Disparities in the findings within municipals also imply that higher competition because of the high number of commercial motorcycle taxis force owner to reduce the required amount of money to be submitted per day as indicated in the table 5.4

**Table 5.4.** *Income submitted to the owner*

|       | Wards               |      |                 |      |                      |      |                  |      |                   |      | Total |
|-------|---------------------|------|-----------------|------|----------------------|------|------------------|------|-------------------|------|-------|
|       | Kigamboni & P/Mnazi |      | Kunduchi & Wazo |      | Vingunguti & Kitunda |      | Temeke & Sandali |      | Manzese & kibamba |      |       |
| 7000  | 50                  | 51.5 | 7               | 8.5  | 67                   | 83.8 | 13               | 22.8 | 25                | 46.3 |       |
| 10000 | 47                  | 48.5 | 75              | 91.5 | 13                   | 16.3 | 44               | 77.2 | 29                | 53.7 |       |
| Total | 97                  | 100  | 82              | 100  | 80                   | 100  | 57               | 100  | 54                | 100  | 370   |

Source: Survey Data; 2017

In a detailed analysis a researcher went further to assess marital status of the operators, thus see the contribution of the income accrued from this business for the lively hood of the family.

During the interview it was found that more than two third (70%) of the respondents were married and 25.9% were single and the reaming were either separated, divorced or widow. These findings were similar across all ten visited wards.

These suggest that commercial motorcycle taxis business is a new venture and employment opportunity for the young adult in the city and possibly in other area of the country. But also these findings may suggest that most of the operators have socio responsibilities and financial needs to support their families and relatives thus there is a need to fully support this business for the better of the young generation who have not employed in other sector of the economy. During FGDs with operators' leaders it was noted that most of these operators have family responsibilities and

financial need thus they consider and respect commercial motorcycle transport as their major means of livelihood.

Marital status of the operators may have significant important on socio-economic implication of commercial motorcycle transport in terms of its contributions to the livelihood of the society.

But also because of the dependence nature of the operators on commercial motorcycle as the main source of income required for the entire family this also might be a reasons for adoption of bad riding practice like overloading, over speeding and failure to observe road signs and signals as a way to realize quick income to satisfy their families and their bosses. For instance when operators were asked for the reasons of overloading of passengers and cargos, more than half 55% pointed out that in order to realize the income of the boss and of the family overloading sometimes is inevitable.

### 5.5. Facilities in the parking areas

As part of the general operation of the commercial motorcycle taxis it was also important to find out availability of the facilities like toilets, parking shades, register for the operators and placard showing name of the parking site to determine challenges that operators face in their daily operation and thus provide solutions for improvement. In all visited wards and parking sites none of the identified important facilities were found inspite of the parking fees that each of the operator is supposed to pay. Summary of the findings are presented in the table 5.5 here under.

**Table 5.5.** *Availability of facilities in the parking areas*

| Facilities in the parking areas |                       | Wards               |                 |                      |                  |                   | Total |
|---------------------------------|-----------------------|---------------------|-----------------|----------------------|------------------|-------------------|-------|
|                                 |                       | Kigamboni & P/Mnazi | Kunduchi & Wazo | Vingunguti & Kitunda | Temeke & Sandali | Manzese & Kibamba |       |
| No facilities at all            |                       | 97                  | 82              | 80                   | 57               | 54                | 370   |
| Total                           | Stakeholders Operator | 97                  | 82              | 80                   | 57               | 54                | 370   |

Source: Survey Data; 2017

The study found out that each commercial motorcycle taxi is supposed to pay 36,000/= per year as parking fees to the municipal council.

During the FGDs it was established that, operators do not pay parking fees. The reason for not paying the fees was poor enforcement of the law by the law enforcers, also lack of basic facilities in the parking areas which made operators unwilling to pay as commented by some of the operators.

*“Why should I pay parking fees while there are no facilities in the parking areas”* (Recorded one of the operators during FGD at Kigamboni 15 June 2017).

This was a common feature in all five municipals council and it was clearly noted during FGDs with municipals official,

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*'Frankly speaking we have not managed to provide with basic facilities in the parking areas but we are working on it to see what we can do in the near future'* (Official Temeke Municipal council April 2017).

*'So far we are in the process of registering all operators in our area, as we complete this assignment then we will start collecting parking fees'* (Official Ubungo Municipal Council May 2017).

*'We have not provided with parking facilities but we are collecting parking fees though the response is very low'* (Official Kinondoni Municipal Council May 2017).

The operators also noted that there is no difference in terms of the benefit between those who pay and those who did not.

*'I don't find any difference in terms of benefits between those who have paid and those who have not, we all suffers the same'* (Operator Skanska – Kinondoni district may 2017).

It was expected by operators to enjoy some freedom after paying parking fees like being recognized by police and thus not being disturbed by them, but this was not the case as pointed by one of the operator.

*'We all disturbed by police and other agents like Tambaza ie those who have paid were expecting that they will not be disturbed but things are just the same'* (Operator Tegeta Kibaoni –Kinondoni district 14 April 2017).

The study revealed that out of 35,000 operating commercial motorcycles only 5 % pay for the parking areas, and these are the ones who have so far registered their commercial motorcycle taxis. The study established that there are no parking facilities like shades, toilets, sitting facilities etc. in all parking areas for commercial motorcycle taxis.

The reasons given by municipal officers who are the owners of the parking areas (Stages) was all parking areas are just temporary.

### 5.6. Number of passengers transported per day

The study also sought to know the average total number of passengers transported per day. The purpose for this was to determine the importance of this sector in public urban transportation. The summary of the findings are presented in the tale 5.6

**Table 5.6.** *Number of passengers transported per day by operator (N=370)*

| Passengers transported per day | Wards               |      |                 |      |                      |     |                  |      |                   |      |       |
|--------------------------------|---------------------|------|-----------------|------|----------------------|-----|------------------|------|-------------------|------|-------|
|                                | Kigamboni & P/Mnazi |      | Kunduchi & Wazo |      | Vingunguti & Kitunda |     | Temeke & Sandali |      | Manzese & Kibamba |      | Total |
| 10-20                          | 74                  | 76.3 | 69              | 84.1 | 64                   | 80  | 50               | 87.7 | 44                | 81.5 | 301   |
| 20-30                          | 23                  | 23.7 | 7               | 8.5  | 16                   | 20  | 4                | 7    | 8                 | 14.8 | 58    |
| 30-40                          | 0                   | 0    | 6               | 6.1  | 0                    | 0   | 3                | 5.3  | 2                 | 3.7  | 11    |
| Total                          | 97                  | 100  | 82              | 100  | 80                   | 100 | 57               | 100  | 54                | 100  | 370   |

Source: Survey Data; 2017

It was established that overall majority of interviewed operators 301(81.4%) transport an average of 10-20 passengers per day, while 58(15.7%) transport an average of 20-30 passengers a day while very few 11(2.10%) manage to transport 30-40 passengers a day. There was a slight



difference in terms of the number of passengers transported per day across wards and parking sites for instance 50(87.7%) at Temeke and Sandali, 69(84.1%) at Kunduchi and Wazo wards, 44(81.5%) at Manzese and Kibamba, and 74(76.3%) at Kigamboni and Pemba mnazi wards transport an average of 10 to 20 passenger a day.

Data from SUMATRA and TRA (2017) indicates that currently there are about one hundred thousand commercial motorcycle taxis in Dar es Salaam thus on average over 10,000 to 20,000 passengers are transported using motorcycles. This findings imply that currently commercial motorcycle taxis is one of the major means of public mobility in the city thus improvement of the services offered to make it more commuter friendly is very important rather than discouraging it.

#### 5.7. Effectiveness and efficient of the services offered by commercial motorcycle taxis

To assess the effectiveness and efficient of the services offered by commercial motorcycle taxis, the following parameters were taken into consideration.

##### 5.7.1. Reliability of the services

The study established that majority of the respondents (passengers) were of the opinion that the service is readily available although a small proportion of the respondents complained about the reliability of the services especially during late night hours. This was observed during FGDs with passengers from different districts of Dar es Salaam City as indicated below.

*'Motorcycle taxis are the most reliable means of transport, so at any time I wish to travel to and from the office I just call and immediately it comes'* (Passenger at Mabibo- Ubungo District, 15th April 2017).

This view was supported by the views of other passengers during FGD at Ferry Kigamboni, who reported that;

*'The good thing with bodaboda they are readily available and reliable any time any point they are available and reliable means'* (Passenger Ferry –Kigamboni District 16th April 2017).

##### 5.7.2. Accessibility of the services

During FGDs with passengers it was established that majority of the passengers are motivated to use motorcycle taxis just because they are accessible.

*'When you call an operator for the service it takes hardly five minutes to reach where the customer is. But also after every a kilometer you can get the services'* (Motorcycle taxis) (Operator- Temeke District, 16 April 2017).

Very small proportion of the *population* travel about a kilometer to get the services in some occasions.

5.7.3. Travel time

The study established that most of the trips made are of about 3-4Kms, thus it takes about 4-5Minutes. Also it was established that most of the commuters opt for commercial motorcycle because of the travel time.

*'I normally take motorcycle taxis from my home to the office and it does not take more than five minutes to arrive at the office'* (Passenger, Buguruni ,Ilala District 18th may 2017).

5.8. Challenges facing commercial motorcycle taxis business in the City

To determine the challenges that operators face during their dairy operations issues like the operators' involvement in accidents, number of accidents involved in, for the last twelve months and also the perceived causes of accidents were researched.

**Table 5.7.** Provides data on causes of accidents

| Factors for accidents                  | Frequency | Percentage |
|--|-----------|------------|
| Over speeding& Careless driving        | 331       | 89.7       |
| Wrong overtaking                       | 96        | 25.9       |
| Driving under the influence of alcohol | 209       | 56.5       |
| Overloading                            | 61        | 16.5       |
| Poor road condition                    | 75        | 20.3       |

Source: Field data 2017

The study found out that with regard to the causes of commercial motorcycle accidents, 331(89.5%) of the respondents indicated that over-speeding and reckless driving are the leading factors for the accidents, 209 (56.5%) indicated driving under the influence of alcohol to be the contributing factor to the accidents, 96(25.9%) of the respondents indicated wrong overtaking while 75(20.3%) attributed it to poor road condition and 61(16.5%) of the respondents indicated overloading as another contributing factor to road accidents.

During detailed discussion with Operators, government officials and passengers to determine why these factors apply mostly to commercial motorcycle operators, it was noted that among key reasons is lack of proper training among operators

*'One cannot deny the fact that, most if not all of these operators are not well trained, thus they just operate without adhering to the set rules and regulations'* (Government official –Temeke District May 2017).

This was supported by the voice of the passengers from kisauke

*'These Operators need to be trained, most of them have not been trained, therefore they operate motorcycle sometimes as a funny game'* (Passenger, Kisauke –Ubungo district May 2017).

In general these findings suggest that human error is a leading factor to the commercial motorcycle taxis accidents.

This can be partly associated with lack of formal training among commercial motorcycle taxis operators as it was revealed that 100% of the

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interviewed operators did not undergo formal training prior to engagement on operation of commercial motorcycle taxis.

In FGD with police traffic officers at Oyster bay police station it was noted that riding under the influence of alcohol and failure to observe road traffic rules and regulations, are the main factors for road accidents among operators.

*'Operators purposely never adheres to the rules and regulations, they never put on helmets, just cross on the red lights, never puts on shoes etc'. (Police officer Osterbay June 2017).*

From the data above over- speeding is perceived to be the leading factor for the accidents, the respondents were of the opinion that the operators have to rush so as to collect the required amount of money for the boss/owner and remain with some amount for their survival.

These findings concur with the study findings by Gradys (2015) at Kisumu County Kenya, where- by commercial motorcycle taxis accidents were considered as mainly a result of human error and mostly due to poor riding skills.

Furthermore the study found out that accidents related to commercial motorcycle taxis have increased from 76.3% in the period of January-May 2015 to 87.4% in the period of January – May 2016 ([Tanzania police traffic force report 2016](#)).

Although some parameters have shown that commercial motorcycle taxis are effective means of travel but accidents rate seem to be higher thus pose a threat to the sector and users at large.

It was important to establish general and specific challenges facing commercial motorcycle taxis in the city, thus provide proposals for addressing such challenges.

### 5.8.1. Theft of the motorcycles

During FGDs with operators in the study areas most of the operators complained about theft and sometimes loss of life as being one of the challenges that face their business.

In the FGDs with commercial motorcycle leaders at Kigamboni it was reported that for the last three months (January-March 2017) about four operators have been killed and their motorcycles being taken away by gangs.

*'The situation is very bad here at Kigamboni, just a month ago we have lost our friends and the motorcycle'. (Operator –Kigamboni District 18 May 2017).*

Another view expressed in FGD in Temeke is that of the one member who reported that;

*'The most challenge that makes us uncomfortable in this business is theft of our properties' (motorcycle taxis) (Operator –Temeke 12 June 2017).*

The above views also was supported by the views of Police officer at Madala Police office

*'At least every week we register a case on the theft of motorcycle taxis' (Police officer Madala –Kinondoni 10 June 2017).*

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These findings imply that the magnitude of the problem is very big and thus requires joint efforts between different stakeholders to curb it.

In an interview with police officers at Oysterbay police station they also acknowledged that theft is one of the challenges that face commercial motorcycle taxi business in the city, although they could not establish exact number of the reported cases.

*'We have been getting a number of motorcycle theft cases , and we are working on them but also we are working we operators leaders to address this problem'* (Police officer Osterbay May 2017)

When the operators were asked whether they had ever faced theft problems or know a friend or colleague who had encountered such a challenge, it was revealed that there are those who have faced such a challenge directly and some acknowledged to know friends or relatives who have faced such a challenge, as expressed by their views in the FGD.

*'We have lost our friends hire some times back, who were killed and their motorcycle were stolen'*.(Operator at Kisauke Madala 15 June 2017).

This view was also shared by another operator at Kigamboni ferry

*'In January this year my motorcycle was stolen when I parked it outside the hospital looking for change of the passenger'* (Operator 15<sup>th</sup> June 2017).

In the interviews with the leaders of the associations' it was noted that the problem is more common during the night and mainly in the outskirts of the city centre. They further acknowledged that at least every week there were theft cases reported and others not reported.

When asked to give their views as to how the problem could be solved, the police officers were of the view that participation of all stakeholders was necessary to solve the problem as reported below.

*'we need the contribution of all key players on this like training institution like NIT to develop training curriculum, police force, and the operators and the owners themselves to contribute on the training other wise thing will keep on being the same'* (Police officer Osterbay May 2017)

### 5.8.2. Restrictions of the boundaries of operation

One of the challenges pointed out by commercial motorcycle taxi operators is restriction of the boundaries of operation. In focus group discussion with Commercial motorcycle association leaders in all the five municipal councils it was revealed that, commercial motorcycles have been restricted from entering some areas like the City Center. The restrictions have just been pronounced by Dar es Salaam special zone police commander.

*'We have been restricted from entering the city centre for no reasons although there are some who are either relatives or those who can bribe official are allowed'*(UWAPITE leader –Temeke District June 2017)

In these discussions the association leaders pointed the following problems associated with such restrictions; there is no clear demarcation of the restricted areas, it just wanted the operators not to get into the city centre while boundaries of the city centre have not been clearly defined.

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*'We really don't know exactly where does the restricted area starts and ends,so this bring a lot of problems to our members'*( Chair man CMPD Temeke 15th June 1017)

This view was supported by CHABOWIKI chairman in the FGD at riverside Ubungo,

*'Currently no one knows the exactly boundaries of restrictions, so we need to be clearly told on these restricted areas and their boundaries'* (CHABOWIKI Chairman 15th June 2917)

Also their operating licenses do not provide such a clause thus a contradiction. The Association leaders also noted that such a restriction has created loopholes for practices of corruption since some operators pay a certain amount of money to the police whenever they are caught in the restricted areas so that they may be set free.

### *5.8.3. Harassment from law enforcers (police officers)*

In the cause of assessing challenges facing commercial motorcycle taxis operators in the city it was also important to assess their relations with law enforcers like police force.

During focus group discussion with operators and leaders of the associations it was established that operators are harassed by police officers either in their parking areas or when they are at the police station. It was further established that all operators and Association leaders were not comfortable with police officers. Such kind of relation between the operators and the traffic police is likely to affect the operators' behavior to the extent that they resort to dodging whenever they see a traffic police, and in so doing they risk their lives and those of their passengers. As noted by some of the respondents,

*'Police usually considers us as criminals so whether you have an offence or not if you happen to get into the hands of police you are in a hot soup.'* (Operator-Kigamboni District 10 may 2017)

The above view was also shared by the operator at Skanska who expressed his views as follows;

*'We are here talking to you but at any time we may leave you alone if police come to our parking area'* (Operator Skanska –Kinondoni district 14 may 2017)

Other operators in Riverside Ubungo also noted that;

*'Operators always have to run away when they see police officers regardless of whether they have problems or not, and in such situations they do not observe the traffic rules and regulations so some end up in accidents'*(Operator Ubungo District 14 April 2017).

*'None of the operators will remain at the parking area when police come" if you find a police comes in the parking areas we just run away so if they get you it should be by accident'* (Operator riverside Ubungo 14April 2017)

5.8.4. Lack of credit facilities

During FGDs with operators in different districts, it was realized that most of them would wish to operate their own motorcycles rather than being employed by someone else. When they were asked to explain why they do not ride their own motorcycles the response was that the majority could not afford to buy their own motorcycles. They further said that it was difficult to get financial support from the financial institutions because they could not fulfill the conditions set by such institutions. This is confirmed by one of the operators in the FGD held at Tegeta who confirmed this concern:

*'When you go to financial Institutions to seek for loan you must have collateral and most of us we do not have'* (Operator, Tegeta-Kinondoni 16 June 2017).

Efforts to establish their own SACCOS that could provide soft loans to the members has not been successful due to lack of effective coordination of the motorcycle operators as confirmed by one of the operators.

*'We once started our SACCOS (DABOSA) with the main objective of providing soft loans to the members and we had contributed about 20,000,000/= but because of poor management it has just disappeared and currently I have just heard that the case is in court, I even do not want to waste my time to make further follow ups'*

5.9. Proposed ways of improving commercial motorcycle taxis operations in the city

The researcher also was interested to get stakeholders 'views on ways of improving commercial motorcycle taxis in the city. A number of proposals were given as follows:

5.9.1. Training programs

The study has found very limited number of operators has attended official training programs on how to drive motorcycle before engaging in the business. When asked during FGDs for the reasons for not attending formal driving programs it was observed that lack of training institutions and limited financial resources among operators are the main reasons.

*'So far I don't know any institution that deal with motorcycle training'* (Operator at Riverside Ubungo 14 May 2017).

The same view was supplemented by CHABOWIKI leaders during FGD as;

*'Of current we don't have formal training institutions for commercial motorcycle, though we were told with special request NIT can offer such training''* (CHABOWIKI chairman 14th May 2017).

All operators were informally trained by either friends, relatives and few did it by themselves after paying a smaller fee of between 10,000/= and 20,000/= to informal trainers in the streets. The charged fee in the street is usually negotiable. The study thus established that commercial motorcycle operators usually attend short course training programmes while they are already in the field. In the FGD with operators in Temeke Municipal it was revealed that short course training offers more theoretical training than practical training.



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Also in the FGD with operators at Ilala Municipal it was noted that, absence of commercial motorcycle driving schools makes them learn from the streets. The study found that training among operators on driving skills, safety issues and defensive driving is among the challenges that face commercial motorcycle operators thus creating other problems to the commuters and other road users.

*'If we could have known any training Institution dealing with motorcycle training most of us could join it but because we are not aware of it so we opt for street training'* (Operator Vingunguti , Ilala District June 2017).

Most operators during FGDs proposed training programmes that will be affordable in terms of fees, also the language to be used should be the one which is common to all.

*'Government should introduce training Institutions special for motorcycle taxis that will be affordable for all of us in terms of fees and the language'* (Operator Kigamboni , 17 June 2017).

## 6. Conclusion

An analysis of operating practice of commercial motorcycle taxis operations in Dar es Salaam concluded that there are a lot of challenges in the general working environment including infrastructural facilities, training, working hours, employment contracts, and relationship with law enforcers thus affecting the services offered. On the other side operators and commuters acknowledge that commercial motorcycle taxis services are more effective and efficient as compared to other existing means of public transport in the city in terms of employment opportunities to the youth, reliability, availability, accessibility, travel cost and time serving. Motorcycle use in Tanzania and Dar es Salaam in particular is fairly a new public passenger transport mode which has brought with it a number of challenges like those discussed in the chapter. Thus in order to improve the services offered by commercial motorcycle taxis these identified problems need to be addressed.

Operation of the commercial motorcycle taxis is a big and complex phenomenon which contributes significantly to the ever increasing road safety problems. The study identified key stakeholders to include SUMATRA under the Ministry of Transport, Traffic Police Force, Driving schools, National Transport Safety, Non-governmental organizations, Criminal Justice system, Insurance companies and the public. Adopting Public Private Partnership (PPP) approach in addressing such problems may help in addressing problems of such nature. For instance the government has to lay down good working environment like policies, infrastructures like parking facilities, while non-governmental organizations and the business community may come in to provide education to the operators and passengers.

The emerging conclusion in this paper is that operators' formal training is very important in improving the services offered by commercial motorcycle taxis but also in reducing road accidents. In achieving such a

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goal it is important for the government and other key stakeholders to come together and establish targeted institutions as well as subsidizing the training fees to help the operators who cannot afford to pay the training fees attend. The operators' associations could also establish a training fund for their members to be issued as soft loans.

Concerning working hours and contracts between operators and owners the study concludes that labor laws should be enforced accordingly because long working hours cause fatigue of the operators hence regular road accidents. This can be achieved by responsible authorities like SUMATRA, Police Force and Local Government Authorities in terms of properly educating operators on the health risks associated with fatigue emanating from long working hours without rest.

Also it is important to establish parking areas with basic facilities like shades, toilets etc. these can be provided by the government, in collaboration with key stakeholders while operators' associations can take the responsibility of taking care of the facilities.

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