

On-Street Parking and Pedestrian Safety in the Kumasi Metropolis: Issues of Culture and Attitude

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Abstract

Although many benefits are accrued to on-street parking, it can pose danger to the safety of road users if not managed properly. Behavioural and cultural attitude are among factors that create problems of congestion, danger to pedestrian safety and inconveniences among many other issues. Using the Offinso road as a case study, factors that restrict on-street parking and pedestrians' safety on the road are investigated in the light of attitude and culture. With systematic and purposive sampling techniques, it came to light that the practices of motorists and some commercial operators impede the flow of vehicles, and safety of pedestrians. It is therefore vital to focus on culture and attitudinal change rather than relying only on visible and factual information in promoting a successful on-street parking and pedestrian safety. Influencing culture and attitudinal change of road users in turn requires education, sensitization and enforcement of on-street parking regulation.

Keywords: Parking, on-street parking, pedestrian safety, transportation, Ghanaian culture and attitude

1. Introduction

An efficient and effective transportation system is a pivotal aspect of urban development, which also determines the level of sustainability of urban centres, especially in rapidly growing urban areas like Kumasi Metropolis. Undoubtedly, transportation does not only stand for vehicles and roads or streets, but also the supporting facilities; notably among them is parking facility. Harriet et al. (March, 2013) indicate that transportation infrastructure among other facilities includes roads, parking lots, vehicles and transportation terminals. Parking spaces are noticed most when absent, and this is so in part because most cities require parking spaces almost everywhere (Manville and Shoup, 2005). Dumbaugh (2005) asserts that urban streets are places where people walk, meet, shop and engage in a diverse array of social and recreational activities. These make urban living enjoyable. Parking therefore becomes a vital part of transportation, to ensure that there is convenience in the urban setting. On and off-street parking are the two main parking types available. Asiyanbola and Akinpelu (2012: 477) define on-street parking as:

“A form of parking that involves all metered and unmetered parking along the road sides. It is temporary driving a vehicle or manoeuvring a vehicle in a certain location for different purpose e.g. commercial purposes. On-street parking exists as a result of non-availability of space for off-street parking and it is known as nearest to destination routes”.

The above definition suggests that on-street parking is used when there is no off-street parking, which should not be the case, since both types of parking are required in urban areas to enhance transportations in different situations. For instance, Adiv and Wang (1987) found out from their study conducted in the city of Ann Arbor, Michigan that the increase in supply of off-street spaces would not necessarily satisfy the demand for on-street parking. On-street parking is not exclusively a device to be used in the right environment but a tool to help create that right environment (Marshall et al., 2008). Thus once businesses and many other activities are undertaken along the streets, on-street parking becomes imperative and must be integrated into the transportation system. Marshall et al. (2008) also added that although it is difficult to argue with the convenience factor and the idea of a pedestrian buffer, the debate continues as to the real benefits of on-street parking versus other types of parking in regard to issues such as land use, user demand, vehicle speeds, and safety concerns. Burke (2000) argues that on-street parking does not benefit economic activities alone, but also slows down traffic, provides a cushion between moving traffic and pedestrians, adds convenience, and beautifies the street. The fact is that on-street parking provides numerous benefits to road users, even though there are other challenges faced as a result of this type of parking.

The bone of contention with regards to on-street parking is how to synchronize on-street parking with pedestrians' movement to ensure safety. Many sources agree that improperly designed and/or controlled parking facilities can invite pedestrian crashes (Sisiopiku, n.d). The need for pedestrian safety calls for empirical study on how on-street parking is regulated and the type of supporting facilities that is required in ensuring efficient and effective parking system in our urban centres. This further emphasizes the point that parking facilities should not just focus on driving convenience, but also should consider pedestrian safety throughout the entire parking lot (Stark, 2012).

However, in many instances like Offinso road, the safety of pedestrians is overlooked due to certain behaviours and actions that are portrayed along the road. It has been observed on the road that the way and

manner in which on-street parking is undertaken normally invites pedestrian-vehicular conflicts, and in the worse situation exposes the pedestrian to dangers, sometimes involving crashes. It has also been observed that some motorists display their wares (mobile phones, clothing, etc) at the boot of their parked cars, which always attract many buyers for transactions and in turn adds up to the congestion on the road. The research therefore seeks to investigate into the attitudes and the reasons behind the behaviours and actions portrayed along the Offinso road.

Promoting desirable attitudes (Martin, 2012) is key to ensuring that congestion and accidents on roads in the urban centres are minimised while maximising safety and improvement in economic activities. As such, the paper discusses the current situation at Offinso road on one hand, and issues of culture and attitude of pedestrians, motorists and retailers (commercial operators) towards on-street parking on the other hand. In the first part, areas of discussion include the availability of on-street parking infrastructure and its benefits; the availability of walkways and safety of pedestrians; and the challenges of on-street parking along the road. The second part, which is the crux of the paper links culture and attitude to the current situation on the road. A major question to be addressed therefore is “what is the relationship between culture, attitudes of motorists, pedestrians, and retailers; and pedestrian safety?”

2. On-Street Parking: Benefits and Side Effects

Many concerns are raised when it comes to on-street parking by some researchers that on-street parking does not create convenience but does trigger congestions and accidents in urban areas as part of the side effects of on-street parking. For example, Bulactial et al. (2013) stated that aside the possible disturbance to the flow of vehicular traffic, improper on-street parking can also cause several accidents. Lowe et al. (2011) also stated that “Living in more hazardous environments (such as older style developments, with dense housing and proximity to high volumes of fast moving traffic and high levels of on-street parking) are among the factors associated with high levels of risk”. Again, in London, official statistics shows that casualty rates are high when crossing is masked by parked cars on local distributor and residential roads, and this is particularly true for young people (Transport for London, 2003; Martins, 2012). Finally, de Cerreño (2002) also states that the availability of on-street parking competes with other uses of roadways and also attracts vehicles, which generates more traffic.

The bigger issue begs the question as to why some places have been successful when it comes to incorporating on-street parking in their downtowns (Naseri, 2013; Marshall et al., 2008). According to Naseri (2013) and Marshall et al. (2008), the question suggests that on-street parking can be very beneficial should proper management practice be put in place and attitudinal and cultural behaviours improved. Concerning the benefits of on-street parking, Sisiopiku (n.d) asserts that in addition to potential economic development impacts, some policy makers and advocates have argued that on-street parking may be an effective traffic calming measure. In turn, the calming-down (low speed) effect of on-street parking ensures that the safety of other road users like pedestrians are guaranteed (Burke, 2000).

Marshall et al. (2008) added that providing parking solutions on the street is generally less expensive. This is because no additional land is required as is the case of off-street parking, which makes land acquisition, designing and providing of other supporting services for off-street parking much expensive. The role played by roadside features such as street trees and on-street parking, which serve as a buffer to shield the pedestrian realm from potentially hazardous oncoming traffic, and to provide spatial definition to the public right-of-way is particularly important (Dumbaugh, 2005). De Cerreño (2002: 1) summarized the importance of on-street parking as follows:

On-street parking is a key factor in promoting businesses in cities, particularly within central business districts. As a type of shared parking, on-street parking is an efficient means for allowing multiple users to utilize the same space at different times to reach multiple destinations. On-street parking provides easy access to businesses located on city streets and occupies less land per space than off-street parking which requires access lanes in addition to parking spaces. For pedestrians, on-street parking creates a barrier between moving traffic and individuals walking on the sidewalks, providing a measure of safety and reducing the level of perceived noise. Further, depending upon how on-street parking is situated on a street, it can also serve as a traffic calming device, thereby reducing accidents or at least making them less severe.

The problems of on-street parking should be looked in the light of the factors that are actually contributing to those problems. The situation of the Offinso road is such that the road is utilized by passengers and private cars. This undoubtedly makes it highly imperative for on-street parking to be established. It is therefore essential to note that on-street parking can never exist without a challenge, but the important issue is to address the underscoring factors that account for those challenges and possible measures put in place to combat them amicably.

3. How Attitude and Culture Matter

In the views of Al Matawah and Jadaan (2013: 1403), different societies means different cultures and, hence,

different attitudes towards any safety application. According to some scholars (e.g. Eagly and Chaiken, 1993 in Nilsson and Kuller, 2000), an attitude is regarded as psychological constructs, composed of affective, cognitive and behavioural components, which may be used to describe human evaluative responses. A report prepared by Bomel Limited (2004: 29) stated that:

Attitudes reflect a person's tendency to feel, think or behave in a positive or negative manner towards the object of the attitude. Attitudes can be held about the physical world, hypothetical constructs and about other people. Attitudes can also be held about safety at work.

Attitude is also taken to mean certain regularities of an individual's feelings, thoughts and predispositions to act toward some aspect of his environment (Secord and Backman 1969 cited in Bomel Limited, 2004: 29). One possible reason for the popularity of this concept is that social psychologists have assumed that attitudes have something to do with social behaviour (Wicker, 1969). Some of the definitions in the literature (Bomel Limited, 2004: 29) provide two different ways of thinking about attitudes towards on-street parking: as human behaviour or cultural practices that could be positive leading to improvement in the society; or negative with its repercussions such as accidents, congestion, and pollution among others. In accordance with previous research on emotion versus cognition, it was predicted that attitudes would be more important than knowledge for promoting pro-environmental travel behaviour (Nilsson and Kuller, 2000).

On the issue of culture, Bomel Limited (2004: 13) state that:

All individuals are strongly influenced by the culture of which they are a part. Culture influences people's values, their beliefs and can, in turn, determine their behaviour. Individuals can easily 'forget safety' but a safe culture can compensate for this by providing reminders and ways of working that serve to sustain vigilance.

Zion and Kozleski (2005: 3) explain culture to mean:

A combination of thoughts, feelings, attitudes, beliefs, values, and behaviour patterns that are shared by racial, ethnic, religious, or social groups of people. Culture refers not only to those that we are born into (racial or ethnic groups), but also those that we choose to belong to, such as religious or social groups.

Those evidences provided by literature makes it empirically clear that attitude and culture matter in all aspects of our daily lives, which are not limited to on-street parking. Such culture and attitudes can be based on the societal and individual bases. Some researchers have identified a number of individual factors associated with attitude and culture along roads, including age, gender, education, personality, risk perception, social deviance, experience, stress, and physiology and specifically relevant to this study, attitude of drivers (Bomel Limited, 2004; Martin 2006).

For the purpose of this study, the definition suggested by Bomel Limited (2004: 29) on attitude is adopted as the working definition for this paper. As such attitudes towards on-street parking reflect the positive or negative behaviours (actions) exhibited by the pedestrians, motorists, passengers, retailers as well as city authorities. Culture on the other hand is viewed as collective individual factors exhibited towards on-street parking. These individual factors include age, gender, education, risk perception, social deviance, experience, stress, fatigue, and physiology as indicated by Bomel Limited (2004). As such much emphasis is laid on attitude in the discussion so as to reflect the subjectivity of individual behaviours. The positivity or negativity of such attitudes would be determined by its impact on the individual and the safety of the society in general. In the context of on-street parking along the Offinso road, the practices by the motorist, commercial operators, pedestrians, and city authorities explain the dimension of attitude and culture exhibited along the road. The subsequent section explores the relationships that exist between on-street parking, pedestrian safety, attitude and culture of vehicle and road users.

4. On-street Parking, Pedestrian Safety, Attitude and Culture of Vehicle and Road Users

In the view of Short et al. (2007), safety describes a condition where untoward events and hazards are avoided, and barriers are set up to prevent future occurrences or interactions with such events or hazards. This assertion is relevant in knowing that pedestrian safety is a condition where pedestrians are not exposed to adverse events and hazards and measures put in place to prevent future occurrences with such hazards. It has been demonstrated that safety and for that matter pedestrian safety and occurrence of accidents is highly linked to attitudes and culture (see Martin, 2006, Lowe et al., 2011, Short et al., 2007; Bomel Limited, 2004; Reason, 1998). For example, a research by Martin (2006) suggested that behavioural and attitudinal factors such as choice of crossing plan; failure to attend traffic among others has a significant influence on pedestrian safety.

Arguments against on-street parking are skewed towards the safety issues of on-street parking. Attitude and cultural practices are challenges associated with not only parking but all human activities within our societies. Anin et al. (2013) in enumerating some of the challenges with regards to on-street parking indicated unsafe driving behaviour as one of such challenges. It is likely that both motorists and pedestrian attitudes and behaviour are behind the relatively poor (Martin, 2012) records of accidents and inconvenience on the urban

roads in Ghana.

Attitude of drivers towards parking have a major effect on how convenient on-street parking would be. The preference of drivers to park at the wrong side of the road is one of such attitudes that hinder safety on the roads. Again this attitude of drivers is one of the major issues that cause traffic congestion on the roads. It is well known that congestion lengthens travel time and also reduces productivity through increased inventory holding by manufacturers and retailers as a result of unreliable travel conditions within cities (Harriet et al., 2013). Lowe et al. (2011) indicated in their findings that attitudes, behaviour and lifestyle were factors contributing to the level of risk that people faced and the local environment also played a key role in increasing the likelihood of road accidents for pedestrians in these areas. Failure of motorists to obey speed regulations contributes considerably to pedestrian collisions and injuries (WHO, 2013).

Another important issue is the gender of vehicle and commercial operators along urban streets. Some of these behavioural and attitudinal factors that pose challenge to on-street parking are normally correlated to the gender of road users. In their studies concerning attitude and behavioural responses to parking measures, Waeden et al. (2006) indicated that male car drivers are less willing to change their travel behaviour than female car drivers. They also found out a large number (75.6%) of male car drivers in an on-street parking questionnaire administered at the Eindhoven University. Al Matawah and Jadaan (2013) also found out in their studies about road user attitudes towards safety initiative in Kuwait that male drivers constitute about 70% of total drivers. It can be deduced that the behavioural attitudes of males are more likely to influence on-street parking and the safety of pedestrians.

It is very clear that the behavioural and cultural attitude is a major contributor to parking challenges that are faced in urban areas. A poor but safe culture will encourage an atmosphere of non-compliance to safe operating practices (Reason, 1998). Pedestrian attitudes also pose challenges to on-street parking and put the pedestrians themselves at risk. WHO (2013) enumerating other risk factors that cause injury to pedestrians included attitudes of drivers and pedestrians as one of such factors. In effect the WHO (2013), suggested that changing the attitudes of the public towards the rights of pedestrians and the need to protect their safety should also be considered as part of safety measures. Again another issue that informs the attitudes of road users is the level of knowledge of pedestrians, motorists and other commercial operators. The knowledge gap (Mahmud et al., 2012) can also pose a serious risk to the safety of pedestrians, when they cannot understand parking symbols.

5. Methods

The study context is Offinso road, located on the north-western part of the Central Business District within the Kumasi Metropolitan Area (see Figure 1). The road is highly noted for the large number of vehicles that ply on it. It serves as the main route to Techiman, one of the leading market towns in Ghana and to some part of the northern region.

The research combined both quantitative and qualitative approaches. The quantitative research employs statistical analysis to generate findings for the purpose of the study. On the other hand, the qualitative research is concerned with the conditions that exist such as determining the nature and prevailing conditions; attitudes; and opinion held (Dawson, 2009) by the respondents with regards to on-street parking in the Suame industrial area.

Motorists/drivers who parked along the road and other retailers/commercial facility operators who carried their activities on the road were the main respondents for the research. Additional information regarding parking regulations and rules were obtained from the Traffic Unit of Kumasi Metropolitan Assembly and Department of Urban Roads. There were about 315 retail shops along the Offinso road, where parking of both commercial and private vehicles is a frequent phenomenon. Systematically, 105 operators of these commercial facilities were selected based on an interval of three (3) for the study. This interval helped to ensure that scientifically, all areas along the road were captured for the study as every commercial facility had an equal chance of being selected for the study.

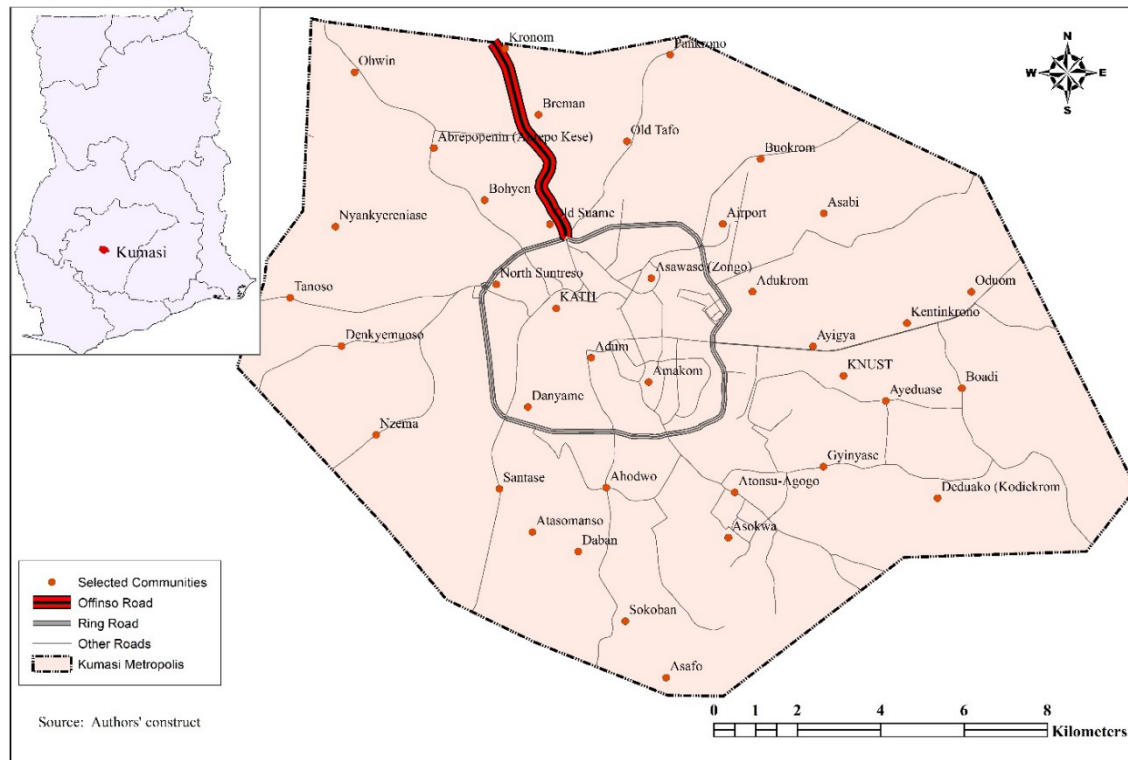


Figure 1 : Map of Kumasi Showing Offinso Road

Since it was not known the numbers of vehicles that park on the highway daily, a convenient sample of 60 drivers was selected accidentally for the purpose of the study. This number was divided by six such that every day, 10 motorists/drivers were contacted from Monday to Saturday to record their views concerning parking and congestion along the road. This helped to capture the intensity of parking and congestion throughout the working days.

In addition to this, 100 pedestrians were accidentally interviewed as part of the respondents in order to know the kinds of attitude pedestrian exhibit with regards to their safety. The attitudinal issues considered on the part of pedestrians include their choice of crossing place and movement when vehicles are parked; and how they feel when parking turnover is excessively high.

Aside the above, observational surveys were conducted to collect physical and factual information about the parking facilities available, parking duration, nature and types of parking. This information was important for identification and assessment of the extent and severity of parking problems and provided initial insight for solving the problem.

6. Analysis and Discussions

6.1 Behavioural and cultural attitude towards on-street parking: the linkage of culture and attitude to the current situation

In this section, culture and attitude are linked with the current situation on the Offinso road in the light of on-street parking and pedestrian safety. Major attitudinal factors considered include the knowledge about parking regulations and attitude towards it; the drivers' preference of parking on walkways; attitudes towards parking violations; and effects of enforcement of regulations among others.

6.2 Demographic (sex and age) variables in determining attitudes towards on-street parking

The choice of attitude can be determined by the type of persons involved in on-street parking. Studies have revealed that old people aged 60 and above are more likely to exhibit good parking behaviour than young people especially teenagers. Also male drivers and pedestrians are likely to be negligent of the parking regulations and the safety of pedestrians (WHO, 2013; Martin, 2012; and Mahmud et al., 2012). From the survey, it came to light that 68.6% of the commercial operators were found to be males whereas 81.7% of the drivers/motorists were also males (See Table 1).

Table 1: Sex of Respondents

Sex	Commercial Facility Operators		Drivers/ Motorists	
	Frequency	Percentage	Frequency	Percentage
Male	72	68.6	49	81.7
Female	33	31.4	11	18.3
Total	105	100.0	60	100.0

Source: Authors' Field Survey, 2013.

All the female drivers (18% of the motorists) used only private cars, which shows that the probability of males to exhibit bad attitude would be higher than the females as it was mentioned in studies of Waeden et al. (2006). Concerning age ranges of the respondents, none of the respondents was below the age of 20 at the time of the survey. Again, 67.6% of commercial facility operators and 56.7% of drivers were above 40 years. It was revealed that 70% of the male drivers showed little concern about the safety of pedestrians and all they cared about was where to get a space to park their cars. The retort from one of the male respondents was that:

Why do I have to suffer for a space to park my car? There are many routes for pedestrians' movement and it is their (pedestrians) responsibility to ensure their own safety and not ours.

On the contrary, 85% of the female drivers demonstrated absolute concern about the safety of pedestrians and were really conscious about parking regulations. One of the female respondents concern about pedestrians' safety stated that:

I always try to make sure that my car is away from the walkway since anything contrary to this is a breach of the pedestrians' right of way. I am aware that once I alight from my car, I become a pedestrian and as such I do not have to do what would turn to be a threat to me and fellow pedestrians' safety.

As discussed earlier on, ignorance of road users also poses a challenge to on-street parking and urban transportation as well. It was attested from the survey that 74.3% of the commercial facility operators were literate whereas 25.7% were illiterate (cannot read parking and other road symbols). Furthermore, 56.7% of the drivers/motorists were literates with 43.3% being illiterates. The 43.3% of drivers who are illiterates is very significant to the accidents related to on-street parking. This could be backed by the claim of Ilsley (2013) that the ability to read is fundamental and lack of this is such a handicap that illiteracy implies ignorance, even though illiteracy and ignorance are not synonymous. This was affirmed by some of the respondents and the KMA. Interactions with the KMA officials indicated that those culprits found to be violating parking rules are normally deficient in reading and understanding of the rules regarding on-street parking.

6.3 Attitudes towards availability of parking space and duration of parking (response from drivers and retailers)

The Offinso road is one of the busiest routes within the Kumasi Metropolis. One would get the 'favourite parking space' if either that person comes early or has a reserved place of parking along the road. About 15.4% of those who sometimes did not get their usual/preferred parking places resorted to parking beside parked cars which blocked pedestrian movement whereas 84.6% parked at anywhere on the road they found convenient. An issue of attitude and culture here is drivers' reaction to scarcity of allotted parking space. Out of the total respondents (60) it was found out that 40% would park at the wrong place when there is difficulty in accessing on-street parking space. Again, 60% of the drivers complained that spending much time in searching for parking space leads to boredom, fatigue and waste of time. According to one of the retailers who had a car:

It is always difficult to get a preferred space to park and one has to come early before he can secure a parking lot. All the retailers who own cars park their cars for the whole working hours. One has no option than sometimes park on the pedestrian walkway. The pedestrians too have an option to walk on the edges of the road, which can cost their safety.

This claim implies that before they perform such action of parking on the pedestrian walkway, the perception they put forth is that pedestrians have the option moving on the road. This attitude of illegal parking on the road creates several problems since it reduces the capacity of the road, causes accident and also blocks pedestrian walkways. It was realized that about 30% of drivers parked at illegal places because there is no convenient place to park, a quarter of the drivers did so because they wanted to pick and alight passengers when there was the need. Only 35% of the respondents however parked at the rightful place because they want to prevent collision and congestion.

It was observed that there was low on-street parking turnover since the commercial facility operators parked their cars at least 7 hours a day. This implies that if the available parking space is full, there is no assurance that one may leave the parking space soon for another person to park his or her car for which reason some resort to parking at the wrong place.

Another issue that can be related to attitude and culture is commercial operators extending their shops to block pedestrian walkways. The Offinso road is a very good place for commercial activities as confirmed by 90% of the commercial operators interviewed. About 40% of commercial operators stated that those who did not operate at the right places were always on the alert for security officials. There is lack of respect for pedestrians,

which create chaos on the road. The respondents (75% of commercial operators and 80% of motorists) interviewed accepted the fact that motorists exercise some level of indiscipline which normally leads to inconveniences. Again, it was found that some of the commercial operators displayed their wares on parked cars, which further limit the pedestrian walkway.

6.3.1 Vehicular Parking and Reasons for Parking Choice

Nearly two-thirds of the motorists/drivers ((66.1%) parked their cars on the street while 28.6% of them parked their cars off the street. About 5.4% however park their cars both on the street and off the street. Almost half of the motorists/drivers (46.4%) especially the commercial facility operators who owned vehicles parked in front of their facilities since that were the only available space for them.

6.3.2 Awareness of parking regulations and willingness to change parking behaviour for pedestrian safety

Out of the 60 drivers interviewed, 65% affirmed their awareness of on-street parking regulations within Kumasi Metropolitan Area, while 30% were not aware. The rest (5%) of the drivers were indifferent about their awareness. But majority (70%) of these respondents underscored the difficulty in abiding by these regulations even if they were aware. The reason was that they viewed those regulations as being ineffective. One of the respondents reported that:

It is always difficult to abide by the regulations governing on-street parking because we have to park close to our working places. It is the duty of the authorities to make sure that we abide by the available regulations even though it is a difficult task for them. It is also a difficult situation for us to change where and how we park since there are very limited parking lots available, which always create competition for space among the car owners.

There is a manifestation of an attitude with regards to parking regulations exhibited by the car owners. Thus before a particular parking behaviour is displayed, drivers have it in mind that the regulation governing on-street parking is either ineffective or difficult to be enforced.

6.4 Drivers' Preference of Parking on pedestrian walkways

The preference of drivers to park on pedestrian walkways is because of the lack of respect for pedestrians and road traffic laws. This is evident in claims of some respondents that it was not their responsibility to ensure the safety of pedestrians. This was normally found to be happening during the peak hours (after 5 p.m.) when security officials were absent. The interview with the officials of KMA proved that when the security officials are around such situations did not happen. About half of the drivers think that they do not fancy parking on pedestrian walkways, but because of the difficulty in getting a space to park during certain periods of the day. This situation blocks visibility and exposes street users to danger, besides the congestion and inconveniences it creates.

6.4.1 Attitudes towards parking violations and time restriction

This (reasons why drivers violate parking regulations) was done in two ways: positive and negative attitude towards parking violations. Positive attitude towards violation was viewed as drivers being conscious about their violations and accepting the ill consequences of the violations with intention to make amends. Negative attitude towards violations was considered to be the unconsciousness about the violations, not paying attention to the possible repercussions of those violations, and with the absence of an intention to change. It was thus observed that about 55% of the motorists exhibited negative attitudes towards parking, and as such parked as long as they wanted albeit authorities could not supply any regulation backing time restriction. They also parked on the pedestrian walkways because of the negative attitude of violating regulations. The result effect of this was that pedestrians were normally forced to walk on the carriage way, which exposed them to risks

6.5 Effects of Enforcement

Again, the long parking hours of vehicles and the violations that were exhibited was due to the low level of enforcement and little or no charge is imposed on culprits. It was revealed that over 95% of the drivers agreed to abide by parking regulations if they were to be strictly enforced and severe sanctions imposed on culprits. Again, it was found out that should a heavy price be imposed on long hour-parking vehicles, 65% of the drivers would limit the parking time in order to increase the parking turnover on the road. The attitudes of drivers could be changed should there be strong enforcement of regulations and heavy charges imposed on long-parking vehicles. It is evidenced in the studies by Martin (2012) that enforcement is one of the ways to change the attitudes in ensuring pedestrian safety.

6.6 Attitude of pedestrians and its effects on their safety

Certain attitudes of pedestrians that can influence their safety in relation to on-street parking were investigated

base on the available literature. Such attitudinal issues were pedestrians' choice of movement when vehicles are parked on walkways; and the effect of high volume of parking turnovers. Out of the 100 pedestrians who were accidentally interviewed, it came to light that 60 of the pedestrians preferred to move on walkways. Demographic dimensions were the parameters used in measuring pedestrian attitude towards parking and their safety. Martin (2012) disclosed that age, gender and social background of pedestrians are some of the demographic factors that influence the safety of pedestrians.

He indicated that young people, particularly males are more at risk than any age group. Again, studies indicate that young people (aged between 17 and 25) especially young males, are likely to exhibit violations, errors, and lapses as pedestrians (Moyano, 2002 and Daff et al, 1991 cited in Martin, 2012). This was not found to be different from observations made at the Offinso road. 45% of males (mostly between age 20 and 34) preferred any route that would lead them to their destinations irrespective of where the cars were parked. Women were more likely to move at the appropriate places (walkways) for safety than men.

6.7 Prospects of On-Street Parking in the light of attitude and culture

Both car owners and pedestrians benefit from the parking of cars in front of their facilities or even on the road. Almost half (48.2%) of the commercial facility operators parked their cars in front of their places of work because they were assured of the safety of their vehicles. About 30.4% also parked their cars in front of the working places in order to get easy access to their working places. Others also parked their cars at their preferred areas because they get easy access to the cars (7.1%); while shop frontages were reserved for the customers (14.3%).

It can be confirmed from the findings that improper parking of vehicles along the road reduces the capacity of the road. Also, accidents were normally caused by improper parking of vehicles along the road. The general conclusion drawn from some studies are that on-street parking is unsafe, prone to crashes, and subject to increased congestion (see Marshall et al., 2008), which were as a result of improper parking.

6.8 Causes, Effects and Management of Congestion on the Highway

Congestion in urban areas is one of the reasons why certain authors preferred off-street parking to on-street parking because they argue that on-street parking lengthens travel time and decreases productivity as indicated by Harriet et al. (2013). Offinso road is also characterized by congestions, which cannot be only attributed to on-street parking, but certain factors such as attitude of motorists. The commercial facility operators interviewed were of the view that the congestion had been caused by indiscriminate parking, frequent breakdown of vehicles on the road, increased number of cars on the road as well as street trading.

Even though the motorists tend to believe that it is on-street parking that was the major cause of congestion on the road, managing and enforcing regulations would drastically reduce congestion. According to the motorists, the effects of congestion were tiredness, inconvenience, increased travel hours, loss of productive hours, and sometimes accident. These findings are not different from what was found in the literature, for which reason to many authors on-street parking should not be encouraged.

6.9 Management of Congestion- The Role of Urban Roads Department and KMA

The Department of Urban roads is responsible for managing congestion on the Offinso road, and does so through the installation of traffic lights at intersection points. Also the Department has created some portions of the road to be used as bus stops so as to promote safety of road users. Areas that vehicles are not supposed to be stopped or parked are earmarked as "No Stopping" or "No Parking". According to the Department, this is a collaborative role with the Task Force of KMA in enforcing regulations on the use of the road.

The challenges faced in carrying out this role are the fact that most of the drivers were indisciplined and so parked at unauthorized places. In such cases, such vehicles were towed to KMA and were released after a penalty had been paid by the owners to the Department. According to the Department, when private/saloon cars were clamped because of illegal parking, the owners were made to pay a fine of GH¢30 while the owners of trucks paid GH¢50 before releasing vehicles to them. This is aimed at preventing illegal parking of vehicles.

Another challenge confronting the Department was that, they receive late notifications on faulty traffic lights and so do not attend to them on time. According to the road engineer, regular monitoring is however carried out on the Offinso road as well as other roads in the Metropolis in order to identify where problems are and address them so as to reduce congestion on the roads.

7. Conclusion

The study has revealed many important issues with regards to on-street parking, its benefits and challenges. Observations indicated that on-street parking plays an essential role in benefiting business and other activities at different levels. It has the potential of providing pedestrians a safer and comfortable environment. It is also an important avenue for city officials to generate revenues for the development of the city. However, unfavourable

issues of culture and attitude could pose a challenge to on-street parking while exposing pedestrians to danger. It has been conspicuously proven that issues of attitude and culture have major influence not only on the safety of pedestrians and sustainability of on-street parking, but also all sectors of development. As such, change in attitude is the milestone in enhancing effective on-street parking and pedestrian safety. On-street parking cannot be restricted if city authorities are to promote effective transport system for which reason appropriate measures and favourable attitude must be exercised to ensure proper system of on-street parking and pedestrian safety in all urban areas in Ghana.

8. Policy Recommendations for Development

The following recommendations would ensure that there would be effective parking systems on streets while ensuring that there is pedestrian safety.

- Strict enforcement of traffic rules and regulations
- Creation and Encouragement of Off-Street Parking
- Limiting the parking time
- Parking Pricing

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