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Experimental

ASSESSING THE EFFECTS OF ILLEGAL MOTOR PARKS AT SANGO OTA ROADS INTERSECTION, SANGO OTA, OGUN STATE

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ABSTRACT
The assessment of the effects of illegal motor parks in the study area is necessitated due the manifestation of various environmental menaces. Two (2) areas of the illegal parking were Sango Ota road intersection – Abeokuta corridor (Motor Park A), and Sango Ota road intersection – Owode corridor (Motor Park B). A purposive sampling method was adopted, and a total of 60 transport operators, 75 commuters and 30 pedestrians were selected. Car has the highest number of vehicle plying the corridors with forty one (41%) , while an average of 9 vehicle is parked in Motor Park A within one hour with a parking concentration of an average of 77m^2 , and for Motor Park B, 64 vehicle was recorded with a parking concentration of an average of 194m^2 . Mini bus has the highest number of patronage in the two motor parks with a daily average of 319 commuters representing sixty two (62%) out of 514 commuters in Motor Park A, and 7061 commuters fifty nine (59%) out of 11908 commuters in Motor Park B, while fifty six (56%) of the commuters (the highest) in Motor Park A attributed closeness and cheaper rate to the reason for the choice of the motor park, and fifty one (51%) of the commuters (the highest) in Motor Park B attributed only closeness for their reason for the choice. An average of 16 minutes is added to the travel time during the peak period of a working day, while an average of 24 minutes is added during the peak period on Saturday. Forty seven percent of the pedestrians of Motor Park A have experienced major conflict with vehicle, while sixty three 63% of the pedestrians of Motor Park B have experienced major conflict with vehicle and hawking leading to indiscriminating dumping of waste is identified as a resultant effect. Necessary recommendations were made towards the elimination of the illegal motor parks.

Keywords: Commuters, illegal motor park, pedestrian, road intersection, traffic

1.0 INTRODUCTION

The importance of transportation to human survival cannot be overemphasized as immobility perpetuates poverty, while the need to provide motor parks becomes imperative where services are rendered to commuters in order to fulfil their various socio-economic obligations. Parking is an integral part of transportation planning, and motor park provision and management become a necessity when the nature of the urban centres are considered as being an interrelated with complex land uses which requires a well-planned and efficient performance of the transportation system. Ahmed (2014) identified on-road parking as a form of parking that involves all metered and unmetered parking lots along the roadsides, and this exists as a result of the non-availability of space for off- road parking.

Asiyanbola and Akinpelu (2012) have identified two types of on-road parking to include the official and non-official parking, while Olorunfemi (2014) noted that the achievement of easy movement in the city is dependent on the proper planning and monitoring of the transport system that must include adequate parking facilities in all places that attract vehicular/pedestrian traffic. Asiyanbola and Akinpelu (2012) observed that illegal parking accounts for 30 percent of the causes of traffic delay along the corridors of the urban centres with their various roads intersections, while Ahmed (2014) noted that the sequences of problems commonly appended to parking lots – legal or illegal (unauthorized) are caused partly by the transport operators, and the government agencies which often leads to the proliferation of parks in some nooks and crannies of the cities.

Ryre and Koglin (2014) noted that policy on Motor Park in most developing countries of the world, which Nigeria is inclusive, is mainly reactionary in solving the immediate problems, and this has often created a wide gap in transportation planning, and a missing strategic link between parking and the overall urban transport policy of the urban areas.

Major roads intersections are unique in nature owing to their traffic intensity which is often high with various categories of vehicle. The Sango-Ota roads intersection have manifested traffic bottleneck mostly due to the emergence of illegal motor parks along the corridors, and these illegal motor parks have

enhanced commercial activities on the roads, thereby resulting into vehicular/pedestrian conflicts; while the encroachment of the spaces provided for traffic flow of different categories of vehicle have limited the spaces. Hence, it is on this premise that the assessment of the effects of illegal motor parks in the study area becomes necessary. It is important to note that the choice for the patronage of these illegal motor parks in the study area by commuters provides the rationale behind their existence while the analysis of the socio-economic characteristics of commuters explain both the basis for the choice and the level of patronage across the various socio-economic variables considered in this study.

Olaseni (2011) noted that transportation infrastructure plays an important and catalytic role in the development of any nation in the world, and that length of roads in Nigeria is 193,200 kilometre, with the federal roads having a total of 34,123 kilometres length, the state with 30,500 kilometre length, and the remaining 129,577 kilometres as the length of the local government roads. However, the problem of transportation is multifaceted and multidimensional in nature, while the need for proper assessment of motor park facilities becomes imperative due to their role in achieving a good road transportation system devoid of traffic bottleneck. Hence, the traffic survey and parking survey are becoming major requirement for planning approval in the contemporary societies.

Adebayo and Zabairu (2013) identified two service management participants in Motor Park to include the customers (that is, the users of the motor park facilities), and the providers, and that conflict often exits between these two participants due to the poor service delivery. Litman (2006) has noted that illegal motor parks have been recognized as one of the main source of traffic congestion in urban areas, while Aderamo (2013) observed that illegal parking has been a bane to the achievement of good urban transportation, and that roadside motor parks have a common phenomenon which often result into traffic bottleneck, thereby reducing efficient movement of automobiles and delay in travelling time.

Papacostas and Prevedouros (2006) noted that parking utilization is a product of parking measurement and analysis, and that between 85% and 95% of the available parking capacity is often used in parking analysis, while Akanmu and Agboola (2015) identified crucial indices used for describing parking utilization to include; occupancy, accumulation, turnover, and average duration. It is important to note that Akanmu et al (2013) described parking management as all-encompassing actions and strategies targeted toward the elimination or minimization of disruptions to vehicular flow, achievable through adequate supply of facilities, pricing and regulations of the parking facilities. It is on this premise that the parking management principles are identified to include; optimization, sharing, flexibility, efficient pricing, users information, peak management, peculiarity and minimal expansion of supply.

2.0 METHODOLOGY

The assessment of the effects of illegal motor parks in the study area involves; the identification of the illegal motor parks by location and spatial coverage, the characteristics of the roads, traffic intensities, parking concentration and volume (7:00am - 6:00pm), parking duration, levels of patronage by commuters, and the effects of these illegal motor parks on traffic flow.

Sango –Ota is a town under Ado-Odo Ota Local Government Area of Ogun State, Nigeria, and its geographical co-ordinates are 6 42' 0" north, and 3 14' 0" east. It is accessed by Lagos-Abeokuta expressway and Idiroko-Ota road. Sango-Ota roads intersections are intersections that provide access to Ifo, Abeokuta, Lagos, Ijoko, Owode and Idiroko, with a fly-over which provides a direct link to Lagos and Abeokuta axis. Ota has the largest concentration of industries in Ogun State, and possesses a large market with important roads intersections (the Sango Ota roads intersections), located at the north of the toll-gate on Lagos-Abeokuta expressway. The illegal motor parks understudied are the two (2) motor parks which are located at the two (2) corridors (that is; Sango Ota to Abeokuta; and Sango Ota to Owode corridors) of the four (4) roads that form the Sango Ota road intersection under the Sango Ota Bridge.

STUDY DESIGN

The population of the study comprises of the total number of the illegal motor parks in the study area and the total number of vehicles in each identified motor park as at the time of investigation. The study design takes into cognisance of the variations that exist among vehicle used in the identified motor parks in the study area. Hence a stratified method of sampling was adopted where each type of vehicle were identified for the purpose of empirical investigation, and a random sampling was employed in the selection of the transport operators and commuters from each of the stratum while structured questionnaires were used to collect relevant data from the selected respondents. Spatial analysis of the width of each corridor of the intersections with the spatial area covered by the encroachment of roads by the vehicle was carried out.

Data on traffic counts of the four (4) corridors that form the intersection was collected, while data from the commuters (both for the inter-state service and intra city transport) on the level of patronage of the illegal motor parks, and the rationale behind the choice of the illegal motor park when compared to the other legal motor parks exiting within the vicinity were collected.

Two (2) illegal motor parks were identified along the two (2) corridors of the intersections and these illegal motor parks are for inter-state and intra-city transport system. However, a non –intrusive technique for conducting traffic count was adopted in which the manual counts technique was used for the four (4) corridors that make the intersections. The traffic counts was conducted for four (4) days of the week (Monday, Wednesday, Friday, and Saturday) between the 7:00am and 6:00pm for the purpose of assessing the traffic intensities of the corridors. Data on the parking concentration and volume between 7:00 am and 6:00pm for four (4) days of the week (Monday, Wednesday, Friday and Saturday) were collected, with the on-spot assessment of the roads.

A purposive method of sampling was adopted in the selection of the transport operators and the commuters. Hence, thirty (30) transport operators were selected randomly from each of the two (2) illegal motor parks, and this makes a total of sixty (60) transport operators, while seventy-five (75) commuters were selected randomly from each of the two (2) illegal motor parks, making a total of one hundred and fifty (150) commuters. However, sixty (60) drivers plying the corridors were randomly selected for the purpose of assessing the effects of the motor parks on traffic flow while thirty (30) pedestrians were selected as sampled respondents from each of the two (2) corridors where the illegal motor parks are in existence for the purpose of assessing the rate of vehicular/pedestrian conflicts

Illegal motor park services are in operational in two (2) locations of the study area, and these locations are; the Abeokuta corridor from the Sango Ota road intersection, and the Owode corridor from the Sango Ota road intersection. However, an average length of eighty six metres (86m) of the Sango Ota road intersection to Abeokuta corridor, is used for interstate and intra city Motor Park, while an average length of one hundred sixty four metres (164m) of the Sango Ota road intersection to Owode corridor, is used for intra city Motor Park.

Traffic Volume

Table 1 to Table 8 revealed the traffic volume generated on the four (4) corridors of the intersection.

3.0 RESULTS

Road Width and the Motor Parks

The importance of the corridors with their intersections cannot be overemphasized as the traffic intensities as shown in the traffic counts analysis (table 1 to table 8) have revealed a very high volume of traffic by all the categories of vehicle plying the roads.

Road Width and the Motor Parks

The width of each lane of the roads in the study area is 18 metres and the examination of the conditions of the roads revealed failed portions of significant spatial area along the roads, particularly the out-bounds of Lagos and Oju-Ore form the roads intersections and the blockage of all the existing drains of the roads by solid wastes of different types and volume, results into the overflow of storm water on the roads surfaces, particularly during a torrential rain burst.

Table 1: Traffic Count Analysis of Location A (Sango Ota Road Intersection to Toll Gate)

Date	Car	Coaster Bus	Mini Bus	Heavy Vehicles	Motor Cycle	Tricycle	Total
P.C.U	1.0	1.5	1.5	2.5	0.7	0.8	
Mon 7/11/22	1759	283	1014	198	1531	235	5020
Wed 9/11/22	1556	184	985	214	1247	110	4296
Fri 11/11/22	1948	301	1673	254	1438	399	6013
Sat 12/11/22	1273	277	1132	205	1685	224	4796
Total	6536	1045	4804	871	5901	968	20125
Daily Average	1634	261	1201	218	1475	242	5031
P.C.U Convert	1634	392	1802	545	1033	194	5600

Table 2: Traffic Count Analysis of Location B (Sango Ota Road Intersection from Toll Gate)

Date	Car	Coaster Bus	Mini Bus	Heavy Vehicle	Motor Cycle	Tricycle	Total
P.C.U	1.0	1.5	1.5	2.5	0.7	0.8	
Mon 7/11/22	1952	251	1040	244	896	264	4647
Wed 9/11/22	1260	134	1107	189	1221	258	4169
Fri 11/11/22	1117	229	1158	239	1314	248	4305
Sat 12/11/22	2140	222	1010	214	1249	274	5109
Total	6469	836	4315	886	4680	1044	18230
Daily Average	1617	209	1079	222	1170	261	4558
P.C.U Convert	1617	314	1619	555	819	209	

Table 3: Traffic Count Analysis of Location C (Sango Ota Road Intersection to Ijoko)

Date	Car	Coaster Bus	Mini Bus	Heavy Vehicles	Motor Cycle	Tricycle	Total
P.C.U	1.0	1.5	1.5	2.5	0.7	0.8	
Mon 7/11/22	1557	264	963	204	1101	357	4446
Wed 9/11/22	1212	224	855	147	981	228	3647
Fri 11/11/22	1439	287	982	172	1004	349	4233
Sat 12/11/22	1623	273	996	105	1429	373	4799
Total	5831	1048	3796	628	4515	1307	17125
Daily Average	1458	262	949	157	1129	327	4281
P.C.U Convert	1458	393	1424	393	790	262	

Table 4: Traffic Count Analysis of Location D (Sango Ota Road Intersection from Ijoko)

Date	Car	Coaster Bus	Mini Bus	Heavy Vehicles	Motor Cycle	Tricycle	Total
P.C.U	1.0	1.5	1.5	2.5	0.7	0.8	
Mon 7/11/22	1836	218	1011	187	1101	335	4688
Wed 9/11/22	1582	176	973	116	886	295	4028
Fri 11/11/22	1759	182	987	164	1006	307	4405
Sat 12/11/22	1947	221	1126	98	1121	319	4832
Total	7124	797	4097	565	4114	1256	17953
Daily Average	1781	199	1024	141	1029	314	4488
P.C.U Convert	1781	299	1536	353	720	251	

Table 5: Traffic Count Analysis of Location E (Sango-Ota Road Intersection to Abeokuta)

Date	Car	Coaster Bus	Mini Bus	Heavy Vehicles	Motor Cycle	Tricycle	Total
P.C.U	1.0	1.5	1.5	2.5	0.7	0.8	
Mon 7/11/22	1521	92	812	211	773	164	3573
Wed 9/11/22	1344	68	749	137	436	138	2872
Fri 11/11/22	1651	74	793	168	482	165	3333
Sat 12/11/22	1231	79	745	104	479	157	2795
Total	5747	313	3099	620	2170	624	12573
Daily Average	1437	78	775	155	543	156	3144
P.C.U Convert	1437	117	1163	388	388	125	

Table 6: Traffic Count Analysis of Location F (Sango Ota Road Intersection from Abeokuta)

Date	Car	Coaster Bus	Mini Bus	Heavy Vehicles	Motor Cycle	Tricycle	Total
P.C.U	1.0	1.5	1.5	2.5	0.7	0.8	
Mon 7/11/22	1730	74	795	231	553	195	3578
Wed 9/11/22	1493	62	696	164	542	153	3110
Fri 11/11/22	1918	75	813	121	604	187	3718
Sat 12/11/22	2026	59	864	143	695	174	3961
Total	7167	270	3168	659	2394	709	14367
Daily Average	1792	68	792	165	598	177	3592
P.C.U Convert	1792	101	1188	413	419	142	

Table 7: Traffic Count Analysis of Location G (Sango Ota Road Intersection to Owode)

Date	Car	Coaster Bus	Mini Bus	Heavy Vehicles	Motor Cycle	Tricycle	Total
P.C.U	1.0	1.5	1.5	2.5	0.7	0.8	
Mon 7/11/22	2131	49	944	217	1831	411	5583
Wed 9/11/22	1849	44	893	163	1537	392	4878
Fri 11/11/22	2063	58	938	186	1921	466	5632
Sat							

12/11/22	2326	46	971	121	1642	439	5545
Total	8369	197	3746	687	6931	1708	21638
Daily Average	2092	49	937	172	1733	427	5410
P.C.U Convert	2092	74	1401	430	1213	342	

Table 8: Traffic Count Analysis of Location H (Sango Ota Road Intersection from Owode)

Date	Car	Coaster Bus	Mini Bus	Heavy Vehicles	Motor Cycle	Tricycle	Total
P.C.U	1.0	1.5	1.5	2.5	0.7	0.8	
Mon 7/11/22	2235	91	821	265	615	463	4490
Wed 9/11/22	2131	74	774	115	502	454	4050
Fri 11/11/22	2746	83	858	284	545	493	5009
Sat 12/11/22	2141	79	825	296	602	488	4431
Total	9253	327	3278	960	2264	1898	17980
Daily Average	2313	82	820	240	566	474	4495
P.C.U Convert	2313	123	1229	600	396	380	

The analysis of traffic volume for the four (4) locations of the selected four (4) days revealed that car has the highest volume of vehicle that ply the roads, with a daily average volume of 14124, which represents 41% of the total volume of traffic generated on the roads, while coastal bus has the lowest volume of traffic generated on the roads with an average of volume of1208, representing 3% of the total volume of traffic. It is important to note that a total daily average of 34857 traffic volume generated by all the categories of vehicle plying the roads that make up the roads intersection revealed a very high volume of traffic, which implies that the corridors are of great importance to the socio-economic development of the state, and the nation at large.

Data on the level of patronage revealed that Motor Pak A, Mini Bus has the highest number of patronage with daily average of 319 commuters out of 514 commuters, representing 62% of the total percentage of level of patronage of commuters in the motor park, while in Motor Park B, Mini Bus has the highest number of patronage with daily average of 7061 commuters out of 11908 commuters patronizing the motor park, and this represents 59%.

DISCUSION

Parking Concentration and Parking Volume

The total number of vehicle by type parked in a motor park for the purpose of motor park service within a particular period of time is expressed as the parking volume, while its spatial spread on a geographical space over a specific period of time is the parking concentration. However table 4.10 shows the parking concentration and parking volume within the study area. Motor Park A is the motor park located at the Sango Ota road intersection to Abeokuta corridor, while Motor Park B is the motor park located at the Sango Ota road intersection to Owode corridor.

An average of nine (9) vehicles is parked in Motor Park A within one hour (1hr), and these vehicles comprised of cars and mini buses which are used for intra-city transportation services while the destinations of vehicles for these services are; Ifo, Ilaro, and Abeokuta. However, an average of seventy-seven metres square ($77m^2$) was recorded as the spatial coverage of the vehicles parked in Motor Park A within one hour (1hr).

For Motor Park B, an average of sixty-four (64) vehicles is parked within one hour (1hr), and these vehicles comprised of cars, mini-buses, motorcycles and tricycles which are used for intra-city transportation services to Ojuore, Iyana- Iyesi, Atan, and Owode. The spatial area covered by vehicles in the motor park within one hour (1hr) is one hundred and ninety-four metres square ($194m^2$).

The Rate of Response of Transport Operators and the Analysis of Data

Data on the commencement of operation at the Motor Park, type of vehicle used for operation, and number of trips per week, were collected from thirty (30) transport operators selected from each of Motor Park, making a total of sixty (60) transport operators.

The year of commencement of operation at the two motor parks is germane to this study, as this offers the

year of the use of the space for the illegal motor park operation. Data collected on the year of commencement of operation in the motor parks.

Fifteen (15) respondents out of thirty (30) respondents, representing 50% of the total respondents in Motor Park A has been operating for a long time (11-20years), and this duration is significantly long when year of operation is considered as a factor of the years of the commencement of the illegal motor park, while for Motor Park B, the table revealed that eighteen (18) respondents out of thirty (30) respondents, representing 60% of the total respondents has been operating for less than 11years and this indicates that the use of the space for illegal motor park is not recent, but not too long when compared to Motor Park A. However, the use of the spaces for illegal Motor Park in Motor B has been intensified due to the high level of patronage of the motor park by the commuters.

There exist variations in the vehicle used for operation in the motor parks, and the data collected from the sampled respondents on the type of vehicle used for operation in the motor parks revealed that eighteen (18) respondents out of the thirty (30) respondents sampled used cars for their operation in Motor Park A, representing 60% of the total percentage of the respondents sampled, while the remaining twelve (12) respondents, which accounted for 40% of the total percentage of the sampled respondents used buses for their operation in the Motor Park. For Motor Park B, twelve (12) respondents used tricycle for their operation, and this represents 40% of the total number of respondents sampled, while the remaining eighteen respondents make use of car and buses at ratio 1:1.

It was further revealed cars are used more by the transport operator in Motor Park A when compared to Motor Park B, while tricycle has the highest percentage of usage as the means of transportation in Motor Park B, when compared to other means of transportation in the motor park.

A total of twenty-one (21) transport operators, representing 70% of the total percentage of sampled respondents in Motor Park A made less than 3 trips in a week, while for Motor Park B, a total of twenty-four (24) respondents, representing 80% of the total percentage of sampled respondents made 3 trips and above, with operators of tricycle having the highest number of respondents of twelve (12) in this cohort.

The Socio- Economic Characteristics of the Commuters (Users of the Illegal Motor Parks)

The socio-economic characteristics of the commuters (that is the users of the illegal motor parks are considered germane to this research as issues such as the gender, age, educational background, employment status and income levels have bearings to the determination of the use of the illegal motor parks. It is important to note that these variables are examined from the view point of the researcher which is premised on the outcomes of this empirical observation. However, the cross examination of these variables provides the basis for the rationale behind the choice of these illegal motor parks, which can be term to be the decision to use these motor parks, or the decision not to use the authorized motor park.

Utilization of Illegal Motor Parks

The utilization of the illegal motor parks is measured in terms of the level of patronage of the motor parks. Motor Park A is the motor park located at the Sango Ota road intersection to Ijoko corridor, while Motor Park B is the motor park located at the Sango Ota road intersection to Abeokuta corridor, and Motor Park C is the motor park located at the Sango Ota road intersection to Owode corridor.

The rationale behind the choice of the motor parks when compared to the other legal motor parks is fundamental to this study, as this provides the basis for making proper recommendations. For Motor Park A, forty-two (42) respondents' reason for the choice of the motor park is hinged on its closeness to their origin for making the trip and also cheaper when compared to the other legal motor park, and this number represents the highest number of respondents with 56% of the total number of percentage of sampled respondents of the motor park. For Motor Park B, thirty-eight (38) respondents' reason for the choice of the motor is the closeness to their origin for making the trip, and this accounted for 51% of the total percentage of the sampled respondents of the motor park.

The Effects of the Illegal Motor Parks on Traffic Flow

The effects of illegal motor parks are numerous as the emergence of limited space for vehicular/ pedestrian movement caused by the illegal motor parks; due to road encroachment have both physical and socioeconomic negative consequences. The capacity of road intersections is greatly reduced when illegal motor parks are in existence along the corridors. For the purpose of this research, two (2) negative consequences are been identified and examined based on the empirical observations. The add-travel time spent by the drivers plying the corridor due to the emergence of the illegal motor parks, the vehicular/pedestrian conflicts due to the limited space for movement, and the emergence of hawking at the illegal motor parks are identified and examined.

Added-Travel Time

The added-travel time is the time added due the delay that occurs in the traffic. The existence of the illegal

motor parks has limited the space provided for the free flow of vehicles along the corridors of the intersection, and this has resulted into travel delay which is better expressed as add-travel time. Empirical investigations carried out reveal that during the peak hours of the day, that is; 7:45am – 8:45am and 4:30pm – 5:45pm during the working week, an average of 16 minutes added-travel time is used by motorists at the intersection, while during the peak hour of Saturday, that is 5:30pm – 6:45pm, an average of 24 minutes add-travel time is used by motorists at the intersection.

It is important to note that many factors are responsible for the delay in travel in the study area, and these factors include the land use composition of the area as a central business district and the significance of the corridors of the intersection to the Ogun State. However, the existence of the illegal motor parks has resulted delays in traffic due to the encroachment of the space provided for traffic flow, by different categories of vehicle for the purpose of motor park services.

Vehicular / Pedestrian Conflicts

One of the most visible consequences of the existence of the illegal motor park is the vehicular/pedestrian conflict, which has the potential of resulting into accident. Although the accident rate for this occurrence is not provided by the organisation in charge of managing such conflict, but data on major conflict were collected from thirty (30) pedestrians, as sampled respondents from each of the two (2) corridors where the illegal motor parks are in existence, that is, the Sango Ota road intersection to Abeokuta corridor and the Sango Ota road intersection to Owode corridor.

Data collected revealed the occurrence of Vehicular/Pedestrian conflict on the two corridors. Although the sixteen (16) respondents (pedestrians) without conflict experience out of the thirty (30) respondents shows a high percentage with 57% on the Sango Ota road intersection to Abeokuta corridor, the fourteen (14) out of thirty (30) respondents representing 47% of the total percentage of sampled respondents (pedestrians) with major conflict experience with vehicle on the road where the illegal motor parks are located, should be considered highly significant, as such occurrence has led medical treatments of different categories.

However, nineteen (19) respondents (pedestrians) representing 63% with major conflict experience on the Sango Ota road intersection to Owode corridor, revealed a high percentage, when compared to those without conflict experience, and one of the factors responsible for this rate of conflict is the high traffic intensity on the corridor, and such occurrence has required medical attention.

Emergence of Hawking

Hawking along the roads is as a result of many factors, which the existence of motor parks along the roads is inclusive. However, the study area is characterized by a commercial land use which is complex in nature owing to its high level of intensity. The existence of illegal motor parks have intensify the level of hawking at the motor parks due to the demand of the commuters to buy some items that can be easily sold along the roads. It is important to note that the emergence of hawking at the motor parks has contributed to the disposal of waste on the roads, thereby resulting into the blockage of the drains and consequently leading to flood during torrential rain burst.

4.0 CONCLUSION

The existence of illegal motor parks in the study area has resulted into various environmental problem of different magnitude. The study area has a unique characteristic owing to the fact that it has roads which form an intersection, and this characteristic has reflected in the outcomes of the empirical studies. However, the data collected on the traffic volume through traffic counts, the parking concentration and parking volume of the two illegal motor parks, and the operations of the illegal motor parks have shown that the motor parks have high intensity of usage while the assessment of their effects have revealed negative consequences of high magnitude on the environment. It should be noted that three major resultant effects of the existence of the two illegal motor parks are identified and examined in this study, namely; the add-travel time spent by motorist; the vehicular/pedestrian conflict; and the emergence of hawking and these effects are high during the peak period of traffic flow. Hence, the following recommendations are made;

i .The redesigning and redevelopment of the of legal motor park to accommodate both the inter-state and intra-city transport system. This redesigning should take into cognisance the need to segregate parking by factors such as the types of vehicle and their destinations. In order to optimize the exiting space, a good motor park design is desirable. The adherence to motor park design principles and standard is fundamental to the achievement of good motor park environment. However, the provision adequate motor park facilities will attract prospective users of the motor park, and thereby enhancing its functionality.

ii. The implementation of the redevelopment of the motor park should be in phases with appropriate

timing while a synergy between the state and the local government should be in place for both the financing and management of the motor park. The illegal usage of the spaces for motor parks should be stopped, and such stoppage should be enforced by appropriate government authority. The stoppage of the use of the illegal spaces for motor park services will enhance the flow of traffic and eliminate the menace that has been created by the illegal motor parks. Monitoring and Review are major aspect of planning process, hence the implementation of the redevelopment plan of the motor park should be properly monitored, and the plan should be reviewed at the time specified by the project developer.

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