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Assessment of Parking Facilities in Banks Along Selected Major Traffic Corridors in Ibadan, Oyo State

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ABSTRACT: *This study assessed parking facilities in commercial banks along selected road corridors in Ibadan metropolis. The study examined the nature of parking in the selected commercial banks; assessed the compliance to parking space requirements for commercial banks; analysed spatio-temporal dimension of parking congestion in commercial banks; examined the impact of parking facilities on the immediate environment of banks; and determined the measure to cope with the observed parking challenges. The study obtained both primary and secondary data. Quantitative data were obtained through administration of questionnaire to 280 bank users and residents within the bank using random sampling technique and based on purposive sampling of four major corridors in Ibadan metropolis. The questionnaire were analysed using both descriptive and inferential techniques. Decision rule for acceptance or rejection of hypothesis was to accept alternative hypothesis and reject the null hypothesis if the p-value of correlation test (r) is <0.05 level of significance and vice versa. The hypothesis was tested at 0.05 level of significance and the data collected was analyzed using T-test. The study also employed Correlation analysis to test the hypothesis. The result of the study showed that there is a difference in parking capacities across the selected banks ($t(13)=14.570$, $p = .000$) at 0.05 level of significance. The correlation analysis revealed that there is a perfect positive relationship between awareness and compliance to planning regulations on parking provisions ($r(13) = 1.000$, $p = .000$). It was observed that only a few bank made provision for adequate parking facilities, this led to complaints from some customers and also reduce the numbers of vehicle owners going to the banks in their vehicle. Also, it was observed that majority of the bank managers are not aware of the availability of planning regulations guiding the provision of parking facilities in banks, hence do not comply to the parking requirements. It is therefore recommended that planning approval is taken before carrying out a development plan.*

KEYWORDS*:* commercial banks, parking, traffic, transportation, planning

INTRODUCTION

Parking is a major component of transportation which has become a situation that leads to the problem of congestion. This is due to the high population of vehicle ownership, and inadequate parking spaces. Hence, drivers spend time searching for parking spaces and thereby congesting the roads even more. Therefore, provision of parking facilities is a fundamental component of urban development, as the rate of urbanization has its effect on the development of commercial banks in relation to population increase, expansion in physical development and increases in demand for facilities. Facilities include indoor and outdoor private property belonging to a house, the side of the road metered or laid out for such use, a parking lot or car park, indoor and outdoor multi-level structures, shared underground parking facilities, and facilities for particular types of vehicle such as dedicated structures for cycle parking. Where car parking spaces are a scarce commodity, and owners have not made suitable arrangements for parking, whereby the numbers of cars are more than the available parking facilities, then overspill parking often takes place along sections of road. But consequently, parking facilities in commercial banks and physical development generally have received little or no consideration. Parking spaces are either not provided for at all or those provided are not adequate.

Urbanization also gives rise to problem of congestion. In Nigeria today, commercial banks located within most of our cities are characterized by high influx of population. Thus, as the growth increases, it is important to plan and build new facilities for both public and private transport so as to avoid parking problems resulting from unplanned urbanization. There are two types of parking facilities, these are; on-street parking and off-street parking. On-street parking means parking your vehicle on the street, anywhere on or along the streets, in contrast to parking in a parking lot or garage. While, Off-street parking means parking anywhere but on the street. Parking facilities like garages and lots, which can be outdoors or indoors should be provided in banks, because this plays a major role in a customer's decision and choice of where to bank, difficulties in finding spaces can reduce patronage of vehicle owners.

Planning for parking facilities in the urban environment is a complex activity that requires the collaboration of many professionals for a successful outcome, but must first start with the consideration of site. (Shannon Sanders McDonald, AIA). Consequently, commercial banks are faced with shortage of spaces for vehicular parking. The spaces are either not provided for at all or those provided are not adequate. Therefore, there is the need to look into traffic congestion and one of the major cause of this is inadequate parking facilities. Major banks along traffic corridors do not provide adequate parking facilities for their users, hence, vehicles are parked along roadside which then leads to traffic congestion. Thus, the significance of this study goes beyond identifying banks with or with no parking facilities, but also highlights the factors that lead to congestion. It will also be an invaluable tool for policy makers and the planning authority in tackling the problem of parking congestion in major banks.

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CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

Conceptual Framework

This study applies various concepts and models that are related to parking facilities, traffic control, transportation and the environment. These include:

- Transportation System Management
- Facility Planning Model
- Traffic Flow Theory

Transportation System Management

Transportation system management (TSM) refers to a set of strategies that largely aim to reduce Greenhouse Gas emissions by reducing congestion, primarily by improving transportation system capacity and efficiency. Some TSM strategies are designed to reduce total and systematic congestion and improve system-wide efficiency, while other strategies target particular problematic areas where improvements could greatly affect congestion, safety and efficiency etc. The Transportation Systems Management (TSM) approach to congestion mitigation seeks to identify improvements to enhance the capacity of existing system of an operational nature. An important Transportation system management strategy is the provision of parking facilities in order to ensure the flow of traffic on the major routes along which institutions such as commercial banks are located is not disrupted. This concept provides a theoretical anchor to understand strategies employed in commercial banks to control the continuous flow of traffic associated with them. The measures listed are used in parking management of traffic in most commercial banks using such instruments such as CCTV, signs and markings etc.

Facility Planning Model

The Facilities Planning Model is a computer model developed and used on license from Edinburgh University, which helps to assess the strategic provision of community sports facilities i.e. it is a tool which provides an objective assessment of the relationship between the likely demand for sports facilities in an area and their supply. The model can be used to test scenarios, by suggesting what impact a new facility would have, or the closure of the facility, to the overall level of facility provision.

Hence in this study, Facilities Planning Model, which is simply a supply/ demand analysis, sees demand as people wanting to use the parking facility, and supply is the amount of parking facilities available. Facility planning model can be used in assessing the impact of the provision of parking facility on an environment. This helps indicate the best location of a given parking lot and what the size of the facility should be. Due to the fact that commercial banks vary in terms of customer patronage and therefore traffic, facility planning model helps in forecasting the size at which traffic demand will meet traffic supply.

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Traffic Flow Theory

Traffic flow theory refers to the traffic stream variables of speed, flow, and concentration. These relationships are mainly concerned with uninterrupted traffic flow, primarily found on freeways or expressways. Flow conditions are considered "free" when less than 12 vehicles per mile are on a road.

Traffic flow is the study of interactions between travelers and infrastructure, with the aim of understanding and developing an optimal transport network with efficient movement of traffic and minimal traffic congestion problems. Parking facilities are an important component of traffic flow as they accommodate traffic when they finally get to their destination pending further movement. They serve as terminals to private automobiles to stop and engage in activities for which the movement was engaged in. The interaction between the travelers and parking facility as exemplified by traffic flow theory is important in understanding and developing an optimal transport network with efficient movement of traffic and minimal traffic congestion problems.

Literature Review

Literature on parking studies emphasizes that every vehicle trips requires parking at its destination, and so considers parking facilities as integrated component of the roadway system. Most literatures refer to parking demand as the observable parking occupancy of a defined parking facility. The two main categories of parking are off-street parking (which includes parking structures and parking lots) and on-street parking. Although, emphasis will be laid more on off-street parking; off-street parking facilities include parking garages, or structures, and parking lots, which provide parking for longer-term uses.

Litman (2011) conceptualized parking problem in terms of a paradigm shift which describes a fundamental change in how a problem is perceived and solutions evaluated. Parking problem and solutions can be viewed in terms of a shift from the old paradigm to the new one. The old paradigm assumes that parking should be abundant and free at most destinations. It strives to maximize supply and minimize price (Willson and Shoup, 1999). The paradigm also assumes that parking lots should almost never be filled and that parking facility costs should be incorporated into the costs of buildings or subsidized by governments and that every destination should satisfy its own parking needs. The old parking paradigm asserts that parking requirements should be applied rigidly without exception or variation and that parking management should be seen as a last resort to be applied only if increasing supply is infeasible. The new parking paradigm on the other hand strives to provide optimal parking supply and price. It considers too much supply as harmful, as too little, and prices that are too low are as harmful as those that are too high. The new paradigm strives to use parking facilities efficiently. It considers full lots to be acceptable, provided that additional parking is available nearby and any spillover problems are addressed. It emphasizes sharing of parking facilities between different destinations and favours charging parking facility costs directly to users and providing financial rewards to people who reduce their parking demand. While the old paradigm tends to resist change, and places a heavy burden of proof on innovation, the new paradigm recognizes that transport and land use conditions evolve so parking planning practices need frequent adjustment (Cuddy, 2007). Management solutions tend to reduce most

parking problems, providing a greater range of benefits and so are supported by more comprehensive planning. It is also important to define parking problems carefully in order to provide solutions. If people complain about a parking problem, for example, it is important to determine exactly what type of problem, and where, when and to whom it occurs. Increasing supply simply helps reduce parking congestion and spill over problems but increases most other problems (Edwards, 2002). In order to provide optimal parking supply, it is the practice in conventional planning to determine how much parking to be provided at a particular site by planners based on recommended minimum parking standards published by various professional organizations. This provides an index or parking ratio used to calculate the number of spaces to supply at a particular location. These are unconstrained and unadjusted values, which generally reflect the maximum supply that could be needed. These standards are often excessive and can usually be adjusted significantly downward (Litman, 2009). Asiyanbola and Akinpelu, (2012), show that one of the major goals of transportation planning is to ease the movement of passengers and goods on urban roads. In many towns and cities all over the world, there is undesirable degree of traffic congestion on urban roads. The provision of new roads is often expensive and most municipal governments usually consider the choice of widening existing roads which involves the demolition of houses and properties. The literature reveals that widening of roads and destruction of buildings are not necessarily the panacea needed in controlling traffic congestion on our roads. According to Obot and Umoh, (2007), in Nigeria, like elsewhere, where cars are one of the dominant modes of transportation, urban circulation is one of the most obvious problems and parking seems to be an overlooked element in transportation development. Several studies have shown that improvement in the living standards of people as a result of wage increase contributes almost as much as the growth of cities to contemporary urban traffic condition in Nigeria (Tanimowo and Atolagba, 2006). However, for a city to function as a system, transportation must be efficient and reliable to facilitate, not only intercity movement of people and their activities, but encourage intra-city movements within the city. These movements are from point of origin to the point of destination (Akhuewu, 2010). Asiyanbola and Akinpelu, (2012), observes categories of space in urban centre include exchange space and movement space which related to motor park, interchange point etc. As city transportation system expands, it takes up more spaces. The construction of new roads, the expansion of the existing roads, the building of parking lot requires the acquisition of part of the exchange space, the more space allocated to transport, the greater the requirement for more traffic space.

Planning Standards

Planning standards are requirements approved by laws to guide physical development in a particular area at a particular time. Planning standards are set to prevent the development of slum and urban blight. Looking at our environment today the emerging picture is shocking. The power to change and alter land use has been grossly abused by the public, government officials and politicians who want and allow structures to be built over, or close to, sewerage lines, road reserves, wetlands, high voltage power lines, recreation grounds, and traffic islands meant for road safety.

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Adopting planning standards is influenced by changes in socio-economic aspirations in urban settlements. These standards also influence upgrading of infrastructure facility and utility in view of design, supply, demand and management. Planning standards are approved by the responsible authorities and implemented by the communities to contribute to the understanding of its adoptability and challenges associated with. In this context, according to (Topfer, 2002), Planning standards refers to communities agreed land use planning space standards guidelines for infrastructure facility and utility provisioning, which were endorsed and approved by local and central governments.

METHODOLOGY

The study embraces both qualitative and quantitative approaches. Cross sectional research design was employed in the gathering of data. The data needed for this study was collected from secondary and primary sources. These include the socio-economic characteristics of respondents who patronize the banks, types of parking system available, and existing parking regulations and control. Qualitative data was obtained from a cross section of bank managers of selected commercial banks along the selected traffic corridors in Ibadan, through key informant interview while Quantitative data would be obtained from customers and respondents sharing same boundary with the bank using questionnaire. Three sets of institutional questionnaire were administered to bank managers/officials, property approval authority and bank users/ residents within 200m radius of the bank premises. Key informant interview was also conducted on the planning authority where banks are located.

The purposively selected corridors used were:

i. Ojoo to Mokola
ii. Bodija to Secretariat
iii. Iwo Road to Gate
iv. Dugbe to Ringroad

This is based on the concentration of banks in the selected traffic corridors in Ibadan.
For the selection of samples, the following banks were selected randomly. Bank selected in one corridor was not selected in another corridor.

Table 1: Table showing selected banks along the major selected traffic corridors

S/N	SELECTED CORRIDORS	SELECTED BANKS
1.	Ojoo to Mokola	Stanbic bank, Fidelity bank, First bank, Skye bank,
2.	Bodija to Secretariat	GTbank, Access bank, Union bank
3.	Iwo road to Gate	Ecobank, Wema bank, UBA
4.	Dugbe to Challenge	Keystone bank, FCMB, Zenith bank, Diamond bank

Source: Author's Fieldwork, 2021

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Purposive sampling method was used to administer the questionnaire. The survey sampling involved the use of both simple random sampling technique and purposive sampling technique for respondents sourced around 200m radius of each bank. Two hundred and eighty (280) copies of questionnaire were administered to bank users and residents within 200m radius of the bank along the selected traffic corridors. Fourteen (14) copies of questionnaire were administered to the bank managers of the selected banks, and one questionnaire (1) per Local Government of the planning authority.

The data collected were analyzed using both descriptive and inferential statistics. The results were shown using tables, graphs and charts. The correlation and t-test method was used to examine the relationship between awareness and compliance to parking regulations in selected commercial banks. The Statistical Package for the Social Sciences (SPSS) was employed in the analysis.

FINDINGS AND DISCUSSION

This research work set out to examine the assessment of parking facilities in banks along major selected corridors in Ibadan as a measure to cope with parking challenges in banks, and also in order to ensure traffic flow along the selected major traffic corridors.

Nature of Parking in Commercial Banks

Information on nature of parking in banks obtained from the survey revealed that a significant percentage of the bank customers drive their vehicles to the bank, with about a quarter of these customers not finding a space to park their vehicles. Also, of the 14 banks sampled for the survey, only 12 have designated parking facilities in their premises. The capacity of the parking facilities according to number of vehicles they can occupy at a time varies, with about half of the banks having a parking capacity of 0-15. Conclusively, it is discovered that only a few of the banks have adequate parking facilities provided in their premises, with the inadequacy of the rest manifesting into a host of issues.

From the information in table 2 it can be seen that of the 14 banks engaged in the survey, only 12 banks representing 86% of the total banks have designated parking facilities in their premises, while the remaining 14% do not. It can thus be deduced from this information that these banks contribute majorly to traffic congestion on the road due to their lack of parking provisions.

Table 2: Availability of Parking Lots in the Banks

	Frequency	Percentage
Yes	12	85.7
No	2	14.3

Source: Author's Fieldwork, 2021

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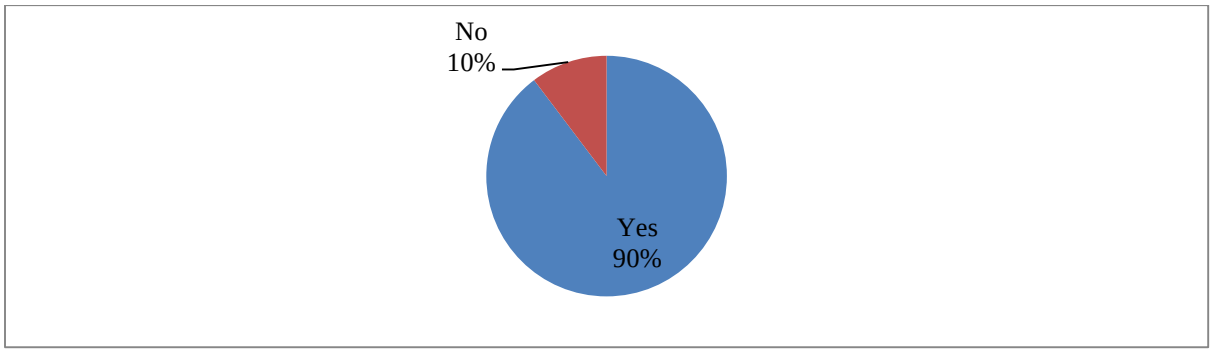
Plate 1: Showing bank with adequate parking space
Source: Author's Fieldwork, 2021

Furthermore, the bank users who own vehicles were asked if they drive their vehicles to the bank. This is necessary in order to have a clearer idea of the percentage of bank users who actually drive their vehicles to the bank. The information is presented in Fig 1.

The information in Fig 1 revealed the actual percentage of bank users who drive their vehicles to the bank. From the information it can be seen that about 10% of those who owns a vehicle do not drive their vehicles to the bank, while majority (about 90%) drive their vehicles to the bank. It can be inferred from the information that bank users who do not drive their vehicles to the bank either live close to the banks or prefer to avoid issues associated with finding a parking space for their vehicles in the bank premises, and this may be as a result of past similar experiences.



Source: Author's Fieldwork, 2021.
Fig 1: Percentage of Bank Users who drive to the Banks

In order to ascertain the true situation in the selected banks as regards parking provisions, especially through the bank users, the bank users who drive their vehicles to the bank were asked if they find a space to park their vehicles in the bank when they visit. Their responses are analyzed in the table 3.

Information obtained from the bank users who drive their vehicles to the bank on the availability of parking spaces for their vehicles in the banking premises revealed that a quarter (25%) of them do not find a space to park their vehicles, while majority (75%) stated that they find a space to park their vehicles. It can be inferred from the information that the bank users who do not find space to park their vehicles represent those who resort to on-street parking, thereby contributing to traffic congestion on the road.

Table 3: Availability of Parking Space for Bank Users

	Frequency	Percentage
Yes	102	75.0
No	34	25.0

Source: Author's Fieldwork, 2021

The banks which have designated parking facilities were asked about the capacity of the parking areas. The result shows that parking capacity varies in the banks. The information in presented in the table 4.

Information provided in the table above shows parking capacity varies in the banks. More specifically, it can be seen that half of the banks have parking capacity between 0-15 vehicles, while one-third (33%) of the banks have car parks for between 16-30 vehicles. This information shows that there is a major incongruence in parking provision in the banks, which may be a deviation from planning provisions concerning parking provisions in banks.

Table 4: Capacity of Parking Lots in the Banks

	Frequency	Percentage
0-15	6	50.0
16-30	4	33.3
31-60	1	8.3
61-90	1	8.3

Source: Author's Fieldwork, 2021

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Plate 2: Showing bank with no parking space
Source: Author's Fieldwork, 2021

Compliance to Parking Requirements

On the issue of compliance to planning regulations regarding parking provisions in commercial banks, the survey sought the level of awareness of bank managers regarding parking regulations. The survey revealed that majority of the bank managers are not aware of the availability of planning regulations guiding parking provisions in commercial banks. Further enquiry revealed that only the bank managers who are aware of the regulations fully adhered to the regulations in provision of parking facilities in their banks, hence it is seen that awareness plays as a major factor of compliance of banks to parking regulations.

Information presented in table 5 revealed that majority of the bank managers are not aware of planning regulations guiding parking provisions in commercial banks. This is evident as only 29% of them are aware of any such regulations. It can then be deduced from this information that awareness is a major issue militating against effective compliance of banks to planning regulations on parking provision.

Table 5: Awareness of Bank managers on regulations guiding parking provisions

Options	Frequency	Percentage
Yes	4	28.6
No	10	71.4

Source: Author's Fieldwork, 2021

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Impact of Parking on immediate environment

As part of the research objectives, the survey sought to examine the impacts of bank users' parking practices and bank's parking facilities on the immediate environment. The survey revealed that a significant percentage of the bank users perceived that the parking situation in the banks impact their businesses positively. In addition, the survey revealed that more than half of the bank users have do not perceive inadequate parking provision as being responsible for traffic congestion. This information suggests that the bank users lack the understanding of the impacts of inadequate parking provisions on traffic congestion.

Furthermore, the survey revealed that traffic congestion occurs mostly during mid-day, which corresponds with the banks' peak operating period. On the impact of parking on crime and accident, majority of the bank users do not perceive a relationship between the variables, with up to 90% of them stating that they never experienced crime or accident as result of parking congestion.

CONCLUSION

However, a general conclusion that could be drawn from this study is that parking problems and traffic congestion are apparent in commercial area as a result of the land use pattern. Parking needs to be given adequate consideration in transportation and landuse planning, because the commercial land use has a high vehicular and pedestrian traffic generating capacity. The demand for parking facilities are high and as a result of the inability to meet the demand, it has led to parking problems and traffic congestion along traffic corridors. Thus, the following are important recommendations in improving parking conditions in banks and sustaining flow of traffic:

- All Local Planning Authorities should enforce the provision of parking space in all building and discourage on-street parking
- Old buildings with no parking space should be demolished and restructured in a way to accommodate adequate parking.
- Government should also be actively involved especially in the area of education and enlightenment programme for the general public and security personnels, which are basic tools for achieving effective traffic management control.
- The various banking institutions should encourage the use of advanced technology, majorly the use of internet banking. Such that the population of customers that visits the bank regularly would be minimal. It was observed that most banks have taken this as a measure in other to avoid crowd at the banks, thus, there is reduction in the number of vehicle owners coming to the bank. This has help to reduce traffic congestion along the traffic corridors.
- Relocation of banks with no parking space to areas with large expanse of land.

The recommendations put forward have been in light of findings from the field survey. Finally, if all the recommendation mentioned earlier is successfully implemented, the problems of parking and traffic congestion will be reduced or totally eradicated.

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