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FES2020: Evaluation of Passenger Perception of Public Land Transport Terminal Building in Abuja-Nigeria.

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Abstract:

Transportation refers to systems which are designed to convey people and goods from one point to another. Transportation plays an important role in the economic systems of most developed countries of the world. The public land transport system in Abuja, which caters for about 1.4 million commuters, is today confronted with many complicated and heterogeneous problems. This study therefore is aimed at evaluating passenger satisfaction with the service quality attributes of public land transport terminal buildings in Abuja, Nigeria, in order to improve the patronage and efficiency of the system. The study was conducted using a "Mixed-Method" technique through two survey research which involved qualitative and quantitative data collection methods. A survey was carried-out and Five (5) samples of transport terminal buildings were selected for this study, which includes; Nyanya-Karu-Mararaba axis, Kubwa-Zuba-Suleja axis, Lugbe-Kuje-Gwagwalada axis, Dutse-Bwari axis, and the City Centre axis. A random selection of 400 public land transport terminal buildings users was made to draw out the overall user perception and factors that influenced their satisfaction in the use of public land transport terminal building in Abuja, using a self-administered questionnaire. The data collected was analysed using descriptive statistics and findings were presented in form of tables and charts, illustrating passengers' perceptions on the quality attributes of facilities and services provided in Abuja land transport terminal buildings. Out of 14 variables analysed, 12 quality attributes services of public land transport terminal buildings in Abuja were strongly unsatisfactorily recorded by the respondents. Only 2-variables (P7 and P12) partially met the expectations of passengers. The study therefore showed that, users of public land transport were not satisfied with the quality attribute of facilities and services provided in Abuja transport terminal buildings.

Keywords: Abuja, Perception, Satisfaction, Transport Terminal Building, User,

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Introduction

Transport sector serves as a vital component of cities in developed and developing countries of the world (Rodrigue, 2017). In recent years, multimodal transport system (MMTS) has been given utmost priority globally (Cherchenko, 2018). MMTS are developed to explore and harmonize several transportation modes for the safety and comfort of commuters (Izuwah, 2018). The Federal Capital Territory Abuja public land transport system caters for about 1.4 million commuters (Oniyangi, 2012) and challenged with a myriad of problems such as dilapidated terminal building facilities and inadequate service of the public land transport operator resulting in users' discomfort, avoidable delays and traffic congestions.

It is clear that most cities of developing countries are experiencing many problems and challenges in their land transport sector which are attributed to poor accessibility, congestion, pollution, lack of passengers' comfort and user safety requirements and decline in public patronage (Pojani and Stead, 2015). The use of public land transport in most cities has not been adopted because the current public transport terminal buildings are largely operated by informal operators, which are mostly unregulated. Furthermore, there is a view of public transport as a means of transportation for only the poor, as users' resort to this means because they have no other available and realistic option (Cervero and Dai, 2014).

Travelling with ease is considered a basic requirement (Sharpley, 2006). As a result of the urban sprawl in most cities around the world, people living outside the city centres are compelled to commute to the urban centre in order to work and earn a living (Pisman *et al.,* 2011). A decent transport system is important for speedy socio-cultural and economic development of any society and this can be achieved through developing several modes of transport such as rail, road, water and air, which can play complimentary role for the convenience of commuters (Muhammad and Peter, 2016). Inadequacy of these transport terminal building facilities in developing cities has led people to adopt private vehicles, thereby resulting in traffic gridlocks, congestion and environmental pollution (Breuil and Enskat, 2017).

The development of the public transport sector in developing countries is impeded by many factors including; dilapidated infrastructure, long travel distance and other risks (Pojani and Stead, 2015). This has created a bad perception on the public transport system (Cervero and Dai, 2014). Furthermore, the unregulated growth in cities poses a challenge to planners and designers (Brown and Chikagbum, 2018) and to address this, investments in realistic and sustainable options are essential in achieving an economically efficient, environmentally friendly, socially inclusive, and a robust transportation system (Muhammed and Peter, 2016).

According to El-Rufa'i (2004) Abuja has a high level of vehicle congestion and pollution because private cars have outnumbered and replaced public transport system and this has been exacerbated by the use of old taxis and commercial cars or buses. Yakubu (2006) opined that, the Abuja Metropolitan Management Council (AMMC) considered the current transportation structure to be completely unbefitting and insufficient for the status of a capital city, the council consequently, highlighted the need to re-organize the sector as envisioned in the Abuja master plan. This includes introduction of high capacity types of transport services such as metro rail lines and Bus Rapid Transport (BRT) for intra and inter-city movement and improved terminals.

It is a clear fact that negative perception by majority of the populace is generally affecting the use

of the public land transport terminal building, but a well-organized transport terminal building can significantly influence individual choice of travel (Lockton, 2011). Moore (1976) and Transportation Research Board (2000) agree that Urban planning and Architecture can mould human behaviour, and transit-oriented development urban planning and Architecture can greatly influence human behaviour and physical development.

The Concepts of User Satisfaction and Perception on Quality of Facilities and Service Provided

Oliver (1997) described Satisfaction as contentment of duty to customer. Budiono (2009) described it as a perception that a product or system feature or the system or product itself provides a delightful level of consumption-related fulfilment, including levels of over-fulfilment or under-fulfillment as the case may be. The term 'Satisfaction' is also recognized as "contentment of desire, claim, and need." Users' desire contentment is a relative process that give rise to contentment responses. Payne and Holt (2001) stated that, the prevailing theoretical model engage in research into users'/customers perception is the expectancy/disconfirmation model where users'/customers are convinced (dissatisfied) if their experience for the service perceived outstrip their anticipation for the service. He further explained that customers'/users' satisfaction is analyzed Within this framework by conducting an examination on service good worth and the attributes of the service good worth that rises the cognizant and vision. Gronroos (1984) also defined service quality as a relationship between perception of service and customers' anticipation.

Budiono (2009) Opined that, Service quality consists of a total five distinct perspectives;

  i.   Tangibles: Manifestation of Personnel, Checkup Facilities and Expeditions.
  ii. Reliability: Capability to carry out the Services promised reliably and precisely.
  iii. Responsiveness: Cheerful compliance in assisting users' and generate quick service.
  iv. Assurance: Enlightenment and politeness of workers and their capability to infuse belief
  v.   Empathy: The individualized courtesy a firm offers to the users' (Care).

He further described quality as the key perspective that is factored into users' perception or opinion. Diverse studies and review of papers concerning fulfillment of users' need on public transport terminals were carried out to develop a desirable public transport terminal building. It was discovered that, elevated frequency of reliable services, and fares that place value for money as important needs of UK public land transport users'/passengers, (Department for Transport, 2003).

Study Area

The area of study is the Federal Capital Territory of Nigeria (Abuja), sited at the core centre of the country and occupies a land area of $8,000km^2$ with a population of over 2,406,239 in (2015). The city of Abuja was recognised among the ten most populous cities in Nigeria due to its fast-rising development (Dawan, 2000).

Research Methodology

A non-experimental research design method was employed to assess the factors that affect public land transport terminal buildings patronage in Abuja. The research employed the application of both quantitative and qualitative approaches and was descriptive in nature. Quantitative analyses were employed in form of survey questionnaires seeking demographic information on gender of passengers, satisfaction level with functionality, spaces, services and environment around the transport terminal buildings.

The research targeted the possible riders/commuters of age group between 15 and 60 years who have chosen public land transport as their mode of transportation. Base on the (Krejcie and Morgan, 1970) table for determining sample size for a giving population of 1.4 million, a sample size of 384 would be needed to represent a cross-section of the population, 400 sample size was adopted to avoid distribution error. MS Excel tools were used to examine the data collected with the questionnaire from the respondents. Percentages, Tables and Cross-tabulation were used to analyze quantitative data. A 5-point Likert scale (1-Strongly disagree, 2-Disagree, 3-Undecided, 4-Agree and 5-Strongly agree) was adopted to allow individual expression on how much they agree or disagree with a statement, and was used to rank data numerically for ease of analysis.

Data would be obtained from the respondents with the use of structured closed-ended questionnaires. The questionnaire will be designed to seek information from the possible users of public land transport terminal buildings in Abuja. The questionnaire was divided into seven sections. Section A consisting of the general information namely gender, age and education level. Section B the dependent variable, while Section C, D, E, F and G focus on the independent variables of the study namely Land use, Layout, Pedestrian and cyclist, Parking, Users comfort, Terminal building facilities and environment.

Table 1: Likert Scale Table, Showing Assessment Value and Scores

S/n	Assessment Value	Score
1.	Strongly Agreed	5
2.	Agreed	4
3.	Undecided	3
4.	Disagree	2
5.	Strongly Disagree	1

(Source: Researchers' Field Work, 2019)

Table 2: Number of Respondents across Five Selected Transport Hubs in Abuja.

Bus Terminals	Transit Dependent Rider	Choice Dependent Rider	Total Number of Respondents	Percentage of Respondents
Nyanya,Karu and Mararaba Axis	55	25	80	20%
Kubwa, Zuba and Suleja Axis	47	33	80	20%
Lugbe, Kuje and Suleja Axis	50	30	80	20%
Dutse and Bwari Axis	43	37	80	20%
City Centre Axis	58	22	80	20%

(Source: Researchers' Field Work, 2019)

Table 3: Age Distribution of the Respondents

Age Group (yearly)	Number of Respondents	Percentage of Respondents
15-25	79	19.75%
25-35	117	29.25%
35-45	109	27.25%
45-55	57	14.25%
55- Over	38	9.5%
	400	100%

(Source: Researchers' Field Work, 2019)

Table 4: Employment Status of the Respondents

Employment Status	Number of Respondents	Percentage of Respondents
Government Sector	101	25.25%
Private organized	85	21.25%
Self-employed	59	14.75%
Unemployed	96	24%
Pensioner	24	6%
Student	35	8.75%
	400	100%

(Source: Researchers' Field Work, 2019)

Table 5: Public Transport Hubs Measures of Service Quality Attributes.

Variable Code	Variable Description
P1	Terminals are available and accessible
P2	Terminals are adequate in terms of space
P3	Good health and safety measures within terminals
P4	Good Security measures within and around terminals
P5	Restrooms and Conveniences are available at terminals
P6	Standard Retail shops and Restaurants available at terminals
P7	Short waiting time at terminals
P8	Terminals are well maintained
P9	Availability of users' complaints and feedback system
P10	Adequate number of ticketing stalls
P11	Adequate parking space
P12	Traffic management in and around the terminal
P13	There is need for more transport terminals
P14	Satisfied with overall Services and Condition of public transport facilities

(Source: Researchers' Field Work, 2019)

Findings and Discussion

Table 6 below shows the presentation of descriptive statistics of general satisfaction with public land transport terminal buildings in Abuja and various factors influencing the same, on a Likert scale of 1 – 5 (1-Strongly disagree, 2-Disagree, 3-Undecided, 4-Agree and 5-Strongly agree). The study discovered that most of respondents were dissatisfied with existing public land transport terminal buildings. Only 2% percent of the respondents strongly agreed with the availability and accessibility of the terminal buildings, though 24.75% percent agreed and 15.5% percent were recorded 'undecided'. Majority of them were found to be 'Disagree', about 31.25% of the respondents, and 23.75% percent 'Strongly disagree'. Therefore, out of the 400 respondents, only 26.75% are satisfied, 15.5% are Undecided and 55% percent were not satisfied with the current public land transport terminal buildings in Abuja.

Figure 2, below shows the statistical frequency distribution of respondents' feedback of the general desire and factors that influence the individual quality attributes of facilities and services for their satisfaction with the present public land transport terminal building in Abuja, (See Table 6 and Figure 2). The table shows that the quality attributes of facilities and services of public land transport terminal buildings that influence users' comfort were also pitiably perceived. Take for example; variable P8 (Terminals were well Maintain), having a mean score of 1.99 (<5.0), obtained 32% percent 'Strongly Disagree', 48.5% percent 'Disagree', 8.5% percent were 'Undecided' and 11% percent goes under 'Agreed', none of the respondents were strongly satisfied with the existing transport terminal buildings in Abuja. Therefore, the study revealed that, more than 80% percent of the respondents are dissatisfied with the maintenance services of the Terminal buildings, which is in line with the findings of (Straddling *et al.*, 2007) and (Andaleeb *et al.,* 2007) that comfort has the greatest impact on users satisfaction. Similarly, 80% respondents recorded that transport terminal buildings in Abuja were ill-maintained, 8.5% of the respondents were marked Undecided, and close to 82% of the respondents marked for the need of more transport terminal buildings in Abuja. Therefore, 3 variables, P1 (Terminals are available and accessible), P8 (Terminals are well maintained), and P13 (There is need for more transport terminal building), had a mean score of 2.42, 1.99, and 4.06, respectively. However, only 2-variables partially met the expectation of passengers in Abuja. The first variable is P7 (Short waiting time at terminals), with a mean score of 2.33, while the second variable is P12 (Traffic management in and around the terminal), with a mean score of 2.6. This finding can be supported by that of (Faulks, 1990) in the study of bus provision in developing world cities. However, none of the variables make the '5' point mean score, only variable P13 (There is need for more transport terminal building) has a high mean score of 4.06, in which more than 80% of the correspondent were strongly agreed with the need for more transport terminal buildings.

Table 6: Absolute and Relative Frequency Distribution of Abuja Public Transport Hubs Satisfaction and Factors Affecting Same. (# = 400)

Variable Code	Strongly Agreed		Agreed		Undecided		Disagree		Strongly Disagree		Mean
	#	%	#	%	#	%	#	%	#	%	
P1	8	2%	99	24.75%	62	15.5%	125	31.25%	95	23.75%	2.42
P2	8	2%	41	10.25%	85	21.25%	181	45.25%	85	21.25%	2.27
P3	14	3.5%	37	9.25%	87	21.75%	169	42.25%	93	23.25%	2.28
P4	16	4%	55	13.75%	95	23.75%	174	43.5%	60	15%	2.48
P5	8	2%	28	7%	60	15%	180	45%	124	31%	2.04
P6	0	0	37	9.25%	64	16%	188	47%	111	27.75%	2.07
P7	20	5%	60	15%	50	12.5%	171	42.75%	99	24.75%	2.33
P8	0	0	44	11%	34	8.5%	194	48.5%	128	32%	1.99
P9	0	0	25	6.25%	65	16.25%	190	47.5%	120	30%	1.99
P10	8	2%	55	13.75%	95	23.75%	165	41.25%	77	19.25%	2.38
P11	16	4%	58	14.5%	69	17.25%	162	40.5%	95	23.75%	2.35
P12	18	4.5%	90	22.5%	77	19.25%	141	35.25%	74	18.5%	2.60
P13	128	32%	194	48.5%	54	13.5%	24	6%	0	0	4.065
P14	0	0	49	12.23%	44	11%	189	47.25%	118	29.5%	2.06

Note. # = Number of Respondents, % = Percentage of Respondent

(Source: Researchers' Field Work, 2019)

Table 7: Level of Passengers' Satisfaction with Public Transport Services and Factors Affecting Same.

Variable Code	Variables Description	Mean
P1	Terminals are available and accessible	2.42
P2	Terminals are adequate in terms of space	2.27
P3	Good health and safety measures within terminals	2.28
P4	Good Security measures within and around terminals	2.48
P5	Restrooms and Conveniences are available at terminals	2.04
P6	Standard Retail shops and Restaurants available at terminals	2.07
P7	Short waiting time at terminals	2.33
P8	Terminals are well maintained	1.99
P9	Availability of users' complaints and feedback system	1.99
P10	Adequate number of ticketing stalls	2.38
P11	Adequate parking space	2.35
P12	Traffic management in and around the terminal	2.60
P13	There is need for more transport terminals	4.06
P14	Satisfied with overall Services Condition of public transport facilities.	2.06

Note: 0-1 Strongly Disagree, 1-2 Disagree, 2-3 Undecided, 3-4 Agree, 4-5 Strongly Agree.

(Source: Researchers' Field Work, 2019)

Table 7 above shows that, out of 14-variables analyzed, 12 quality attributes services of public land transport terminal buildings in Abuja were strongly unsatisfactorily recorded by the respondents. 2-variables (P7 and P12) partially met the passengers' anticipation; however, even for the 2-variables pointed out above, more than 35% of the respondents were recorded undecided.
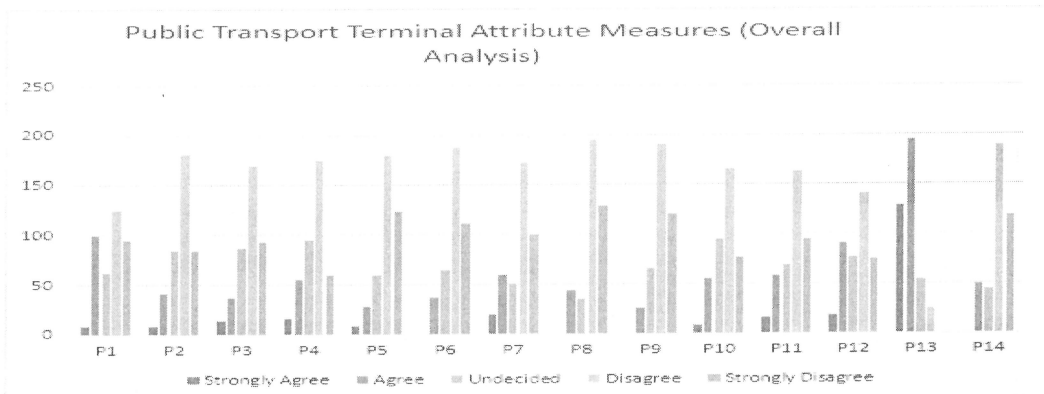
Figure 2: Bar-Chart Showing Public Transport Terminal Attribute Measures.

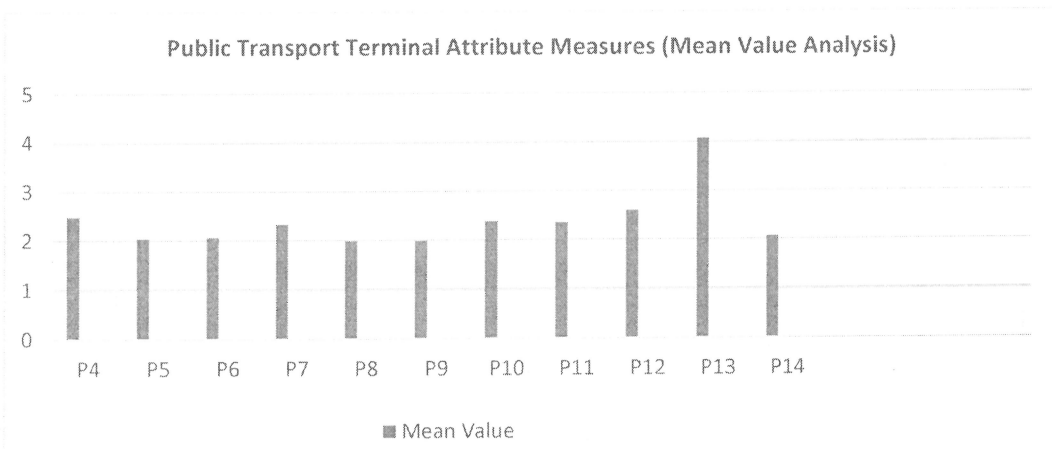(Source: Researchers' Field Work, 2019)

Figure 3: Bar-Chart Showing Public Transport Terminal Attribute Measures (Mean Value Analysis)

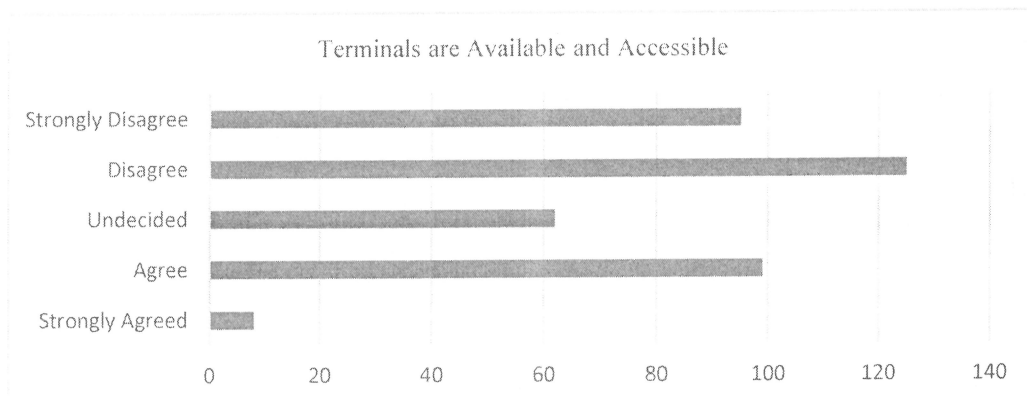(Source: Researchers' Field Work, 2019)

Figure 4: Bar-Chart Showing 'Terminals are Available and Accessible'.
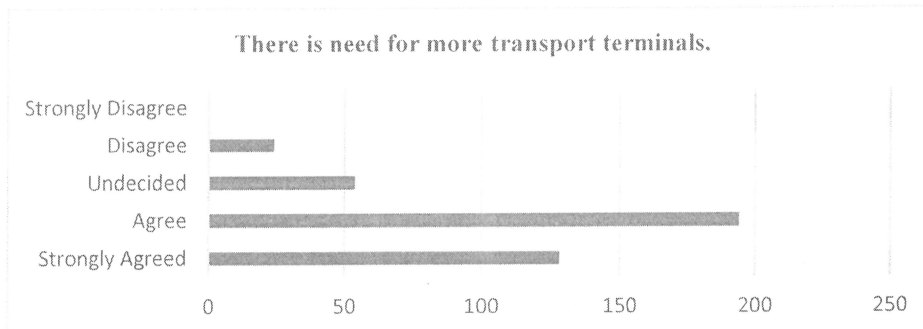
(Source: Researchers' Field Work, 2019)

Figure 5: Bar-Chart Showing 'There is need for more transport terminals.
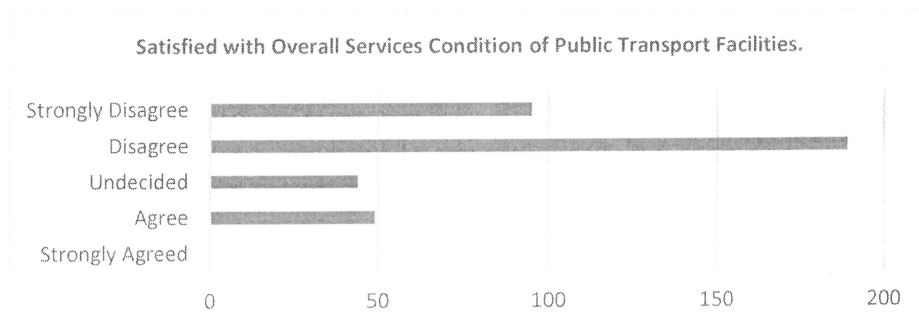
(Source: Researchers' Field Work, 2019)

Figure 6: Bar-Chart Showing 'Satisfied with Overall Services Condition of Public Transport Facilities.

(Source: Researchers' Field Work, 2019)
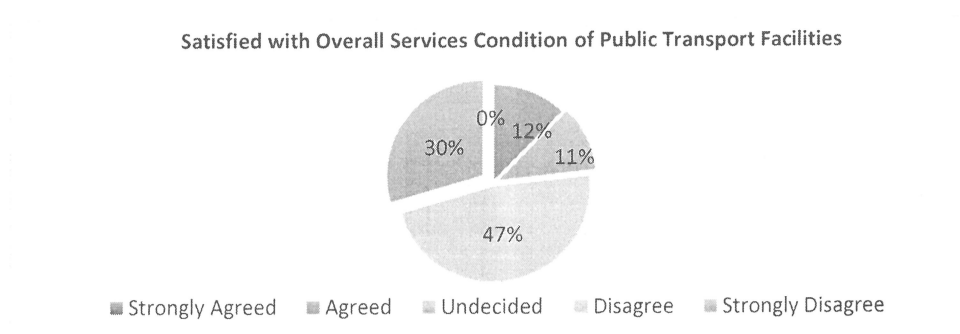

Figure 7: Pie-Chart Showing 'Satisfied with Overall Services Condition of Public Transport Facilities.

(Source: Researchers' Field Work, 2019)

Conclusion and Recommendation

In conclusion, the study therefore reveals that, Abuja public land transport users were not satisfied with the quality attribute of facilities and services provided in the terminal buildings. Therefore, based on the findings of this study, the following recommendations were made to the Ministry of Transportation as well as the Federal Government of Nigeria, in order to improve the patronage and efficiency of the public land transport system in Abuja, Federal Capital Territory.

Comfort and security on board is a major concern of Abuja commuters; thus, basic level of comfort and check on pick pocketing and on board theft must be established and monitored by the Federal Government in collaboration with the ministry of transportation to ensure that the Abuja public land transport terminal buildings abide by them. The ministry of transportation should collaborate and cooperate with the Federal Government to increase the frequency of public transport terminal buildings services in the city to reduce the passengers' waiting time as well as walking distance to terminals. Terminal buildings should developed on the lines of green infrastructure with elegant design and sufficient benches and shelters should be provided at each terminal to ensure a comfortable resting place for commuters. The result of this study reveals that, most of the terminal buildings in Abuja were lacking in cleanliness, therefore operators should pay serious attention to the maintenance of the facilities and do the needful to improve the same. The result of this study also reveals that public land transport terminal buildings in Abuja are lacking rest room for users' convenience, the ministry of transportation in collaboration with ministry of works and housing should make provision for adequate conveniences at the terminal buildings for users' satisfaction.

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