

Effect of public traffic service delivery on transportation administration in Oyo State, Nigeria

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Abstract

Issues: Traffic management is one of the main functions of public sector; of road transportation is a major mode of transportation in Nigeria. Despite government's efforts at delivering a suitable transportation system there has been a lot of clamour on the state of transportation administration in Oyo State, Nigeria. Service delivery in the area of traffic management in Oyo State has witnessed a major challenge as a result of an increase in the number of road users, roadside trading, lack of adequate traffic lights, road signs and poor road networks. **Methods:** This paper seeks to examine the effect of public traffic service delivery on transportation in Oyo State, Nigeria. The paper made use of primary and secondary data. Primary data were collected through questionnaire and interview while secondary data were collected from textbooks, journals, reports, government gazettes and other publications. A multistage sampling technique was used for the study. **Findings:** The study found that there is a significant effect between public traffic service delivery and management of road transportation in Oyo State, being that χ^2 calculated(58.21) is greater than χ^2 tabulated(28.869). **Conclusions:** The study concluded that public traffic service delivery had an effect on transport administration in Oyo State, Nigeria. Thus, recommended that more hands need to be deployed to manage public transport administration and make available adequate public road transport facilities.

Keywords: 1.Administration 2. Oyo State 3. Public traffic 4. Service delivery 5. Transportation

1. Introduction

Regardless of the form of government practiced in any country, public service is meant to facilitate public service delivery for both socio - economic development of the country. Developed countries such as United States, the United Kingdom and Canada, among others have, used public service to provide quality public

services to their citizens. This had benefited the well-being and development of these developed countries. In the less developed countries, the public sector plays a significant role in providing and controlling the majority of economic resources. In today's global economic competition, the provision of efficient and cost-effective public services is critical for national development (Ewuim, Igbokwe-Ibeto, & Nkomah, 2016).

Unfortunately, mismanagement, corruption, wastefulness, and lack of commitment to providing public services to the people of Nigeria are the root causes of the country's problems with public service delivery. In view of this, public organisations have been subjected to harsh criticism in terms of their efficiency and effectiveness in meeting the needs and rights of the country's citizens, which is expected to align with the objectives of New Public Management (NPM), which aims to meet the socioeconomic needs of the people rather than administrative red tape (Nwekeaku & Obiorah, 2019).

In line with the aforementioned, traffic management is one of the main functions of public sector which is necessary and important, road transportation is a major mode of transportation in Nigeria. Daily commuters go to their offices, schools, and carry out their daily activities through road transportation. Road traffic management is very important to the economic development of third world countries like Nigeria (Ajala, 2016). Road transport is the carrier of both logistics and commuters from one area to another and from one city to another; it plays an important role in regional and national economic development. The road traffic network requires relative stability of passage with less traffic congestion to achieve national economic development (China Transport Statistic Yearbook, 2013). Road traffic network comprises of four major components namely; people, environment, automobile and road. The people component consists of drivers, commuters and pedestrians; automobile is the carrier on the road; they both form the traffic delivery system. The road is made of infrastructure design, construction and operation. Infrastructure construction comprises road facilities and electromechanical systems (Teodorovc & Janic, 2022).

Traffic management is one of the public services a responsible government must provide for the citizens of its country. Service delivery in the area of traffic management in Oyo State has witnessed a major challenge as a result of an increase in the number of road users, roadside trading, lack of adequate traffic lights, road signs and poor road networks with the attendant challenges of the longer vehicular queue, spending more time on the road, wastage of fuel, environmental pollution among others. Both private and public vehicle owners usually groan under heavy traffic congestion in the state which had made traffic management a very tedious work for staffers of Oyo State Road Traffic Management Authority. With lack of adequate personnel to manage traffic, the challenge of traffic congestion is a consistent problem in the state. It is against this backdrop that this study aims to assess public traffic service delivery and management of road transportation in Oyo State Nigeria.

2. Literature Review

Arising from this background, traffic congestion is a severe problem in urban centers in many developed and developing cities of the world; serious attention has to be given to traffic management to reduce and regulate traffic delay. Road traffic congestion is a condition in road transport characterised by slower speeds, longer trip times and increased vehicular queuing. The rate of these numbers supersedes road capacities, which invariably causes traffic congestion. A larger percentage of drivers all over the globe spend 100 hours in traffic lock jam (Korableva, Gugutishvilia, Lepekhina, & Gerritsb, 2020). Ziani, Sadouq and Medouri (2019) stated that the challenge of traffic congestion will always be a serious issue in urban cities due to population growth and urbanisation. Population growth in major commercial cities has made it important for government to plan road traffic management to make road transportation of people from one area to another seamless for commuters.

Cities all over the globe and traffic usually develop at the same pace. Urban cities usually face traffic congestion due to the high rate of movement from rural areas to urban centres. Cities serve as the point of economic activity for both the first-world countries and developing ones. In Western countries like Germany, Spain, and the United Kingdom, among others, transportation networks were built to enhance the easy movement of both human beings and materials. Eighty percent of economic development in developed countries usually comes from urban areas (Bartone, Branstein & Eigen 1994). For any country to develop economically, it is germane to improve the mobility of humans and goods. A good transportation network will enhance economic activities while a poor transportation network is a clog to the wheel of economic development. Developing countries like Nigeria usually face the challenge of rural-urban migration, poverty, and over population which will necessitate for more transportation and a good road network. The Government in most developing countries cannot cope with increase in population, business activities, traffic congestion and environmental pollution (Mahama, 2012).

Existing literature on public traffic service delivery reveals that a lot of work has been done in the area of public service delivery in Nigeria. However, none of these empirical studies focused on the management and funding of the apparatus of public traffic. Oyo State in recent times, has been striving to improve public traffic service delivery and management of road transportation due to consistent traffic congestion. To provide adequate service delivery in traffic management, the State established Oyo State Road Traffic Management Authority by an Act of Oyo State Traffic Management Authority Law, 2009 on 4th of November, 2009. The agency's is to create and maintain a safe, traffic-free environment by a deploying modern traffic management system, control indiscriminate parking and regulating over-speeding on the road. Despite establishing this agency, traffic congestion is still bedeviling economic activities and easy movement of people within the State.

Theoretical framework

The new public management theory became prominent in the late 1970s and early 1980s and was coined by Hood and Jackson 1991. This theory was first practiced in the United Kingdom under the administration of Margaret Thatcher (Gruening, 2001) and was introduced to government owned organisations to make them operate like private organisations. It is a set of postulations and value statement on how government owned organisations can be designed and operated in a business-like manner. The proponents of this theory opined that public sector organisations should operate in a business-like manner. The philosophy of the theory was based on improving public service delivery, reducing cost of production and budget deficits, adequate measurement of public institutions performance and as well as making them accountable to their obligations (Diefeneach, 2009). The proponents of this new theory believed that government owned organisations are faced with increasing pressure and competition due to the challenges of modern day's business environment of capitalism (Newton, 2003).

New public management theory introduced a radical move from the orthodox public administration theories to a system that is effective, reliable and goal oriented. It hinges on good governance, technological innovation and democratisation. The theory is also premised on how to bring about meaningful transparency, accountability in the allocation of resource and performance management through cost effective service delivery (Pollit, 1990). The theory therefore centres on institutional and organisation restructuring as an attempt to raise its performance by improving the quality of service delivery. It is goal oriented rather than the process of achieving goals. The theory highlighted the difference between performance and principles to achieve it. The crux of the theory are accountability and efficiency, reduction of government owned organisation expenditure, maximisation of personnel output, flexibility in act of policy making, competition in the public sector through decentralisation and emphasis on result and not procedure (Hood, 1991).

Fatemi and Behmaneshi (2012) also posited that new public management suggested that government owned institutions should be organised and managed in a private manner. They believed that new public

organisations can equally be efficient and effective like the private sector. They also stated that proponents of new public management theory are of the opinion that if reformation of government owned organisation is based on private business operation techniques it would facilitate to discourage waste of resources, red-tapism and low productivity. According to Osborne and Gaebler (1993) they posited that government should direct the provision of public services but not to provide it and that government attention should be on how to generate income rather than incurring expenses and also solving economic problem by directing market forces not to establish public programmes. Government activities should be guided by vision, instead of rules and regulations. In their reasoning, decentralisation of authority will help to foster economic development through the encouragement of business competition rather than monopoly of markets.

The relevance of this theory to this study centres on accountability, transparency, and business like management of public service agencies. The theory is a fact that can be used to provide effective public service delivery to citizens of Nigeria and by extension residents of Oyo State because basic public service must be provided for residents of the state. Oyo State government should operate the provision of public service delivery in a business-like manner and eliminate all forms of corruption, nepotism, lackadaisical attitude of government workers. The theory of new public management calls for good governance, transparency as well as efficiency on the part of government before the citizen can enjoy good public service delivery. Thus, this study is anchored on the new public management theory simply because it explains efficiency and effectiveness on public service delivery would be best delivered by public organisations when they are managed in the same way private organisations are managed. The theory is hinged on greater transparency and accountability of public service delivery to the citizen of any country. New public management theory explained basic institutional and management theory to achieve a better service delivery to the people. The theory is hinged on result focused and not process of result. The new public management theory is a bid to improve government delivery of public services to its citizen because of the high expectation from the citizen of the country.

3. Objective of the study:

In a bid to understand the condition of public traffic service delivery and management of road transportation in Oyo State, Nigeria, the study will examine the effect of public traffic service delivery on road transportation in Oyo State, Nigeria.

4. Methods of study

The study adopted a survey research design. Primary and secondary data was utilised for the study. Primary data was collected through the administration of questionnaires and interviews. Secondary data were obtained from textbooks, journals, reports, government gazettes and other publications. The study population is 920 comprised of 300 staff of Oyo the State Ministry of Public works and Transport, Oyo State Road Transport Management Authority (350), and (270) NURTW officers in selected Local Government Areas. A multistage sampling technique was used for the study. In the first stage, one city and one less city Local Government Area from each of the three senatorial districts in the state were selected using a stratified random sampling technique. At the second stage, six Local Government Areas Ibadan North East, Ibarapa East, Ogbomoso South, Iwajowa, Oluyole and Atiba were purposively selected based on their peculiarities of heavy traffic. In the third stage, Taro Yamane formula was used to derive 279 respondents, and the proportional to size technique was used to administer questionnaires to the respondents. In addition, interview was conducted with (14) purposively selected respondents, which comprises one management staff Ministry of Public Works and Transport, one NURTW officer in each of the

chosen six Local Government Areas and one management staff of Oyo State Road Transport Management Authority, one FRSC officer in each of chosen LGAs.

Table 1 Table showing the Population of Ministry of Public Works and Transport, Oyo State Road Transport Management Authority and NURTW Officers in the selected Local Government Areas

S/NO	AGENCY	SENIOR STAFF	JUNIOR STAFF	TOTAL
1	Ministry of Public Works and Transport	95	205	300
2	Oyo State Road Transport Management Authority	60	290	350
3	NURTW Officers in Ibadan North Local Government	10	35	45
4	NURTW Officers in Ibarapa North Local Government	15	25	40
5	NURTW Officers in Ogbomoso South Local Government	13	37	50
6	NURTW Officers in Iwajowa Local Government	10	30	40
7	NURTW Officers in Oluyole Local Government	17	30	47
8	NURTW Officers in Atiba Local Government	10	38	48
	Total	230	690	920

Source: Field Survey, September 2022

The sample size for the study was determined using the Taro Yamane sample size formula:

$$(n) = N / 1 + N (e)^2$$

Where

N= Population size

n= Sample size

e= Error variance (0.05)²

$$9201+920(0.05)^2$$

$$n=9201+920(0.0025)$$

$$n=279$$

5. Data Presentation

This section examined the effect of public traffic service delivery on road transportation in Oyo State. The respondents were asked to agree, disagree on a number of assertions posed to generate quantitative data on this objective. In this sense, Table 2 reveals the frequency and percentage distribution of respondents on each of the questions. In addition, the mean value (\bar{x} summarises the strength of the respondents on each of the variables using a decision rule thus: above($\bar{x} > 2.5$), more of the respondents agreed, and where ($\bar{x} < 2.5$), more of the respondents disagreed.

In Table 2 the first variable was to determine whether public traffic service delivery has reduced road traffic crashes (accident) in Oyo State. The findings showed that 1(0.4%) strongly agreed, 136(51.3%) agreed, 127(47.9%) disagreed, 1(0.4%) strongly disagreed. The result implies that public traffic service delivery has

reduced road traffic crashes (accident) in Oyo State. The agreement level is further verified by the mean value and standard deviation ($\bar{x} = 2.63$, $SD = 1.939$) which is above decision rule.

Variable two In Table 2 respondents were asked if public traffic service delivery as improved quick response to road accidents Oyo State. The findings showed that 1(0.4%) strongly agreed, 158(59.6%) agreed, 106(40.0%) disagreed. The result indicates that public traffic service delivery has improved quick response to road accidents Oyo State. The disagreement level is further verified by the mean value and standard deviation ($\bar{x} = 2.60$, $SD = 0.497$) which is above decision rule.

In addition, 1(0.4%) of the respondents strongly agreed that road capacity as increased due to effective public traffic service delivery in Oyo State; while 121(45.7%) of the respondents agreed. However, 142 (53.6%) disagreed that road capacity as increased due to effective public traffic service delivery; and 1(0.4%)strongly disagreed that road capacity as increased due to effective public traffic service delivery in Oyo State. The result indicates road capacity increased in Oyo State. The agreement level is further verified by the mean value and standard deviation ($\bar{x} = 2.54$, $SD = 1.359$) which is above decision rule.

On the variable of increased free flow of traffic, the findings showed that 1(0.4%) strongly agreed, 101(38.1%) agreed, 163(61.5) disagreed. The result shows that free flow of traffic as not increased in Oyo State. The disagreement level is further verified by the mean value and standard deviation ($\bar{x} = 2.38$, $SD = 0.496$) which is below decision rule.

Item five in Table 2 requested the respondents to show whether public traffic service delivery as improved quick response to traffic jam by traffic marshal in Oyo State. The findings showed that 85 (32.1%) agreed, 180(67.9%) disagreed. The result indicates there is no quick response to traffic jam by traffic marshal in Oyo State. The disagreement level is further verified by the mean value and standard deviation ($\bar{x} = 2.32$, $SD = 0.467$) which is below decision rule.

Respondents were also inquired on extent to which time sent on the road had reduced due to effective traffic service delivery Oyo State. The findings showed that 1(0.4) strongly agreed, 111(41.9%) agreed, 153(57.7%) disagreed. From the frequency distribution, the mean value and standard deviation ($\bar{x} = 2.42$, $SD = 0.503$) which is below decision rule. This an indication that time sent on the road as not reduced in Oyo State.

On the last variable if traffic service delivery as reduced volume of fuel used by vehicle owners in Oyo State. The findings showed that 110(41.5%) agreed, 155(58.5%). From the frequency distribution, the mean value and standard deviation ($\bar{x} = 2.41$, $SD = 0.497$) which is below decision rule. This implies that traffic service delivery as not reduced volume of fuel used by vehicle owners in Oyo State. Supporting data gathered from interview opined that

..... traffic management in Oyo State has reduced road traffic crashes in the state, they were also of the opinion that the activities of Oyo State Road Traffic Management Authority has not really reduced the time spent in traffic; and that there have not been quick response to traffic jam by the men of Oyo State Road Traffic Management Authority.

Oyo State Road Traffic Management Authority and OluwoleNURTW unit differed from the above opinion by stating that traffic marshals are working within their best to reduced road traffic crashes and that their response to traffic jams has

been nice bearing in mind the number of personnel in their disposal to work with.

Oyo State Ministry of Public works and Transport and NURTW Atiba unit stated that traffic management in the state has not reduced road traffic crashes, they narrated that the operation of Oyo State Road Traffic Management Authority has not reduced the time spent in traffic; and that there have not been quick response to traffic jam by the men of Oyo State Road Traffic Management Authority.

Drawing inference on the analysis of questionnaire and interview responses, the study showed that traffic management in the state is not effective.

Table 2 Examine the effect of public traffic service delivery on road transportation in Oyo State

Variables	Strongly Agree	Agree	Disagree	Strongly Disagree	Descriptive Statistics		Decision
	f(%)	f(%)	f(%)	f(%)	Mean Value	Standard Deviation	
Public traffic service delivery has reduced road traffic crashes (accidents) in Oyo State	1(0.4)	136(51.3)	127(47.9)	1(0.4)	2.63	1.939	Agree
Public traffic service delivery has improved quick response to road accidents Oyo State	1(0.4)	158(59.6)	106(40.0)	-	2.60	0.497	Agree
Road capacity has increased due to effective public traffic service delivery in Oyo State	1(0.4)	121(45.7)	142(53.6)	1(0.4)	2.54	1.359	Agree
Effective public traffic service delivery has increased the free flow of traffic in Oyo State.	1(0.4)	101(38.1)	163(61.5)	-	2.38	0.496	Disagree
Public traffic service delivery has improved quick response to traffic jam by traffic marshal in Oyo State	-	85(32.1)	180(67.9)	-	2.32	0.467	Disagree
Time sent on the road has reduced due to effective traffic service delivery Oyo State.	1(0.4)	111(41.9)	153(57.7)	-	2.42	0.503	Disagree
Effective traffic service delivery has reduced volume of fuel used by vehicle owners in Oyo State.	-	110(41.5)	155(58.5)	-	2.41	0.497	Disagree

Source: Field Survey, September 2022

Test of Hypothesis

Table 4 Expected frequency table

Question	SA	A	D	SD	Total
1	0.714	117.4	146.5	0.28	265
2	0.714	117.4	146.5	0.28	265
3	0.714	117.4	146.5	0.28	265
4	0.714	117.4	146.5	0.28	265
5	0.714	117.4	146.5	0.28	265
6	0.714	117.4	146.5	0.28	265
7	0.714	117.4	146.5	0.28	265
Total	5	822	1026	2	1855

$$\chi^2_{Cal} = \frac{(O_i - E_i)^2}{E_i}$$

E_i

$$\begin{aligned} & \frac{(1 - 0.714)^2}{0.714} + \frac{(136 - 117.4)^2}{117.4} + \frac{(127 - 146.5)^2}{146.5} + \frac{(1 - 0.28)^2}{0.28} + \frac{(1 - 0.714)^2}{0.714} + \\ & \frac{(158 - 117.4)^2}{117.4} + \frac{(106 - 146.5)^2}{146.5} + \frac{(0 - 0.28)^2}{0.28} + \frac{(1 - 0.714)^2}{0.714} + \frac{(121 - 117.4)^2}{117.4} + \\ & \frac{(142 - 146.5)^2}{146.5} + \frac{(1 - 0.28)^2}{0.28} + \frac{(1 - 0.714)^2}{0.714} + \frac{(101 - 117.4)^2}{117.4} + \frac{(163 - 146.5)^2}{146.5} \\ & + \frac{(0 - 0.28)^2}{0.28} + \frac{(0 - 0.714)^2}{0.714} + \frac{(85 - 117.4)^2}{117.4} + \frac{(180 - 146.5)^2}{146.5} + \frac{(0 - 0.28)^2}{0.28} \\ & + \frac{(0 - 0.714)^2}{0.714} + \frac{(111 - 117.4)^2}{117.4} + \frac{(153 - 146.5)^2}{146.5} + \frac{(0 - 0.28)^2}{0.28} + \frac{(1 - 0.714)^2}{0.714} \\ & + \frac{(110 - 117.4)^2}{117.4} + \frac{(155 - 146.5)^2}{146.5} + \frac{(0 - 0.28)^2}{0.28} \end{aligned}$$

$$0.1146 + 2.9468 + 2.596 + 0.28 + 0.1146 + 14.0405 + 11.1962 + 0.28 + 0.1146 + 0.11039 +$$

$$0.1382 + 1.8514 + 0.1146 + 2.2909 + 1.854 + 0.28 + 0.1146 + 8.9417 + 7.660 + 0.28 + 0.0146 + 0.3489 + 0.2884 + 0.28 + 0.714 + 0.4664 + 0.4931 + 0.28 = 58.21$$

$$\begin{aligned} \chi^2_{\text{tab}} &= \chi^2_{\alpha(r-1)(c-1)} \quad r=7, c=4 \\ &= 0.05(7-1)(4-1) \\ &= 0.05(6)(3) \\ &= 0.05(18) = 28.869 \end{aligned}$$

$$\chi^2_{\text{calculated}} = 58.21, \chi^2_{\text{tabulated}} = 28.869$$

Decision rule:

The result of the Chi-square analysis showed that the χ^2 calculated(58.21) is greater than χ^2 tabulated(28.869), hence, the rejection of the null hypothesis. The study found that there is a significant effect between public traffic service delivery and management of road transportation in Oyo State. The study concluded that public traffic service delivery have effect on management of road transportation in Oyo State

6. Discussion

On the effect of public traffic service delivery on road transportation in Oyo State, findings indicates that time sent on the road has not reduced, traffic service delivery has not reduced road traffic crashes, free flow of traffic as not increased, the result also indicates there is no quick response to traffic jam by traffic marshal in Oyo State. This result is in conformity with the work of Popoola, Abiola and Adeniji (2013) traffic congestion on highways in Nigeria causes, effects and remedies using Mowe/ Ibafo part of the Lagos-Ibadan expressway as their case-study. Their study showed effect of road congestion as waste of time, increase in road accident, increase in fuel consumption, and environment hazard through air pollution. Also, the study is in agreement with the findings of Manjunath, Meghana and, Rajini (2019). They examine IOT for intelligent traffic management. The study revealed that unnecessary delay in traffic signals, wastage of fuel, accident and air contamination from vehicles are some of the effect of traffic congestion in most countries of the world. Sangaradasse and Eswari (2019) work on importance of traffic and transportation plan in the context of land use planning for cities – a review. It was also agreed that ineffective traffic management usually result into time wastage, excess usage of fuel and air pollution.

The work of Harahap, Wijekoon, Purnamasari, Darmawan, Ceha and Nishi (2018) also revealed that poor traffic management causes wastage of fuel, contamination of air, wastage of time, blockage of emergency vehicles like firefighters and ambulances. Savithramma&Sumathi (2020) study also showed that ineffective traffic management results into Increases in travelling time , increase in fuel usage, contamination of air, slows economic activities and road crashes. Rath (2018) research also corroborate the findings in objective two that ineffective traffic management as result of increase in population and vehicles usually leads to traffic congestion with the negative effect of delays in travelling, causes health hazards as a result of air pollution, economic activity delay However, the findings are in variance with the view of Afrin &Yodo (2020) on the effect of traffic management. However, the study states that ineffective traffic management also results into inconvenience and economic lost to drivers.

7. Recommendations

The following recommendations are offered to enhance effective and efficient traffic management in Oyo State:

- There is the need to employ more personnel into service of Oyo State Road Traffic Management Authority, this is necessary because of the population of road users.
- There is the need for the State to do road markings and erect traffic signs at strategic locations to reduce the rate of accidents in the state and enlighten road users on the meanings of traffic signs both on print media and radio/ television stations.
- It is also very germane for the government to seriously clamp down on street trading because it's negatively affecting free flow of traffic.
- Government should procure modern digital traffic lights and other necessary equipment for Oyo State Road Traffic Management Authority to ease their operation.

8. Conclusion

The importance of traffic management cannot be overstated, the movement of human beings and other natural resources on the road from one place to another helps to evolve economic activities that will invariably increase both personal income of the inhabitants of the country and the gross domestic product of the nation. Based on the findings of this study, the vision for establishing Oyo State Road Traffic Management Authority to provide safer movement of users of road transportation in the state with less delay has not been really achieved due to continues traffic congestion in the state. The study concluded that to create a sustainable free flow and effective traffic environment in Oyo State there is the need for modern equipment/facilities for traffic management with skilled manpower and providing good road network in the State.

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