

The Influence of Built Environment on Travel Behavior of People to Jummat Masjid (Friday Mosque) and Their Travel Mode Choice From Houses in Ancient City of Zaria, Kaduna State, Nigeria

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Abstract. Town planning is the organization of the use of land for safety, economy, convenience and aesthetics. One of the institutions that are important in Nigeria is religion. Islam is one of the two major religions in the country and it calls its adherents to make journey to prayer each week. Zaria is a City in Kaduna State and has more than 20 Jummat Masjids (Friday Mosques). This study seeks to investigate the relationship between urban form and travel mode choice for people going to the Masjid in Zaria City. Two Masjids, Emir of Zazzau's Jummat Masjid at Kofar Fada and Abdullahi Bn Mas'ud Jummat Masjid (Zaria Islamic Centre Jummat Masjid) at Kwarbai were purposively sampled and assessed. 300 Questionnaires were used to acquire worshipper's preference in choosing the Masjid, mode of transportation to the Masjid, reasons for choosing the mode of transportation to the masjid and the probability of them walking to the Masjid. The findings revealed that 36% of the respondents walk to Emirs Palace Jummat Masjid and 23% walk to Abdullahi bn Mas'ud Jummat Masjid. The result further revealed that 44% of the respondents attend Emirs Palace Jummat Masjid because they follow Dhariqa sect, 62% attend Abdullahi Bn Mas'ud Jummat Masjid because they follow Izala sect. 29% of the respondents come to Emirs Palace Jummat Masjid because they can trade before and after prayers. In contrast, an insignificant 2% responded at Abdullahi bn Mas'ud that come to the Masjid and trade. It was recommended that people choice to Masjid should be part of town planning at least in areas that have large number of Muslims in Nigeria.

Key words: Jummat Masjid, Emirs Palace, Abdullahi bn Mas'ud

Introduction

Town planning or urban planning is a process of organising and controlling the use of land, to achieve and ensure safety, economy, secure convenience and aesthetics (Ola, 1977). It ensures easy access to places of work, schools, markets and other places and as well ensures best utilization of land in the interest of all. According to Oyebanji (1987) such organisation usually helps activities to reduce the cost per unit of production. They also help to reduce the total distance that people travel for them to satisfy many purposes with little efforts. The safety provision of town planning is seen in pedestrian ways and easy access to and from dwelling houses. Thus, unlike before when land use types were restricted mainly to residential, transportation, markets, king's palace, farmlands and shrines, major urban cities across the world today are characterized by high degree of areal differentiation into land use types like industrial, commercial, residential, recreational, administrative, transportation, religious, and so on (Odugbemi, 1985).

The religious importance in the society cannot be overemphasized. Islam is one of such religion and is a major religion in Nigeria. According to United State Criminal Investigation Agency (CIA), 50% of Nigerians are Muslims, while the British Broadcasting Corporation (BBC) (2007) put the population figure slightly over 50%. The major place of worship for the Muslims is masjid or mosque. It is being used by Muslims to perform religious activities and

also as a place for social gathering in the neighbourhood. Besides being utilised as a place for spiritual activities, masjid also has other functions. Some of the masjids provide space for learning activities to function as an education centre (Abdullah et al, 2013). In some countries masjid and other religion activities are integrated in urban planning. But in Zaria and most parts of Nigeria, it has not been included despite its significance.

Zaria is an important Islamic town in Nigeria and has many masjids in accordance with their hierarchy such as daily prayer masjid, weekly prayer masjid (Jummat prayer) and Eid prayer (yearly prayer) masjid. People take trips to observe these prayers in accordance with their preferred locations and the sect of the masjid disregarding distance in many cases. Urban expansion, the change of life style and preferences have made possible for people to work at one location and live in another (Asamoah, Okyere, and Senayah, 2015). Religious activities are not exempted where some Muslims live in one location and observe their Friday prayer (Jummat prayer) in another location. This is aided by the shift in the movement and journey from walking to motorized and non-motorized movement (Zwerts, et al, 2010).

Many studies have been conducted to show the influence of urban form on travel mode choice. Ming (2005) conducted a research on the relationship between urban form and non-work travel in Boston, U.S.A. The results showed varying effects of modifying spatial accessibility on non-work activity, participation and travel among different activity categories. Abdullah et al (2013) study the influence of built environment towards travel behavior of the people to the mosque and their travel mode choice to the mosque from their houses in Shah Alam, Selangor, Malaysia. They found that when built environment factors were measured against personal preferences, personal preferences were preferred sometime. Asamoah, Okyere and Senayah (2015) worked on factors influencing school travel mode choice in Kumasi, Ghana. Their findings revealed that private school children relied extensively on motorized transport mode as compared to non-motorized mode in public schools. Akanni (2013) examined the ways in which the mosque intersects with the town and country planning laws of Nigeria and identified means of improvement for sustainable development.

However, there have been limited or no researches conducted to investigate the relationship between urban form and travel mode choice for people going to the masjid in northern Nigeria and Zaria metropolis in particular. This study is aimed at bridging the gap by determining the influence of built environment towards travel behavior of the people to the Jummat Masjid and their travel mode choice to the Masjid from their houses.

Study Area

Zaria is located in Kaduna State, Nigeria. It is a part of the central high plains of northern Nigeria and is about 670m above sea level. Zaria is located at latitude $11^{\circ}03'1''\text{N}$ and longitude $7^{\circ}42'1''\text{E}$ (Oladipo, 1985). The study area Zaria City is an 18.3 km wall diameter ancient city with eight gates. They are: Kofar Doka, Kofar Kibo, Kofar Jatau, Kofar Kuyambana, Kofar Gayan, Kofar Kona, Kofar Galadima and Kofar Bai. There are two Jummat Masjids within the ancient wall city, the Emir's Palace Jummat Masjid at FADA built in the 15th century opposite the Emir's Palace and Abdullahi bn Masud Jummat (Masjid Zaria Islamic Centre Jummat Masjid) at KWARBAI located about one kilometer eastward of the Palace (Fada) built in 2004. Each Friday, thousands of worshippers visit the two Masjids amidst more than 20 Jummat Masjids in urban Zaria (Figure 1).

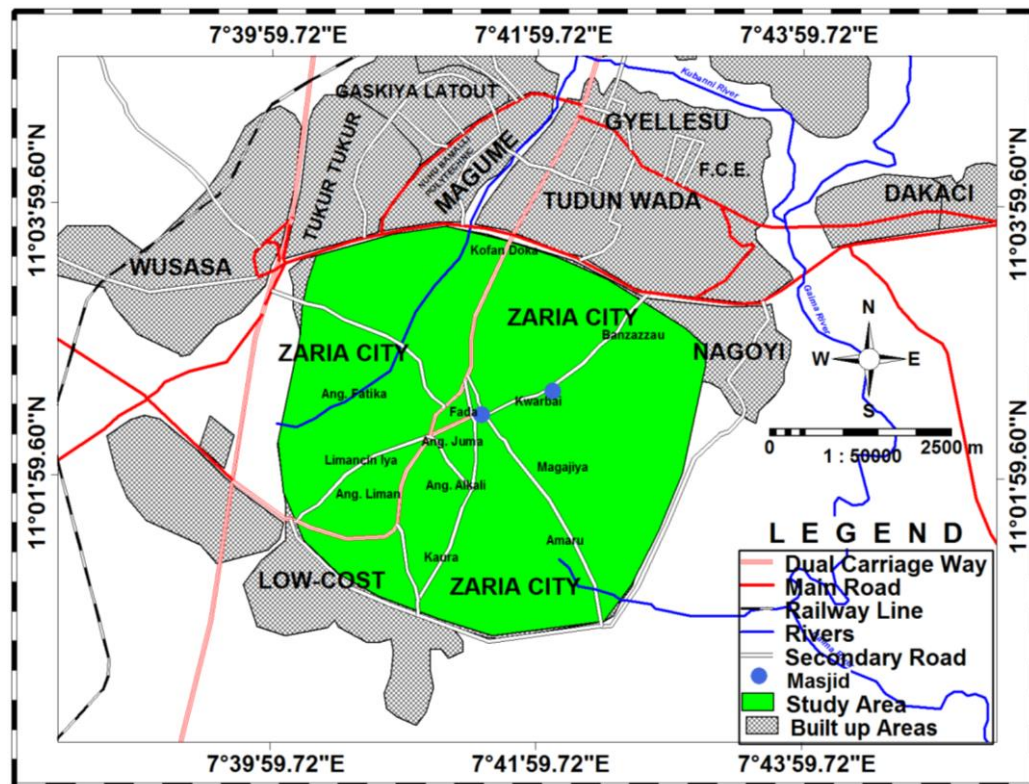


Figure 1. Zaria City showing the two Masjids at Fada and Kwarbai

Source: Extracted from Google Map

Methodology

The respondents were randomly selected at the two Jummat Masjids of Zaria City with 150 respondents from each masjid. The questionnaires were distributed to the respondents after the Jummat prayers at the two Masjids on Friday in three months of 2018. The questionnaires were divided into two sections. The first section focuses on the social demographic background of the respondents and the physical built environment; age, income, occupation, years living in the neighborhood, home ownership, number of vehicles owned in the house and distance from house to the masjid. Section two was designed to identify the personal preference of the respondents in choosing the mode of transportation to the Masjid, reasons choosing the mode of transportation and the probability of them walking to the Masjid. April, May and August were selected for the administration of questionnaires to get the result at peak period of temperature and during raining season. April and May record highest mean temperature; 28.6⁰ and May 27.7⁰ respectively and September record highest rainfall (Koppen Aw, undated).

Table 1a. Socioeconomic characteristics of the respondents

Variable	Emirs Palace Jummat Masjid	Abdullahi bn Masud Jummat Masjid
Personal Characteristics:		
Mean Age	40	29
Years lived in the neighborhood	39	25
Income	N750,000.00	900,000.00

The average age of the respondents was 40 years at Emirs Palace Jummat Masjid and 29 years at Abdullahi bn Mas'ud Jummat Masjid. This showed that Emirs Palace Jummat Masjid has more elderly worshippers than Abdullahi bn Mas'ud Jummat Masjid; many elders prefer going there even if they are closer to Abdullahi bn Mas'ud Jummat Masjid. Emirs Palace Jummat Masjid is the oldest Masjid not only in Zaria, but Kaduna State as a whole established in the 15th century. It is inherent that people like continuing with what they are familiar with. The result also revealed that the respondents have been living in the neighborhood areas between 20 to 40 years. The average year at Emirs Palace Masjid was 39 which are in agreement with the worshippers' response on age. The average was 25 years at Abdullahi bn Mas'ud Jummat Masjid.

The result also showed that the respondents were middle income earners with average income of N750, 000.00 at Emirs Palace Jummat Masjid and N900, 000.00 at Zaria Islamic Centre Jummat Masjid. Emirs Palace Jummat Masjid has more people with irregular income and often get smaller income than its counterpart. At Abdullahi bn Mas'ud Jummat Masjid, there are different regular income earners and people with higher educational qualifications.

Table 1b. Socio-economic characteristics of the respondents

Variable	Emirs Palace Jummat Masjid	Abdullahi bn Mas'ud Jummat Masjid
Occupation: Percentage		
Student	12%	17%
Business	51%	35%
Farming	7%	5%
Civil servant	23%	32%
Retiree	4%	5%
House wife	3%	6%

The study revealed a varied result based on occupation with 12% and 17% responded to being students at Emirs Palace Jummat Masjid and Abdullahi bn Mas'ud Jummat Masjid respectively. There percentages across the two Masjids differ on other occupations; house wife has 3% at Emirs Palace Jummat Masjid, while Abdullahi bn Mas'ud Jummat Masjid recorded twice the percentage at the Emir's Palace Jummat Masjid. The reason might be that the elderly women are the majority of those who go to Emir's Palace Jummat Masjid as against Abdullahi bn Mas'ud Jummat Masjid that has all categories of housewives.

Table 1c. Socioeconomic characteristics of the respondents

Variable	Emir's Palace Jummat Masjid	Abdullahi bn Mas'ud Jummat Masjid
Household composition: Mean	9.3	7.6
Household size		
Travel characteristics: Mean	2.7	3.11
Number of Vehicle		
Type of vehicle owned: Percentage	13	28
Cars	2	5
Tricycles (Keke Napep)	34	32
Motorcycles	51	35
Bicycles		

The result revealed that the average household size of Emirs Palace Jummat Masjid was 9.3, 1.7 less than the size at Abdullahi bn Mas'ud Jummat Masjid. The number of vehicle at Emirs Palace is also less than what was there at Zaria Islamic Centre Jummat Masjid. There were also more car users at Zaria Islamic Centre Jummat Masjid than Emirs Palace Jummat Masjid. On the other hand, bicycles riders were more at Emirs Palace Jummat Masjid. These explanation is owed to the fact that having vehicles is a sign of good living in the study area and although the two Masjids were dominated by low and middle income earner worshippers, the percentage of people with vehicles especially car is higher at Zaria Islamic Centre Jummat Masjid because income earning is higher there.

Table 2. Cross tabulation between the distance from house to the mosque and the travel mode used to reach the mosque

Distance from house to masjid : Percentage		Car	Tricycle	Motorcycle	Bicycle	Walking
Emirs Palace Masjid	< 1 km	0	0	2	5	19
	1-2 km	3	1	9	7	11
	3-5 km	8	2	8	6	4
	>5km	5	2	3	3	2
	Total %	16	5	22	21	36
Abdullahi bn Mas'ud Jummat Masjid	< 1 km	0	0	2	5	12
	1-2 km	5	1	12	9	12
	3-5 km	13	1	9	7	9
	>5 km	1	1	6	5	0
	Total %	19	3	29	26	23

Cross tabulation between the distance from house to the Masjid and the travel mode used to reach the Masjid. It is used to test whether distance influence travel mode as suggested by McDonald, Noreen (2008). Based on the findings, it showed that 36% of the respondents walk to Emirs Palace Jummat Masjid as against 23% obtained at Abdullahi bn Mas'ud Jummat Masjid. The result also revealed that at less than 1 km distance both at Zaria Islamic Centre Jummat Masjid and Emirs Palace Jummat Masjid, no worshipper used any transportation mode, other than walking. People came to the two Masjids as far as distances higher than 5 km. In all, the comparison showed that 15% worshippers came from a distance higher than 5 km at Emirs Palace Jummat Masjid as against 12% at Abdullahi bn Mas'ud Jummat Masjid. Surprisingly, 26% of people cycle to Zaria Islamic Centre Jummat Masjid. Also surprising was having 2% of the respondents walking to Emirs Palace Jummat Masjid from a distance higher than 5 km. This could be attributed to the attachment of some worshippers to the Masjid being the first in the ancient city and although they would find many Masjids closer; they still preferred to attend their Jummat prayer there. The findings suggested that urban form may influence people to walk although the relationship is weak since more people still prefer to use other modes to reach the Masjid.

Table 3. Reasons of using motor vehicles to the Masjid (N=300)

Reasons	Mean
Faster to reach Masjid	3.87
Comfort	3.70
Too far to walk	3.23
Rainfall	2.61
Sun	2.53

The result revealed that faster to reach the Masjid recorded the highest response at mean 3.87 and due to sun recorded the lowest response at mean 2.5.

Table 4. Cross tabulation between the reasons choosing the Masjid and the distance to the Masjid

Distance from house to masjid	Because of the sect of masjid	Because of proximity	Because of buying and selling
Emirs Palace Jummat Masjid			
< 1 km	25	13	4
1-2 km	15	10	9
3-5 km	3	2	7
>5 km	1	2	9
Total %	44	27	29
Zaria Islamic Centre Jummat Masjid			
< 1 km	30	20	0
1-2 km	22	11	1
3-5 km	10	5	0
>5 km	0	0	1
Total %	62	36	2

The result revealed that 44% of the respondents at Emirs Palace Jummat Masjid said they went there for Jummat prayer because they follow Dhariqa sect, the percentage is lower when compared with their counterpart at Abdullahi bn Mas'ud Jummat Masjid where 62% responded that they attended the Masjid because they follow Izala sect. This suggests that sect type plays a significant role in choosing Jummat Masjid in the study area.

At least 1% travelled from a distance higher than 5 km to attend the Jummat prayer at Emirs palace Jummat Masjid, but nobody came to Abdullahi bn Mas'ud Masjid from that distance because of that reason. The result also revealed 27% and 36% attended Emirs Palace Jummat Masjid and Abdullahi bn Mas'ud Masjid respectively because of closeness to the two Masjids. This is the closet correlation among the three reasons for choosing Jummat Masjid in the two Masjids. Lastly, 29% responded that they came to Emirs Palace Jummat Masjid because they can trade before and after prayers. In contrast, an insignificant 2% responded at Abdullahi bn Mas'ud that came to the Masjid and trade. Zaria City being one of the seven ancient Hausa states has the famous market at the premises of the Emirs Palace that session on Friday. It is unsurprising that 9% responded that they came from a distance higher than 5 km in order to trade and pray.

Conclusion and Recommendation

Town and country planning has become an integral part of governance in modern times. Nigeria as a country has also made significant efforts at planning its cities. Part of this planning is religious centres like the Jummat Masjid which receives hundreds and thousands of worshippers every Friday. In the light of the foregoing, this study seeks to understand the influence of built environment towards travel behavior of the people to Jummat Masjid and their travel mode choice to the Masjid from their houses in ancient Zaria City, Kaduna State. This work recommended to planning authorities to understand the people preferences in case the need for re-planning, expansion or addition of Jummat Masjid arises in the study area and other places where Muslims have a large number in Nigeria.

References

- Abdullah, I., Yusof, F., Kamaruddin., S.M. & Rasam, A.R.A. (2013). *Travel Behaviour and Landuse Planning: The planning of mosque in Shah Alam, Selangor*. Asia Pacific International Conference on Environment-Behaviour Studies University of Westminster, London, UK.
- Akanni, A. A. (2013). Location of Mosques and Town Planning Laws in Nigeria: Imperatives for Integration. *Ilorin Journal of Religious Studies, (Ijourels)*, 3(1): 41-68.
- Asamoah, G., Okyere, S. & Senayah, K. (2015). Factors influencing school travel mode choice in Kumasi, *International Journal of Development and Sustainability*, 4(1): 1-7.
- CIA. The World Factbook-Nigeria.
- Facts and Figures (2007). BBC: Nigeria.
- Odugbemi, O. O. (1985). Nigerian Culture and space utilization with special reference to Yorubaland. In: O. Y. Oyeneye & M.O. Shoremi (Eds.), *Nigerian Life & Culture*. Department of Sociology, Ogun State University, Ago – Iwoye, Nigeria.
- Ola, C. S. (1977). *Town and Country Planning Law in Nigeria*, London: Oxford University Press.
- Oyebanji, J.O. (1987). Power Technology and Spatial Organization of Society. In: J.B Ipaye & S.O. Oduloye (Eds.), *Reading in General Studies*. Unilorin Publications Committee, University of Ilorin.
- Zwerts, E., Allaert, G., Janssens, D., Wets, G. & Witlox, F. (2010). How children view their travel behavior: a case study from Flanders (Belgium). *Journal of Transport Geography* 18, 702-710.