

## Gender and Intra-Urban Transport in Sabon-Gari Area of Zaria, Kaduna State

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**Abstract:** Gender roles play out in any spatial context, and can thus be expected to vary across the urban landscape. The development of any area can not be considered fair and equitable unless the issue of gender is taken into consideration. This study seeks to examine the relationship between gender and intra-urban transport in Sabon-Gari area of Zaria. Data for this study was obtained through the administration of questionnaire to respondents sampled systematically in six major streets of the study area. Pearson Chi-square and phi test were used for the analyses. The results shows that the relationship between gender and intra-urban mode choice is statistically significant with a strong strength of association, Phi = 0.542. The implication of this result is that if the country is to emerge as a viable and modern society, equity and fairness should be assured in the provision of transport services so that gendered variation in transport needs are taken into consideration.

**Key words:** Accessibility, gender, Kaduna, patriarchy, Sabon Gari

### INTRODUCTION

Recent research on targeted development intervention in developing countries is gender. Gender perspectives on development recognize that women tend to face more restrictions in their mobility requirements than men. In the view of Bamberger *et al.* (1999) transport and mobility have an important role to play not only in helping to meet women's practical needs of accessibility but also promoting the achievement of socially and economically sustainable transport policy. Indeed, gender and transport issues pertaining to the mobility of the urban poor are only beginning to be studied (Bryceson *et al.*, 2003; Venter *et al.*, 2007). Abundant transport research evidence has highlighted the differences in the availability, usage pattern, and burden of transport between men and women and such works are still growing (Venter *et al.*, 2007; Williams, 2007).

In Nigeria, the practice of patriarchy by the society has placed social and cultural stratification barriers on the male and female gender. This is seen in the prescription of defined roles, rights, resources, decision making based on the norms of the society. Presently however, owing to an increase in educational levels, labour force participation, journey-to-work, and general complexity in travel pattern, this restriction on gender becomes an impediment in the ease and flexibility of choosing convenient transport modes. Furthermore, cultural norms, traditional clothing and religious injunctions prohibit and restrain women from having access to certain transport modes such as crowded public transport and two-wheeler vehicles. More often, the practice of purdah serves as a

deterrent for women to have access to certain modes of transport especially in predominantly Muslim communities.

These constraints far exceed the role played by physical barriers in the overall women's access to vehicles and transport services (Peters, 2002). The term gender, which connotes culturally, based expectations of the role and behaviours of males and females vary from one place to another and from time to time. In any geographic area or cultural context, gendered behaviour and patterns need to be understood and accounted for in designing and planning urban transport systems.

Since most urban centers continue to face crises in their transport system, which becomes manifested in poor accessibility for the majority of the society, the result is that cities do not function well. Previous empirical and theoretical discussions in transport research mostly assumed the universality of male and female usage or preferences in modes of transport thus depicting a severely unbalanced transport system that is obtainable in most Nigerian cities. It is important to note that since men and women have different transport needs, different travel behaviours and levels of access to mobility, it is necessary to look at planning from these roles and responsibilities to ensure an efficient transport system (Gauthier and Kunieda, 2007) It is therefore not surprising that John (1985) asserted that the society must learn to solve transportation problems not as 'man's problem'.

However, the bulk of previous works on gender and transport in developing countries have focused on rural travel (Njoh, 1999). Gender and transport issues in cities are not as well understood, yet clearly important if the

intersection of gender disparity and transport inaccessibility is to be understood. A fundamental question that is yet to be answered is: does the role of intra-urban transportation which is to facilitate the movement of people, goods and services safely and comfortably apply in complete fulfillment to all gender class in Nigeria? This paper seeks to fill the gap by specifically examining the relationship between gender and choices of intra-urban modes of transportation in Sabon-gari area of Zaria, Nigeria.

## MATERIALS AND METHODS

**Study area:** This study was carried out in January, 2009 in Sabon-Gari an important sector of urban Zaria. The city is the second largest city in Kaduna state. It is located at latitude 11°3'N and longitude 7° 42'N. The city lies on the high plains of Northern Nigeria, in the Sub-Saharan Africa. It is about 643.7 kilometers from the coast of Nigeria. The city has become a nodal point by virtue of its location in Northern Nigeria and in terms of its rail and road transport (Ubogu, 2008). The population of the town has been growing rapidly in recent time. The space economy of Sabon-Gari comprises of commercial, industrial, educational transportation and residential land uses. Majority of the inhabitants are Hausa Fulani with a mix of other ethnic groups such as Ibos, Yorubas, Efiks, Ibibios, Tivs, Igallas and numerous ethnic groups. Zaria has four clusters of which Sabon-Gari is one of them.

**Analytical methods:** The data for this paper was obtained through the administration of a questionnaire specifically designed to gather information on, among other things, gender specific information on educational status, employment status, income levels, religious affiliations and travel needs. Other information sought include transport elements of day-to-day activities in the urban center based on their travel patterns, trip purpose, costs incurred, modes restricted to and the preference for the various transport modes. The choice of the sampling point was designed to reflect the general land use character of the town such as industrial, commercial, educational and transportation land uses.

A reconnaissance survey of the study area helped in ascertaining the total number of major streets in Sabon-Gari, which amounted to thirty streets. On the basis of this number, a random technique of dip-hand balloting method of the total streets was used to select 6 streets, which amounted to 20% of the entire major streets. Thereafter, in order to eliminate bias, systematic sampling technique was used to select the buildings on the order of every third building in the street. In each building, two household heads were interviewed. The questionnaire was then coded and analyzed. In all 240 respondents were sampled. A Chi-square test was

primarily used to assess the significance of the gendered opinions of respondents on their restrictions and preferences for the modes of transport used. More so, simple descriptive analysis of percentage frequency has been employed in order to display gendered differences in the variables under consideration.

## RESULTS AND DISCUSSION

Transportation in one form or the other is a basic part of the daily rhythm of life in all societies and economies. However, most people still suffer from temporary or permanent restrictions in their mobility in developing countries. These deprivations and restrictions are often gender inclined (Rankin, 1999). The understanding of urban systems and their trip patterns lies in the periodic movement of people to and from different land uses for work, social activities, shopping, business and other recreational purposes. Zaria as an urban center with distinct urban land uses is no exception to this routine movement pattern (Ubogu, 2008). Although, this movement pattern still persists, the influence of gender on trip pattern requires detailed study to reveal the relationship between gender and mode choice in the study area.

The distribution of the sampled respondents by their socio-demographic characteristics shows that nearly 63.3% of the respondents were males by sex while 36.7% were females (Table 1); this is a reflection of the sexual composition of most urban centers in Nigeria. Also this is in line with the 2006 census result, which showed that males are more dominant than females with 137,867 females as against 149,004 males. The ultrasiveness of male folk is not an issue of contention as the male is often seen and heard more than the female. Again, the results

Table 1: Socio-demographic characteristics of the respondents

Sex of respondents	Frequency	%
Male	152	63.3
Females	88	36.7
<b>Marital status</b>		
Married	120	50.0
Single	84	35.0
Divorced	22	9.2
Widowed	14	5.8
<b>Age group</b>		
20-29	54	22.5
30-39	86	35.8
40-49	48	20.0
50-59	24	10.0
> 60	28	11.7
<b>Religion</b>		
Islam	126	52.5
Christianity	114	47.5
<b>Educational qualification</b>		
Informal	26	10.8
Primary	46	19.2
Secondary	86	35.8
Tertiary	82	34.2
Total	240	100

showed that the age characteristics of the respondents comprises of 22.5% that were between 20-29 years, while 35.8% were between the age brackets of 30-39 years. The age brackets of 40-49, 50-59, 60 years and above recorded 19.2, 10 and 11.7% respectively. This shows that majority of the household heads are still in their working age range characteristic of a typical urban population.

With respect to their marital status, 50% of the respondents are currently married, 9.2% divorced and 5.8% widowed. By implication, 65% of the entire respondents had at one time or the other got married while 35% are not married. Consequently, with increase in responsibility comes an increased need to make trips on daily basis for occupational, commercial, or shopping purposes. The implication thereof is the complex pattern of intra-urban trips in Sabon-Gari. As regards religious affiliation, 52.5% were Moslems while 47.5% were Christians. The city, known to be very religious has almost all its inhabitants identifying with one faith or the other. This has direct and indirect influence on their general way of life including their transport preferences. Educationally, only 10.8% of the respondents had no formal education. The literacy level shows that 19.2, 35.8 and 34.2% of the respondents attained primary, secondary and tertiary education respectively.

**Gendered preferences for intra-urban transport modes:** According to the World Bank (1996) transport design and planners have for too long ignored the transport needs of women. Consequently, women especially at the local level continue to struggle daily to overcome the adversities of inefficient local transport systems. Table 2 shows the transport preferences of the sampled respondents. The Table 2 reveals that 39.2% of the entire respondents preferred the use of motorcycle. However, of this percentage, it is interesting to note that females accounted for only 4.2%. Thus, indicating a clear variation amongst gendered preference. Furthermore, 25.8% opted for public bus system with majority of this category accounted for by females (15.8%). Interestingly, only men prefer bicycle (0.8%) while of the 17.5% that prefer walking, the majority of this group of respondents were accounted for by women (11.7%).

Peters (1998) is of the view that women's use of two wheeler vehicles are often viewed as inappropriate and unwomanly sometimes even branding the more daring women as unfit for marriage, loose and behaving like men. In Sabon-Gari where culture and religion greatly influences peoples way of life, none of the female respondents prefer the use of bicycles for intra-urban transport with only very few opting for motorcycles. Again, male heads of households in their superior position as breadwinners within the family system tends to appropriate the most efficient means of transport to themselves. This perhaps explains why the males

dominated the use of private vehicles. As regards tricycles, females accounted for 2.5% while the proportion of males that prefer that mode was 0.8%. The preference for this mode by females could be attributed to the almost seclusion of tricycles in the area for females especially those whose social institution of marriage and religion makes it difficult for them to share crowded buses with men.

In many parts of the world, women sometimes face customary, cultural and even legal restraints on their rights to travel or use particular modes of transport. Violations of such restrictions are often met with physical abuse and harassment (World Bank, 1996). As indicated in Table 3, 110 (45.8%) of the respondents reported being restricted to one mode of transport or another. However, of this proportion, majority of them were females accounting for 29.2% while male respondents accounted for 16.6%. Of the total number of respondents that are restricted to certain modes of intra-urban transport, the proportion of male and female respondents that are restricted to bus was 1.8% respectively. Other modes such as motorcycle showed males (1.9%) females (14.5%); tricycle restriction was males (29.1%) and females (7.3%). As for bicycles, only females were restricted to it accounting for substantial 30.9%.

Incidentally, majority of the entire respondents (40%) mentioned gender as the most important reason for their restriction. A breakdown of this figure shows that females formed 30.9% of this group. This was followed by security (21.8%), cost (14.6%), culture (14.5%) and religion (9.1%). This result can be attributed to the culture of the area as it is with most places in northern Nigeria which still maintain ethno-religious system where most men and women feel restrained from sharing crowded vehicles as well as the use of two wheelers because of the inappropriateness attached to seeing women climbing this mode of intra-urban transport.

Using Chi-square test of association, this study further examined the nature of the relationship between gender and respondents choice of intra-urban modes in the study area. The results (Table 4) reveal that there is a statistical relationship between choice of mode and gender with Chi-square df (5) = 35.26, p < 0.001. Further analysis using phi statistics showed that the strength of the relationship between gender and modal choice is larger than typical where, phi = 0.542. According to Cohen (1988) this strength of association can be considered large thus signifying that the relationship between gender and choice of intra-urban transport in the area has strong strength of association.

**Policy implications for planning:** Several generic interventions in the public transport sector such as improved off-peak, non commuter services, improved safety conditions in waiting areas, and women only

Table 2: Gender and the most preferred mode of intra-urban transport

Most preferred mode	Frequency		Percentage		Total	
	Male	Female	Male (%)	Female (%)	N	%
Walking	14	28	5.8	11.7	42	17.5
Motorcycle	84	10	35.0	4.2	94	39.2
Tricycle	2	6	0.8	2.5	8	3.3
Bicycle	2	0	0.8	0	2	0.8
Private cars	26	6	10.9	2.5	32	13.4
Public bus	24	38	10.0	15.8	62	25.8
Total	152	88	63.3	36.7	240	100

Table 3: Respondents restrictions to intra-urban modes of transport

If restricted to any mode	Frequency		Percentage			
	Male	Female	N	Male (%)	Female (%)	Total
Yes	40	70	110	16.6	29.2	45.8
No	112	18	130	46.7	7.55	4.2
<b>Modes restricted to</b>						
Bus	2	2	4	1.8	1.8	3.6
Motorcycle	2	16	18	1.8	14.6	16.4
Tricycle	32	8	40	29.1	7.3	36.4
Bicycle	0	34	34	0	30.9	30.9
Private car	4	10	14	3.6	9.1	12.7
<b>Reasons for restriction</b>						
Gender	10	34	44	9.1	30.9	40.0
Religion	6	4	10	5.5	3.6	9.1
Culture	2	14	16	1.8	12.7	14.5
Security	16	8	24	14.5	7.3	21.8
Cost	6	10	16	5.5	9.1	14.6
Total			110			100

Table 4: Chi square test and symmetric measures

Analysis	Value	df	Assymp sig (2-sided)
Pearson chi square	35.266a	5	0.001
Likelihood ratio	37.807	5	0.001
Linear-linear association	2.488	1	0.115
Number of valid cases	240		
<b>Measures</b>			
Phi	0.542		
Crammer V	0.542		

services have been used in some countries in alleviating women's access and mobility problems (Peters, 2002). Importantly, gender analysis begins by recognizing that we live in societies full of gender differences and inequalities and that each intervention has gender implications. This implies that different localities require distinct intervention programmes to suit their social, religious and cultural system. Gauthier and Kunieda (2007) have suggested approaches that are cross-cultural and could serve as a guide in gender targeted transport intervention. One of these planning guides is economic analysis. This generally considers two broad objectives: efficiency and equity.

Efficiency assumes that policies should strive to maximize social welfare and as such create total benefit to everybody in the society. Conversely, equity assumes that policies should insure that benefits and costs are distributed in some way that is considered most fair. There are two types of equity namely horizontal and vertical equity. Horizontal equity assumes that everybody

should be treated equally while vertical equity suggests that physically, economically and socially disadvantaged people should be favoured compared with relatively disadvantaged group. Examples of most transport-planning objective in the country show that economic analysis has tended to focus more on efficiency than horizontal or vertical equity. Indeed, an equitable planning policy should treat everybody equally. It should also allow the individual to bear the costs they impose unless a subsidy is specifically justified. Furthermore it should be progressive with respect to income so that lower income group benefits relative to higher income group as well as benefit transport disadvantaged people, which include women.

Another strategy proffered by Gauthier and Kunieda (2007) is data collection. In providing any transport system, it is important to collect data on all users regarding how they use the existing services as well as what they need. This can be done through the following: household surveys, time use diaries, socio-economic

surveys to obtain baseline and gender specific information and semi-structured interviews. Other measures include the use of focus group discussions with urban stakeholders to obtain background information on population and travel pattern, willingness to pay surveys and participatory stakeholder workshops. It is also important to note that these various techniques must capture the trip pattern of both men and women. By implication, trip as a critical parameter must be well defined in the surveys.

Finally, all these approaches must be fashioned to measure gender equity in urban transport. It should assess the differential impacts on men and women with particular emphasis on the extent at which women have been able to take full advantage of the opportunities offered. Policy indicators that would help to measure the degree of gender integration include passenger-kilometer by age and sex, trip type by sex and age, transport related expenses by sex and age, and travel time by sex and age. Policies that aim to achieve gender equity include, though not limited to ensuring geographical spread so that transport investments and service improvements favour not only lower income groups but also women. Secondly, policies should be made to create a more diversified and less automobile-dependent society that effectively serves non-drivers of which majority are women. Thirdly, there is need to incorporate universal design in transportation services that accommodates the need of people with disabilities and women.

## CONCLUSION

From the above discussion, it is glaring that the relationship between gender and transport is not a one-way affair. This is because planning objectives are normally carried so as to benefit everybody in the society. However, as a result of the many other related issues that were raised in the course of this research, there is the need to further detailed studies on the effect of gender on location differences in travel expenditure, trip rates and modes used for such trips as well as the influence of travel as a component of household expenditure. Furthermore, studies of the relationship of gender and transport in urban centers should be replicated in various geographic and economic locations of Nigeria in order to obtain a better understanding of transport service provision. This will ensure that transport service will not only meet efficiency needs but also address the issues of equity.

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