

# Socio-Economic Influence of Inter-Urban Travel Demands of Road Transport Passengers in Lagos Metropolis

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The contributions of socio-economic attributes to travel behaviour of passengers is key to sustainable mobility planning. This study examined the influence of socio-economic attributes on travel demands of inter-urban public transport passengers in Lagos metropolis. Multi-stage sampling technique was adopted in data gathering. This involve administering sets of structured questionnaires on 1,483 early morning (6am-8am) inter-urban public transport passengers of 76 selected inter-urban motor parks in Lagos metropolis and interviewing passengers at each of low, medium and high density inter-urban motor parks. Data were analysed using frequency tables, chi-square, spearman's rank correlation and ANOVA. The study found that there were statistically significant differences in the gender distribution of respondents ( $\chi^2=116.133$ ,  $p<0.05$ ). The average age group of respondents in Lagos inter-urban Motor Park was 38.7 years. It was also observed that there was a statistically significant variance between the age groups of respondents and their travel frequency in inter-urban motor parks of Lagos metropolis ( $F=8.118$ ,  $p>0.05$ ). The study estimated the average monthly income of inter-urban passengers in Lagos metropolis as N32, 940. The study revealed the average households' size of inter-urban passengers as 3 persons per household as there were no statistically significant variations in households' size of respondents in inter-urban motor parks of Lagos metropolis ( $F=1.795$ ,  $p>0.05$ ). The study further showed that there is a positive significant relationship between respondents' income and travel distances ( $n=1483$ ,  $r_s=0.127$ ,  $p>0.01$ ) and between respondents' number of cars and travel distances ( $n=1483$ ,  $r_s=0.141$ ,  $p>0.01$ ) meaning that passengers' income level influence travel distances amongst others. The study concludes that there is a need for socio-economic considerations in transport policy formulations.

**Keywords:** Socio-Economic, Inter-Urban, Public Transport, Passengers, Metropolis

## Introduction

Various literature present transport as the means of conveying persons and goods from one place to another, using different modes of travel. One of the works that explored the conveyance of persons (through the rail mode) is the work of Agunloye and Ilechukwu (2011) who investigated the socio-economic structure of rail transport passengers in Lagos metropolis using the users'-based approach to infer, after a binary conversion. Another is the research work of Popoola and Faborode (2010) who studied and found differentials in social-

economic status of men and women as they affect travel behaviour.

Hanson and Johnston (1985) argued that women's shorter travel distances are due to spatial and economic factor such as lower average incomes, location of female-dominated occupations in metropolitan areas and women's greater dependence on public transit. Also, Rosen and Burns (1994) revealed that the presence of children in the family and their ages influence the travel patterns of women. Also, before the birth, travel and activity patterns of men and women are not too different, with the birth

of a child; women mainly stop working and take over the maintenance tasks in the households. Men indeed, earn much more per mile travelled than women do, but the distance-income relationship varies for different groups of women. When women have access to a car, their rate of income gain per mile travelled is nearly the same as that for men using car. Effects of decentralization on commuting behaviours was investigated and findings observed that individuals with more jobs and residential mobility will be able to use decentralization to reduce their work trip length. It was revealed that women use transport decentralization more effectively than men to reduce their commuting time. Similar results were found for sales and service workers and those traveling by car (as opposed public transit) (Agunloye, 2017).

From the afore-mentioned studies, it was revealed that men and women have different socio-economic status. Women have significant variation in the variables of socio-economic status compared to men's and this has effect on their travel behaviour (Fadare, 1997). The impact of income on daily trip frequency and mileage covered is virtually the same for investigated surveys (Puncher and Renne 2003). Thus, households with lesser income made lesser trips per person, per day than households with higher income. Not only do higher income households make more trips per day, but they also make longer trips, covering almost twice the total mileage per day of low-income households. The much lower mobility rates of the low-income households might be interpreted as a basic inequity in our urban transportation system. Clearly, many low-income households are cut off from some destinations they need to reach because they cannot afford the automotive transportation needed to access most parts of metropolitan areas.

The lower mobility rates of low-income group in America may be due to inequity in their access to urban transportation. The increase in number of vehicles per households due to rising income has reduced walking and bicycling among Americans leading to obesity, a common health problem among Americans. As at 2001, 64% of Americans are overweight (Fadare, 1987). It was also observed from the 2001 National Household Travel Survey (NHTS) that bus usage by the poor is about eight times that of the rich in the US (4.0% vs. 0.5%) while the rich uses suburban rail three times more than the poor. The better performance of the suburban rail above the cars and the bus transit has made it more attractive to the affluent American passengers while the poor passenger's usage had been attributed to the accessibility, they have to the service areas. The study further revealed that the poor are the main users of bus transit in the US accounting for 47.1% of riders. Based on the aforementioned, it will be interesting to replicate similar investigation by examining the influence of socio-economic structure on travel characteristics of inter-urban public transport passengers in Lagos metropolis. It is on this basis that this study examined the influence of socio-economic structure on inter-urban travel behaviour of public road transport passengers in Lagos, Nigeria.

### **Conceptual Framework**

The conceptual framework reveals the possibilities of relationship between socio-economic variables and inter-urban travels. This was suggested from results of previous relevant researches. It is on this premise that the extent of the strength of relationship calls for enquiry. The dependent variables are the travel variables while the independent variables are the socio-economic variables

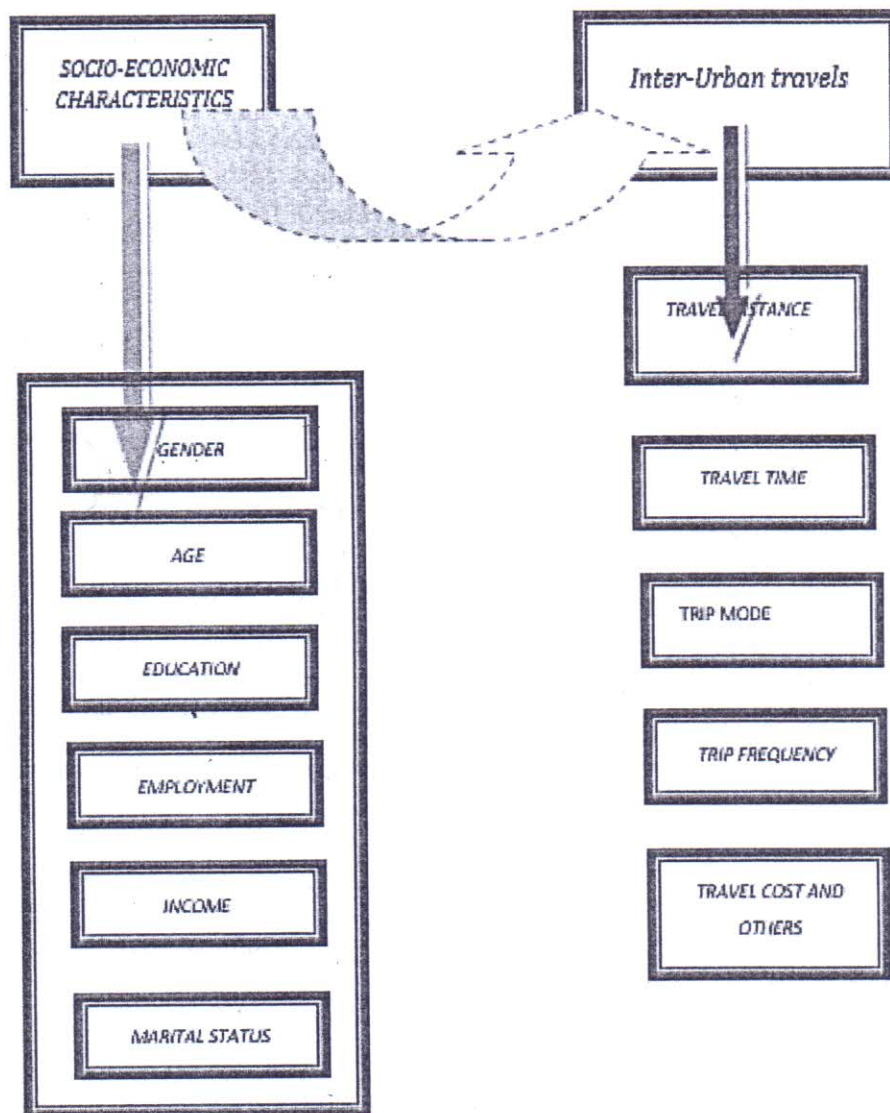


Figure 1: Graphical illustration of Conceptual Framework  
 (Adapted from Agunloye, 2013)

### Research Methods

Data on socio-economic structure and inter-urban travel demands of road transport passengers in Lagos metropolis were majorly sourced through questionnaire administration and complemented with interview. The sample frame of the study was 8,021 early morning (6am-8am) inter-urban road transport passengers of 76 selected motor parks in Lagos metropolis while the sample size translated to 20.5% based on Cochran's sample size formula. However, the successfully completed and returned sets of questionnaires that were used for the analysis was 18.5% at the

waiting lounges of the inter-urban motor parks (1,483 questionnaire) for the final analysis of the study. The content and construct validity of measurement were used. The multi-stage sampling technique was used for the study because of the nature of waiting passengers at the inter-urban motor parks. The sampling procedure for this study firstly encompassed the identification of the zones of survey, secondly, identification of the entire inter-urban motor parks in each of the zones. Thirdly, identification of average number of vehicles in each carrying capacity (low 76 vehicles; medium 99 vehicles and high 121

