

**An assessment of the
impact of land use
characteristics on
residential choice
making: implication to
urban transit planning
in Port Harcourt,
Nigeria.**

BY
OGBA Chima
&
OKON inah

Introduction

An urban area implies an area with diverse and spatially dispersed land uses. These land uses attract and generate movements to and away from them.

Consequently, the more land uses an urban area has, the more diversified or greater: the destinations; modal trips; socio-economic activities; mobility conflicts vis-à-vis congestions.

The problem

In Port Harcourt city, there seem to be agglomeration of most land uses such that rather than help reduce traffic congestion as would have been the case if they were spatially dispersed, these land uses worsen traffic situation due to their clustering in space.

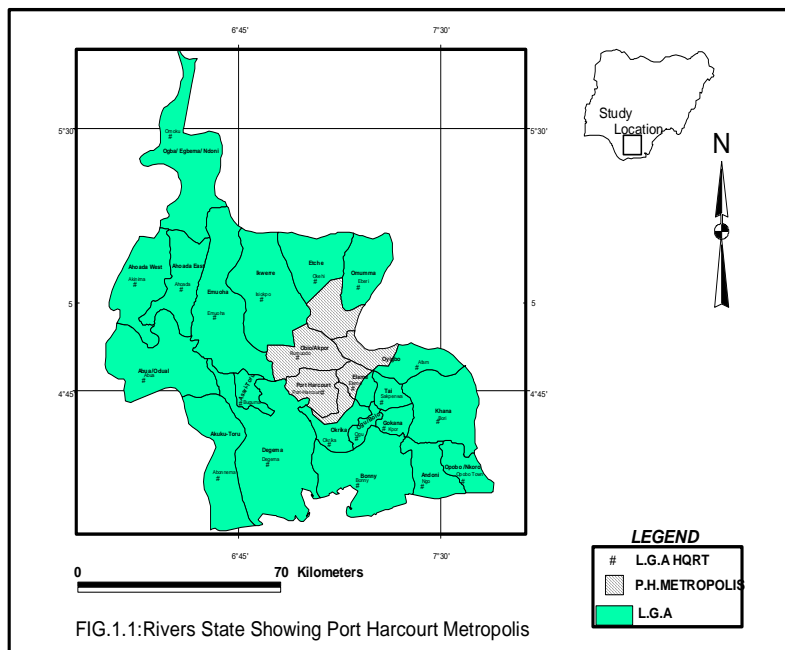
The simultaneous timing of the opening and closing of different land use activities (7.30/8.00am–3.30/4.00pm) further worsens the already bad traffic situation in the study area. At peak periods (Wednesdays) the problem posed by this shortening in transport planning in the study area is better imagined.

The theme of this paper therefore emerges in view of the half hazard nature of land use distribution and the attendant accessibility problems in Port Harcourt metropolis.

The study area

The city of Port Harcourt, Nigeria, lies approximately between longitude $6^{\circ}55^1E$ and $7^{\circ}55^1E$ and latitude $4^{\circ}35^1N$ and $5^{\circ}10^1N$ of the equator and on an elevation of 1.00–3.00m above sea level. The city area is 664sqkm with metropolitan area of 934sqkm and is linked to the outside world by land, sea and air.

The study area is shown in figure 1.1. Results of the 2006 population census put the metropolitan population at 1,255,387 and projected at 1,413,765 in 2011 (NPC, 2006).



The data

A household residential and transportation choice survey was conducted in 15 study locations based on: distinctive land use pattern; history of the settlement; population size of the area; socio-economic activity; and geographical location (LGA).

The land use survey was accomplished both on foot and by automobile. The updated map of Port Harcourt metropolis was acquired from Ministry of Works and provided the framework upon which the study was based.

Results

A simple correlation matrix obtained from analysis of data revealed a 0.755 or 75.5% contributory effect of all independent variables on residential choice making.

Therefore household residential choice making in metropolitan area of Port Harcourt is significantly dependent on available transportation options, commercial, public/semi public and recreational land uses.

Table 1 revealed a total land area of 41,740.338 (ha) or 103, 290, 885 (ac). Percentage distribution of urban land area of individual land uses further revealed a dominant 12, 185.330 (ha) for residential land use constituting 29.19% of the total urban land area. This corroborates earlier results of rapid urbanization in the study

Table 1: Statistical summary of land use in Port Harcourt metropolis

Land use	Frequency	%
Residential	12,185.330	29.19
Industrial	4,863.220	11.65
Transportation (roads)	3,177.464	7.61
Business (commercial)	4,398.401	10.54
Public/semi public	4,315.674	10.34
Open area (undeveloped)	8,685.028	20.81
Rivers	5,115.221	12.25
Total	41,740.338	100

Conclusion

However, 8,685.028 (ha) (20.81%) of open undeveloped area and 5,115.221 (12.25%) for rivers or water bodies can be harnessed for effective intra-city transport in the study area and this provide hope, that much can still be achieved by adopting zoning to plan for future land uses in the remaining undeveloped areas of the metropolis. The rail system can also provide sustainable remedy to this traffic problem in the study area

Recommendation

Application of GIS and surveying in urban transportation modeling efforts should be encouraged for sustainable land use and transport integration.