

FIG WORKING PAPER WEEK 2016

SPATIAL INFORMATION MANAGEMENT

**COMMERCIAL DRIVER'S PERCEPTION ON THE USE OF GEOSPATIAL DATA
IN TRAFFIC MANAGEMENT IN CALABAR MUNICIPALITY,
CROSS RIVER STATE**

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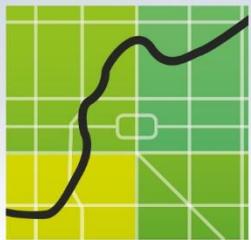


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INTRODUCTION

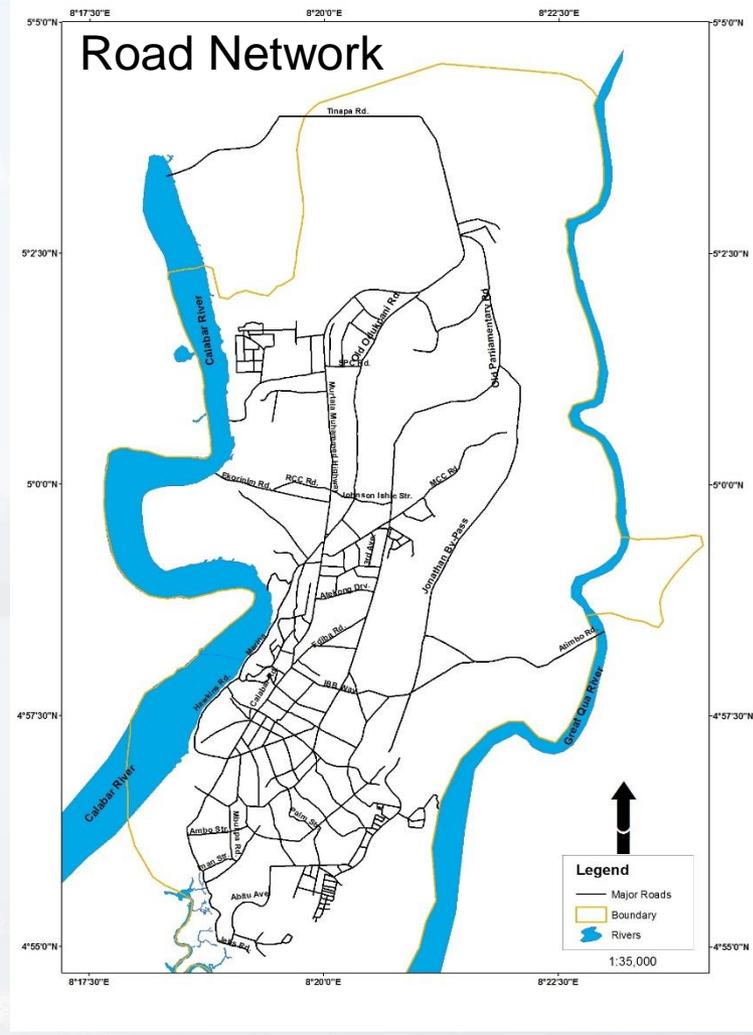
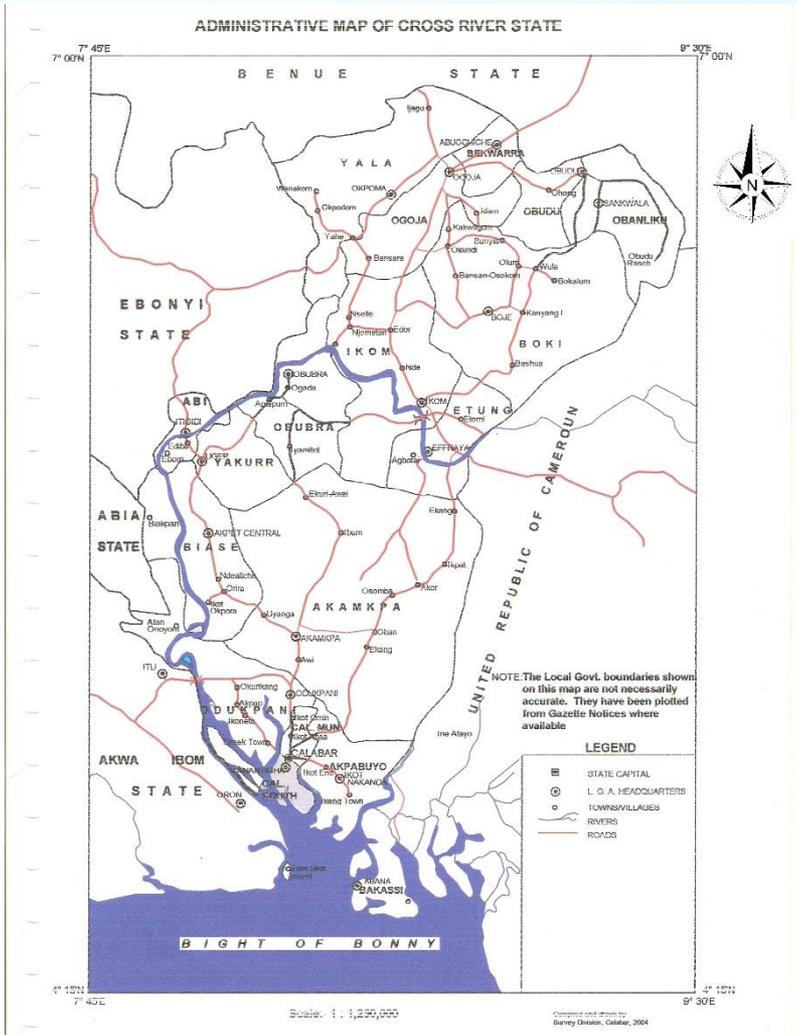
- Traffic congestion is a major problem afflicting many urban cities in the world (Prathap et al., 2011).
- Calabar Municipality has witnessed a tremendous increase in traffic congestion due to limited road networks and the ban on “okada” operation (motorcyclists).
- The ban has increased the volume of vehicles mostly private ones and this situation has greatly increased the frequency of traffic congestion.
- Globally, the need for geospatial data for traffic management has been recognized (Thuo, 2005) Geospatial data make use of geographically referenced information that is able to provide real-time information on traffic situation.
- Such information can be presented using digital signage (also known as e-signage) which helps drivers to know the routes to take at different time of the day.
- Geospatial information on traffic situation enables drivers to make informed decision on the route to take.
- In Calabar Municipality, digital e-signage is uncommon; however, the available ones are majorly used for the advertisement of goods and Services.



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MATERIALS AND METHODS

The study area is Calabar Municipality located in Cross River State, Nigeria The descriptive research design.

A structured questionnaire was the research instrument used to gather data on commercial driver's perception on the use of geospatial data in traffic management. The questionnaire was randomly distributed to commercial drivers at the park or loading points in MCC by Mobil, Watt Market, 8 miles, Army Barracks and Marian Market. Tables, simple percentages, Pearson's correlation and One-Way Analysis of Variance were used to analyse the data extracted from the administered questionnaire.



RESULTS AND DISCUSSION

The age pattern of the commercial drivers indicated that majority (70%) of the commercial drivers are young adults within the ages of 28 – 47yrs.

The educational qualification indicated that all the commercial drivers are literate with a larger number having post-secondary education.

A good number of commercial drivers have knowledge concerning digital map and e-signage with a greater number being knowledgeable of digital e-signage.

The result showed that 89.2% of the commercial drivers largely preferred the use of real-time digital e-signage to digital maps in traffic management. They believed that the use of this device would enable them carry out shortest path analysis in terms of choosing routes with less congestion, shortest distance and less traffic volume.



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The preference of digital e-signage to digital map was due to visual analysis (38.3%), easy interpretation (29.9%) and real-time information (18.7%). They argued that digital e-signage is able to provide actual traffic situation that would aim them in movement in the area.

Reasons for the non-preference of digital map in traffic management were due to knowledge-based applicability (55.1%) and absence of visual representation (28.3%)

The perception of commercial drivers on the use of digital map and real-time e-signage varied significantly by age and level of education. This is apparent the nature of educational affects the comprehension of information displayed on a digital map.

The educational level of commercial drivers significantly correlated with use of digital map. The positive correlation implied the use of digital map and real-time e-signage would increase with the increase in education and vice versa.



CONCLUSION

Though preliminary, the study shows that traffic congestion problems in Calabar Municipality can be effectively managed with the use of digital e-signage

Real-time digital e-signage should be mounted in strategic motor parks to provide real-time information on traffic congestion across the different roads in the area.



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Interview with some commercial drivers on use of digital e-sinages



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Interview with some commercial drivers on use of digital e-sinages



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Scene of Traffic congestion in Calabar Metropolis



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Scene of Traffic congestion in Calabar Metropolis



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