INTRODUCTION

- Maps, are spatial models of the Earth's surface
- Maps have played vital role in the world through
  - aiding decision making and policy formulation processes
  - aiding tourism and general navigation
- Street guide map focuses on the locations of streets in an urban area
- Advances in computer technology increased the speed and the capacity of various Geoinformation and map-making processes
- The improvements have revolutionised the map-making process – Computer Aided cartography (CAC).
ADVANTAGES OF CAC

- Flexibility in the mapping process
- Reduced vulnerability of maps to dimensional distortion (expansion or shrinkage)
- Capacity to respond to the increasingly complex and diverse requirements of geo-information products
- Simplified and faster map revision process
- Quick and easy linkage to databases and GIS

Despite the established merits
- The use of maps in developing countries is relatively low compared to what is obtainable in developed countries.

MAPMING IN NIGERIA

- Map making process in Nigeria has not necessarily caught up with the new trend
- Many state and local government agencies still rely on traditional maps
- Thus, the need for a pilot project to strongly demonstrate the merits and effectiveness of adopting the new trend
AIMS

The project aims at producing a revised map of Enugu Urban with detailed street information:

- to stimulate interest in the adoption of Computer Aided Cartography in the state, as well as
- boost the use of maps in the state, through the continuous updating and revision of the map.

STUDY AREA – ENUGU SOUTH URBAN

- Enugu South Urban is situated in the heart of Enugu metropolis,
- Lies within longitudes 7° 29’ 13.5"E and 7° 30’ 30.1"E, and latitudes 6° 24’ 07.5"N and 6° 25’ 29"N,
- Encompasses major high density residential and commercial areas in the urban part of Enugu State.
- Area of about 10km² and a population of up to 80,000 residents.
DATA

- Analogue street guide map of Enugu Urban
- Ikonos Satellite Imagery covering the study area

METHODS

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Primary Data

Map
Analogue Street Guide map of Enugu State

Digitisation
Digitised map

Satellite imagery
Ikonos (2011)

Georeferencing
Data collected from field trips (attribute & spatial data)

Vectorisation and topology correction

Gridding and Indexing
Annotation

Final Analysis
Corrections and Updates

Presentation
Street Guide Map of Enugu South Urban
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Primary Field Survey Data

Coordinates of control points

Secondary Field Survey Data

Feature and attribute data
RESULTS

- Up-to-date digital street guide map of Enugu South Urban area
- Comprehensive list of all the streets and relevant attributes of features
- Expected to serve as an important database for future related projects in the state

DISCUSSIONS

- Result obtained from this study satisfies the aim and objectives of the project.
- A high quality and updated street guide map of Enugu State was produced through Computer Aided Cartographic processes.
- The map compared to existing analogue map of the area clearly demonstrates the merits of adopting CAC methods in the state.
- Results obtained expected to play essential role in the following areas:
  - Tourism Industry
  - Transport Services
  - Revenue Collection Services
  - Refuse Collection Services
  - Policing
  - Mail Services
  - Engineering and construction
RECOMMENDATIONS

- Strongly recommended
  - Implementation of Computer Aided cartography (CAC)
  - Revision of all existing maps in Nigeria using Computer Aided cartography (CAC)
  - Reconciliation of the local coordinate systems in all the countries in Africa with the same grid for improved mapping
  - Enhanced training of Nigerian surveyors on Computer Aided cartography (CAC) as well in:
    - Advanced Spatial Analysis
    - Remote Sensing and image processing techniques

CONCLUSION

- This pilot study has highlighted the benefits of adopting Computer Aided Cartography in street mapping in Enugu State

- The map is expected to boost tourism in the state, as well as play vital role in transportation, hospitality, policing, mail delivery, revenue collection, refuse collection and engineering works.

- The map was produced in a quick and cost effective way that underscores the advantages of CAC over the traditional methods currently being employed in the state

- The digitally based map will also grant map makers the flexibility of quick updates and revisions, and could be used for the generation of application specific maps in a cost effective and quick way.
REFERENCES