

Towards the Optimal Use of Telecommunication Mast Locations as a Platform for Survey Control Densification in Rivers State of Nigeria

Lawrence Hart, Amina Dienye and Kurotamuno P. Jackson (Nigeria)

Key words: Geoinformation/GI; Positioning; Spatial planning; Survey Controls; Telecommunication Mast; Spatial Information; Mapping

SUMMARY

In the past, survey controls were established in major towns and cities which were used for cadastral and other minor surveys. Currently, the need for higher order survey controls in the urban areas for cadastral and engineering surveys is more apt in a developing environment like the major towns and cities of the study area that have expanded beyond the boundaries that existed at the time of control establishment. This is more critical as the extension of survey controls to the new areas has not kept pace with the rate of expansion of the urban area, infact the current survey controls are neither comprehensive nor adequate. This paper seeks to highlight the option of optimal utilization of telecommunication mast locations as platform for survey control densification in Rivers State of Nigeria. The telecommunication mast locations being built on a securely and firm ground in addition to its visibility and accessibility. These features are essential requirement for choosing a location for survey control point establishment. This research adopted the mapping of the telecommunication mast location and producing a thematic map in addition to the attribute information of these facilities. The Map76CS handheld GPS receiver and the ArcGIS 10.1 Software were used in data acquisition and analyses. The study obtained the coordinates of 231 telecommunication mast locations in Port Harcourt, Obio Akpor and 34 in Bori all in Rivers State. The map showing their relative positions was produced with relevant attribute information. These spatial information will therefore provide the necessary platform to locate a monument or any permanent mark of which their coordinates will be accurately determined to serve as survey controls for cadastral and engineering surveys. These surveys are essential for any meaningful development. The use of these mast location that are scattered all over the study area will reduce the challenge of identifying suitable location for citing higher order survey controls. Also, the removal and destruction of existing controls due to construction activities will be highly minimized considering their secured position. It will further enhance survey control network planning for the urban areas thereby providing quick information regarding proximity of available control points.

Towards the Optimal Use of Telecommunication Mast Locations as a Platform for Survey Control Densification in Rivers State of Nigeria (7738)

Lawrence Hart, Amina Dienye and Kurotamuno P. Jackson (Nigeria)

FIG Working Week 2015

From the Wisdom of the Ages to the Challenges of the Modern World
Sofia, Bulgaria, 17-21 May 2015