

# **A Study On Practical Use of RTK-GPS and Mobile GIS for Cadastral Surveying**

**Sung-Seok Park, Sang-Gu Kang and Jeong-Seok Ko (Korea)**

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## **SUMMARY**

Mobile GIS is the technology to provide geographic information services with mobile device such as PDA(Personal Digital Assistants). In recent years, there have been growing interests in Mobile GIS because of development of hardware technology. RTK-GPS Surveying techniques can acquire a centimeter level in real time. This study focuses on the system development, of which its technology can be applied to cadastral surveying. This system consists of PDA and RTK-GPS. PDA was connected to RTK-GPS and this system was controlled by PDA. And, cadastral surveying was conducted in test sites using the self-developed CAD(Computer Assisted Design) system. The number of cadastral control points in Korea is about 3,000 and they are managed by MOGAHA(Ministry Of Government Administration and Home Affairs) and KCSC(Korea Cadastral Survey Corp). Cadastral minor control points are managed by KCSC on commission or local authorities by themselves, so it is difficult to find information of cadastral control points from paper documentation kept at local authorities or branches of KCSC. Physically, cadastral control points are often damaged by construction such as building, road, water supply, electricity. They are shown up on the Cadastral map, but in most cases, it is difficult to find them in the field. These kinds of problems encourage to devise a method for managing cadastral control points efficiently and systematically. In this paper, the method to manage cadastral control points at real-time using mobile GIS, GPS receiver and wireless communication network was suggested. The developed system is, namely a Korean model, dedicated to managing control points, supports to save cadastral map and them, explores and navigates them, and sends them by wireless NIC to the server, then checks if there is something wrong. Also, it is possible to manage their records in real-time. This system could support the systematic management of cadastral control points and lead to improve work efficiency. It is expected that this will be a strong method to build the U-Cadastre in future.

## CONTACT

Mr. Sung-Seok Park  
Researcher  
Cadastral Research Institute, KCSC  
#45, Youido-dong, Youngdungpo-gu  
150-891 Seoul  
Korea, Republic of  
Tel.: + 82 2 3774 2329  
Fax: + 82 2 3774 2319  
Email: pss05@kcsc.co.kr