

Analysis of 3D Property Situations in the USA

Peter VAN OOSTEROM, Hendrik PLOEGER and Jantien STOTER,
The Netherlands

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SUMMARY

In areas with high population densities, 3D property situations with high property values are common. To secure the legal rights and/or fair taxation in those situations an unambiguous and clear registration of 3D situations is required. In previous research we studied 3D property situations in the Netherlands, Denmark, Norway, Sweden, Queensland and British Columbia.

In this paper we will address the registration of 3D property situations in the USA by describing and studying two case studies. The aim of this paper is to show how legal information (including 3D geometry) of 3D property situations can currently be obtained from the existing registrations and if these registrations need improvement for 3D property situations. The fundamental shortcoming in current registrations in the USA (but also in other countries) is that 3D information is only available in drawings in separately filed documents, not digitally linked to administrative information. Therefore it is impossible to interactively view and query a 3D representation of a whole environment.

A promising prototype has been developed by Richland County GIS (South Carolina) for condominiums, which is based on truly 3D volumetric representations of the individual units and shared facilities. This prototype can be improved by addressing properties that cross several parcels, by addressing 3D properties that cannot easily be defined as condominiums in a level approach, and by using absolute height values in the definition of condominiums. Although registration of property in the USA is typically maintained at county level, 3D registration developments could gain from a centralised approach to address the 3D problems, since technology investments and the required knowledge for a full 3D system are much higher than the current 2D based systems.