Abstract:

This paper presents the results of a project in which a semantic 3D city model of New York City (NYC) has been created based on datasets provided in the NYC Open Data Portal. It is shown how different 3D feature types can be derived from existing public 2D and 2.5D datasets using spatial and semantic transformations together with (some) photogrammetric analyses. The realized process integrates 26 different datasets from five departments of the NYC administration. The resulting 3D city model is represented in a homogenized and integrated way using the international standard CityGML of the Open Geospatial Consortium. It comprises all NYC buildings, land parcels, roads, parks, the digital terrain model, and water bodies – all with 3D geometries. To the best of our knowledge it is the first publicly available big 3D city model of a large city in the USA which is based on official governmental data. The paper gives an overview on the many challenges that were faced regarding the handling of the huge data volume, semantic transformations, linking of different datasets, spatial corrections and also highlights some methodological aspects. Finally, we provide information where the dataset and the
transformation tools can be freely downloaded.

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- GISPro_CityGML; GISPro_NYC; GiSTop_CityModeling; LOCcenter;
- LOCTop_Data_generation_and_object_reconstruction;
- LOCTop_Urban_Information_Modeling_Virtual_3D_City_Model

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