A Parametric 3d City Model: Basis for Decision Support in Inner-City Development

Abstract:
Semantic 3D city models provide an essential basis for the visualization and communication of planning measures, e.g. of densification strategies in inner-city areas. However, it appears that the simulation of amendments in the building codes and their impact on the built environment cannot be modeled efficiently in common city model schemata. In the paper, a parametric 3d city model is presented, in which the building representations do not consist of static geometric objects, but also depict the generic geometric relationships, in terms of the semantic and geometric constraints of the modeling of different building typologies and their topological interdependencies. Based on the concept of Petri nets, the parametric 3d city model has been prototypically implemented and evaluated on the basis of inner-city planning tools.

Stichworte:
LOCenter; urban planning; decision support; 3d city model; parameterization; Petri net

Kongress-/ Buchtitel:
Proceedings of ICCCBE 2016 (16th International Conference on Computing in Civil and Building Engineering)

Jahr:
2016

Revid:
ja

Occurences:
Einrichtungen > Fakultäten > Fakultät für Architektur > Lehrstühle und Professuren > Lehrstuhl für