

## Integration of collective knowledge into simulative urban modelling

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The modernistic urbanism treated cities as top-down way constructed machines and caused a significant transformation from city of places to city of spaces which could not be effectively addressed even if New Urbanism or related models are formally employed in urban planning. It should be recognized that urban place creation and placemaking is not possible without effective public participation which because of various reasons, especially in Lithuania, is not effective. The presented research is based on combination of two approaches while working in historical Šančiai neighborhood community in Kaunas.

The first approach is based on the principles of tactical urbanism for collection of local authentic data about three aspects of neighborhood life: collective memory, present usage of public spaces based on modified sociotope approach and interaction with nature in ecological, recreational and social terms. For implementation of the project local inhabitants have collected data in the three online maps: memory map, present map, nature map. The second approach is based on the idea of simulative modelling for complex urban systems which allows to reflect bottom-up processes essential for urban development both in present and predicted situations.

During the project, the location spots and the results of content analysis focused on identification of emotions attached to precise neighborhood spaces, based on data entered by inhabitants were used as an additional input into mathematical graph based simulative models. The results of modelling demonstrated fluctuation of the most important public spaces (e.g., walking routes, intelligible buildings, reachable central locations) depending on various urban life scenarios (e.g., working days, weekends, mornings, evenings, celebrations, etc.) and could be used as a part of decision support system while discussing urban development ideas between interested stakeholders and local community. Results of the project demonstrate an effective way to combine public participation and modelling phase of urban planning.

