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Designing a 3D detailed development plan¹

Public participation during urban development is an important part of sustainable growth, but current proposal documents in Sweden called detailed development plans are difficult for people to understand. Researchers indicate that moving from paper-based 2D formats to digital 3D formats can improve people's understanding of proposals. But in moving to digital 3D space, the visualization of the detailed plans needs to be rethought. Should the same colours from the 2D map be used? Should 3D trees be included?

The aim of this study is to develop these map guidelines for the web-based 3D visualization of detailed plans in Sweden, i.e. to design an effective visualization. The study explores other questions about improving communication of the plan proposal to the public and what the effect of having map guidelines does to encouraging the use of 3D visualizations; however, the focus is developing the map guidelines.

Four designs using different colours and level of detail in the surrounding environment were applied to a 3D detailed plan for an ongoing proposal in Lund, Sweden. The designs were critiqued by four professionals in urban planning, and based on their comments, a final set of map guidelines was created. The results of the study showed how the ideal visualization of a web-based 3D model is tied to the technology behind it. For instance, being able to have a pop-up window with information about the detailed plan depends on which web application is used. There was consensus that a 3D detailed plan should retain the same colours used in the current 2D version. The map guidelines that emerged from the interviews were split into two categories of cartography (discussing colours and level of detail) or functionality of the digital application (such as pop-ups).

The study participants supported the move from 2D to 3D space for detailed plans, indicating that it would be easier for the public to understand when care is taken to avoid misleading visualizations. Having map guidelines contributes to a standardized version of 3D detailed plans in Sweden. This would create a future where these proposals are recognizable and understood more easily by the people who need to comment on it during public participation.

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¹ Visualizing the third dimension: Map guidelines for a 3D detailed development plan