Fill the map: Integrating objective data and citizen knowledge for Participatory **Urban Planning**

A Superblock project in Vienna

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Maps are a powerful tool for decision-making processes in participatory urban planning. In these processes, visualizations should enable stakeholders to explore, create hypotheses, make sense of, and interpret patterns in the data¹. By merging objective data with citizen knowledge, such visualizations can be more inclusive and accurate². However, a significant challenge remains: designing visualizations that enable both stakeholders, technical experts and communities, to interpret urban data to enhance decision-making processes^{3,4}.

MAIN OBJECTIVE **CASE STUDY**

To identify optimal cartographic visua- A superblock project, located in



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lization strategies that combine objective data and citizen knowledge, thereby serving as decision-making tools within the framework of participatory urban planning.



3 SUBOBJECTIVES, 3 OUTCOMES

1. To analyze and create a catalog of urban data visualizations.

Outcome: a catalog of references



Methodology for the analysis of visualizations

2. To create suitable visualization strategy to combine citizen knowledge and objective data.

Outcome: Methodological framework for designing visualizations taking references from the catalog.





Screenshot of the catalog



WHAT WAS TESTED?

The survey was designed to understand the effectiveness in interpretation based on the level of complexity of the visualizations, on the change in symbology by the use of generalization techniques and on the level of expertise of the participants (technical experts and citizens).



CONCLUSION

The survey was designed to understand the visualization complexity influences the pattern intepretation and map preferences among the two group of stakeholders. Low complexity visualizations showed that the fine-granularity map was more effective for supporting decision-making due its balance between accuracy maximization and effort minimization⁵. On the other hand, medium complexity maps showed the importance of considering user's expertise to provide adaptable solutions to improve understanding of visualizations. Future research could include a broader range of studies to increase the reliability and applicability of the results and the practical implementation of the visualizations in participatory processes.

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Keywords

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Methodological framework graph

3. To understand the effectiveness of the created cartographic visualizations, making diverse stakeholders interpret, make connections, and make sense of different data types.

Outcome: Set of recommendations on tailoring visualizations considering their complexity levels and on data participatory workshops.

PATTERN 1 PATTERN 2 Simple complexit Medium complex MAP A MAP B MAP A MAP B

One of the maps used for the survey



Survey maps organised by their complexity and symbology

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PATTERN





