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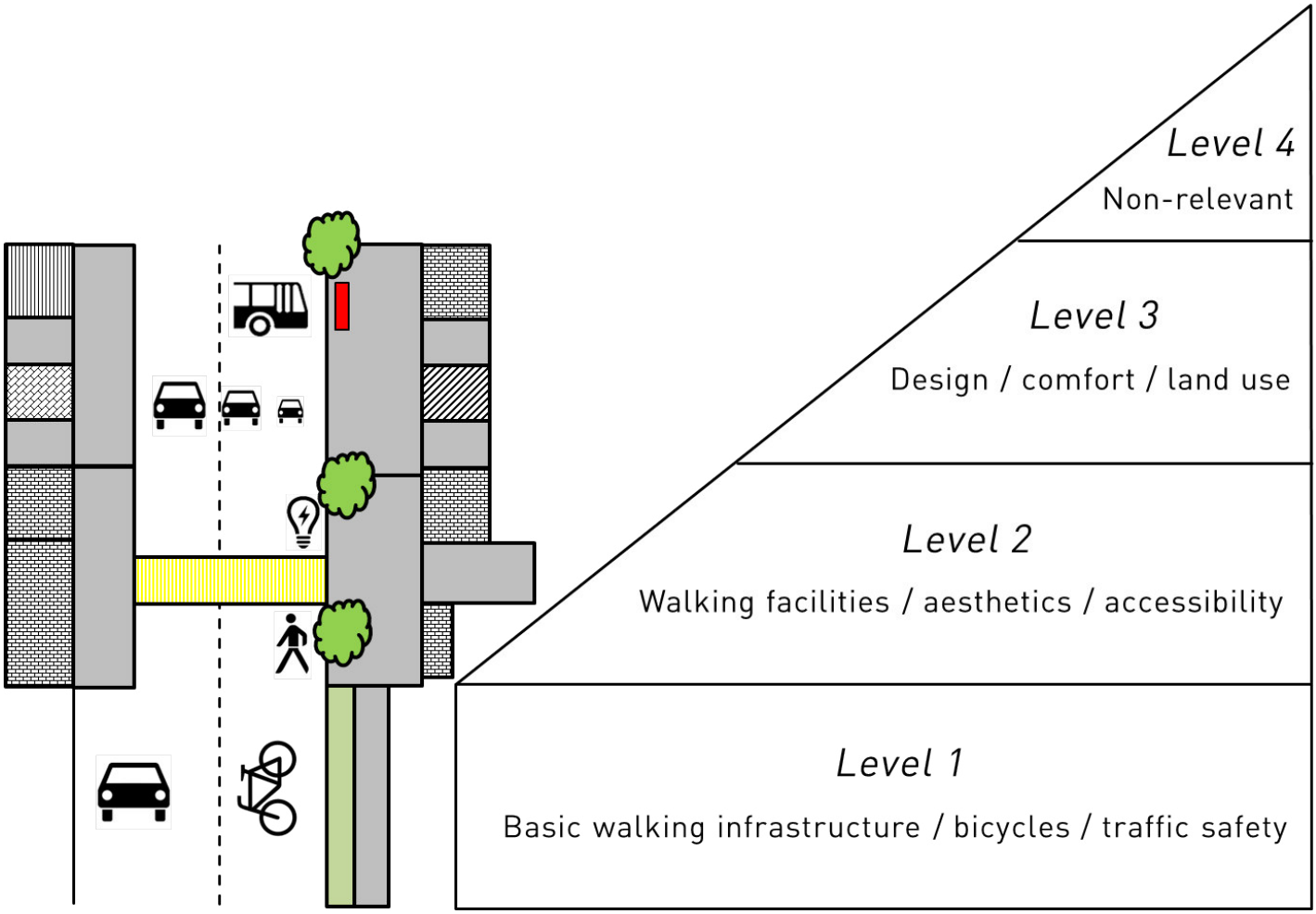
Project Summary

Parameters of Walkability: A Meta-Analysis



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Parameters of Walkability: A Meta-Analysis

Motivation and Goal

Walkability describes the measure of walking friendliness provided by a certain built environment. A high walkability offers pedestrians comfortable, direct routes to their preferred destinations within a neighbourhood. Highly walkable neighbourhoods or built environments are thought to encourage people to walk more. This would offer various benefits in terms of emission reduction or increased physical activity and therefore better health.

Although the concept of walkability is well established, it is not clear which particular objective parameters of the built environment in fact are relevant for pedestrians. Also, the definition of parameters is very versatile and lacks a common, reliable base. This study aims to provide a collection of well-defined operational parameters and a rating of parameters' influence on pedestrians' behaviour and satisfaction. By analysing a set of existing studies and therefore a comparison of different approaches and results, a more reliable framework for future research and practical application is sought.

Research Method

An in-depth literature review serves as initial point for the following work steps. Sorting existing studies into five categories allows a first review of the current findings. A total of 22 sources provide a base of the meta-analysis. 34 different subcategories of parameters were defined. compared on a meta-level, their relevance and influence on pedestrianswere rated in a four level model.

Synthesising the different and sometimes conflicting measure methods allowed a reliable and operational definition of most parameters.

Results

As a major result, a rating of the

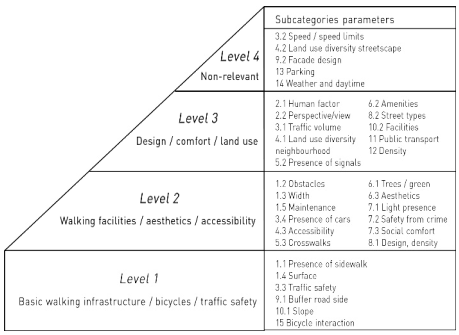

Fig. 1: Result of Rating

importance for pedestrians of each parameter was calculated by comparing different results. Basic walking infrastructre (e.g. sidewalks in good condition and without steep rises) and safety from traffic hazards were found to be most relevant for pedestrians. If those fundamental parameters are present, further elements such as the presence of trees or a high accessibility of destinations (small detours) are as well very important. Less relevant are aspects

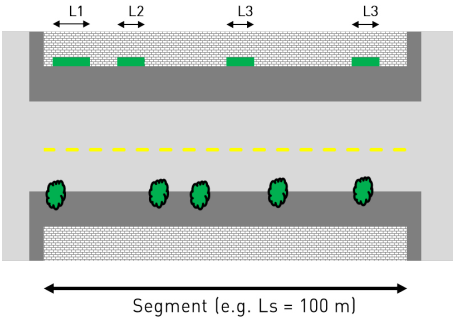

Fig. 2: Example of operational definition

of streetscape design, residential density or land-use diversity. Figure 2 gives an example of an operational definition of a parameter, in this case the presence of trees in a segment. Summarizing, the easier to measure and the more fundamental a parameter is, the higher its influence on pedestrians.

Conclusion

This study's results allow a better and more reliable understanding of the interaction between objective walkability parameters and pedestrians. The most relevant parameters were determined and it was shown, that fundamental walking infrastructre with high comfort are most important for pedestrians. A more operational definition of walkability parameters appears to be benefitial and also urgent regarding current research.

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Applied Methods
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