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Urban Ecological Interaction: Air, Water, Light and New Transit at the Human Scale of Barcelona's Superilles

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Abstract : As everyday transit options are shifting from autocentric to pedestrian and bicycle oriented modes for healthy living, downtown streets are becoming more attractive places to live. However, tools and methods to measure the natural environment at the small scale of streets do not exist. Fortunately, a combination of mobile data collection technology and parametric urban design software now allows an interface to relate urban ecological conditions. This paper describes creation of an interactive tool to measure urban phenomena of air, water, and heat/light at the scale of new three-by-three block pedestrianized areas in Barcelona called Superilles. Each Superilla limits transit to the exterior of the blocks and to create more walkable and bikeable interior streets for healthy living. The research will describe the integration of data collection, analysis, and design output via a live interface using parametric software Rhino Grasshopper and the Human User Interface (UI) plugin.

Keywords : transit, urban design, GIS, parametric design, Superilles, Barcelona, urban ecology
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