

Urban Open Source: Synthesis of a Citizen-Centric Framework to Design Densifying Cities

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Abstract : Prominent urbanizing centres across the globe like Delhi, Dhaka, or Manila have exhibited that development often faces a challenge in bridging the gap among the top-down collective requirements of the city and the bottom-up individual aspirations of the ever-diversifying population. When this exclusion is intertwined with rapid urbanization and diversifying urban demography: unplanned sprawl, poor planning, and low-density development emerge as automated responses. In parallel, new ideas and methods of densification and public participation are being widely adopted as sustainable alternatives for the future of urban development. This research advocates a collaborative design method for future development: one that allows rapid application with its prototypical nature and an inclusive approach with mediation between the 'user' and the 'urban', purely with the use of empirical tools. Building upon the concepts and principles of 'open-sourcing' in design, the research establishes a design framework that serves the current user requirements while allowing for future citizen-driven modifications. This is synthesized as a 3-tiered model: user needs – design ideology – adaptive details. The research culminates into a context-responsive 'open source project development framework' (hereinafter, referred to as OSPDF) that can be used for on-ground field applications. To bring forward specifics, the research looks at a 300-acre redevelopment in the core of a rapidly urbanizing city as a case encompassing extreme physical, demographic, and economic diversity. The suggestive measures also integrate the region's cultural identity and social character with the diverse citizen aspirations, using architecture and urban design tools, and references from recognized literature. This framework, based on a vision – feedback – execution loop, is used for hypothetical development at the five prevalent scales in design: master planning, urban design, architecture, tectonics, and modularity, in a chronological manner. At each of these scales, the possible approaches and avenues for open- sourcing are identified and validated, through hit-and-trial, and subsequently recorded. The research attempts to re-calibrate the architectural design process and make it more responsive and people-centric. Analytical tools such as Space, Event, and Movement by Bernard Tschumi and Five-Point Mental Map by Kevin Lynch, among others, are deep rooted in the research process. Over the five-part OSPDF, a two-part subsidiary process is also suggested after each cycle of application, for a continued appraisal and refinement of the framework and urban fabric with time. The research is an exploration – of the possibilities for an architect – to adopt the new role of a 'mediator' in development of the contemporary urbanity.

Keywords : open source, public participation, urbanization, urban development

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