Citography: Interconnecting Mapping and Tool-making

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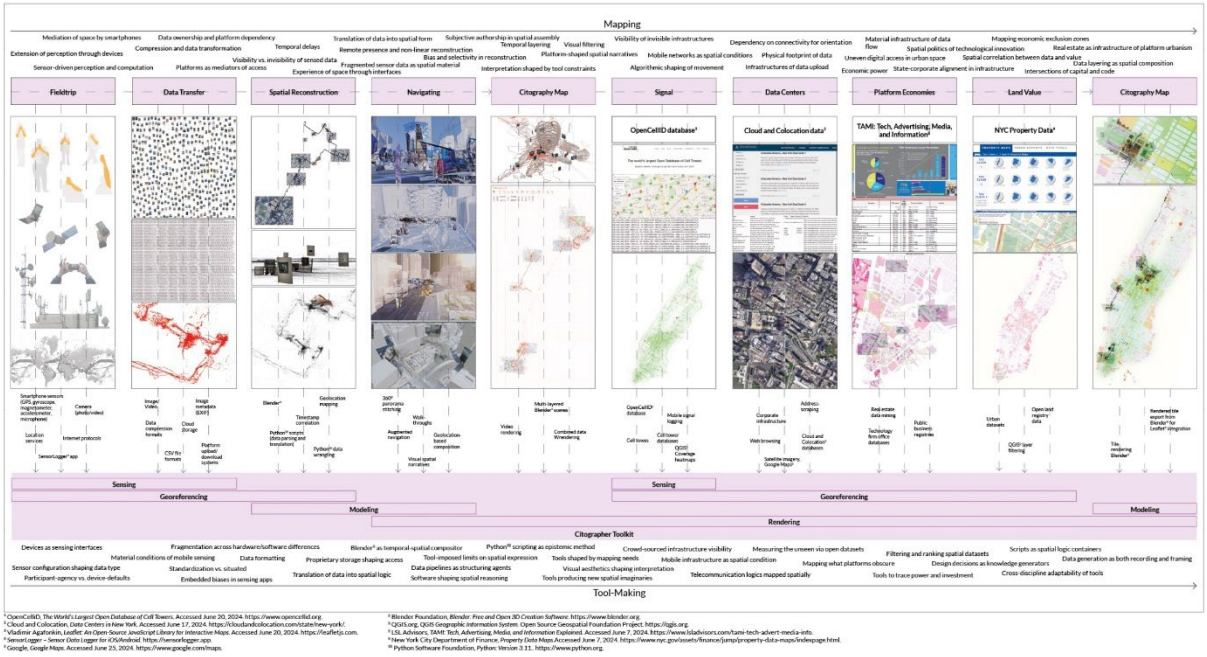
Contemporary cities are increasingly experienced through data-intensive digital media ecologies, where smartphone sensors, platform interfaces, and cloud infrastructures shape how urban space is recorded and represented. Within architectural and urban design disciplines, however, methods to critically engage with these technological mediations remain limited, often treating digital data as neutral rather than as an active co-producer of spatial knowledge. This poster introduces Citography, a design-driven research project that combines mapping and tool-making to investigate these digitally mediated conditions.

The research is operationalized through a five-phase methodological framework combining Fieldwork, Data Transfer, Tempo-spatial Reconstruction, Contextual Overlays, Rendering. This framework was tested during a fieldtrip in New York City, where participants recorded sensor logs alongside geolocated media. This data was later reconstructed into a navigable 4D scene using custom-built tools in Blender, aligning participant trajectories with external infrastructural datasets such as cellular antenna distributions and data center locations.

The study identifies a series of epistemic frictions, tensions between embodied experience and data-driven representation, that serve as drivers for methodological innovation. These frictions include the split between remote reconstruction and situated presence, the mismatch between bodily and model scales, and the gap between the operational omnipresence of infrastructure and its physical ungraspability. By treating tools not as neutral instruments but as operators of legibility, Citography makes the production of spatial evidence explicit. The resulting maps reveal not only urban routes but the underlying sociotechnical arrangements, governance, standards, and code, under which the city becomes visible. This practice offers architects a situated method to critically engage with cities as complex data landscapes.



Weronika Gajda, *Diagram of Mapping and Tool-making in the New York fieldtrip case study*, work-in-progress, another version of the diagram is part of a paper under review for publication in TAD Journal (Technology | Architecture + Design).