## Online/On-site

**Cyrus Peñarroyo** University of Michigan

## **Abstract**

Online/On-site studies the digital divide in Detroit, focusing on Internet access in the city's most vulnerable and disenfranchised neighborhoods. As investment is poured into development downtown, residents in marginalized neighborhoods lack access to digital infrastructure and the necessary skills to use information effectively once connected. Indeed, Detroit has one of the lowest rates of Internet connectivity in the United States. excluding thousands of people from the opportunities for education, employment, and belonging afforded to those with the ability to get online. This condition is exacerbated by the economic precarity of many Detroiters, the high costs of individual residentially-based internet access, and uneven broadband service provision. If the Internet fosters a more complex sense of belonging, how could architects design the built

environment to support nascent social structures and promote inclusion? If citizens are emboldened by access to technology, how might a communitydriven network architecture erode hierarchies and power structures commonly found in the city? What egalitarian spaces emerge when physical and digital social networks coincide? To address these questions, this project combines publicly-available spatial data with interviews of high school students in the city to map digital access and exclusion across Detroit's neighborhoods, identifying sites for urban design scenarios that propose new ways to connect physically and virtually. The project results in detailed strategies through which urban design might aid in the development of strong community mesh networks across Detroit for internet access, redefining what digital equity could look like in the contemporary metropolis.



Figure 1. Composite map and excerpts showing local resources, internet connectivity, and demographic information that could influence access to digital technology. Three sites were chosen for design speculation. Courtesy of author.

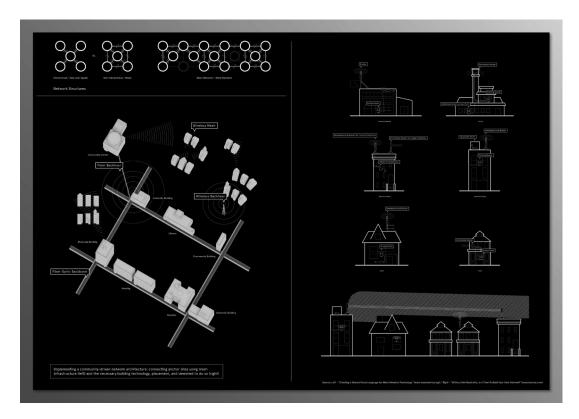


Figure 2. Diagrams showing how to implement a community-driven network architecture. Redrawn from <a href="https://www.newamerica.org">www.newamerica.org</a> and <a href="https://www.newamerica.org">www.inverse.com</a>.



Figure 3. Excerpts from three urban design proposals for actual sites in Detroit and a video still showing interviews with Detroit high school students and how their lives are shaped by the Internet. Courtesy of author.