Transforming Networked Urban Mobility with Mobile Networked Creativity

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In this short commentary, I propose that creative practices that emerge from grassroots initiatives among marginalized populations engaging with mobile networked technologies—what we call Mobile Networked Creativity) (de Souza e Silva & Xiong-Gum, 2021)—are critical to achieve mobility justice and transform urban spaces into more inclusive spaces.

At least three interrelated sociotechnical changes have been critical to shaping urban life over the past half century: the development of the internet, the diffusion and adoption of mobile technologies, and the increased prevalence of networked mobilities, that is, ways of moving (or being prevented from moving) in urban environments that are embedded with digital networked technologies and infrastructures, such as Wi-Fi, cellular networks, sensors, near field communication, and intelligent transport systems, just to name a few. As smartphones became the dominant form of mobile communication around the world, we witnessed the development of apps that mediate our interaction with urban spaces. In particular, location-based services, as a key interface of “smart” technology, became instrumental in helping us to perform everyday tasks, from purchasing groceries with near field communication to calling cabs and renting bikes. To keep up with the fast-changing technological landscape, terms like smart cities, code/space (Kitchin & Dodge, 2011) and hertzian space (Varnelis & Yoshida, 2008) have been used to describe a sociotechnical context in which people and digital technologies are interconnected in networked urban spaces. Of course, these changes did not happen equally everywhere, but still, they transformed most aspects of contemporary urban life.

However, urban planning initiatives to create “smart cities” have mostly been top-down approaches that prioritize economic and environmental sustainability, while overlooking social sustainability. They aim at making cities more “connected” and efficient, at the cost of excluding marginalized populations from accessing urban spaces and participating in civic life. For example, to transform Rio de Janeiro (Brazil) into a “smart city” during the years that led to the 2014 World Cup and 2016 Summer Olympics, the government evicted thousands of people who lived in favelas that were “on the way” of urban planners’ goals for constructing new roads and transportation corridors (or “tunnels”, to use Graham and Marvin’s (2001) terminology). Many marginalized communities who lived in the suburbs lost access to other parts of the city, either because mobility systems (such as shared bikes or public transportation) were removed from where they lived, or because they couldn’t (and still can’t) afford such services.

This shows that although networked urban spaces support mobility, they can also be designed to prevent mobility—or to just allow the mobility of some. We normally associate highly connected and networked spaces with faster and more efficient mobility, as expanding roads and public transportation systems help people and things to reach their destination faster. Urban planning in major U.S. and European cities has typically focused on efficiency and circulation, but this reliance on high-speed connections actually prevented diversity and promoted segregation. While these high-speed corridors (such as freeways) directly connected distant locations, they disconnected poor communities living in closer proximity to each other.

To work around these issues, marginalized communities find ways to creatively engage with networked urban spaces in order to get around or participate in civic life. To that end, there are notable attempts of “hacking” the system in order to serve communities living in situations of hardship. The examples below are just two instances where we can find real “smartness.”

Pedala Queimados is a bike-sharing project created to help low-income people living in the municipality of Queimados (Rio de Janeiro state, Brazil) have access to transportation. In 2018 volunteer workers started to recover and fix abandoned bikes from surrounding wealthy zones and, later, also made their own bikes out of bamboo frames to rent out. Instead of using a proprietary app, like Lime or Grin, which require users to have a state-of-the-art smartphone and a credit card or bank account, they used a combination of WhatsApp and Google Forms. The Queimados' community appropriation of bike-sharing is a networked approach to a systematic problem. *Pedala Queimados* is an example of creative endeavor that produces networked urban mobilities. In addition to creating job opportunities as bike builders, *Pedala Queimados* started to sell or rent these bikes for delivery workers, which contributed the growing gig economy in the region. This grassroots rental system demonstrates that the integration between urban mobility and mobile technologies does not necessarily need to be shaped by proprietary apps—rather, existing platforms can be repurposed and used to connect people and people with urban mobility systems.

The *Bike Arte Festival* is an initiative of the Aromeiazero NGO that started in 2012 with the goal of "celebrating the bike and a culture of engagement with public spaces via bike art." According to the festival organizers, bike art includes cultural and artistic expressions inspired by the bike and its mobility. The independent itinerant street festival takes place in a different São Paulo neighborhood each year. They specifically target low-income neighborhoods to decenter the idea of the bike as an elite transportation modal. Their aim is to promote cycling within these neighborhoods, so it can be considered as an alternative and sustainable way of moving around. The festival includes several workshops, such as teaching people how to ride bikes and bike mechanics for children. Some of these workshops facilitate the creation of objects

that can be aesthetically pleasing and useful at the same time, such as making sculptures out of spare bicycle parts or using spare bicycle parts to fix a bike. These Bike Arte Festival can be considered a form of engaged activism that make community needs visible to themselves and the general public. What's important here is not only the final creations per se, but how they promote connections and networking among local communities, local spaces, and networked mobile technologies.

These projects demonstrate how Mobile Networked Creativity brings about a deeper engagement of marginalized communities with urban public spaces. They reflect their community's precarious situations and survival strategies. And they help us recognize that creativity exists in imperfect situations, where there is friction, lack of mobility, and difficulty in access. Mobile Networked Creative practices emerge in situations of hardship, at "the margins" of society where people do not have the resources (materials, time, or money) to be recognized as creative. These communities engage in reorganizing existing parts to create different things, as well as capacities for themselves and others. Contrary to traditional urban planning initiatives, Mobile Networked Creativity emerges in unplanned (i.e., not designed) networked spaces. It emerges from the bottom-up and grass roots approaches to redesign networked urban mobility systems.

These examples show that when people and communities repurpose technologies and existing materials to improve their lives and environments, they are not only appropriating technology; instead, they are collectively creating their contexts with technology. They are shaping their environments, especially their lived spaces. These initiatives may not use the state-of-the-art "smart" technology. But they are undeniably "smart" and more impactful in changing marginalized communities' lives because they attune to their needs, rather than reproducing top-

down initiatives focused on profits and efficiency that just maintain the status quo. Creative networked urban mobility does not happen where people already have access to the latest technologies, but rather when they have precarious access to communication technologies, public transportation, and other resources.

References:

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