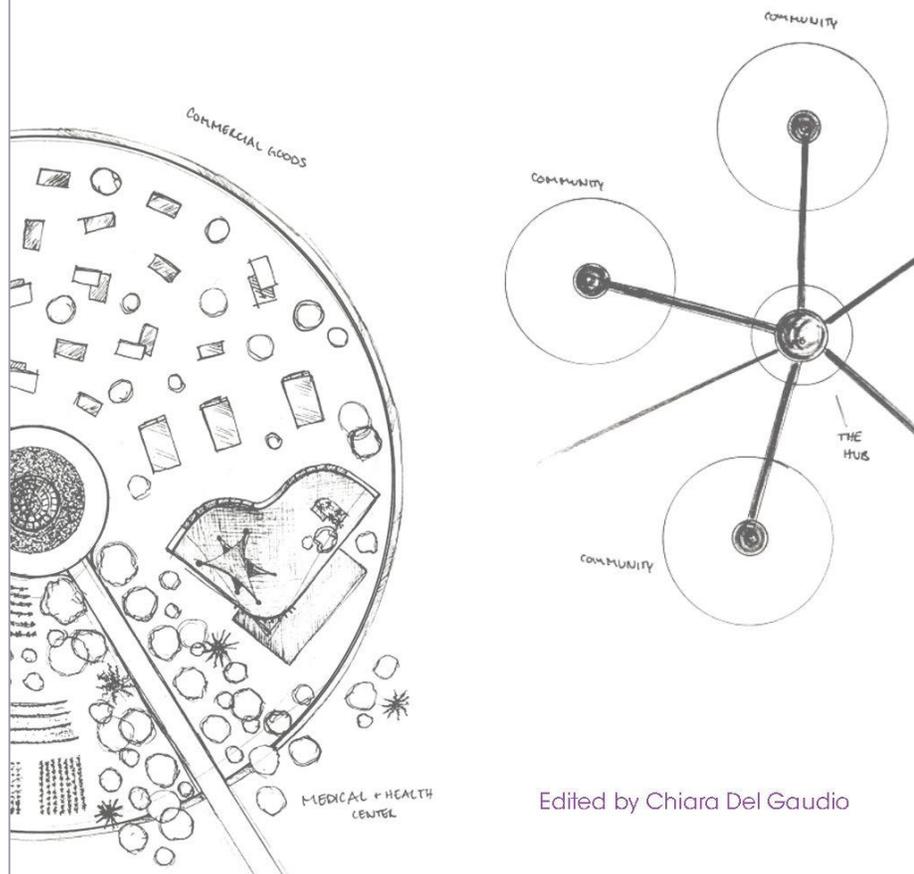


Section excerpted from:

# INSIGHTS

4th-Year Students' Reflections on  
Design for Social Innovation



Edited by Chiara Del Gaudio

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## The Design of Mobility in Resilient Communities

**COMMUNITY RESILIENCE - ACCESSIBLE MOBILITY - SUSTAINABLE TRANSPORTATION DESIGN**

One of the most important elements of community resilience is accessible mobility, which can be achieved through the design of sustainable transportation systems. Designers who have utilized research activities that are specific to design for social innovation have achieved better design outcomes, in terms of systems that are sustainable and functional. One example of better design outcomes is socially innovative communities, which are design systems that have contributions to creating resilience to current and future socio-environmental challenges. According to Desouza and Flanery (2013), urban resilience generally refers “to the ability to absorb, adapt and respond to changes in an urban system” (p. 89). In actual fact, according to Moraci et al., community resilience involves “contemporary planning, which uses smart tools on cities and urban settlements to administer and manage urban transformations to cope with climate change and the mitigation of environmental hazards” (2018, p. 5). The current environmental crisis has clearly showed that one of the most important elements of community resilience is accessible mobility, which is achieved through the design of sustainable transportation systems. Therefore, in this paper, the author will reflect on how accessible mobility can be designed and on the impact transportation system design projects have on community resilience.

### **Accessible Mobility**

As stated above, the accessible mobility of resilient communities means better sustainable transportation system designs. In response to this, research has been witnessed globally for resilient urban transportation system design. Manzini and Mrithaa (2016) explained that sustainable resilient systems provide equitable access

to services, reduce environmental damage, improve community connectivity, and bolster the local economy. A researcher of sustainable urbanism, Primož Medved, published a paper in 2017 that analyzed the design and development of two leading examples of sustainable neighbourhoods and community resilience in West Harbour (Sweden) and Vauban (Germany) through local development projects and sustainability initiatives. Medved (2017) describes the West Harbour and Vauban projects as, “experiments in urban sustainability ... [that] could provide concrete answers to many challenges facing cities and society” (2017, p. 107). Some of the insights provided by the West Harbour and Vauban projects have been the identification of features of sustainable transportation systems, such as walkability, connectivity, and green transport (Medved, 2017). Cities that are designed to be walkable and interconnected improve their citizens’ enjoyment of the space and contribute to physical and mental health while being environmentally beneficial (United Nations Department of Economic and Social Affairs, 2018). The sustainable transportation systems of Western Harbour and Vauban were initiated with the reduction of car dependency and developed with the vision of a lifestyle without a car (Medved, 2017). An important characteristic of sustainable transportation systems is access to public transportation and pedestrian-friendly street design (Opticos Design, 2015). The design of pedestrian-friendly streets features most services and amenities within a ten-minute walk from work or home, which ensures all individuals have access to all services without the need for a personal vehicle (Opticos Design, 2015). The impact that sustainable transportation systems designs have on cities is a reduction of environmental damage due to alternative mobility methods such as

cycling initiatives, car-sharing systems, efficient public transport, and walking (Medved, 2017). In West Harbour and Vauban, community resilience has been improved through local sustainable transportation system design projects.

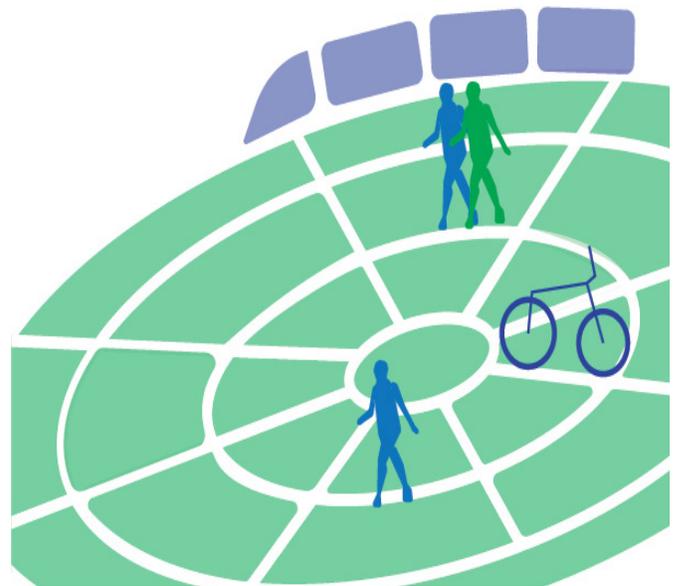
### Manchester Research Study

To understand better the development of sustainable transportation systems we will look into a research study conducted in the Manchester neighbourhood in which researchers created strategies to inform sustainable and resilient future city planning. In Manchester, a low-density industrial Calgary district, there have been many design research projects for improving sustainability because the majority of the area's land was dedicated to automobile infrastructure and the district had a low-density population with a low quality of life (Keough & Ghitter, 2019). The research study conducted by Noel Keough and Geoff Ghitter (2019) demonstrated that the Manchester district is an industrial area that relied on automotive transportation and under-utilized its land-use potential. The researchers had the goal of redesigning the current district into a sustainable, low-carbon city one. The researchers explained that community members should participate in the design of their future systems, which was proved in the design process from the insightful findings that three rounds of participatory design with citizens generated. One of the main findings of this study was the identification of eight barriers and design mitigation strategies for the development of a more sustainable community, which Keough and Ghitter (2019) utilized to develop design concepts. At the end of the study, a conceptual urban design was developed for the Manchester district in 2060 featuring infrastructure developments and services that had the main characteristics of walkability, connectivity, and green transport (Keough & Ghitter, 2019).

### Final Considerations

In conclusion, based on the common findings of the research studies on local design projects for resilient, sustainable communities in Canada and Europe, the first step for implementing a sustainable transportation system design is the reduction of car dependency. In both of the papers published by Medved (2017) and Keough and Ghitter (2019), the social needs of citizens were analyzed to design pedestrian-friendly streets with accessible public transportation. The sustainable communities, West Harbour and Vauban, analyzed by Medved (2017), which had been in development for many years, demonstrate that a community with a strong

social connection is more sustainable and resilient. The development of an urban space dedicated to pedestrians instead of cars demonstrated that the citizens are the crucial focus. The case showed that sustainable transportation design systems should focus on the needs of the community members. This design focus on the users has fostered greater citizen connection and participation, which has enhanced their enjoyment of the community space (Keough & Ghitter, 2019, 2019). In the future, small projects should be implemented that develop these sustainable transportation concepts and generate momentum for resilient community design. Therefore, for community resilience design, sustainable transportation system designs require a split focus between the development of physical space and social practices.



“For community resilience design, sustainable transportation system designs require a split focus between the development of physical space and social practices.”

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