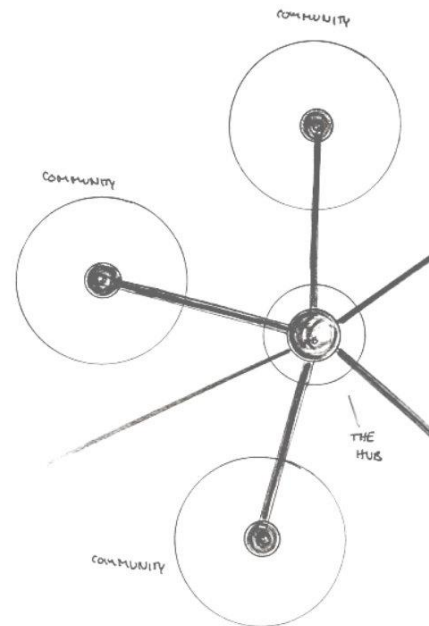
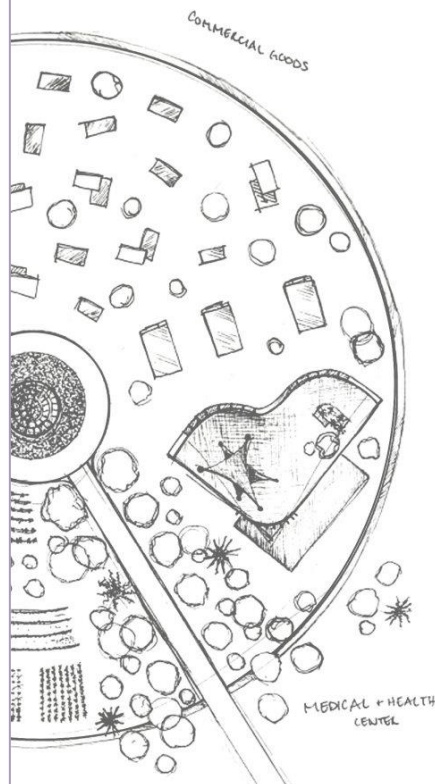


Section excerpted from:

INSIGHTS

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



Edited by Chiara Del Gaudio

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ISBN 978-1-4884-0017-9 (ebook) DOI: 10.22215/srp/2021.delg

First edition: January 2021

Edited by Chiara Del Gaudio

Front cover image by Catherine Caetano-Macdonell, Callum Goncalves,
Chimzuruoke Nebo, Gabriel Laudisa, and Heidi Evans

Paper Images retrieved by each paper's author Book Design by Maya Chopra

Published by Carleton University <https://carleton.ca/>



Can Design Methods for Social Innovation Improve Smart Cities?

SMART CITY - SOCIAL INNOVATION - WELLBEING -
URBANIZATION - DESIGN PROCESS

A smart city is a term created in relatively recent years to describe “a municipality that uses information and communication technologies to increase operational efficiency” (Digi.city, n.d., para. 6), better connect people to information, and better the quality of life for citizens and visitors (Albino, 2015). This exploratory paper investigates where smart cities incorporate elements of social innovation that address common problem areas, such as education, healthcare, and population inclusivity. The industrial design practices used in solving these problem areas will be identified. By analyzing current innovation areas and design methods used there, suggestions will be made for future incorporation of social innovation within smart cities.

Among the countless target areas that the leaders of an urbanized smart city would consider improving, there are a few common social categories that are frequently focused upon. These categories are education, healthcare, and population inclusivity due to the inherently social element of human wellbeing (Caragliu, 2011). Human wellbeing, in the form of our mental and physical health, is dependent on the people around us and the care they provide either emotionally within a community or culture, or medically by professionals (Caragliu, 2011). This is why leaders and policy makers invest large amounts of resources into gathering data on the needs of the citizens in socially-dependent settings, such as hospitals, schools, varying cultural communities, etc. (Talari, 2017). For example, hospitals gather extensive information on their patients and very systematically categorize it to be analyzed later and develop solutions (Talari, 2017). This can include resource distribution based on common illnesses, demand for healthcare workers, and overall satisfaction of patients (Álvarez,

2012). All of this, and more, is devised by means of social initiatives to improve physical health of the population as demands and needs change. The same principles are applied to mental and social health (Talari, 2017), both of which can be largely impacted by our regular social settings, such as school and the community around us. The educational system in many smart cities constantly gathers feedback from instructors and students for quality control and to adapt to the ever-changing needs of its citizens (Nam, 2011). This overlaps with community-based wellbeing, as well, where cultural inclusivity is a necessity. A big focus of culturally diverse cities is to promote said diversity, which often brings together heritage, art, religion, media, etc.

When observing how designers, who are innovating for these social settings within smart cities, approach the given problems, there is a common theme: the user. Much like traditional product design, where the final product is always tailored and created with a specific end user and their needs in mind, the same can be said for design for social innovation (Norman, 2013). In this sense, identifying who will ultimately be using your product from the perspective of product design is closely comparable with accurately identifying which social setting is being designed for in social innovation. Additionally, when designers are working with the needs of a social group, it is never in anyone’s interest to make assumptions as to design for problems they do not have or improperly approach the ones they do. The best approach is to gather user data or feedback via user testing within sample groups of the target market (Norman, 2013). This is directly applicable to social innovations for smart cities. The needs and problem area of the user become much more evident and accurate in this manner and

is a common method of gathering information for large-scale design problems, such as medical care for a city's population (Álvarez, 2012). As discussed in "Conceptualizing a Smart City with Dimensions of Technology, People, and Institutions" (Nam, 2011), smart cities are required to adapt themselves to the user needs and provide customizable solutions. Thus, effectively identifying the user, as well as their needs, is suggested as being fundamental in social innovation in addition to product design.

Upon researching where social innovation is incorporated in advancing smart cities and how design practice is used to do so, it could be argued that a broader application can be implemented. For example, the obvious and most common places social initiatives were found in places that were heavily dependent on other people, like healthcare and education. However, if the same principles of social problem-solving were incorporated in a wider scope of applications, such as transportation, waste management, or resource management, there could be a significant improvement in operational efficiency due to the uniting variable: the user, which is the same in all cases. This is in opposition to the current method where the governing power usually decides objectively what is best for citizens of their respective cities due to assumptions based on cost and data, as opposed to more personal and social factors (Albino, 2015). Elements from the product design process, as was applied to more social areas, can also be applied in more infrastructure-based components. Practices such as focus groups, population sampling, behavioural observation, etc. can be attributed once more and could result in a more educated solution that better satisfies the needs of the user/population.

Smart cities very actively incorporate elements of traditional product design process within their initiatives for social innovation. Upon researching the area, it became evident that the main areas focused on were those that were already heavily dependent on social causes. However, when looking to the future, it may prove beneficial, or at least provide a different perspective on possible solutions, if the methods of social innovation were also incorporated in more infrastructure-based problems within smart cities. This could ultimately prove to have more effective and targeted solutions due to the involvement and feedback of the citizens it is being designed for.



“If the design methods we use in traditional product design can be applied to social innovations in smart cities with great success, they should be able to be applied anywhere in a city.”

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