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Photo, front cover: Magnus Rönn. The picture shows a desktop in wood. The waves in the image are annual rings.

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NAVIGATING SOCIALLY SUSTAINABLE URBAN DESIGN PROJECTS

CANAN AKOGLU AND ANNE CORLIN

Abstract

For a multitude of reasons, migration to Europe has increased over the last 40 years. In Denmark, as in many other countries, this development brings together a mixture of cultures, where people with different cultural backgrounds, values and ways of life need to live together in a society. With this in mind, this article focuses on how design can play a role in connecting communities in deprived neighbourhoods as well as how designers/architects can enter as active partners in socially sustainable urban design development projects. The article presents the conceptual frameworks of social frictions, social city models, affordances and the role of the designer, all of which are discussed and analysed through two student projects, in the Design for People Master's Programme at Design School Kolding in Denmark, as case studies. The analysis of the two projects in connection with the discussion of social frictions, social city models, the notion of social affordance and the role of the designer/architect results in a preliminary model, which we argue can support ways of navigating in socially sustainable urban design projects.

Keywords:
social sustainability, urban design, the role of the designer, social city models, social frictions, social affordance

Introduction

On 15 November 2022, the world's population reached 8 billion, which is further projected to reach around 8.5 billion in 2030 and 9.7 billion in 2050. The growing population numbers affect our cities since 56% of the world's population today lives in cities, and this trend is expected to continue so that nearly 7 out of 10 people are expected to live in cities by 2050 (Urban Development Overview, worldbank.org). In high-income countries such as Denmark and other Scandinavian countries, migration will be the sole driver of population growth (United Nations Department of Economic and Social Affairs, Population Division, 2022). This means that Scandinavian cities must profoundly improve their knowledge and competencies in integrating newcomers, and that designing the cities to be inclusive for an increasingly heterogeneous group of citizens is an urgent design challenge. Looking at 50 years back and forth in the societal and urban planning history in Denmark, several situations, such as unsuccessful integration of new-comers, abortive city planning and market forces resulting in low lending rates, have led to segregation in several Danish cities, where a large concentration of immigrants, poorly integrated into the Danish society, live in social housing neighbourhoods often inadequately connected to the surrounding city. Segregation in cities is not a new phenomenon, however as we see it today, fuelled as it is by increasing economic disparities in society, coupled with a decrease in tolerance towards ethnic minorities, segregation in cities has become a serious challenge (Andersen & Larsen, 2011). In Denmark, segregation exists predominantly in Copenhagen, Aarhus, Odense and Aalborg, cities which have experienced the largest growth in migration at an increasing rate during the last 40 years (Bech-Danielsen & Christensen, 2017). Bech-Danielsen (2014) explains that the segregation of neighbourhoods is a threat to social cohesion and resilience in a city because it prevents social life from expanding across social, economic and cultural boundaries.

Today, some of the most comprehensive urban development projects in Denmark are transformations of these segregated neighbourhoods built in the 1960s and 70s. Scrutinising development plans and overall plans (helhedsplaner) from two of the biggest development projects in Denmark, Gellerup outside Aarhus and Vollsmose outside Odense (Fagligt materiale (helhedsplangellerup.dk & udviklingsplan.pdf (civica.dk)), we see a consistent focus on increased physical and social coherence to the surrounding neighbourhoods and a distinct focus on community building and ownership among the residents. The development projects of Gellerup and Vollsmose are big urban projects both containing many of the smaller design projects, similar to those that are investigated and presented in this article. Therefore, how to navigate in all the small projects, which all together comprise a successful big and complex urban development project, is highly relevant. Thus, we aim to explore "how do the identification and activation of social frictions, in conjunction

with the application of social urban models, enhance the operational understanding of socially sustainable urban design projects, fostering advancements in their implementation for resilient and inclusive urban environments?"

To formalise the social phenomena, the article presents the two conceptual frameworks of 'social frictions' (Corlin, 2020) and 'social city models' (Nielsen, 2020) as models targeting social phenomena present in urban development projects. To structure, discuss and further investigate how designers and architects can consciously integrate social phenomena into their design work and how they can navigate in that space, we present the shifting roles of the designer (Manzini, 2014; Teder, 2019) as an important awareness influencing the designer's ability to navigate consciously within the complexity of city development. We also bring in the understanding of affordance in urban design projects (Gibson, 1986; Norman, 1988) to discuss how the design process also contributes to affordance in an urban design project.

The two conceptual frameworks and the theoretical scaffolding are identified and discussed through case studies of two master's students' projects developed at Design School Kolding in Denmark. The analysis leads to a conceptualisation and illustration presented in a model for navigating socially sustainable urban design projects (Figure 8). The model can firstly support designers in their early career; secondly, it provides designers/architects with an illustration that explains to non-designers (e.g., housing associations and municipalities) the reason for following this type of work in urban design development projects. Thirdly, the model visualises the often invisible design work in socially sustainable projects, which are thereby usually not prioritised because of time and budget limitations, and that to argue for their importance can be a challenge even for experienced designers. Finally, the article contributes to the academic discussion of social sustainability by arguing for a more hands-on approach, to make it more operational.

Introduction to Social Frictions and Social City Models

In this section, we present social frictions and social city models consecutively; both of these are taken into consideration to potentially contribute to the framing of the role of the architect/designer in city development.

The notion of social frictions as an influencing phenomenon in city development was created during the Ph.D. project "Place Making Makers" (Corlin, 2020), and further elaborated by Corlin (2021) in a chapter on social frictions within the anthology *Improvisation in city planning – between the planned and the random in Scandinavian cities* (Førde et al.,

2021). In the Ph.D. project, Corlin (2020) investigated pivotal design parameters when designing public urban spaces aiming to support interaction between people and inclusive social life. The Ph.D. used a research-through-design approach and developed several design artefacts and design interventions to interact with the field, as methods for investigations and development of the concept of social frictions. The Ph.D. was conducted at Design School Kolding, Denmark.

The concept of social frictions is developed based on case studies of public places, conducted in three neighbourhoods in the three Danish cities of Kolding, Vejle and Copenhagen. Here, Corlin (2020) identified 5 categories of social phenomena resulting in social frictions, which ended up influencing the development and use of shared public places in ways that created constraints for interaction among residents in a neighbourhood. Figure 1 shows 5 identified frictions that appeared in the social spaces in her case studies, which she argued also became visual and tangible in the physical space, and thereby should be identified and integrated into the development and design process of shared public places, as they will end up influencing the physical configuration as well as the use, experience and relations of people with the physical place.

The 5 categories listed below are not to be read as the final and unfailing list; more frictions can be identified or elaborated on in future studies.

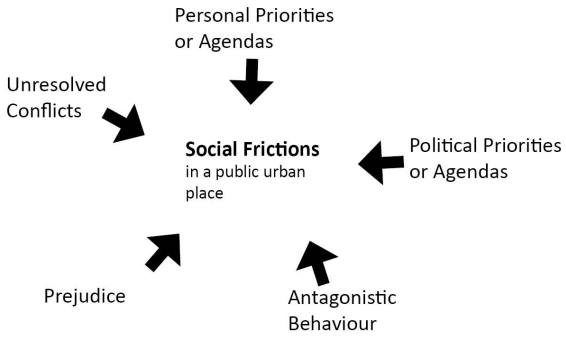

Figure 1
Diagram of social frictions

The reason for clustering and thereby characterising the identified frictions is to support the identification and make them more operational for designers and architects in a design and development process.

1. **Unresolved Conflicts** refer to mistrust between different stakeholders in a place, e.g., across cadastral borders, in cases where the owner and the user are different entities with different aims for a place. It can also be conflicting notions of increased coherence and connection or contradicting visions for the physical solution. Examples of unresolved conflicts are identified in the case in Vejle, where a city development project works for a more coherent outdoor area across three neighbouring social housing departments.

The project counsellors failed to make the three departments work together, which resulted in a lack of physical connections between the three neighbourhoods, and thereby also a lack of improved coherence between the deprived neighbourhood and the surrounding city.

2. **Political/societal Priorities or Agendas** refer to authoritarian actions that seem to work against local benefit, e.g., placement of institutions like kindergartens or drop-in centres, which might affect coherence to the surroundings, or it can be agendas or legislation within the social housing association, preventing collaborations across cadastral borders. An example of *Political/Societal Priorities or Agendas* is identified in the Copenhagen case, where the placement of a Kindergarten, located on the border between a deprived housing neighbourhood and the surrounding city, creates barriers to developing a greater coherency.
3. **Antagonistic Behaviour** refers to a user group intimidating and dominating the place through their behaviour. An example of *antagonistic behaviour* is identified in the case of Kolding, where a group of young men uses a shared space in front of the local shopping mall as their regular meeting place. Their dominating and threatening behaviour in the place prevents other residents from going there and from using the shopping centre.
4. **Personal Priorities or Agendas** refer to individuals using their power to gain influence on the development of a place. An example of *Personal Priorities or Agendas* is identified in the Copenhagen case, where the head of the area committee of the social housing department obstructs the city developing the project for a more open neighbourhood, due to own interests in keeping the neighbourhood closed.
5. **Prejudice** refers to conflicts across user groups originating in prejudice towards each other, or when prejudice is the underlying reason why potential users of a place do not seek to use the place. Examples of prejudices are identified in more cases, where several residents express their opposition to using various shared spaces, due to fear of being accosted by non-ethnic Danes.

The concept of social city models (Nielsen, 2020) contains three different approaches: 1) built models; 2) knowledge models; and 3) organisational models. The three social city models were developed by Morten Nielsen, a research professor at the Danish National Museum. The concept is still under development. Nonetheless, we find the initial concepts of the models relevant to a comparison of social frictions and the role of the designer in discussing and developing models for working with socially sustainable city development.

The characteristics of all three social city models are the point of departure in existing positive forces and present examples of establishing local communities and working together towards a common good.

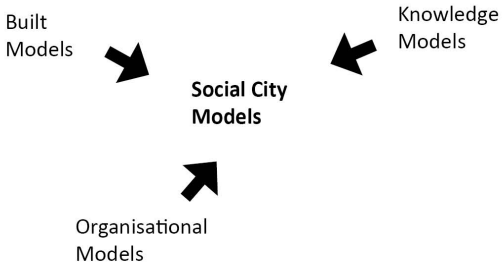

Figure 2
Diagram of social city models

1. **Built Models** cover actions where people start either establishing or improving the existing neighbourhood where they already live. This model contains self-organisation in the process of physically building up the neighbourhood. It covers a peaceful collaboration between the existing state or municipality and the public; however, the citizens take the initiative to raise their own and the neighbourhood's social status. Characteristics of the built model could be represented by self-initiating and organisation, creating a structure for physical development, not in an antagonistic opposition to the existing state or municipality; changes are organised in parallel to governing institutions, and both individual and common goods are addressed. Examples of built models are Mulwene, Mozambique (Nielsen, 2014; 2020), where a large number of people came searching for a new place to inhabit due to the biggest flood in the country's history. The new residents of Mulwene developed a model for organising the partitioning of land and buildings; it made the area appear planned and prevented them from forced relocation by the state.
2. **Knowledge Models** arise from citizens using their skills to initiate and develop a new system for the common good. An example is described by Nielsen (2020) through the presentation of the *Bus Map Project* in Beirut (Tfaily & Baaklini, 2018). It was initially founded by two local, motivated citizens to counter the lack of overview and the many conflicts with public transportation in post-war Beirut. They started mapping existing routes and gathering them into one shared map to make public transportation more accessible to everyone. The project was elaborated further to incorporate additional stakeholders.
3. **Organisation Models** cover actions that are initiated in collaborations between the state or municipality and the residents. To explain this, Nielsen (2020) gives an example from Mumbai in India, where the municipal water supply is on the verge of collapse due to pressure from the growing population. However, in several areas, the citizens managed to develop an efficient infrastructure, based on several informal water supply systems, in collaboration with officials.

Relating social frictions and social city models to the role of the designer, social sustainability, and affordance

All three of Nielsen's social city models (2020) resonate with Manzini's dichotomy of design for social innovation and the role of the designer (2014; 2015). Manzini (2014) suggests three typologies for innovation processes relating to where the change starts: top-down, bottom-up, and hybrid. Top-down refers to change that is initiated by decision-makers and comes from strong actors who introduce and attempt to create a social change. An example of this is presented in the *Wallisblok – Do It Yourself* model from 2007, where Rotterdam Municipality gave away or sold very cheap, 'demolition-ready' blocks of flats in deprived housing neighbourhoods as a strategy for attracting more socio-economically advantaged residents to challenged areas. The citizens, united in a housing association, financed and arranged the renovation themselves (Bjørn, 2008). Characteristics of this model are that it involves local management and shared resources leading to citizen-driven city planning and is thus categorised as an organisation model.

Bottom-up refers to a social change coming from grassroots activities; an example is the social enterprise Ainonghui, Farmers' Association (China), which also resonates with the knowledge model, where citizens use their skills to initiate and develop a new system for the common good.

Hybrid refers to a situation when top-down and bottom-up innovations meet and work together. This meeting is almost the epitome of the organisation model, exemplified in the Mumbai water supply project.

Regarding the role of the designer, Manzini (2014) presents the 'diffuse design' and the 'expert design'; the former is executed by everyone, while the latter is performed by those who have been trained as designers. Teder (2019) builds on Manzini's subdivision of the designer's role and points out four roles for enabling partnerships in design and architecture, namely:

- overseeing and connecting – the curator
- embracing design activities over time – the meta-designer
- facilitating visualisation and social learning – the facilitator
- addressing conflict – the negotiator

As the curator, the architect or the designer becomes a connector for people, things, desires, stories and opportunities, creating tools, competencies and processes rather than buildings and constructions (Petrescu, 2007; Teder, 2019). The meta-designer's role is connected with infrastructure, which forms "long-term structures for user adaptation, appropriation and redesign of a place or object" (Teder, 2019, p. 294). The facilitator facilitates the active engagement of stakeholders in creating design proposals (Brandt & Eriksen, 2010; Teder, 2019), and assists stakeholders with

generative tools that enable them to co-create their futures with the facilitators. The negotiator looks for ways to handle conflicts of interest and barriers in a group of stakeholders.

The shifting roles enable the designer to navigate in the connection between social frictions and social city models, as seen in *The Bus Map Project* in Beirut, which arises from social frictions of personal agendas and priorities, and where a group of citizens in Beirut takes on the design role as curators due to the conflictual and confusing bus system. Thus, they curate the design process of developing a bus map from a bottom-up approach.

However, to relate the two models and the subdivision of the role of the designer to the specific context of socially sustainable city development, we present how it is described within the literature pertaining to the connection between urban development and social life. In a study on the role of culture in urban planning, Hawkes (2001) states that culture is a pivotal pillar in socially sustainable development and emphasises that sustainable communities are fundamentally connected with each individual's capability to understand and respect each other's values that are built through cultural interaction. Nurse (2006) likewise argues that culture should be seen as the central pillar of sustainability because the identities, signifying systems and epistemic frameworks of people shape the way the environment is viewed and lived in. This presentation of culture supports Woodcraft's (2012, p. 30) explanation of urban social sustainability, in which she describes 'social sustainability' within the context of urban theory:

> *In spite of its multiple interpretations and a sense of ambiguity about the policy objectives, there appears to be a consensus in the literature that social sustainability incorporates a set of underlying themes that could be described as social capital, human capital and well-being.*

To create socially sustainable cities, close attention needs to be paid to social capital and human capital (Woodcraft, 2012). 'Urban social sustainability' is the epitome of a wicked problem (Buchanan, 1992; Rittel & Webber, 1973) with multiplicities of frictions, different political and personal agendas and perceptions of both the physical and the social world, which, as described by Hawkes (2001) and Nurse (2006), relies on each individual's capability to understand and respect each other's values, which are built through cultural interaction, as well as the social and the human capital to take action, as mentioned by Woodcraft (2012). Urban social sustainability is a dimension of sustainability that focuses on the well-being and quality of life of people living in cities and towns (Dempsey et al., 2011; Kohon, 2018; Shirazi & Keivani, 2019). Urban social sustainability is essential for creating liveable, vibrant and resilient cities where residents can thrive. It recognizes that the well-being of

people is a fundamental aspect of sustainability alongside environmental and economic considerations, and that it focuses on fostering social well-being, cohesion and justice within the context of urban growth and development (Dempsey et al., 2011). Despite the agreement on several fundamental terms such as well-being, social capital and solidarity, there still echoes a fuzziness to the concept, which undermines the utility of the term (Vallance et al., 2011), where a lack of qualified practice in navigating and managing the many contradicting interests can even lead to the exact opposite situation of further exclusion (Kohon, 2018). Public spaces are described as intrinsically antagonistic (Laclau & Mouffe, 2014; Mouffe, 1993) even though the majority of scholars, who aim to tame a definition of urban social sustainability, concurrently orbit around definitions as harmonious evolution and compatible cohabitation ((Polèse et al., 2000) or refer to the concept of creating and maintaining urban environments that are socially inclusive, equitable and beneficial for all residents (Dempsey et al., 2011; Kohon, 2018). However, maybe we need not seek for harmony, but instead for transparency in the operational design approach to socially sustainable urban development, by openly bringing both social frictions and social city model actors to the fore, choreographed by the designer/ architect through an operation where the design process and product contributes equally to design affordance.

To discuss how the two models and the roles of the designer can support the increased understanding of socially sustainable urban development and the close relationship between social life and physical design projects, we introduce the concept of affordance, which Gibson (1977) refers to as the actionable properties between the world and an actor (a person or animal). Affordances are embedded in a relationship between actors and the physical context that is not necessarily known, visible or desirable. Gibson is most concerned with animals and how they perceive their environment, which he argues is through the perception of affordances. A decade after Gibson's seminal work, design theorist Donald Norman introduced the term affordance to the design world in his book *The Psychology of Everyday Things* (1988). He distinguishes between two types of affordances: the intentional (actual) and the unintentional (potential). Intentional affordance describes the designed purpose of the (designed) object – the intention of use imagined and materialised by designers. The unintentional affordance points to potentials of use yet to be realised. However, what is not described in any literature on affordance is the affordance that appears detached from the direct interaction between actor and object. One way to explain such affordance could be by turning to the term Relational Aesthetics, which was first formulated by French art critic Nicolas Bourriaud (2010, p. 113) who defined the approach as "a set of artistic practices which take as their theoretical and practical point of departure the whole of human relations and their social context, rather than an independent and private space".

The artists take the position as 'catalyst' in relational art, rather than being at the centre. They perceive art as something more than aesthetics, or they extend the notion of aesthetics to involve the non-visual, but still present relational dynamics that happen between the conductor, object or action and the spectator; the aesthetics are in-between and inherited in the experience of the action.

Swopping the term 'art' with design or architecture, we can understand how affordance can be detached from the physical object and be relevant in a discussion about social design and socially sustainable urban development. In social design, we often design for the space between the actor and the object, since the designed object is designed as a means to obtaining a social or societal aim. This provides an extended understanding of affordance, beyond the direct interaction between object and actor.

The Research Method

To investigate social frictions and social city models, we looked into our students' design projects, developed in collaboration with Aarhus Municipality's Youth Clubs Department. This collaboration was the result of a joint and mutual initiative between the Design for People Master's Programme at Design School Kolding and Youth Clubs in Aarhus Municipality. In 2021, 22 students were given the task of developing a design proposal in the context of a deprived neighbourhood. The design brief was named 'Going Beyond Borders/expanding communities', and demanded a self-identified challenge, which was to support an improved social connection between the deprived housing neighbourhood and the surrounding city.

In this study, the empirical data was gathered through: a) having discussions with actors (leader of the project from Ung i Aarhus Department, leaders of the youth clubs and pedagogues) representing our collaborating institution in Aarhus Municipality; b) following student projects and discussing with the students regularly for eight weeks; c) taking notes based on the project processes; d) looking into the presentations and the outcome of the students' projects. The methods used have therefore been a combination of on-site observations of the students interacting with the different involved actors (children, pedagogues, other employees in the culture house and residents in the neighbourhood), observations of the students in their design process and interviews with student groups and involved actors (the leader of the project representing Youth Clubs, leaders and pedagogues) and, finally, analysing the students' design processes and proposals. The interviews with two student group-projects focused on the learnings from the project process, while the interviews with the leaders and pedagogues focused on the findings of the students in the project process as well as the design solution that they created.

The presentation and analysis of the projects consist of the following structure: 1) explanation of the project's aim, location and outcome – what was designed; 2) the type(s) of social friction that was identified; 3) the project's connection to social city models; and 4) shifting designer roles.

Practices in the neighbourhoods of the two youth clubs

The selection of the two projects is related to: 1) going beyond (physical & social) borders in terms of expanding communities; 2) shifting between different design roles; and 3) using either a physical or an event-based proposal for creating better foundations for social interaction. In this article, we use both students' projects as examples of how designers can work with socially sustainable urban design, by addressing social frictions and supporting existing 'social drivers' (social city models) with the notion of social affordance within a neighbourhood. The analysis of the projects is based on different aspects of social frictions, how the students tackled those frictions, as well as social city models and the social affordance aspect, to point out the roles that they have taken on during their projects.

The Light Garden and Taste of Bispehaven

The two student projects are the *Light Garden* and *Taste of Bispehaven*. *Light Garden* aims to create an extended coherence between the deprived housing neighbourhood called Bispehaven and the neighbouring single-family housing area. Besides being socially diverse in terms of residents, the two neighbourhoods are also separated by the road, Ryhavevej (Figure 3). The outcome of this project is an interactive light installation and a game that connects the two neighbourhoods physically by triggering children to interact with it from both sides of the road.

In *Light Garden*, we identified the 2 social frictions that link to the category of political/societal agendas and prejudice. Bispehaven was built in 1970–73 as a precast structure, a result of the 1960s and 70s political and architectural ideologies. One of the strategies was to lead the main roads around the neighbourhoods to create the best conditions for community building and healthy living. However, this strategy often resulted in neighbourhoods being detached from the surrounding city and surrounded by major roads such as Ryhavevej, separating the neighbourhood from its surroundings. During the visits and investigations of the youth club and the area, the students identified prejudice as the prominent friction in the neighbourhood. They discovered a barrier between the two neighbourhoods resulting in a lack of exchange between the children. Even though the children live very close, they do not play with each other across neighbourhoods or visit each other's youth clubs. The reason for this is prejudice and the challenging image of Bispehaven,

Figure 3
An aerial photo of Bispehaven; the dividing road, Ryhavevej, and the single-family housing area

where one youth club is situated. These two sources of friction became the main challenges on which the students decided to build their project. To do so, the students involved the children in the two youth clubs on either side of the road. Through workshops, the students mapped out the children's interests and realised that the children had several similar interests, such as competition, speed and collaboration. They used those as keywords in their design development, and developed their design based on the two identified social frictions that both result in a lack of physical and social interaction between the children. The outcome is an interactive light installation located at the physical barrier of Ryhavevej. In this project, existing forces as drivers for change (social city models) were not integrated during the process. However, activating the framework of organisational models could be a potential next step within the project. The youth clubs (pedagogues) become the catalyst and the organisational/institutional organiser, while the children on both sides of Ryhavevej become the activators and developers of the project to secure ownership and activation.

The organisational social model could be a useful framework to activate the implementation of the *Light Garden* project to secure ownership, as well as to improve the social goal of extended interaction between the children and greater coherence between the two neighbourhoods. Regarding the different roles of the designer in the *Light Garden* project,

Figure 4
Photos from the process and the outcome of the project Light Garden (design students: Alice, Fiorenza, Linda, Runa, Yingzi).

the students assumed the role of facilitator and curator. In this project, the facilitator role is connected with facilitating the active engagement of children and pedagogues throughout the design process. The curator role is based on aiming at connecting children from the two neighbourhoods on both sides of the road through a light installation and a game, so the physical environment becomes a fundamental element in the design solution. The *Light Garden* project could be seen to follow a hybrid approach: the change initiative comes from Ellekær Youth Club (a representative institution of the municipality in the neighbourhood) and, as the proposed solution is in a public place, it needs to be approved by Aarhus Municipality as the final decision-maker. On the other hand, the design process was conducted in close collaboration with children and the youth club.

In the second project, *Taste of Bispehaven*, the students aimed at representing and celebrating cultural diversity within the neighbourhood by building an identity and forming connections between the residents. The students initially engaged with a group of children to explore the notion of identity (e.g., which cultures they come from). In addition, the engagements with residents and key people in the neighbourhood showed that there is a lack of communication between Danish and

non-ethnic Danish residents, which relates to prejudice as an aspect of social frictions. People from the same cultural background or nationalities tend to stick together, and there are very few opportunities for people to share their stories and cultures in the neighbourhood.

Through interviews, the students discovered an existing food club in the neighbourhood; they identified food as a beneficial incentive for working across nationalities and to share stories and cultures. The students took the existing food club as a starting point for their project, and, during the course of their project, they joined get-togethers and cook-and-eat evenings in the club (Figure 5 and Figure 6). To target prejudice in the neighbourhood, *Taste of Bispehaven* aimed at representing and celebrating cultural diversity in the neighbourhood, as well as promoting the neighbourhood as an international food/cuisine district in the surrounding neighbourhoods and eventually in the entire city of Aarhus. Together with the food club, the students developed a cookbook and a toolkit for hosting a food festival in the neighbourhood, containing a blueprint of how to organise such events, tickets, a cookbook, napkins, posters, etc. (Figure 5). In this project, the students used their design skills to lift an existing initiative in Bispehaven and created an outcome where a food festival and other food-related events could be used as incentives for an extended exchange of stories and cultures through the shared interest in food.

Taste of Bispehaven identified prejudice as one fundamental social friction and the design project was built on the existing resident initiative of the food club. This food club consists mainly of a community of residents within the neighbourhood, who meet and cook together in the Community Centre. The students built on the characteristics presented in the knowledge model, arguing that the existing forces of the food club are a bottom-up initiative, which the students supported through their design skills.

In the *Taste of Bispehaven* project, the students took on the role of facilitator as well as meta-designer. The facilitator role is connected with facilitating the active engagement of children, pedagogues and residents in the neighbourhood, while the meta-designer role is based on creating ´infrastructuring´ through proposed activities and a toolkit for enhancing the relationship between residents in the two neighbourhoods, the surrounding neighbourhoods and, gradually, the city at large. This project could also be seen to follow a hybrid approach: it builds on an existing bottom-up initiative of a food club, which could be referred to as a creative community (Manzini, 2014) in the neighbourhood. With such characteristics, it is a bottom-up innovation; but later on when, for instance, a food festival needs to be organised on a larger scale in town, Aarhus Municipality would enter the stage as the final decision-maker to support such a larger scale event.

Figure 5
A snippet from the process and outcome of the Bispehaven project (design students: Aitana, Camille, Gabriela, Jack, Sabhín).

The shifting roles of the designer were natural and based on the supervision of students in the project process: When one approaches different groups of stakeholders, firstly, it becomes quite natural to facilitate the different voices to be able to foster active engagement of different groups of stakeholders, as it happened in both of the projects (see examples of active engagement of children and residents from the neighbourhood in the process in Figure 6). The curator role took place in the *Light Garden* Project, as the students aimed to connect children from two neighbourhoods by designing a light installation. The meta-designer role emerged in the *Taste of Bispehaven* project because the students used already an existing club (the food club) in the neighbourhood and designed their project based on that existing initiative, which overall was infrastructuring, and embraced food-related activities over time through a toolkit for enhancing the relationship between residents of the two neighbourhoods.

The project material from *Taste of Bispehaven* was planned to be published and run as a trial food event by Aarhus Municipality. Due to Covid restrictions, the plans could not proceed.

How the notion of affordance is linked to social city models, social frictions, and socially sustainable urban development

To bring in affordance highlights the role and importance of social frictions and social city models within a design project with a social agenda.

In *Taste of Bispehaven,* the design of the cookbook and the other graphical material for hosting a food festival, the direct interaction between a book with collected recipes adapted to the seasons and accompanied by aesthetic drawings is not the actual design affordance, even though they might be the initially perceived affordances not knowing the project from within. The social affordance here is to strengthen the community between residents within the neighbourhood and, in the longer term, to improve the neighbourhood image as a result of the annual food festival in which the cookbook and graphic material plays a pivotal part.

In *Light Garden,* the first perceived affordance of the design proposal is the light installation, connecting the two neighbourhoods across the dividing road Ryhavevej. The social affordance is an extended community between the children from the two different neighbourhoods. However, during their participatory design process our students discovered that although they had identical interests, the children did not play together due to prejudice. Both of the projects aimed at bringing diverse groups of communities together either through food or play. In that way, the project leader, Craig Native, stated, when we asked him to reflect on the

Figure 6
Two examples from active engagement of children and residents from the neighbourhood in the project process.

process, that: "They acted as denominators between different groups of people". Specifically, regarding *Taste of Bispehaven* project, Native (2024) emphasised the importance of focusing and praising the diversity aspect in that project as such: "You're not just selling a cookbook. You're selling diversity."

What we can call *social affordance* is directly linked to both social frictions and social city models, where we can see the design objects (light installation and cookbook + more) becoming mediators of intentional affordance. In this situation, the design objects become the means to reach a social aim through social affordances (Figure 7). The identified social frictions and social city models are thus inherently embedded in the design affordance.

The affordance in socially sustainable design projects engaging with social frictions and social city models can be interpreted as the sketch in Figure 7 and 8.

Figure 7
The design project adds to the social affordance using the cookbook and the design process as means for social change.

Discussion

Social frictions and social city models are identified in the presented design projects and appear in many others as well. The shifting role of the designer can also be identified and supports the designer's navigation through a social design project. This contributes to the existing understanding of socially sustainable urban development and, by injecting the understanding of affordance in design, the article shows how social frictions, social city models and the role of the designers can contribute to making design projects more operational. Based on the conceptual framework and the analysis of two projects, we discuss and put forward an initial model on how social frictions and social city models could be taken into consideration in the designer's role of navigating through socially sustainable city development projects.

The presented conceptual framework is a way to understand and structure everyday social life, with an aim to make the overall work and complexity much more operational for designers, architects and city planners working in socially sustainable city development. Therefore, it could be used as a design approach from which designers and architects can develop their socially sustainable urban design choreography. For instance, the two student projects in this article were conducted in the same neighbourhood with different stakeholders; the first one involves children and the youth club, whereas the second one started with children and the youth club but moved towards the adult residents in the same neighbourhood. In the first project, while prejudice and political priorities or agendas were identified as frictions, in the second project, it was the prejudice as social friction.

The change of context and the variety of stakeholders display how the roles of the designers need to change, or how designers need to navigate between different roles even within the same theme. As seen in the two projects in this article, it was obvious that the roles that the students took differed from each other and also changed throughout the project process. Where the social frictions appear in the identified challenges, the social city models show up in the identification of who to integrate into the design process, either as facilitators, curators or meta-designers.

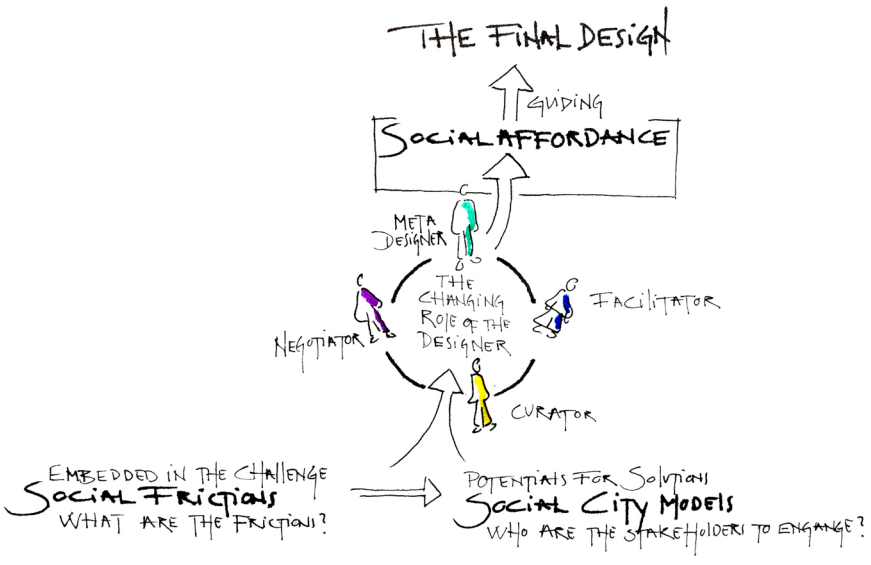

Figure 8
A preliminary model for designers and architects to understand social frictions as challenges and social city models as potential solutions, foundational aspects of social affordances and navigation among stakeholders in social city development projects.

Based on the above perspective, we put forward an initial proposal that consists of the following processes (Figure 8):

- Identifying social frictions: The designer/architect investigates, through initial interactions with the field/context, which social frictions exist and are dominant. This results in the designer/architect becoming aware of challenges and conflicting interests in a specific area.
- Identifying stakeholders according to the social city models: after identifying social frictions in the context, the designer/architect investigates which stakeholders would be relevant to work with, and which would open up early possibilities for solutions based on social city models.
- Navigating between different roles: as mentioned before by Teder (2019) and Manzini (2014), depending on the needs, requirements, stakeholders, as well as relations between stakeholders and decision-makers, the designer/architect navigates between being a curator, negotiator, facilitator and a meta-designer.
- Framing social affordances: The formulation or framing of the social affordance qualifies which physical design objects should be developed as means to obtain the social aim of the design project.

We propose that the above processes follow a consecutive structure, since the identification of social frictions in the context is pivotal in order to locate relevant stakeholders to collaborate with. Thereafter, the frictions and relevant stakeholders feed the designer/architect with the needed knowledge to navigate the shifting and contextual roles regarding the needs, requirements, wishes, etc. Based on the identification of frictions and relevant stakeholders, the designer/architect can formulate the social affordance, which qualifies and supports the development of the physical design.

Conclusion

Migration and mobility are and will be an inevitable reality in this century, and they bring a variety of opportunities and advantages as well as challenges. Thus, it becomes crucial to contribute to creating and sustaining cohesive communities. From that perspective, this article presents an initial model that can support the future work of designers/architects in socially sustainable city development projects. The article presents an interconnectedness between social frictions, social city models and the roles of the designer/architect, and in addition can support a clear path of navigation for designers, architects, and urban planners in the present challenge of creating cities, towns and communities that are economically, environmentally, and socially sustainable – one of the monumental tasks of this century (Woodcraft, 2012). The understanding of affordance is integrated to further display how the design process, the integration of social frictions and social city models are part of the

design affordance just as much as the physical objects of, e.g., a cookbook or a light installation. The main affordance of the cookbook is not providing recipes in an aesthetic cookbook. The main affordance is the relational aesthetics that arise between the residents cooking together and the potential familiarity with fellow citizens and the ensuing erasure of prejudice.

The designer or architect frames the social affordances in a clear and actionable manner. Social affordances represent the opportunities and possibilities within the social context that can be leveraged to address social frictions and enhance community cohesion. By articulating these affordances, the designer or architect provides a structured foundation for the final design phase. This step ensures that the design solutions are not only informed by an awareness of social frictions but also aligned with the identified opportunities for positive social change.

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